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(May 1929)
6-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

FILE NO.

MONTHLY REPORT

~~XXXXXXXXXX~~

1936

IMPORTANT

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ARNO B. CAMMERER,
Director.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

January 10, 1936

The Director
National Park Service
Washington DC

Dear Mr. Director:

Following is the monthly report of activities for this park for December, 1935.

000 - General

The eruption of Mauna Loa volcano continued throughout the month and the resulting lava flows which by December 20 became a definite menace to the town of Hilo, commanded the almost constant attention of most of the park staff.

Dr. T.A. Jaggar, volcanologist, devoted the entire month to observation and study of the flow region, collection of specimens, photography and conferences connected with emergency plans. He made a total of 10 trips to the flow in the vicinity of Humuula and two airplane observation flights. The superintendent made three trips to Humuula, one airplane observation flight and was considerably occupied, particularly during the latter part of the month, with emergency plans, conferences, etc. Various members of the ranger staff were detailed for observations of the flow front and source regions. The acting park naturalist made three trips to the flow where he was able to collect moving and still picture material and specimens for use in the educational program.

Following the spectacular fountaining and rapid flowing of lava during November which sent an aa flow to within about $3\frac{1}{2}$ miles of Humuula there was a period of relative quiet. During this time the flow advanced very slowly and when on December 7 the last glow from the source cones was seen, the forward movement of the aa flow ceased and the previously brilliantly glowing channels which fed the flow apparently became sluggish and commenced to crust over it appeared as though the flow would soon end. However, this was merely a change in the type of activity from aa to pahoehoes. After advancing very slowly while the lava pooled up in the flat country at the foot of Mauna Kea on December 19, a very rapid advance commenced with the flow turning eastward toward the head of the Wailuku river which enters the ocean at Hilo and supplies most of Hilo's water.

By December 23 the flow, advancing at the rate of a mile a day, had become so definitely threatening that following a hurried conference with Dr. Jaggar who had just returned from the flow, steps were taken toward preparing for the emergency. It was decided that now was the proper time to try the long project/experiment of bombing from the air the lava channel high up on the mountain side, break through the walls, or foot, of this channel and divert the molten stream. This would form a new flow and stop the advance of the old.

Dr. Jaggar had previously discussed this plan with the Secretary of War, who had indicated his interest. Therefore, with the assistance of Major Gilchrist commanding officer, Kilauea Military Camp, the cooperation of the Army air corps was readily secured.

On December 24 a conference with the press excluded at the request of the Army, was held. Present were Dr. Jaggar; Colonel Delos Emmons, air corps, USA; Lt. Col. V.L. Peterson, Engineer Corps, USA; Major H.C. Gilchrist; Mr. Stanley Elmore, president Hilo Chamber of Commerce; the superintendent and a technical advisor to Col. Emmons. After thoroughly discussing the problem it was decided to go ahead in spite of the apparent impossibility of accomplishing the objective as stated above, since Mr. Elmore went on record as stating that the community felt action should be taken and Dr. Jaggar presented a second plan which appeared more hopeful of accomplishment.

Approval of the experimental bombing had been already granted by landowners concerned and a radiophone message secured that of Governor Poindexter.

At the same conference the superintendent discussed with Colonel Peterson details of a land expedition to divert the flow should the air bombardment fail of its objective.

The bombardment took place between 9 a.m. and 2 p.m. December 27 and the attendant facts are set forth in Dr. Jaggar's report which is attached. The chief ranger and acting park naturalist were sent over to Humuā to observe. Dr. Jaggar observed from Puu Oo.

The flow had now traversed about 7 miles in six days destroying some moderately good grazing land and forest. It was approaching the forest preserve. The weather was dry and fire hazards becoming serious. Since Christmas Eve the boys of the Territory of Hawaii CCC camp at Pohakuloa and Waimea had been fighting grass and brush fires. Ranches had driven their cattle to places of safety. The flow was about 14 miles from the Waipuku river and about 18 miles air line from Hilo. Some of the Hilo people were beginning to realize the seriousness of the situation. Fortunately one of these was Mr. James Henderson, Chairman of the National Park Committee and Manager of the Hilo Electric Light Company. A conference with him brought the desired result which was the calling of a

meeting on December 30 of representative citizens of Hilo by the Chairman of the Board of Supervisors to formulate plans, raise funds, etc., against the possible emergency.

Having accomplished this purpose the superintendent left on December 29 with the chief ranger for Humuila to observe the flow and if necessary locate on the ground a possible place to attack the flow on the ground. However, though there was a spectacular gushing forward of lava on the 30th and some flowing on the 31st evidences were so plentiful that the flow was at least temporarily ending that no attempt was made to locate a point of attack. They returned to Kilauea at 12:45 a.m. January 1.

Dr. Jagger attended and addressed the meeting on December 30 at which an emergency committee was formed. This committee met on January 4 by which time the flow had clearly ceased and the committee with considerable pleasure disbanded.

Just what part the bombardment had in stopping the lava flow the superintendent is not qualified to say. Certainly the facts are most interesting and Dr. Jagger believes the experiment to have played a definite part. The day before the bombardment the front of the flow was progressing at a rate of 800 feet per hour. At 4:30 p.m. following the bombardment rate of progress was 150 feet per hour. The day following it was 40 feet per hour and the next day forward motion had ceased.

The above account attempts to cover briefly the principal events of a very full month. Much interesting detail is necessarily omitted. When and if time permits a more complete report will be submitted.

020 - General Weather Conditions

The total rainfall at headquarters was 5.29 inches, at the CCC camp 4.04 inches and at Haleakala .4 inch. If this present dry spell continues for any length of time it will be necessary to take measures to conserve the present water supply.

100 - Administration

110 - Status of Work

Only the most pressing routine work was undertaken during the month as the staff was constantly occupied with the Mauna Loa eruption.

120 - Park Inspections by:

121 - Superintendent

The superintendent made three inspections of the work in progress on the Mauna Loa truck trail, an ECW project, on December 1, 15, and 22. Two general inspections over the park roads were made. He flew over the Mauna Loa flow on December 5.

122 - Special Field Representatives of the National Park Service

Associate Architect Sager spent until December 29 at headquarters supervising ECW projects, and on that date departed for Honolulu on annual leave, to be gone for the balance of the month.

123 - Other Governmental Officers

On December 5 Secretary of War George H. Dern and his official party returning from the inauguration of the Philippine Commonwealth aboard the USS Chester, at the Island of Hawaii for a two-day visit. Together with chamber of commerce and citizens' welcoming committee, the superintendent greeted the secretary off-shore representing the Federal Business Association. A trip in Army planes to view the Mauna Loa eruption had been arranged and the Secretary's party proceeded to the Hilo airport and from 8:30 a.m. to 12 noon flew over the active flow area. Since the Secretary wished to examine the summit of Mauna Loa and since there was only one single seat plane available which had sufficient ceiling the Secretary flew alone in this plane. The Secretary's official party consisted of Col. C.B. Hodges, General Crede F. Cox, Chief War Department Insular Bureau and Major Bishop, Medical Corps. The Chester was commanded by Captain Harry J. Abbett, with whom the superintendent flew over the flow area and had a very enjoyable and interesting flight, particularly so since it was the first time that Captain Abbett had been in the air; the superintendent recalling that his first flight was made to the scene of the Mauna Loa activity in 1933. Returning to the airport the superintendent had a short conference with Secretary Dern and then left for the active flow region at Humuula. Dr. Jagger and Associate Architect M.S. Sager represented the park in all contacts with the Secretary's party during the remainder of that day and the following day. The Secretary's party were guests of the Kilauea Military Camp and were conducted by park officials on several tours through the park region. A dinner had been arranged in Hilo by the Chamber of Commerce and other organizations at which dinner Secretary Dern and Dr. Jagger were the principal speakers. The following is quoted from the Hawaii Mainichi, reporting the Secretary's talk.

"Secretary Dern stated that he first heard of Kilauea Military camp while he was in Honolulu, but it was not until he visited the volcano camp yesterday that he was able to impress himself of the importance of this rehabilitation camp for soldiers.

"I Can't see why it couldn't be segregated from the Hawaii National Park and maintained as a military reservation under the supervision of the War department," he said."

This was followed up by an editorial in the Hilo Tribune-Herald advocating the change of jurisdiction of the Kilauea Military Camp from the National Park Service to the War Department. This editorial stated that Secretary Dern advised seeking the support of those members of the sub-committee on statehood which recently visited the Island of Hawaii, naming especially Representatives Lundsen and Crowe.

126 - Congressional Committees and sub-committees

A portion of Vice President Garner's party, returning from the inauguration of the Philippine Commonwealth, flew over from Honolulu to see this island December, returning the same day. They spent less than half an hour in the park. Several pleasant contacts were made, however. Following is a list of the congressmen in the party: Rep. Lloyd C. Thurston, Iowa (R); Rep. Don Gingery, Penna., (D); Rep. Stanley Cole, NY (R); Rep. Karl Stefan, Mich., (D); Rep. Fred Crawford, Mich., (R); Senator Nathan Bachman, Tenn., (D); Senator Bennett Champ Clark, Missouri, (D); Senator Sherman Minton, Ind., (D).

130 - Finance and Accounts

A detailed report is attached.

150 - Equipment and Supplies

One saddle horse was purchased for Kilauea section and a blacksmith vise received for the Haleakala section.

160 - Status of Alienated Lands

Newspaper articles were noticed in Honolulu papers stating that Secretary Ickes had recommended in his annual report the addition of the Kalapana section to the park and the construction of the Kalapana road. A quotation from article follows, which apparently quotes the Secretary: "Extensions to the southeast of Kilauea and Mauna Loa section of the Hawaii national park to provide inclusion of the shoreline section in perpetuation of one of the few unspoiled native villages in the islands is recommended." The Secretary's recommendation is very pleasing to this office.

180 - Circulars, Placards, Publicity Bulletins, etc.

Considerable publicity was accorded the park through the continuation of the Mauna Loa flow and Dr. Jagger spoke over the radio once.

General office order 40, with regard to submission date of reports to Washington, special officer order 14, prohibiting annual leave to the staff during the emergency caused by the flow and a memorandum to the staff regarding preparation of preliminary estimates for 1938 were issued and copies are attached. Seven hundred cards were stamped with Pele's seal (hot lava) to be used by the Hawaii Tourist Bureau, at their request, for publicity purposes.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Usual maintenance of roads, trails and equipment was carried on. At Haleakala District Ranger Peck reported that freezing weather has made it necessary for the cantoneers to spend more time in clearing the road of rubble.

220 - Improvements

Haleakala Section - Some of the road fills were built up and slope of the banks reduced by the addition of much new material. This was done to prevent danger to the road by erosion.

230 - New Construction

Work was started on the extension to the machine shop with material purchased by the EGW for the present shop was too small to do satisfactory work.

The Mauna Loa truck trail was completed for a distance of 3 miles and another mile partially completed.

Construction on the Halemau-u trail project during the month has consisted for the most part in widening to standard width from the crater rim down, building cemented rock walls and guard rails and improving the landscaping aspect of certain points, as directed by Associate Architect M.S. Sager on his visit here in November.

260 - Landscape Work

A small CCC crew continued landscape work around headquarters under the direction of Mr. Sager.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

The addition of the steam heat, wine room, hot water in the rooms and other improvements during the year has added much to the popularity of the Volcano House. During December of this year there was a decided increase in guests over the same period during 1934.

320 - Cooperating Governmental Agencies

At the suggestion of Dr. Jagger, a squadron of Army planes bombarded the source of the Mauna Loa flow on December 27. This was a fine co-operative undertaking and was heartily approved by the business interests of Hilo.

The FERA project at the Volcano House is nearing completion, with the exception of a few minor jobs and finishing the tennis court.

400 - Fauna, Flora, and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

All roads, campgrounds, etc., were patrolled during weekends, at which time park travel is at its height.

Associate Park Naturalist John E. Doerr, departed on the first of

December for Crater Lake where he is to be stationed permanently. Mrs. Doerr and their small daughter left on the 4th.

420 - Museum Service

On account of continuous volcanic activity throughout the month it was necessary to cancel several regularly scheduled lectures, trips, etc. Nevertheless it was possible with the assistance of the ranger staff to carry out most of the schedule.

Mr. Doerr's departure so depleted the library in the park naturalist's office that a complete rearrangement of the furniture was found to be possible. With the addition of new floor covering the office is much more pleasant.

Project of cleaning and rearranging the exhibits in the museum was started. This will include mounting a new composite topographical map of the Island of Hawaii.

480 - Natural Phenomena

A copy of the report of the Volcano Observatory's activities is attached.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Total travel to this section of the park for December was 16,033 as compared with 18,867 during the same time in 1934. District Ranger Peck reports 1065 persons visited Haleakala, a decrease of 69% over November. However, this is the result of a drop to near normal, as many more people visited that section than usual during November to view the Mauna Loa eruption.

530 - Special Visitors

December 1 - Dr. Stanley S. Ballard, Physicist of the University of Hawaii

December 5 - Secretary of War George H. Dern and party.

December 6 - Mr. and Mrs. Harry A. Franck. Mr. Franck is the author of many travel books, among them being "Vagabonding through Soviet Russia," "Vagabonding through Greece," and "Following the Footsteps of Cortez in Mexico." While they were here the superintendent accompanied them to Kalapana to meet the Hawaiian people there. They departed on the 9th.

December 9 - Portion of Vice President Garner's party, flew from Honolulu

December 28-th Senator and Mrs. Joseph R. Farrington. Mr. Farrington is general manager of the Honolulu Star-Bulletin. Remained at the Volcano House for approximately 10 days.

600 - Protection

The usual patrols in addition to protection matters and information service in connection with the Mauna Loa flow were carried on.

900 - Miscellaneous

The regular Volcano House dance was held on the 28th. Despite the large crowd it was very orderly.

On December 20 the Inter-Island Airways new "Baby Clipper" made its first flight from Honolulu to Hilo. This is indeed a great improvement over the other planes, for besides carrying more passengers, the flying time is cut some 45 minutes.

The Federal Business Association held its quarterly dinner at the Volcano House on the 13th.

During the month the Chamber of Commerce of Hilo honored Dr. Jaggard with a life membership in the Chamber in recognition of his past work and efforts.

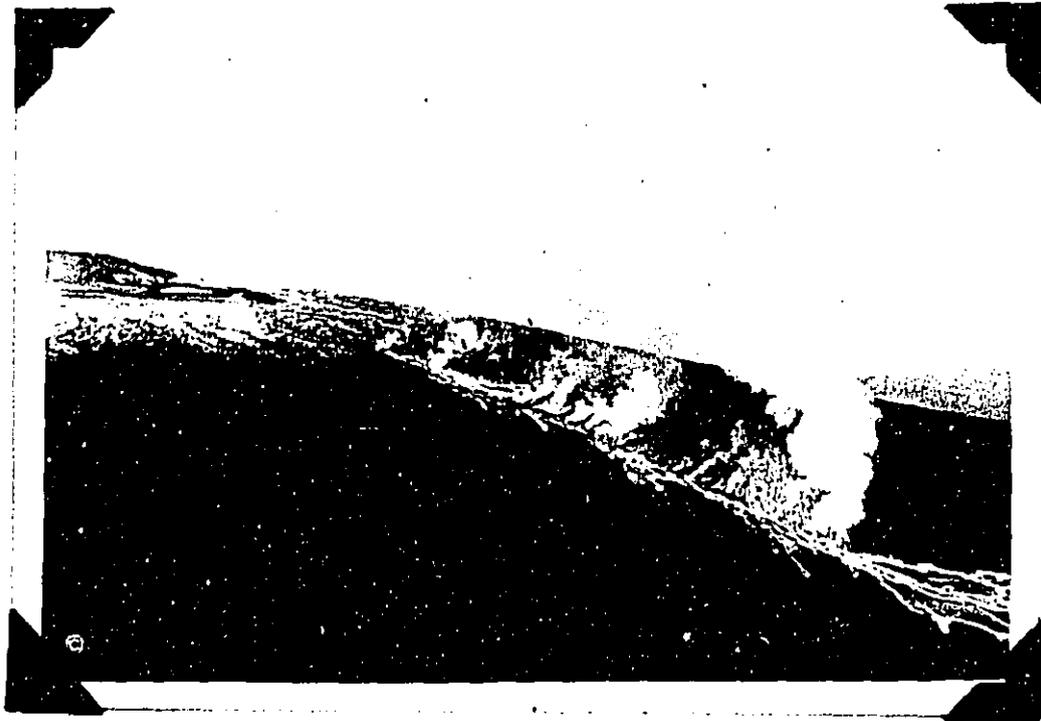
On Sunday, December 8, a small pageant was held at the fire pit under the auspices of Kamehameha Lodge and Haili Church, depicting the defiance of Princess Kapiolani of the Goddess Pele and her acceptance of Christianity. This was a part of the program in the celebration of the 400th anniversary of the first English printed bible. The unique feature of this program was the relay of bibles around the entire island, contacting all Christian churches. It started at Kailua with a pageant depicting the welcome of the first Christian missionaries by High Chief Kuakini.

During the eruption splendid cooperation was given by many agencies and individuals; to whom sincere thanks are due. The following list is incomplete but indicates the widespread spirit of helpfulness which prevailed: The officers and enrollees of the Territory of Hawaii CCC camps at Waimea and Pohakuloa; the Commanding General Hawaiian Department USA, the officers and men of the Army Air and Engineering Corps; Messrs. Alfred and Hartwell Carter of the Parker Ranch; Messrs. William and Herbert Shipman of the Pun Oo Ranch; Mr. James Henderson, Hilo; Mr. Samuel Spencer and other county officers; Mr. Stanley Elmore, President Hilo Chamber of Commerce; Governor Poindexter; Mr. James Campsie, Pahala; Mr. William Campsie, Haalehu; Mr. A.J. Watt, Oloa; Mr. W.L.S. Williams, Waiakea; Mr. Alexander Fraser, Wainaku; Mr. Bradford Sumner, Kapapala; officials of the FERA and many others.

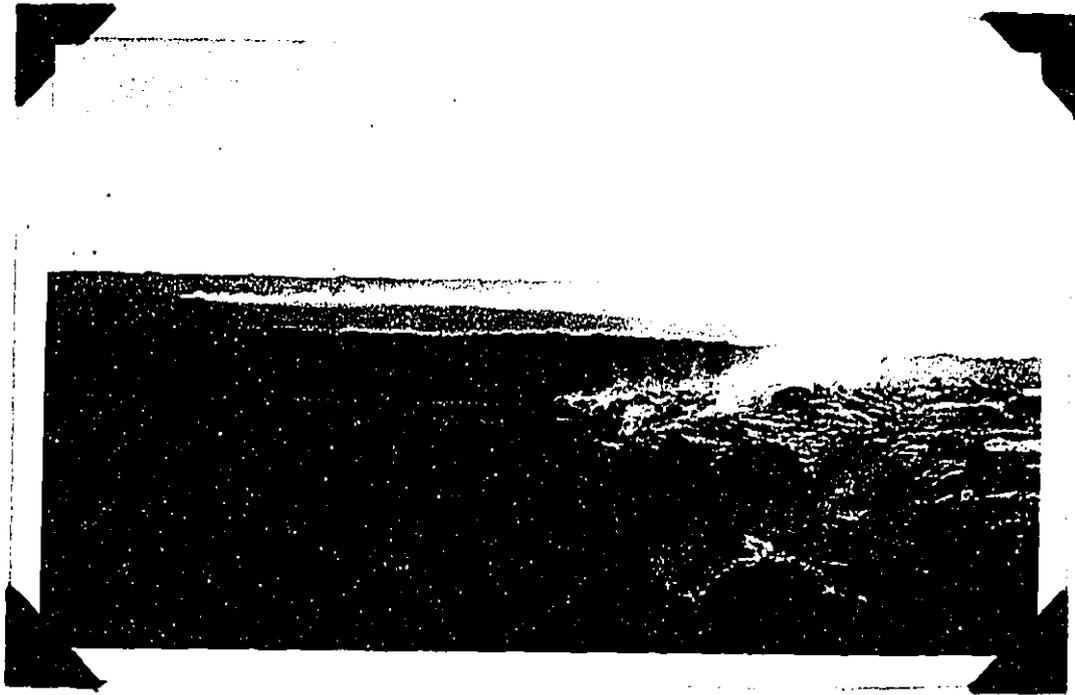
Respectfully submitted

Edward G. Wingate
Superintendent

CW



No. 1 - Airplane view of summit region Mauna Loa showing lava flows along source crack between 13,000 and 11,500 feet elevation. November 22.

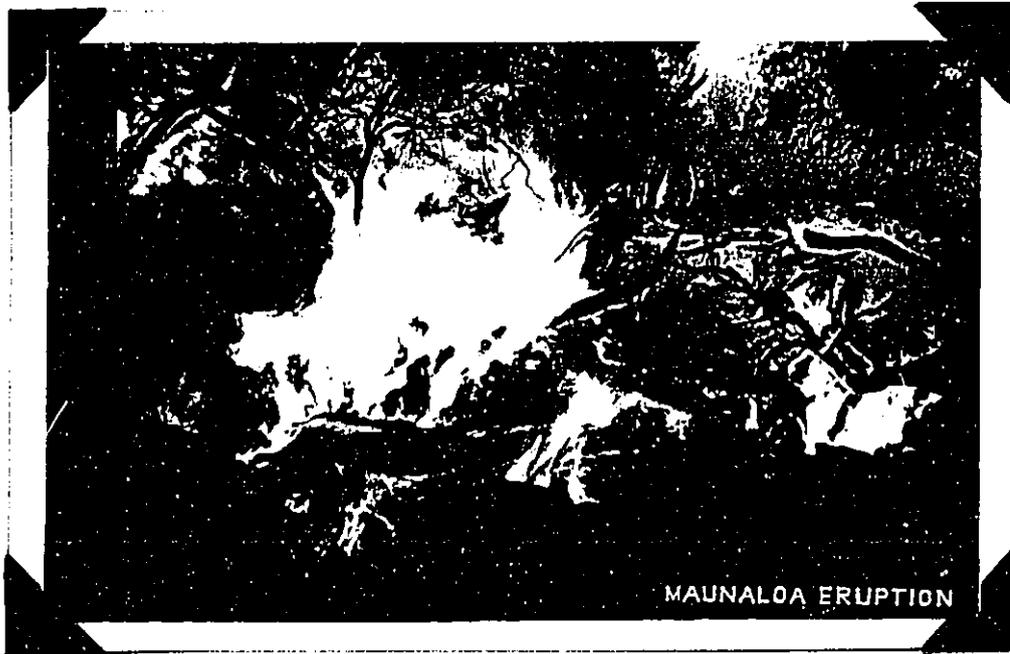


No. 2 - View north slope Mauna Loa showing the three critical points of the Mauna Loa flow. Photo Wingate, December 17, location two miles south of Humuula. Note column of smoke near summit of mountain at actual source of flows. In the left center, note smoke drifting in long line across mountain from point where lava emerged on the surface, elevation 8500 feet. Immediate right foreground shows front of advancing pahoehoe flow. Pahoehoe flows started ^{flow-}commencing About December 15.



No. 3 - Photo Maehara about December 20. Night view of advancing pahoehoe flow showing active channel.

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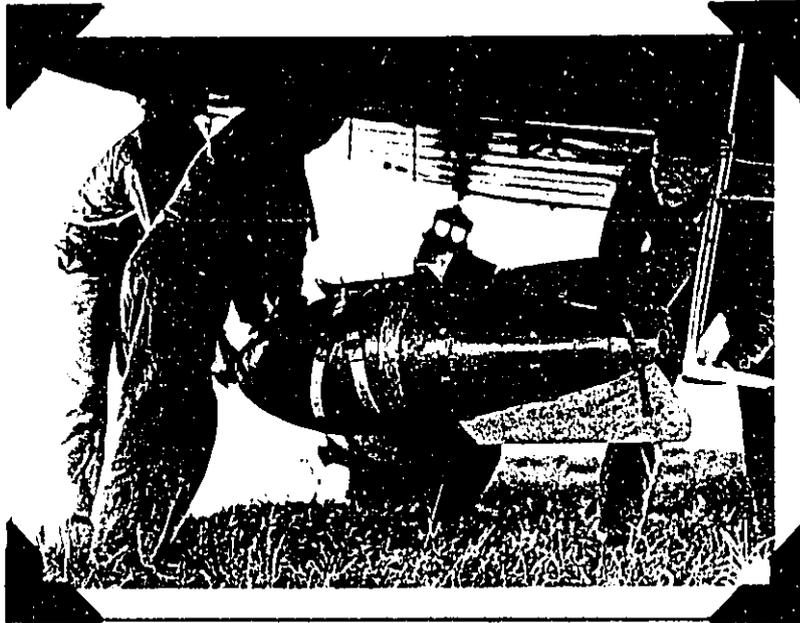


No. 4 - Photo Masha December 22. Flow advancing through forested country east of Hamula.

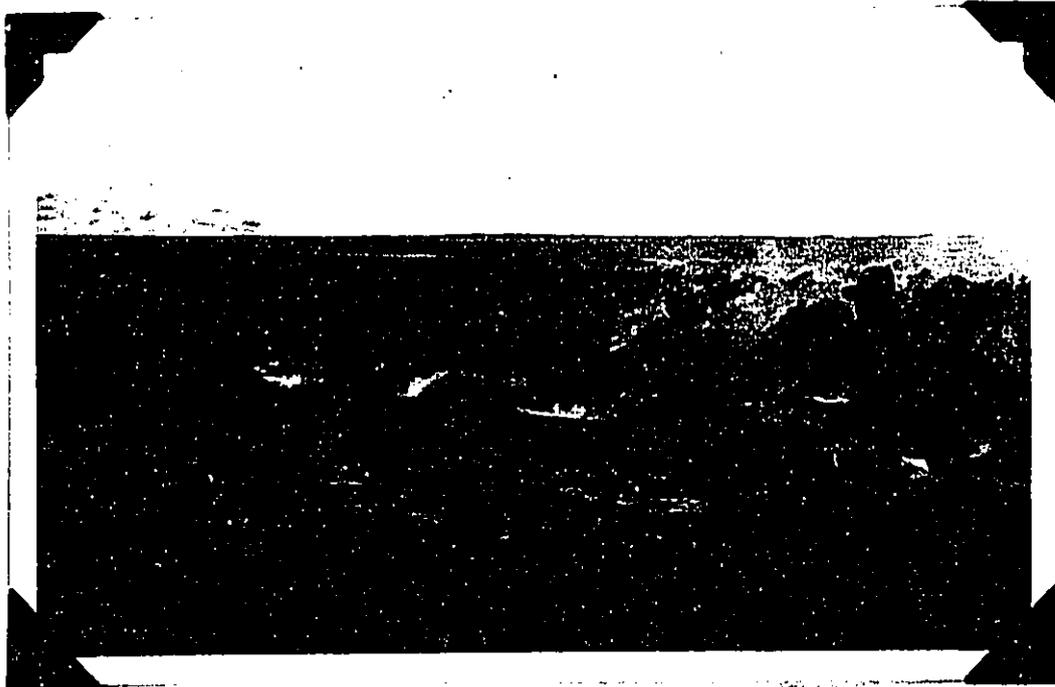
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December 26 - Pahoehe flow advancing through Pun Oo Ranch lands.
Photo Jaggar



No - 6. Showing type of bomb used to dynamite upper flow regions. Men are loading bombs just before taking off Hilo airport December 27.



No. 7 - Photo Jagger. Front of flow running through Puu Oo range lands December 27.
ranch



No. 8 - Rapid gushing of lava December 30 during which time the Hilo trail and telephone line were covered. In twenty-five minutes, this flow advanced 600 feet. Photo Wingate



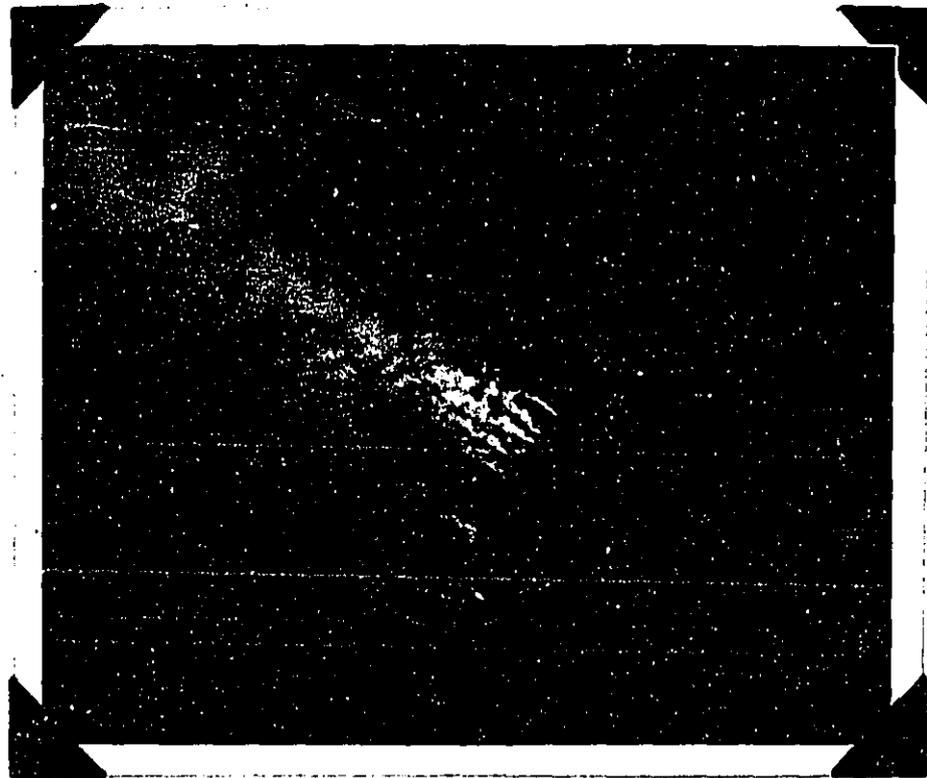
No. 9 - December 30. Side of flow as it advanced rapidly taken from a point a few hundred feet higher up flow than Number 8.



No. 10

December 31, 11:30 AM - Front small aa flow which had spilled over side of main flow about three miles above front. This flow ran for perhaps $\frac{1}{4}$ mile before it stopped. Photo - Wingate

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Airplane view of Mauna Loa eruption.



No. 11 - Portable rock crusher in operation, Mauna Loa Truck Trail, ROW Project



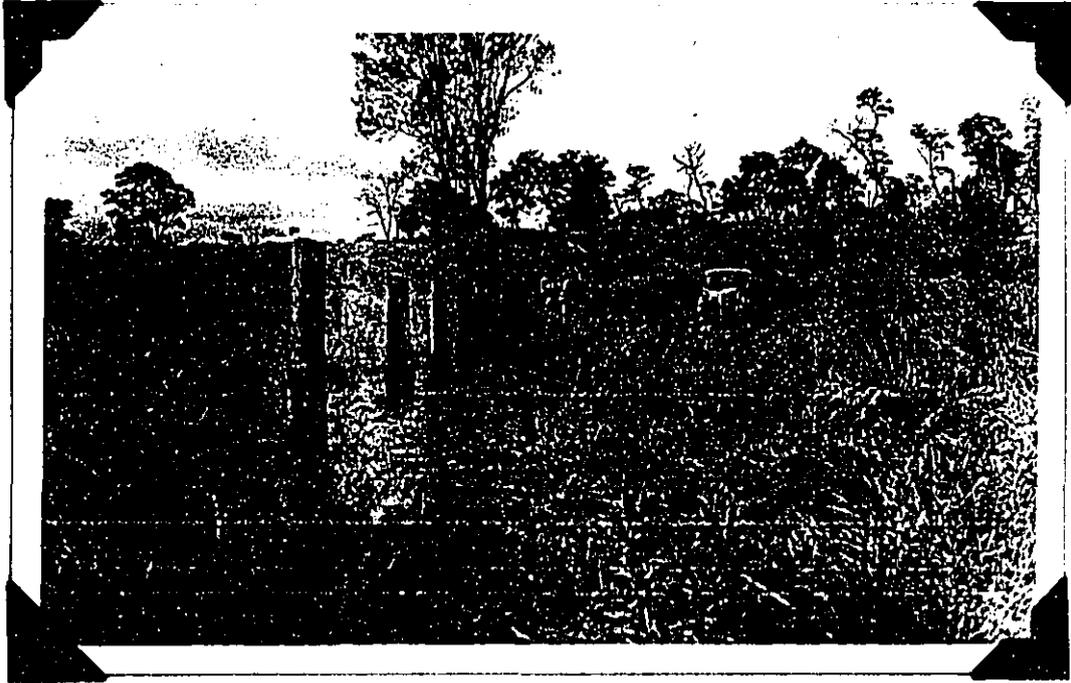
No. 12 - Portion completed, Mauna Loa Truck Trail, ROW Project

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No. 13 - Setting corner post Park boundary, Fencing Project under EOV.

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No. 14 - Portion of the Park boundary showing the ohia posts set on line. EGN Project.

original

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

January 7, 1936

Mr. Edward G. Wingate, Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory for December, 1935

Dear Mr. Wingate:

The routine of the Volcano Observatory has been abbreviated as necessary for observing the Mauna Loa eruption, the staff remaining as before, T.A. Jaggard, H.H. Waesche, and H. Yasunaka. Kilauea volcano has been quiet. The weekly press reports have been supplemented by special reports on the condition of Mauna Loa. These have been conscientiously handled by Mrs. Virginia Hill of the Hilo Tribune-Herald, with unusually accurate results as newspapers go, and this material was the basis for the articles in the Honolulu Star-Bulletin. Some special reports to the Honolulu Advertiser were sent at the request of Mr. L.E. Thurston, the manager.

Observations of Mauna Loa

Mr. Jaggard has made 10 trips to Humuula, in the region between Mauna Loa and Mauna Kea, taking photographs, collecting specimens and making records.

The eruption was in three phases: The summit rift phase, the north slope phase, the Hilo slope phase. The first was the November activity of fountains which built spatter cones; these fountains were replaced November 30 with explosive bursts, disappearance of glow at the 12,000 foot rift and rising fume at the 7 upper vents, densest at the southern and biggest cone. This fume column continued throughout December. The two rapid flows northwestward and northward on the Mauna Loa slope, starting November 21 at the time of the outbreak, traveled about 8 miles each, the northwestern one stopping and solidifying.

From under the northward, flow of rough clinker lava; or else from within it, from a fissure in the mountain connected with the smoking rift shaft; there emerged at elevation 8500 feet a continuously moving mass of lava that flowed north to the saddle during the period November 25-December 20. This was the North Slope phase. There was no danger, and nothing was damaged until December 19; the lava flowing, mostly as rough clinker, on a wilderness of ancient lavas. At this time, however, a river of glassy and rosy lava emerged from the flow rapidly; the forward movement, just at the solstice, spreading the liquid slag out as

a lake two miles wide and 8 to 20 feet deep. This overwhelmed the stone wall at Humunla, entered and burned forest and pasture, and, blocked by Mauna Kea, overflowed eastward toward Hilo. This phase began the early morning of December 22.

The Hilo Slope phase, December 22-27 was extremely threatening. From a flat at the divide, the grade changed to 157 feet to the mile, and a narrow stream of lava 200 feet wide moved toward the Waialuku river valley at the average speed of one mile per day. On flats the lava widened to 1,000 feet or more. The stirring of rapid motion crystallized it again to clinker at the sides. A channel 20 feet wide carried forward the liquid, explosions from charcoal gases occurred in old caverns, surface water made steam, and trees, bushes and grasses were flaming. Old lava flow ridges on the south were forcing the course of the new flow into the Hilo water supply. At the rate of flow of December 26, the nearest roadway in Hilo would be reached by January 9, and the grade was getting steeper eastward. At least 900 acres of ranch pastures and forest, belonging to the Parker and Pua Oo ranches were overwhelmed.

Bombing the Lava Source

The volcanologist recommended bombing the flow source. Consent was obtained from the governor, the supervisors and Parker Ranch, owning the leasehold. The object was to break up the stability of the flow tunnels and to divert the flowing high up the mountain.

This was done by US Army bombing squadrons December 27. The volcanologist was flown by the officers over the field the day before and indicated the target. Six tons of TNT explosive, 20 600-pound bombs, were detonated at the vent at the 8500 foot level and in the channel immediately below. The next day a liquid torrent was rushing there. The front, 15 miles down the mountain, on December 28 stopped motion. This made its last channel gush the night following January 1. The upper flood made some dusty clinker flows apparently, and disappeared within three days. There remain the vapor at the summit rift cone, fume over the lava channels, and smoke from smoldering logs.

Observations of Halemauuan

The fume from solfataras inside the Kilauea pit notably declined November 18 to December 18. For the same period there was lowering of steam crack temperature at the vapor bath in the Observatory grounds. Otherwise there was little in the behavior of Kilauea to correlate with the Mauna Loa eruption except increasing quiet. The numbers of tremors by weeks in December were 112, 49, 18, 17; of weak earthquakes 4, 6, 3, 0. The local seismic index by weeks was 30.50, 17.25, 6.00 and 4.25. Opening of cracks around Halemauuan aggregated 24 mm, in contrast to 44 mm of the month before. Horizontal angles across Halemauuan pit show opening of 3 seconds November 21 to December 9, in contrast to positive closing before November 21. From December 9 to December 19 this angle closed again 2.5 seconds. This is as though the reaction under Halemauuan, from the Mauna Loa outbreak November 21, were a temporary elevation.

The happenings at the pit of Kilauea were trivial slides, and a slight earthquake, felt especially strongly at Halemauuan itself on December 13. The only other earthquakes feebly felt were December 4 and 14. Tilting of the ground at the Observatory was weak easterly the first half of the month and moderate westerly the last half. This checks with the horizontal angle, in suggesting a heaving away from Mauna Loa, followed by settling toward Mauna Loa as its lava content was discharged.

Observatory Notes

Dr. Ballard, physicist at the University of Hawaii, visited the laboratory and the sulphur bank December 1, after being taken to the lava flow; he specializes in spectroscopic research and will investigate the gases of the volcano. President Crawford and the Board of Regents of the University of Hawaii at this time offered Mr. Jaggard a research professorship of physical geology in connection with graduate work, without compensation.

A set of Bulletins and of the Volcano Letter was transmitted to Crater Lake through Mr. Doerr. Secretary of War Dern was guided about the park by Mr. Jaggard December 5-6, and an address was made by the volcanologist on "The Strategy of Mauna Loa," at the luncheon given the Secretary by Hilo citizens.

The Hawaiian Volcano Research Association furnished the volcanologist a 1936 Ford car on December 6. A plan of the proposed new Volcano Observatory and Naturalist Building was furnished the President of the University of Hawaii, in connection with the proposed graduate school of Physical Geology at the park. Mr. Jaggard gave some time December 16-19 to compiling a biography of Professor Bunjiro Koto of Tokyo for the Geological Society of America. The Chamber of Commerce of Hilo on December 24 voted to make the Volcanologist an honorary life member. Mr. Jaggard broadcasted from the lava flow at Humuula, over KGU extension, a report on the crisis the evening of December 27.

Assistant Geologist Waesche and Ranger Murray were detailed December 17 to camp at Red Hill, the 10,000-foot resthouse on Mauna Loa, where they explored and photographed the region above the flow source. December 31 Mr. Jaggard flew over Mauna Loa and the arrested flow in commercial plane for a final air inspection. The day before he addressed a citizens' meeting called by the Chairman of the Board of Supervisors in Hawaii, where emergency provisions were organized for trails, forest fires, water supply and engineering measures, in case the flow continued or a recurrence happened in the future. Happily the present danger has passed.

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I have to express gratitude for the many helps given our service by everyone in Hawaii during this crisis, and especially for hospitalities extended by Mr. Alfred Carter and Mr. Hartwell Carter of the Parker Ranch, and Mr. Herbert Shipman and Mr. William Shipman of Pun Oo Ranch.

Very respectfully

T.A. Jagger

T.A. Jagger
Volcanologist

T.A.J/br

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STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

DECEMBER, 1935

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	44,950.00	42,036.27	2,913.73
45/6406	Forest Prot. & Fire Prev., 1935-'36	300.00	43.16	256.84
4x436.1	Roads & Trails, National Parks, Emergency Construction	42,040.00	32,612.75	9,427.25
4x391	Roads & Trails, National Parks, Emergency Construction Act June 19, 1934	25,775.00	25,652.78	122.22
4-01640.8	National Ind. Recovery, Interior, National Parks, Roads & Trails Act June 16, 1933	495,538.47	494,967.57	570.90
4-03/7640.14	Nat'l Ind. Recovery Interior, Nat'l. Park Service, 1933-'37	10,000.00	10,000.00	0.00
4-05/7678.14	Public Works Administration Alletment to Interior, National Park Service 1935-'37:	6,300.00	6,300.00	0.00
45415	Hawaii National Park, 1935	36,040.00	34,826.09	1,213.91

10-157
(July, 1929)

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
TRAVEL REPORT

Hawaii National Park for the Month of December, 1935

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	15,036	44,466	18,388	54,589	-10,123	.185
Persons entering via other private transportation,	397	1,065	184	518	+ 547	1.056
Total persons entering via private transportation,	<u>15,433</u>	<u>45,531</u>	<u>18,572</u>	<u>55,107</u>	<u>- 9,576</u>	<u>.174</u>

OTHER TRANSPORTATION:

Persons entering via trains <u>Hotels</u> ,	600	1,559	295	1,033	+ 526	.509
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	<u>600</u>	<u>1,559</u>	<u>295</u>	<u>1,033</u>	<u>+ 526</u>	<u>.509</u>
GRAND TOTAL ALL VISITORS,	<u>16,033</u>	<u>47,090</u>	<u>18,867</u>	<u>56,140</u>	<u>- 9,050</u>	<u>.161</u>

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii

National Park for the Month of December, 1935

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	0.00	25.00
Total,	0.00	25.00
Remitted,	0.00	25.00
On hand close of month,	0.00	0.00
Park revenues received this year to date,	250.00	
Park revenues received last year to date,	250.00	
Increase,	0.00	
Per cent of increase,	NONE	

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS AND RESERVATIONS
HAWAII NATIONAL PARK

REPORT OF SALES OF PUBLICATIONS

DECEMBER, 1935

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	796	118.85
Received during month,	0	0.00
Total,	796	118.85
Sold during month,	6	4.95
On hand at close of month,	790	113.90
<u>NON-GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		
Cash on hand beginning of month,		9.90
Sales during month,		4.95
Total,		14.85
Remitted during month,		0.00
Balance,		14.85

STATUS OF AUTHORIZED PROJECTS

Hawaii National Park for the Month of December, 1935

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction, New Halenau Trail (FA)	75	5	5	
518 7 Haleakala Road, Landscaping (FA)	100	0	0	
520 Haleakala Road, Post Construction (F.A.)	78	3	5	
521 Post Construction, Uwekahuna-Bird Park Road (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing, 10.643 miles, cont. & contg.	100	0	65.3	
FP633 For the erection of one observation station and toilet; and one office and checking station, Haleakala	0	0	0	
FP677 Employee's residence and connecting service lines for newly appointed U.S. Commissioner	0	0	0	

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of December, 1935

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	REG	PW	REG	PW		
Number of employees beginning of month	15	2	1	8	16	4
Number of additions.....	0	2	0	1	1	0
Total.....	15	4	1	9	17	4
Number of separations.....	1	1	0	2	0	0
Number of employees close of month.....	17	3	1	7	17	4
Number of promotions during month.....	0	0	0	0	0	0
Aggregate amount of annual leave taken	7½	0	0	0	1	0
Aggregate amount of sick leave taken....	1	0	0	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0

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January 11, 1936.
REPORT OF CAMP DIRECTOR FOR DECEMBER 1935
TO THE SUPERINTENDENT HAWAII NATIONAL PARK

December 6th we were notified by radio that special leave might be granted the enrollees during the holiday season either from December 21st to December 26th or from December 28th to January 2nd. The enrollees to choose which holiday he wished to celebrate.

Thirty four Boys elected to go Christmas and the balance chose to celebrate the advent of the new year. As we had such a large proportion of the boys in camp Christmas day they were given a nice dinner.

For the past month and still continuing there has been an epidemic of colds and flu throughout the island. We have had several mild cases in camp but by keeping the boys in camp and away from gatherings, as much as possible, we have kept the cases to a minimum.

In spite of illness and holiday leaves the average turn out to the Camp Superintendent was 158 and a total of 3160 man days of work on our projects was performed.

The whole month was spent principally on our two largest projects. The Mauna Loa truck trail and fencing the park boundary. The trail was completed for a distance of three miles and another mile partially completed. On the fencing the line was cleared and post holes dug, ohia posts cut and set for a distance of about 320 rods. This work was hard going and practically every hole had to be shot.

The Landscape Maintenance crew cleaned slopes along the roads and planted trees in the vicinity of the administration building.

No time was lost on account of the weather. Since the outbreak of Mauna Loa, Nov. 21st, very little rain has fallen in the Kilauea Section.

In the camp a new bunk house was completed also a new bath house and a garage. These were constructed to comply with supplements.

The Sunday talks were made by Father Gregory, on the second Sunday which is set aside for Catholic Services, and Rev. Yadao a protestant preacher from Hilo, preached to the boys and a girls quartet which accompanied him sang several hymns on the Sunday set aside for Protestant Services. Mr. Lucas from the Hilo YMCA and Mr. Caceres also talked to the boys on the other Sundays.

Weekly talkies and boxing occupied the evenings. Playground baseball, volley ball, basket ball, etc., furnished daylight entertainment and recreation.

Five boys were discharged during December- one boy to return to school. Two boys had secured permanent jobs, one boy persistently went AWOL and refused to obey camp rules and regulations and one boy deserted.

Respectfully submitted

Camp Director

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui.

December 31, 1935

The Superintendent,
Through the Chief Ranger,
Hawaii National Park, Hawaii.

Dear Sir:

The following report of the Haleakala Section for the month of December, 1935 is respectfully submitted:

000 General.

010 Introduction

We are at last established in our new quarters in the Kula Section, which are much more convenient, being a house with six rooms and bath.

020 General Weather Conditions.

Rainfall during December amounted to .40 inches. The prevailing wind direction was from the northeast. There were 6 clear days during the month.

100 Administration.

110 Status of work.

Regular reports were kept up to date. Purchases of supplies, patrols and inspections were carried on. Two additional cantonniers (part-time men) were put to work on the road during the month.

120 Park Inspections.

Frequent inspections of the Halemann trail project, the road maintenance work, the Rest House and the White Hill area were made.

150 Equipment and Supplies.

A blacksmith vice was received December 2.

200 Maintenance, Improvement and New Construction.

210 Maintenance.

Usual maintenance work on the road was carried on during the month. Freezing weather has made it necessary for the cantonniers to spend more time in clearing the road of rubble.

- 2 -

220 Improvements.

Some of the road fills were built up and the slope of the banks reduced by the addition of much new material. This was done to prevent damage to the road by erosion.

230 New Construction.

Construction on the Halemau trail project during the month has consisted for the most part in widening to standard width from the crater rim down, building cemented rock walls and guard rails and improving the landscaping aspect of certain points, as directed by Associate Architect Merel S. Sager on his visit here in November.

400 Flora, Fauna and Natural Phenomena.**410 Ranger Naturalist and guide service.**

The District Ranger represented the National Park Service in the Haleakala Section, whenever possible, to contact park visitors and patrolled the road to be of service in case of need.

500 Use of Park facilities by the public.**510 Increase or decrease in travel.**

Check of travel for the month amounts to 1065 visitors, a decrease of 69% under the record for last month. The decrease is the result of a drop to nearer normal travel, as many people visited White Hill on Haleakala to view the Mauna Loa eruption last month.

600 Protection.**610 Police Protection.**

The park road was patrolled frequently during the month and frequent trips over the Halemau Trail and to the Rest House were made.

630 Accidents.

There were no accidents in the Haleakala Section during the month.

650 Signs.

A few of the new signs received for this section have been put up. The remainder will be put in place soon - after the completion of more urgent work.

Yours respectfully,

J. A. Peck
District Ranger.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

December 23, 1935

SPECIAL OFFICE ORDER NO. 14

Subject: Annual leave during present emergency

Until the present emergency created by the lava flow, which is threatening damage to the town of Hilo has come to an end no leave will be granted, except necessary sick leave. Particular attention is called to general office order 28, directing that park employees keep the switchboard operator informed of their movements at all times.

It is possible that the staff of this park may be called on at any moment to assist in any type of work connected with the saving of property and it should be prepared to respond immediately.



Edward G. Wingate
Superintendent

- Distribution:
Director - 2
Superintendent - 1
Chief Clerk - 1
Chief Ranger - 1
Each Ranger
Park Naturalist - 1
Foreman - 1
General Mechanic - 1
Monthly Report - 7
RCW - 1

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

December 27, 1935

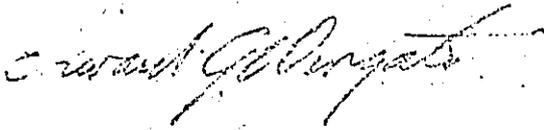
MEMORANDUM TO STAFF:

Subject: Preliminary Estimates, Fiscal Year 1938

It will be necessary shortly to submit the annual preliminary estimates for the fiscal year 1938 and the heads of the various departments in this park are requested to consider their needs carefully and submit at the earliest practicable date their several estimates.

Your attention is invited to the estimate manual and the justifications which should be prepared accordingly. The chief clerk has a copy of the final estimates for 1937 which should be used as a base for the 1938 estimates.

Distribution:
Director
Superintendent
Chief Ranger
Foreman
Acting Park Naturalist
Volcanologist
Chief Clerk
Assoc. Landscape Architect
Monthly Report


Edward G. Wingate
Superintendent

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

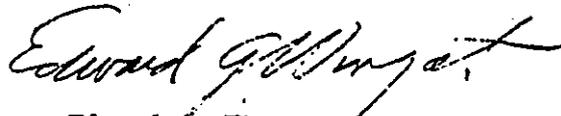
December 13, 1935

GENERAL OFFICE ORDER #40

Subject: Reports

In order that the various reports called for by the Washington Office may-be submitted at the proper time and for the purpose of maintaining a permanent record, a calendar of Field Office reports has been posted in the office of the Chief Clerk.

The staff of this office is directed to insert the date on which each report is submitted in the proper place on the calendar immediately after mailing the report.



Edward G. Wingate
Superintendent

- Distribution:
Director 2
Superintendent - 1
Chief Clerk - 1
Chief Ranger - 1
Each Ranger - 1
Monthly Report - 7
Volcanologist - 1
Park Naturalist - 1

Form No. 1009-Met'l.

U. S. Department of Agriculture, Weather Bureau

COOPERATIVE OBSERVERS' METEOROLOGICAL RECORD:

Month of December, 1922; Station, Volcano Obsy.; County, Hawaii

Hour of Observation, 8:00 AM

State, Hawaii; Latitude, _____; Longitude, _____; Time used on this form, H.S.T.

MONTHLY SUMMARY

TEMPERATURE.

Mean maximum, 66.7

Mean minimum, 53.6

Mean, 60.2

Maximum, 72.0; date, 12/8

Minimum, 48.1; date, 12/16

Greatest daily range, 20.6 Dec. 18

PRECIPITATION.

Total, 5.29 inches.

Greatest in 24 hours, 1.08; date, 3

SNOW.

Total snowfall, _____ inches; on ground 15th, _____ inches;

at end of month, _____ inches.

NUMBER OF DAYS—

With .01 inch or more precipitation, 23

Clear, 9; partly cloudy, 17; cloudy, 5

Light Fog 8, 8, 26, 31 DATES OF—

Killing frost, _____

Thunderstorms, _____

Hail, _____

Sleet, _____

Auroras, _____

REMARKS:

Fume from source fountains of Mauna Loa eruption continued strong

changing to light December 27, and becoming greatly diminished by the end of the month.

DATE.	TEMPERATURE.				PRECIPITATION.			Wind		PREVAILING WIND DIRECTION.	CHARACTER OF DAY, SUNRISE TO SUNSET.	MISCELLANEOUS PHENOMENA.
	MAX. MIN.	MIN. MIN.	RANGE.	* SET MAX.	TIME OF BEGINNING.	TIME OF ENDING.	AMOUNT.	WIND.	WIND VELOCITY.			
	1	2	3	4	5	6	7	8	9	10	11	
1	59.0	52.2	6.8	56.3			.46	93	Str.	N.E.	P.C.	Snow (old) M. Loa & M. Kea.
2	61.5	53.5	8.0	56.8			.94	89	Mod.	N.E.	Cloudy	rain
3	62.5	54.0	8.5	57.2			1.08	93	Mod.	N.E.	Cloudy	
4	65.0	56.0	9.0	57.8			.41	89	Mod.	N.E.	P.C.	
5	66.2	54.5	11.7	58.3			.01	83	Lt.	N.E.	P.C.	
6	63.3	57.0	6.3	59.9			Tr.	83	Lt.	S.W.	Cloudy	Fog P.M.—Snow Mauna Loa
7	68.2	56.2	12.0	62.2			.21	94	Lt.	S.W.	P.C.	
8	72.0	62.0	10.0	64.0			.37	94	Lt.	S.W.	Cloudy	Fog A. M.
9	71.5	61.0	10.5	63.7			.78	89	Lt.	N.E.	Clear	
10	67.4	57.1	10.3	69.8			.16	89	Mod.	N.E.	Clear	
11	63.7	54.0	9.7	57.8			.13	82	Mod.	N.E.	P.C.	
12	64.2	54.3	9.9	56.2			.13	90	Mod.	N.E.	P.C.	
13	65.5	53.0	12.5	59.6			.03	89	Mod.	N.E.	Clear	
14	66.9	54.0	12.9	61.2			.03	75 v	Str.	N.E.	P.C.	
15	65.5	50.8	14.7	56.0			.01	93	Mod.	N.E.	Clear	
16	64.5	48.1	16.4	55.5			.02	82	Str.	N.E.	Clear	
17	66.1	51.0	15.1	58.1			.00	89	Mod.	N.E.	P.C.	
18	69.5	48.9	20.6	58.6			Tr.	87	Lt.	S.W.	P.C.	
19	64.0	50.1	13.9	57.0			.01	76	Lt.	N.E.	P.C.	
20	63.5	51.6	11.9	56.1			.06	88	Mod.	N.E.	P.C.	
21	68.3	49.0	19.3	55.4			Tr.	91	Mod.	N.	P.C.	
22	68.9	53.0	15.9	58.5			Tr.	88	Mod.	S.W.	P.C.	
23	67.3	51.3	16.0	58.2			.01	88	Lt.	S.W.	P.C.	
24	68.2	49.5	18.7	54.5			.01	86	Mod.	S.W.	P.C.	
25	70.3	54.5	15.8	50.4			Tr.	89	Lt.	S.W.	P.C.	
26	66.0	59.2	6.8	50.3			.07	94	Lt.	N.E.	Cloudy	Fog. A.M.
27	70.8	52.2	18.6	50.0			.02	83	Lt.	N.E.	Clear	
28	71.5	53.4	18.1	59.8			Tr.	86	Lt.	N.E.	Clear	
29	70.2	50.7	19.5	56.0			Tr.	88	Lt.	S.W.	Clear	
30	71.3	52.8	18.5	59.3			Tr.	83	Lt.	S.W.	Clear	
31	66.1	56.5	9.6	59.0			.36	86	Lt.	S.W.	P.C.	Fog. A.M.
SUM.	205.8	166.1	40.7	161.0			5.29	2799				
MEAN.	66.7	53.6	13.1	58.4			.171	87				

* Reading of maximum thermometer immediately after setting.
 † Including rain, hail, sleet, and melted snow.
 ‡ Thunderstorms, halos, auroras, etc.

T. A. JAGGAR
 H.S.T.
 Cooperative Observer.
 Hawaii Nat'l. Park.

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Jan. 2, 1936.

The Superintendent
Hawaii National Park,
Hawaii.

Dear Sir:

The following is a report of my time by
hours, for the month of Dec. 1935.

Repairing cars and trucks		103	Hours
Pumping water as follows, High tank	28,000 gal.		
Supt. res.	4,000 "		
Murray "	4,000 "		
Fischer "	1,000 "		
Kauhi "	1,000 "		
Uwekahuna	900 "		
	<hr/>		
	38,900 Gal.	14	"
Repair Museum projector and light plant		8	"
Warehouse		6	"
Transfer kerosene to storage tank		6	"
Sharpen picks		6	"
Trips to Hilo for parts		5	"
Transfer gasoline to storage tank		5	"
Check in gasoline		4	"
Transfer motor oil to storage tank		3	"
Repair tools in warehouse		3	"
Repair kerosene cans		3	"
Repairing tubes		2	"
Fill all car batteries		2	"
Repair tree trimmer		2	"
Make surveyors rod		2	"
Assemble new portable forge		2	"
Repair Japanese saw		1	"
Take gasoline to stalled U.C.C. truck		1	"
Check cars and trucks loaned to Military camp		1	"
Service cars and trucks loaned to Military camp		1	"
Repair washing machine (Supts. res;		1	"
Dry tent, loaned for traffic count		1	"
Repair storage tank for motor oil		1	"
Repair steel tape line		1	"
Repair old battery for emergency use		1	"
Clean lower garage		1	"
Solder pans for Mauna Loa rest house		1	"
Solder canteens		1	"
Repair fire pump		1	"
Repair telephone		1	"
Repair horse shoeing outfit		1	"
Repair pipe in warehouse		1	"
Store doerrs furniture		1	"
Clean paint shop		1	"

Total 194 Hours.

Report submitted by,

F. F. Fischer

F. F. Fischer
Mechanic.

January 8, 1936

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

The following is the report of ranger activities during the month of December, 1935.

000 - General

The ranger department activities during the month covered the range of recreational, educational, protection and maintenance of telephone lines, painting and repairing signs, etc.

The most outstanding event of the month was the continuation of Mauna Loa flow and the visit of Secretary of War Dern and party.

020 - Weather Conditions

The total rainfall at headquarters 5.29 inches, at the CCC camp 4.04 inches and at Haleakala .4 inch. If this present dry spell continues for any length of time it will be necessary to conserve the present water supply.

100 - Administration

110 - Status of Work

All work was kept up to date, except the sealing of cracks on the roads. The boundary survey is about 20 % completed. The fence gang is progressing as rapidly as can be expected, as every posthole has to be drilled and powder used.

120 - Park Inspections

Routine park inspections were made of all work in progress, including one inspection on the progress of the Mauna Loa truck trail.

District Ranger Peck made frequent inspections of the Haleakala section.

150 - Equipment and Supplies

One saddle horse was purchased for this section during December and a blacksmith vise was received for the Haleakala section.

170 - Plans, Maps and Surveys

The boundary survey work was continued during the month. Associate Architect Sager is revising the telephone utility sheets for this park.

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200 - Maintenance, Improvements and New Construction

210 - Maintenance

Usual maintenance of roads, trails and equipment was carried on. At Haleakala District Ranger Peck reported that freezing weather has made it necessary for the cantoneers to spend more time in clearing the road of rubble.

220 - Improvements

Haleakala Section - Some of the road fills were built up and slope of the banks reduced by the addition of much new material. This was done to prevent danger to the road by erosion.

230 - New Construction

Work was started on the extension on the machine shop with material purchased by the ECW for the present shop was too small to do satisfactory work.

260 - Landscape Work

The ECW crew continued landscape work around headquarters.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

The addition of the steam heat, bar, hot water in the rooms and other improvements has added much to the popularity of the Volcano House. During December of this year there seemed to be many more guests than for the same time last year.

320 - Cooperating Governmental Agencies

At the suggestion of Dr. Jaggard, a squadron of Army bombers bombarded the source of the Manna Loa flow on December 27.

The FERA project at the Volcano House is nearing completion, with the exception of a few minor jobs, and finishing the tennis court.

400 - ~~Ranger, Naturalist and Guide Service~~ Ranger, Naturalist and Guide Service Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

All roads, campgrounds, etc., were patrolled during the week ends, at which time park travel seems to be at its height.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Total travel to this section of the park for December was as compared with for this time last year. District Ranger Peck reports 1065 persons visited Haleakala, a decrease of 69% over November. This is the

result of a drop to near normal travel, as many more people visited Haleakala than usual during November to view the Mauna Loa eruption.

530 - Visitors

- December 1 - Dr. Stanley S. Ballard, Physicist of the Univeristy of Hawaii
December 5 - Secretary of War George H. Dern and party.
December 6 - Mr. and Mrs. Harry A. Franck. Mr. Franck is the author of many travel books, among them being "Vagabonding through Soviet Russia," "Vagabonding through Greece," and "Following the Footstep of Cortez in Mexico." Departed on the 9th.
December 9 - Portion of Vice President Garner's party flew over from Honolulu for luncheon at the Volcano House, returning the same day.

600 - Protection

610 - Police Protection

Usual park patrol carried on by the ranger staff.

660 - Sanitation

All gutters, campgrounds, etc., were kept clean during the month.

900 - Miscellaneous

The usual Volcano House Dance was held on the 28th. Despite the large crowd it was very orderly.

On December 20 the Inter-Island Airways new "Baby Clipper" made its first flight from Honolulu to Hilo. This is indeed a great improvement over the other planes, for besides carrying more passengers, the flying time is cut some 45 minutes.

The Federal Business Association held its quarterly dinner at the Volcano House on the 13th

Respectfully submitted

Joseph H. Christ
Joseph H. Christ
Chief Ranger

ROUGH DRAFT

000 - General

A treatise on the continuation of the present Mauna Loa flow

020 - General Weather Conditions

The total rainfall at headquarters was 5.29 inches, at the CCC camp 4.04 inches and at Haleakala .4 inch. If this present dry spell continues for any length of time it will be necessary to conserve the present water supply.

100 - Administration *take measures to*

110 - Status of Work

~~Office work was still somewhat behind at the end of the month, but since the quietening of the front of the flow it is hoped that it will be current at the end of January.~~

120 - Park Inspections by:

121 - Superintendent

Back and forth between here and Humuula and Keaau! *Oh, Sirs?*

122 - Special Field Representatives

Associate Architect Sager spent until December 29 at headquarters supervising ECW projects, and on that date departed for Honolulu ~~for~~ on annual leave.

125 - Other Governmental Officers *Detained*

~~Secretary of War George A. Dern and party arrived on this island aboard the USS Chester December 5. The Secretary flew over Mauna Loa to view the eruption. The entire party stayed at the Kilauea Military Camp while here, departing on the 7th.~~ *Detained*

126 - Congressional Committees and sub-committees

~~A portion of Vice President Garner's party flew over from Honolulu for luncheon at the Volcano House December 9, returning the same day. They report less than 1/2 hour in the park. Several pleasant contacts were made however. List them -~~ *relying for the resignation of the J.C. to see*

130 - Finance and Accounts *this is not*

~~A detailed report will be found at the back of this report. There still seems to be some doubt as to the status of Associate Architect Sager's per diem and by whom he should be paid. It is hoped this will be straightened out before long.~~ *attached*

150 - Equipment and Supplies

One saddle horse was purchased for Kilauea section and a blacksmith vise received for the Haleakala section. Will check with Jimmie about additional equip.

DOCUMENT CAPTURED AS RECEIVED

170 - Plans, Maps and Surveys

Had recommended in his annual report

Newspaper articles were noticed in Honolulu papers stating that Secretary Ickes ~~was approving~~ the addition of the Kalapana section. A quotation from one article follows, which apparently quotes the Secretary: "Extensions to the southeast of Kilauea and Mauna Loa section of the Hawaii national park to provide inclusion of the shoreline section in perpetuation of one of the few unspoiled native villages in the islands is recommended." *This is the first we had heard of such inclusion.* *the extension recommended is very pleasing to this office*

Park boundary survey was continued during December.
180 - Circulars, Placards, Publicity Bulletins, etc.

Considerable publicity was accorded the park through the continuation of the Mauna Loa flow and Dr. Jeggard spoke over the radio ~~twice~~ *once.*

General Office Order 40, with regard to submission date of reports to Washington, special office order 14, prohibiting annual leave to the staff during the emergency caused by the flow and a memorandum to the staff regarding preparation of preliminary estimates for 1938 were issued and copies are attached. Seven hundred cards were stamped with Pele's seal (hot lava) to be used by the Hawaii Tourist Bureau for publicity purposes.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Usual maintenance of roads, trails and equipment was carried on. At Haleakala District Ranger Peck reported that freezing weather has made it necessary for the cantoneers to spend more time in clearing the road of rubble.

How much truck trail? -

220 - Improvements

Haleakala Section - Some of the road fills were built up and slope of the banks reduced by the addition of much new material. This was done to prevent danger to the road by erosion.

230 - New Construction

Copy from Peck's report # 230 *Haleakala trail* *truck trail*
Work was started on the extension to the machine shop with material purchased by the ECW for the present shop was too small to do satisfactory work.

260 - Landscape Work

a well
The CCC Crew continued landscape work around headquarters ~~work~~ under the direction of Mr. Sager.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

during the year

The addition of the steam heat, ~~and~~ hot water in the rooms and other improvements has added much to the popularity of the Volcano House. During December of this year there seemed to be many more guests ~~than for~~ the same period during 1938. *was a decided increase in over*

WINE ROOM

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320 - Cooperating Governmental Agencies

At the suggestion of Dr. Jagger, a squadron of Army planes bombarded the source of the Mauna Loa flow on December 27. This was indeed of invaluable assistance and the Army has the gratitude of the entire populace of Hilo and surrounding territory for this work. *This was a pure cooperative voluntary & was heartily approved by the previous residents of Hilo.*

The FERA project at the Volcano House is nearing completion, with the exception of a few minor jobs and finishing the tennis court.

400 - Ranger, Naturalist and Guide Service

All roads, campgrounds, etc., were patrolled during the week ends, at which time park travel seems to be at its height.

Associate Park Naturalist John E. Doerr departed on the first of December for Crater Lake where he is to be stationed permanently. Mrs. Doerr and their small daughter left on the 4th.

420 - ~~Exam~~ Museum Service

On account of continuous volcanic activity throughout the month it was necessary to cancel several regularly scheduled lectures, trips, etc. Nevertheless it was possible with the assistance of the ranger staff to carry out ~~most~~ of the schedule.

Mr. Doerr's departure so depleted the library in the park naturalist's office that a complete rearrangement of the furniture was found to be possible. With the addition of new floor covering the office is much more pleasant.

Project of cleaning and rearranging the exhibits in the museum was started. This will including mounting a new composite topographical map of the Island of Hawaii.

480 - Natural Phenomena

A copy of the report of the Volcano Observatory's activities is attached.

500 - ~~Exam~~ Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Total travel to this section of the park for December was 16,033 as compared with 18,867 during the same time in 1934. District Ranger Peck reports 1065 persons visited Haleakala, a decrease of 69% over November. This is the result of a drop to near normal travel, as many more people visited Haleakala than usual during November to view the Mauna Loa eruption.

530 - Special Visitors

- December 1 - Dr. Stanley S. Ballard, Physicist of the University of Hawaii
- December 5 - Secretary of War George H. Dern and party
- December 6 - Mr. and Mrs. Harry A. Frank. Mr. Franck is the author of many travel books, among them being "Vagabonding through Soviet Russia," "Vagabonding Through Greece," and "Following the Footsteps of Cortez in Mexic." Departed on the 9th.

*Peck accompanied
District Ranger Peck
to Haleakala
with 11 people
there*

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December 9- Portion of Vice President Garner's party, flew from Honolulu
December 28 - Senator and Mrs. Joseph R. Farrington, Remained at the Volcano House for approximately 10 days

600 - Protection

610

660 ~~There is~~ absolutely nothing to report other than Joe's routine "park patrol ~~carried~~ on by ranger staff, all gutters, kept clean, etc."

900 - Miscellaneous

The usual Volcano House dance was held on the 29th. Despite the large crowd it was very orderly.

On December 20 the Inter-Island Airways new "Baby Clipper" made its first flight from Honolulu to Hilo. This is indeed a great improvement over the other planes, for besides carrying more passengers, the flying time is cut some 45 minutes.

The Federal Business Association held its quarterly dinner at the Volcano House on the 13th/

During the month the Chamber of Commerce of Hilo honored Dr. Jaggard with an life membership in the Chamber in recognition of his past work and efforts.

Make sure out of this
On Sunday, December 8, a small pageant was held at the fire pit, depicting the defiance of Princess Kapiolani of the Goddess Pele.

wait - from 17
... of ... (to 2) ...
... ..

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Jan. 8, 1956

The Superintendent,
Hawaii National Park,
Hawaii.

Dear Sir:

I hereby submit report of the check on all fire extinguishers in Hawaii National Park.

Soda and acid, two and one half gallon capacity type extinguishers are recharged the first of each year, two of this type were found to be leaking during this present check, they were repaired and put back into service.

The small hand pump type, one quart capacity extinguishers are tested and refilled every three months, two of this type were found not working properly during this check, they were replaced by extinguishers in good condition.

The list below shows the amount of liquid found in the one quart hand extinguishers.

Car #	180	Full	Res. #	1	Full
" #	181	"	" #	1	"
" #	182	3/4 Full	" #	2	"
" #	1133	3/4 Full	" #	3	"
" #	1135	"	" #	4	"
" #	1138	"	" #	5	"
" #	1139	3/4 Full	" #	6	"
" #	1140	"	" #	7	"
" #	1141	3/4 Full	" #	8	"
" #	1158	1/2 Full	" #	9	"
" #	1160	1/2 Full	" #	10	1/2 Full
" #	1162	Empty	" #	11	Full
" #	1164	3/4 Full	" #	12	"
			" #	13	"
			" #	14	1/2 Full
			" #	15	Full
			" #	16	"
Machine shop					3/4 Full
Warehouse					"
Service Station					"
Museum Projector					"
Museum motor room					"
Observatory	Dr. Jagers office				"
"	Basement				"
"	Garage				"
"	Machine shop				"

The following two and one half gallon extinguishers were emptied and recharged.

Machine shop	1	Museum lecture hall	1
Warehouse	1	Observatory Bldg.	1
Lower garage	1	" Store room	1
Upper garage	1	Fire Truck	2
Administration bldg office	2		
" " Garage	1		

Report submitted by,

G. F. Fischer

*to W
Frankly Appert*

December 31, 1935

MEMORANDUM TO SUPERINTENDENT WINGATE

The following is a report of work accomplished under my direction during the month of December, 1935.

1. Made minor repairs alterations and painted three rooms, Qtr. #15
2. Made minor repairs to Qtr. #9.
3. Renewed part of water pipe system, Qtr. #1
4. Finished scraping roof and painted roof one coat, Qtr. #13.
5. Made repairs to roads.
6. Built forms for foundation addition to machine shop.
7. Cleaned and refilled toilets, Uwekahuna.
8. Hauled garbage from Qtr. area nine times.
9. Hauled eight cords of wood to Qtr. area.
10. Completed bunkhouse, bathhouse, and garage, CCC Camp.
11. Painted Car # 1162.
12. Pumped water from reservoir to tanks at Qtrs. #1-8-2.
13. Made five inspection trips on all roads.
14. Repaired road to Halape.
15. Repaired cave in of steam crack, Qtr. #2.

*R R Craik
Foreman*

*W. West
Egan*

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

December 9, 1935

The Director
National Park Service
Washington, DC

Dear Mr. Director:

Following is the monthly report of activities for this park for November.

000 - General

Following a rather strongish earthquake which occurred at 5:15 p.m. November 21, and felt generally over the entire island as well as Maui and Oahu, Mauna Loa volcano erupted at the summit and along the north-east rift, or ridge, at approximately 6:35 p.m.

The sequence of events leading up to as well as the location of the outbreak had been accurately forecast at various times subsequent to the 1933 summit eruption by Dr. F.A. Jaggar, Volcanologist, in addresses before the Hilo Federal Business Association, Chamber of Commerce and Volcano Research Association. The outbreak has emphasized the importance and possibilities of scientific study of active volcanic regions.

At the time of the outbreak the whole southern and eastern sides of the island were covered with clouds which obscured a view of the mountains and the first information concerning the eruption was transmitted by the Shipman family from their cook at the mountain ranch house at Pun Cop at the eastern foot of the Mauna Kea grasslands.

The chief ranger and superintendent, who were attending a dinner in Hilo in honor of G.J. Carlson, Regional Executive of the Boy Scouts, were informed by telephone of the outbreak and upon announcing the news that Mauna Loa had erupted a storm of applause broke out. This somewhat conflicts with reports emanating from mainland radio stations to the effect that natives were huddled in their huts, trembling with fear and making weird sacrifices to the dieties of the volcano.

The superintendent and chief ranger returned by car immediately to Kilauea, arriving at 8:20 p.m. Enroute they noticed the bright glow of fountains on Mauna Loa reflected in the overhanging clouds. At Kilauea no view was possible of the mountain, but the clouds cleared about 9 p.m., when a good view of the eruption opened up. A conference

of the park staff and Military Camp officials was called in the superintendent's office and in the meanwhile Rangers Williams and Lamb had been dispatched up the new Mauna Loa truck trail in order to get a view, if possible, of the mountain and determine the source of the outbreak. Fortunately at this time there was a group of Army planes on the island and Major Bissell was called into the conference with the commanding officer of the Military Camp and offered to have one of his scouting planes proceed to the source of the eruption as soon as it was possible to fly the next morning. The pilot was to locate the eruption on maps furnished him by the office and report by radio. Through the courtesy of the commanding general of the Hawaiian Department, who was reached by telephone, permission was obtained for Dr. Jaggard, his assistant, Ranger Waesche and Park Naturalist Doerr to fly to the scene of the eruption in an Army plane the next day. The park office was kept open all night, as there was a constant flood of telephone messages requesting information and also attempting to give reports on the location of the outbreak, which, since it was at the summit of the mountain, appeared to witnesses in various parts of the island as if the flows were proceeding in their direction. Flows were reported headed toward Kona, toward Hilo and toward Mauna Kea.

By 11 p.m. on the 21st it was clear enough to determine from Kilanea that the outbreak extended along the northeast rift of the mountain, probably from the summit crater several miles down the rift. Since no flowing lava was visible we were confident that any flows were proceeding toward the north side of the mountain.

On the morning of the 22nd Jaggard, Waesche and Doerr went up in the Army planes, while the superintendent, together with Rangers Kenneth J. Williams and Harry W. Doust, with Henry Kini, packer, left on horseback over the Mauna Loa trail for the source of the eruption. The party with the superintendent remained on the ground until the 24th observing the activity. Ranger Williams was placed in charge at the 10,000 foot resthouse and remained there until the end of the month.

On ending his plane flight Dr. Jaggard proceeded immediately to the north side of the island to watch the advancing lava flows down the north slope. He returned to Kilanea on the 25th, and in company with the superintendent, Ranger Waesche and Dr. Ballard of the University of Hawaii again returned to Humuula on the 28th, remaining there until the 30th, by which time the flow had covered some 16 miles linear distance and advanced to a point within three and a half miles of the sheep station at Humuula.

All of the flow at this time, except within the vicinity of the summit source fountains, was of the aa type. The lava at the summit region was shelly pahoehoe.

On November 25, through the courtesy of the Inter-Island Airways, the

superintendent was enabled to make a flight over the flow region, as well as the source fountains near the summit and over and through the crater of Mokuaweoweo on Mauna Loa. He was able to determine at this time that the outbreak had definitely occurred in the summit crater as well as on the northeast rift, the entire north embayment of Mokuaweoweo had been cracked through and covered with fresh pahoehoe and showed a line of small spatter cones extending southwest northeast in the general line of the major crack outside. The Hui O Pele resthouse was seen to be still standing and apparently undamaged.

Another official party from the park, consisting of Associate Architect M.S. Sager, Chief Clerk Higashida and Park Naturalist Doerr went to the front of the flow near Humuula on the 24th at which time the flow was approximately eight miles from Humuula. They returned to Kilauea on the 25th.

There was a constant demand for accommodations on the mountain to see the source fountains and permits were issued in order of priority for the use of the resthouse. Others who felt they could make the trip without needing this accommodation were permitted to go at their own risk and warned that they were in no wise to interfere with those trying to obtain some rest and comfort in the park resthouse at Puu Ulaula. The Kilauea Military Camp cooperated by sending to assist Ranger Williams, Corporal Edwards and furnished a number of blankets, together with several tents which were put up near the resthouse. These additional facilities enabled a great many more to witness the summit outbreak than would have been possible otherwise.

This eruption is the first flank outbreak on the northeast side of Mauna Loa since the 1899 flow. From that date until the present the flows have occurred in 1907, 1914 (in the summit crater), 1916, 1919, 1926 and 1933 (in the summit crater). The main source of these flows has been progressively higher up the southwest flank of the mountain which together with the spasm of earthquakes in 1929, as well as the location of the earthquake centers during the past two years, which centers have been generally distributed over the eastern part of the island rather than to the south and west as was common in the past, led Dr. Jagger to make his fortunate forecast. The available data on northeast flows from Mauna Loa indicates that they are generally of much longer duration than those breaking out on the southwest side; the 1855, 1859 and 1881 flows being of exceptionally long duration, one of them continued as long as 18¹/₂ months.

The eruption again emphasized the need of some sort of road on Mauna Loa as far as the resthouse at 10,000 feet. If a passable road had been available at the time of the outbreak it would have been possible within a very few hours to have correctly determined the position of the eruption and the probable direction the resulting flows would take. Such a determination would have allayed the apprehensions of various ranchers in different parts of the island. As it was, it was necessary to wait 14 hours before a report could be obtained from the Army pilot who had set out at dawn.

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The eruption brought quite an influx of visitors from the other islands as well as tourists, though the park hotel, except during the first few nights did not benefit to any great extent, since the outbreak was on the other side of the mountain.

Constant contact was kept with the press, daily reports being issued.

020 - General Weather Conditions

The total rainfall at headquarters was 9.64 inches for the month, at the CCC camp 8.98 inches and at Haleakala 2.90 inches. On November 16 there was 3.18 inches of rain in 24 hours. Snow was visible on Mauna Loa from the 12th to the end of the month.

100 - Administration

110 - Status of Work

Work was kept as nearly current as possible, but necessarily fell behind to some extent because of the eruption.

Following a request by your office a special report was prepared on the subject of a permanent CCC. This was submitted on the 21st.

120 - Park Inspections by:

121 - Superintendent

On November 16 the superintendent made a trip to Kohala, at the north end of the island, returning to headquarters on the 17th.

From the 22nd of the month to the end the superintendent spent a great deal of time inspecting the lava flow from the air, at the front and at the source.

122 - Special Field Representatives of National Park Service.

On the 29th Associate Landscape Architect M.S. Sager made final inspection of the bituminous surfacing of the Haleakala highway project. During the remainder of the month he was at headquarters supervising various EGW projects. On the 24th he went over to Humula to view the front of the lava flow, returning to headquarters on the 25th.

123 - National Park Service Officers

Word was received from the Director stating that he or a member of his staff would visit Hawaii within the next six months. This was very welcome news indeed, and it is sincerely hoped that whoever comes will be able to spend enough time to get around to all the islands.

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130 - Finance and Accounts

On the 30th of the month Special Disbursing Agent James K. Higashida received word that his accounts were to be closed out at the end of November and all balances deposited to the credit of the Chief Disbursing Officer of the Treasury Department, as all disbursing was to be handled through the Treasury Department, as is being done in other parks.

150 - Equipment and Supplies

One saddle and saddle horse, blacksmith forge, bitumuls hand pump (for Haleakala) and numerous miscellaneous hand tools were received during the month.

170 - Plans, Maps and Surveys

When weather permitted work was continued on the boundary survey, preparatory for fencing by the ECW.

A supply of maps of the various islands, issued by the Tourist Bureau, was received.

180, Circulars, Placards, Publicity Bulletins, etc.

The activity on Mauna Loa resulted in considerable publicity being given the national park. Constant contact was maintained with the various newspapers as well as the Tourist Bureau in Honolulu, local papers devoting daily a column or so to the activity. Radio station KGMB operated by the Honolulu Star-Bulletin, staged a broadcast at the front of the flow near Humuila in which information obtained from Dr. Jagger was used. KGU, operated by the Honolulu Advertiser, attempted a nation-wide broadcast on which Dr. Jagger was scheduled to speak. This broadcast, however, did not materialize due to mechanical defects. It is also understood that mainland radio stations and newspapers gave considerable publicity, some reputed to be decidedly inaccurate, to the eruption.

The Christmas issue of the Paradise of the Pacific, published in Honolulu late in November, carried an interesting article by Mrs. Grace Wilder, Executive Secretary of the Outdoor Circle of Honolulu, which referred to the assumption of the sponsorship of Hui O Pele by the Outdoor Circle.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Usual maintenance of roads, trails and equipment was carried on during the month. At Haleakala such extra work was caused during the latter part of the month by material falling into the road from banks as a result of alternate freezing and thawing.

220 - Improvements

At Haleakala some work was done by the cantoneers, lining drains with stone, spreading soil on road banks with a view to growing grass, etc.

230 - New Construction

On November 9 bids were opened for the construction of an observation station, checking station and comfort stations on Haleakala, but all bids received were far in excess of the allotment. They were re-advertised, eliminating certain items with a view to reducing cost but which would, at the same time, render the building less useful and less attractive to the public. These new bids disclosed the fact that in spite of the changes only the observatory station could be built within the allotment intended for all the buildings. Urgent request has been made for additional funds. Bids solicited on the original plan drawn by Mr. Sager showed all buildings could be built as designed.

Project 7, Haleakala Highway Bituminous Surfacing contract was completed and final inspection made by Associate Architect M.S. Sager on November 29. It was recommended that this project be accepted as satisfactory.

The new Haleman-u trail is cut through to the crater floor, wide enough for foot travel and about a quarter of a mile of the trail from the crater rim down has been widened enough for horses.

At the end of November 2 miles of the Mauna Loa truck trail had been completed and an additional 2 miles partially completed.

260 - Landscape Work

The CCC crew continued landscape work around headquarters area with most satisfactory results

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

Mr. George Lycurgus, manager of the Volcano House, left the first part of the month for the mainland and thence to Greece. He plans to be gone approximately six months. During his absence his son, Nicholas, will act as manager.

320 - Cooperating Governmental Agencies

During the first part of the activity on Mauna Loa a man from the Kilauea Military Camp was sent up to assist the ranger in charge. The Military Camp also furnished a supply of blankets and tents.

Capt. W.W. Lloyd, who is to be the new executive officer at the Military Camp, arrived on the 26th.

The FERA project at the Volcano House is making very rapid headway. The new chimney and fireplace in the lobby were completed and other repairwork is almost finished. Work was started on the tennis court in the rear of the hotel.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Ranger Harry W. Doust, formerly of Glacier, telephoned very unexpectedly from Hilo on the 4th, announcing his arrival and that he was ready to report for duty. This was indeed a surprise as we had received no word from Glacier that he was on his way.

420 - Museum Service

The Uwekahuna museum was open all month, with a ranger assisting whenever possible. Work on the museum development plan was continued. Mr. Doerr intends to discuss this with Mr. Hall while in Berkeley.

Park Naturalist Doerr spent considerable time during November with Ranger Lamb, who is to take charge of the naturalist work after Mr. Doerr's departure for Crater Lake.

Mr. Doerr also continued to record information used in his lectures and guided trips, which, no doubt, will be extremely useful to those who carry on the educational work in the park.

During the month Mr. Doerr made two inspections of the Mauna Loa eruption, one from the air on the 22nd and another to the front of the flow on the 24th.

440 - Insect Control

On November 6 and 7 Ranger Lamb was on Maui inspecting the silver-sword insect control project at Haleakala.

480 - Natural Phenomena

A detailed report of the activities of the Observatory and Dr. Jagger will be found at the back.

500 - Use of Park Facilities by the Public

510- Increase or Decrease in Travel

Total travel to Kilauea for this month was 18,470 as compared with 16,090 for the same period last year. District Ranger Peck reports that travel for Haleakala was 3500 an increase of 455% over October, due to the eruption on Mauna Loa, an excellent view of which could be had from the top of White Hill.

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530 - Visitors

November 2 - Dr. David L. Crawford, President of the University of Hawaii and Dr. Livesay, Director University summer schools, to discuss next season's Volcano summer school plans. They departed on the 3rd.

November 9 - Thirty Five Elks from Honolulu

November 17- Dean Wist and Dr. Scott of the University of Hawaii. Professor Alfred Meebold, German Botanist. Dr.

Meebold had previously visited the Haleakala section.

November 15 - Delegate Samuel Wilder King conferred with the superintendent relative to park matters. The superintendent attended a dinner in his honor held at the Hilo Hotel on the 14th

November 9-10 - Judge Francis Brooks of Honolulu

November 10 - Miss Vaal Stark, Regional Director Girl Scouts.

November 5 - Congressman Byron Harlan of Ohio made a brief visit to the park with Judge Metzger of Hilo

November 22 - General Hugh Drum, commanding Hawaiian Department flew over eruption.

November 22-25 - Mr. and Mrs. Chauncey Wightman. Mr. Wightman is Territorial Administrator

Mr. L.D. Larsen, Vice-president, C. Brewer and Company

November 24 - Governor J.B. Poindexter and Mr. E.E. Tillett flew over eruption.

Mr. C.J. Carlson, Executive officer of the Boy Scouts visited the CCC camp.

November 4 - Territorial Senator J.R. Farrington

November 23- Mrs. Doris Duke Cromwell, her husband, James Cromwell and Sam Kahanamoku and his sister Bernice (brother and sister of Duke Kahanamoku, the famous Hawaiian swimmer). Messrs. Cromwell and Kahanamoku went to the source of the eruption on Mauna Loa. The entire party departed on the 29th.

At the end of the month 163 persons including the following scientists, from the different islands, had made the trip to Mauna Loa to view the source of the flow.

Dr. and Mrs. Harold F. Stearns of the US Geological Survey, Dr. Chester K. Wentworth, President Honolulu Academy of Sciences., Dr. Harold S. Palmer, Professor of Geology, University of Hawaii, and Dr. S.S. Ballard, Physics Department University of Hawaii. Dr. Ballard discussed plans for special research work at Kilauea next summer.

600 - Protection

630 - Accidents

November 23, between 9 and 10 p.m., Studebaker No. 35128, driver Alfred Silva, turned out too far for an oncoming car, and rolled down the bank on the Haleakala highway. Joe Souza, one of the passengers, died of his injuries. Other occupants suffered only minor injuries.

On this same night, at about the same time, Dodge No. 30382, driver Harold Gent, also turned out too far for an oncoming car. However, he was going very slow, and managed to jump out as the car went over the bank. He suffered only minor injuries. Both accidents occurred on straight stretches of road.

650 - Signs

A shipment of new enameled signs for Haleakala was received.

900 - Miscellaneous

The Honolulu Star-Bulletin of November 13 carried an article stating that investigation had been ordered of the CCC in the Territory by the Territorial Board of Forestry and Agriculture. This matter came up when President Frank H. Lacey said he knew that the CCC was working in the forests, building trails, tree planting, etc., but he had never had a report as to what had been accomplished.

The regular monthly Volcano House dance was held on the 9th, the same evening as the Elks' banquet at the hotel.

On the 29th the annual meeting of the Hawaii National Park Natural History association was held, at which time new officers were elected since Mr. and Mrs. Doerr, former president and treasurer respectively, were leaving for Crater Lake National Park. New officers are Ranger S.H. Lamb, President, Constance Whitney, Secretary and Mrs. S.H. Lamb, Treasurer.

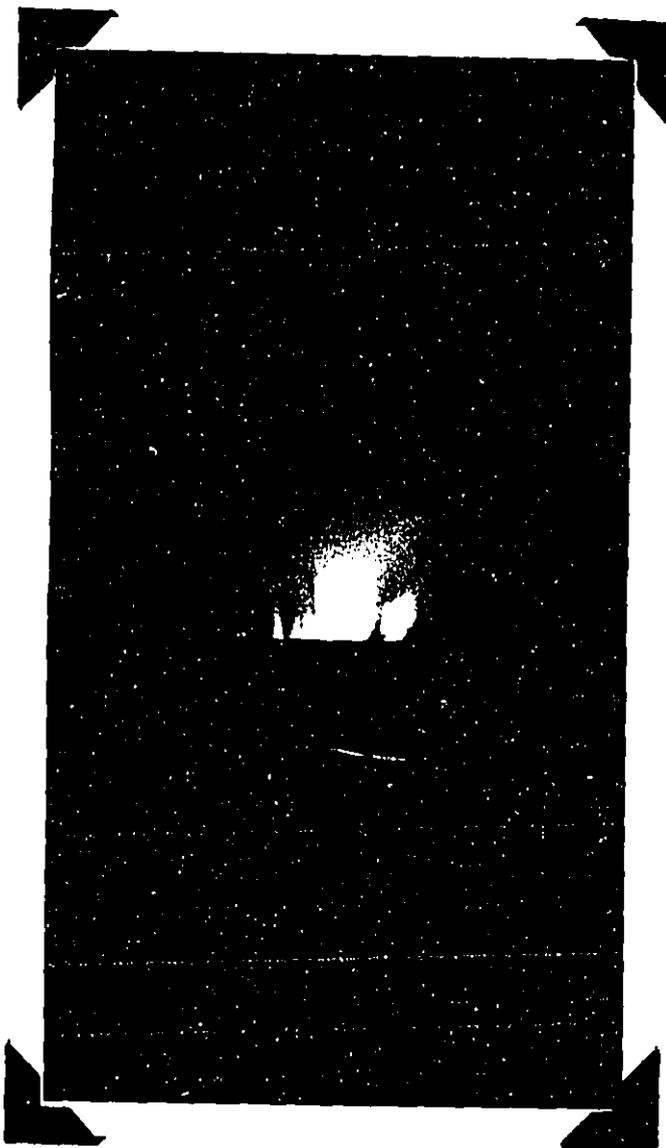
Word has been received that Calvin Christ, son of Chief Ranger Christ has been elected song-leader of his 9th grade class at Kamahameha School for Boys in Honolulu. Also because of his high scholastic standing Calvin was able to skip from the 7th to 9th grade.

Respectfully submitted

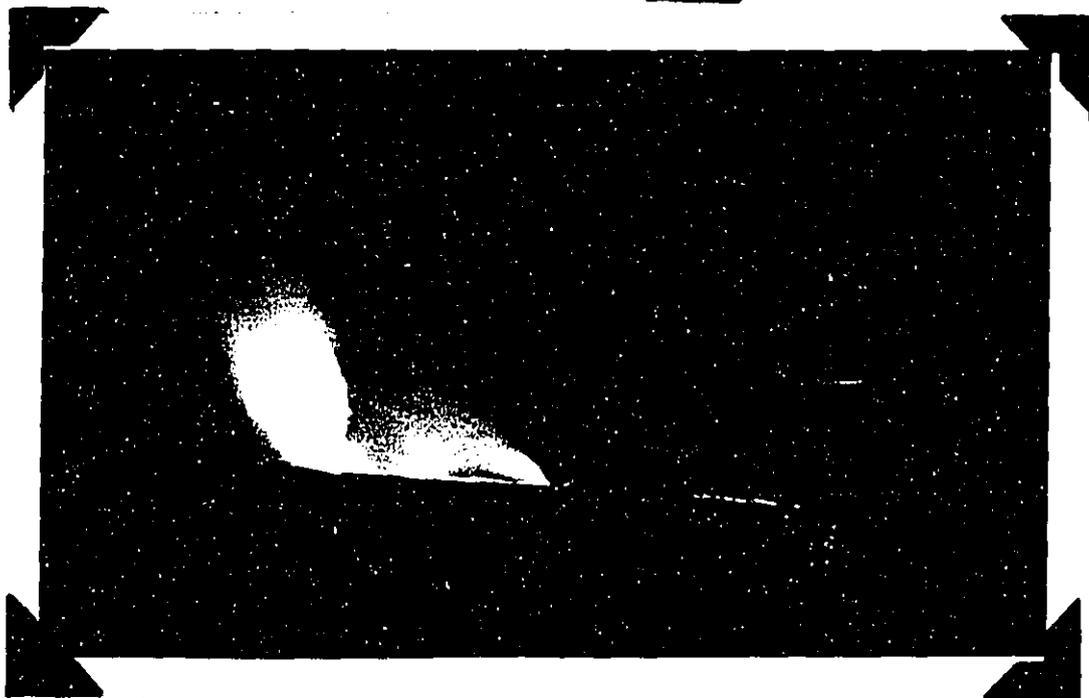
Edward G. Wingate
Superintendent

GW

No. 1 - First view of Mauna Loa eruption. Time 10:30 pm Nov. 21, taken from Kilauea looking up toward summit Mauna Loa. Distant 12 miles. Photo Higashida



No. 2 - Nov. 22, 7:00 pm. Looking up northeast rift Mauna Loa toward summit. The central eruption fountains in the left foreground with lava flowing toward Mauna Kea to the right. Fountains distant 2 miles. Photo Wingate



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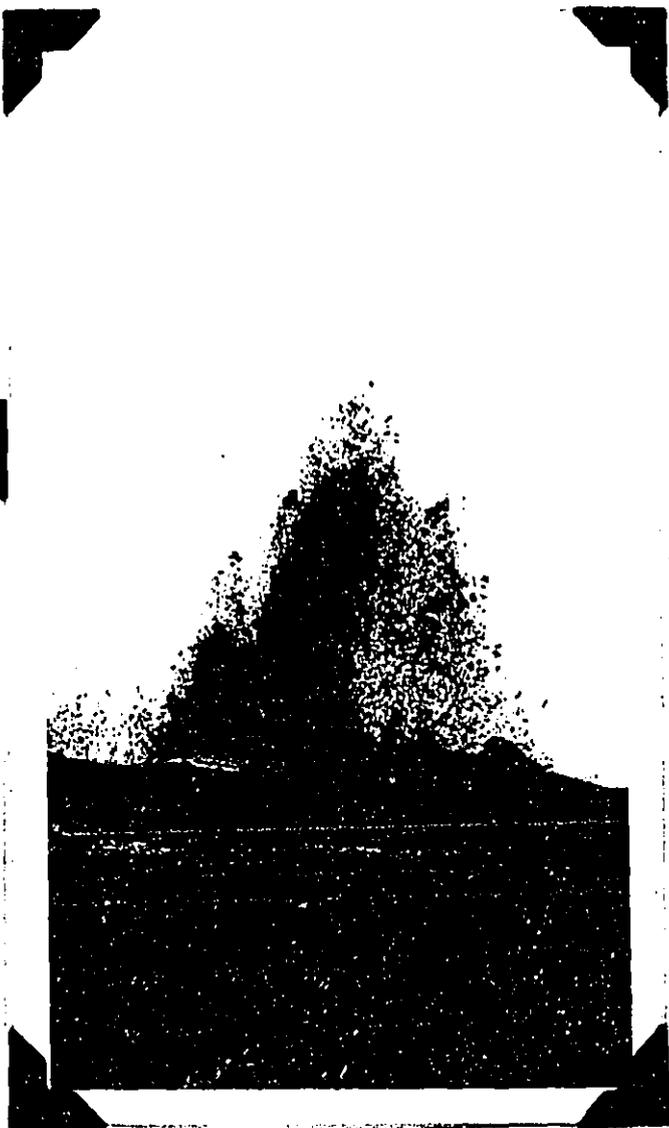
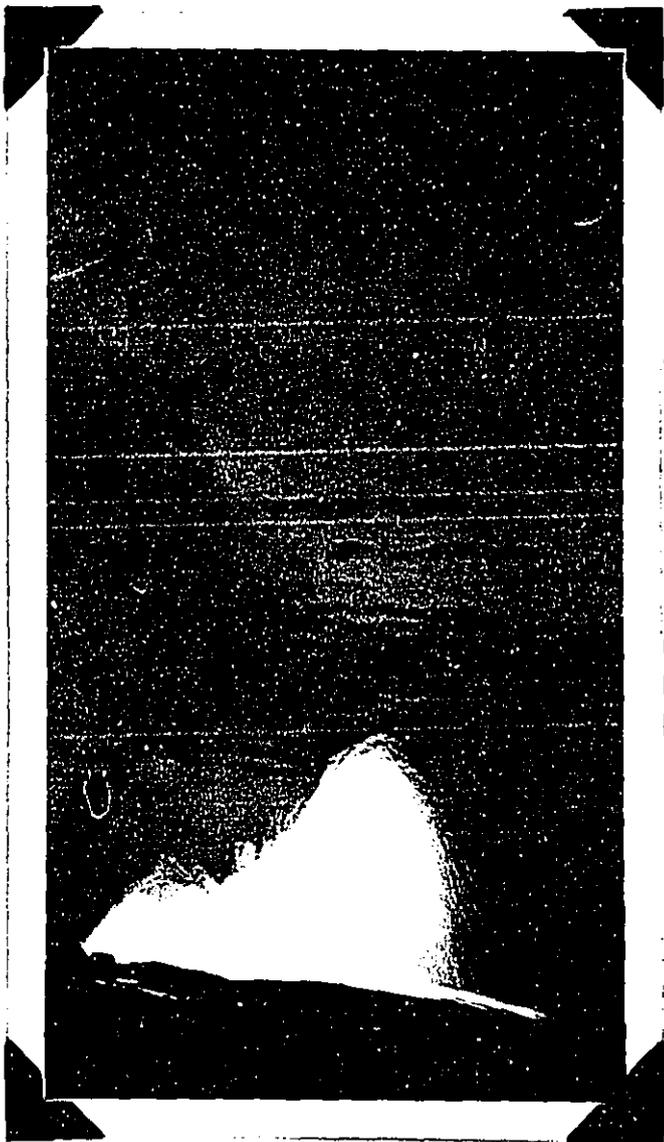
No. 3 - Nov. 23, 11:00 am. Smoke
columns above source fountains.
Distant 1 mile. Photo Wingate



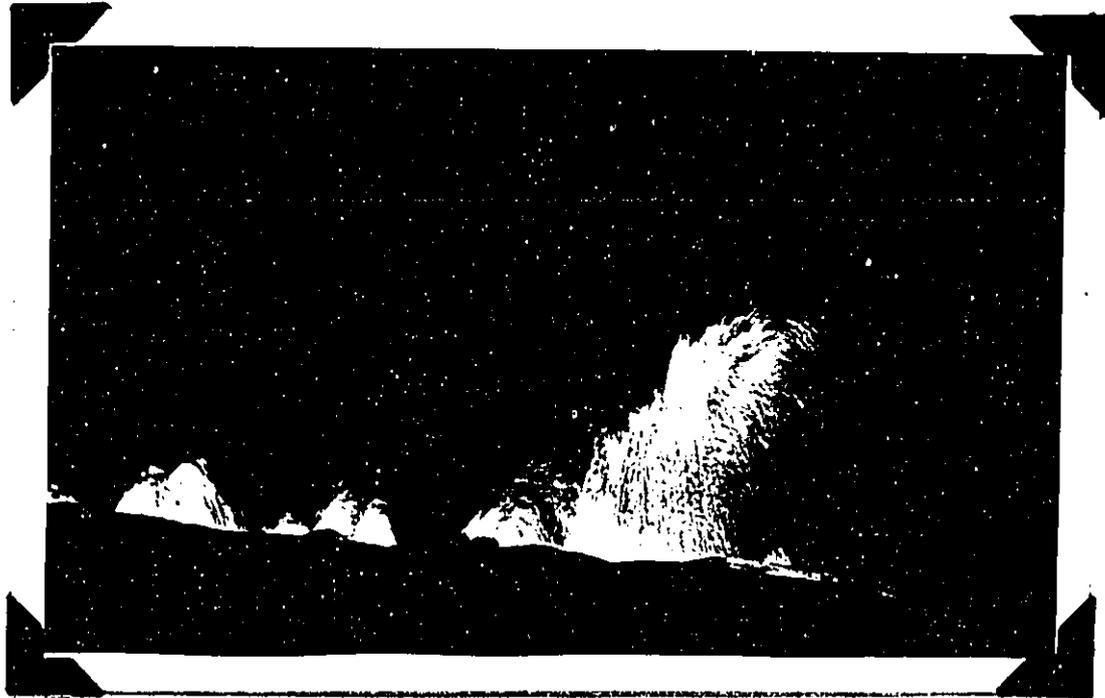
No. 4 - Lowest series source foun-
tains about 250 ft. distant. Foun-
tains approximately 150 ft. high.
Manna Kea in background. Nov. 23,
1:30 pm. Photo Wingate



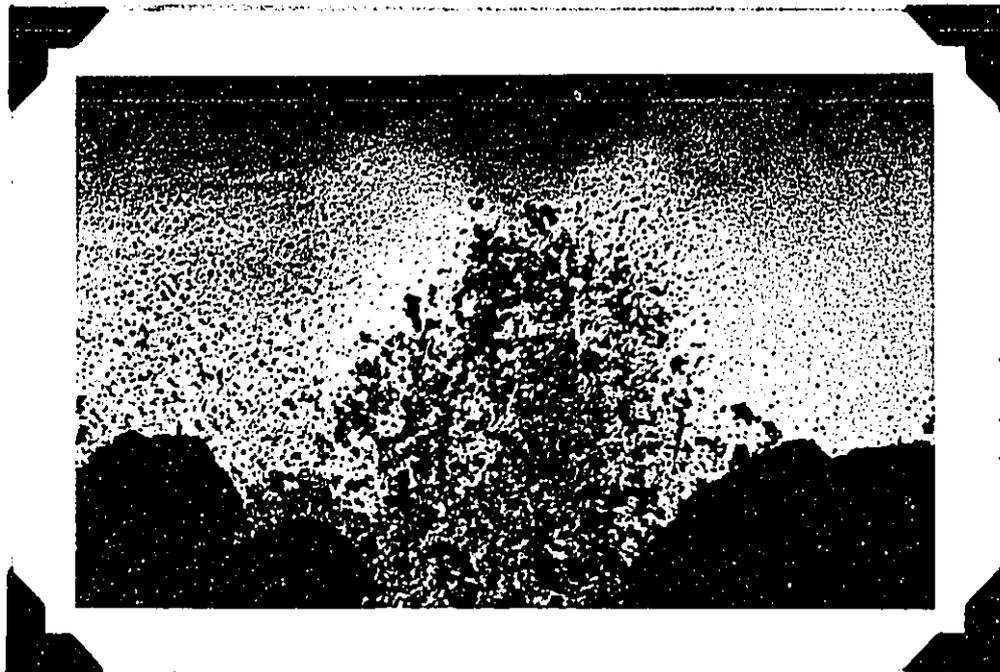
No. 5.
Central fountain in lowest series
grouped over three vents. Photo taken
200 ft. from fountain which was rising
to height approximately 250 ft. Nov.
23, 2:30 pm. Photo Wingate. Note
molten lava slopping over rim of cone.



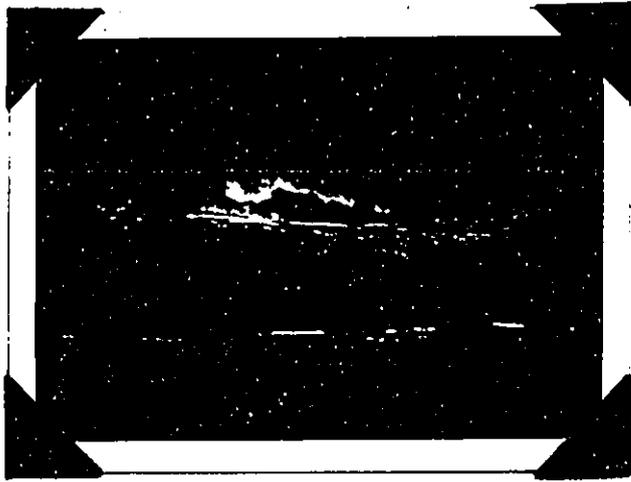
No. 6 - Same fountain as in number
5, time 6:00 pm, Nov. 23. Height
of fountain 300 to 500 ft. Photo
taken 500 ft. distant. Note small
lava river running down in front
of fountain.



No. 7. - The largest fountain, same as No's 5 and 6 but picture shows smaller fountains adjoining. Height of fountain 300 to 500 ft. Time 7:00 pm. Photo Wingate



No. 8. - Photo by M. L. Carlsmith. Time approximately 2:00 am November 24. Photo taken with telephoto lens showing detail of ejected material from source of fountains.



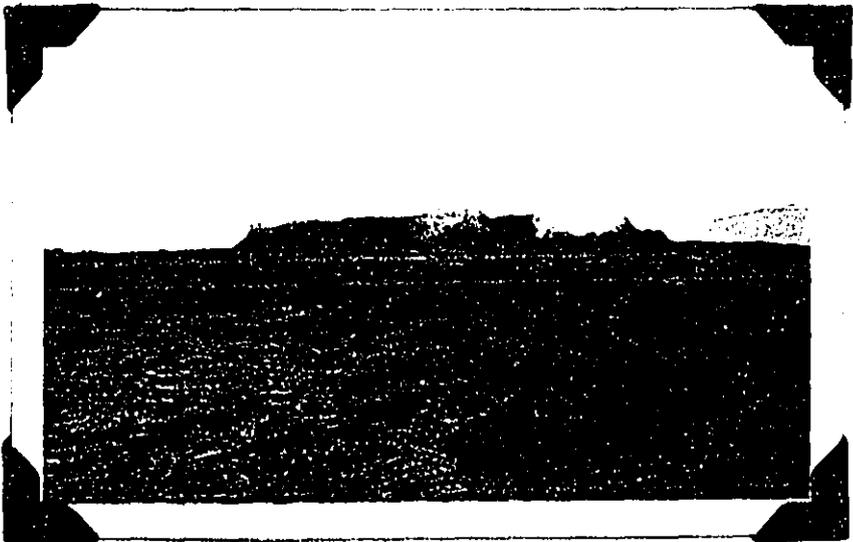
No. 9. - Photo by Waesche. Time approximately 10:00 pm, Nov. 24. Fountains same as No's. 4 and 5 but note fresh lava flows in foreground and increase in height of slag cone.



No. 10. - Time approximately 11:00 pm, Nov. 24. Near view of same fountains. Photo Waesche.



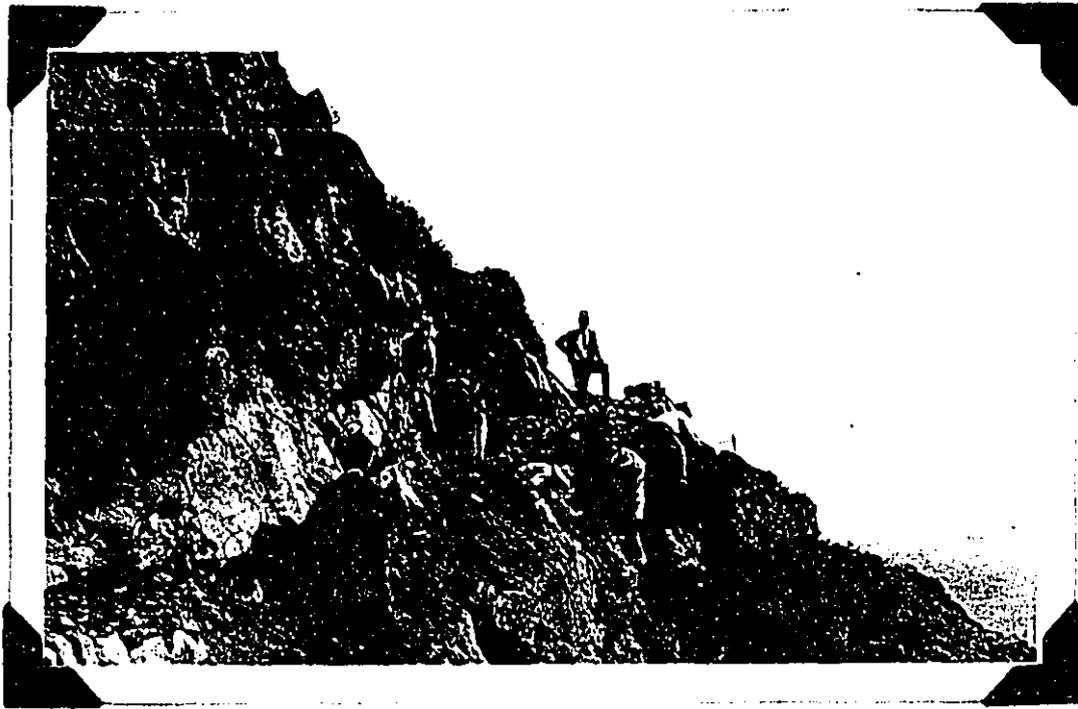
No. 11. - No. 12. Two views taken November 25 by Professor H. S. Palmer of the University of Hawaii. Note greatly increased size of source cones.



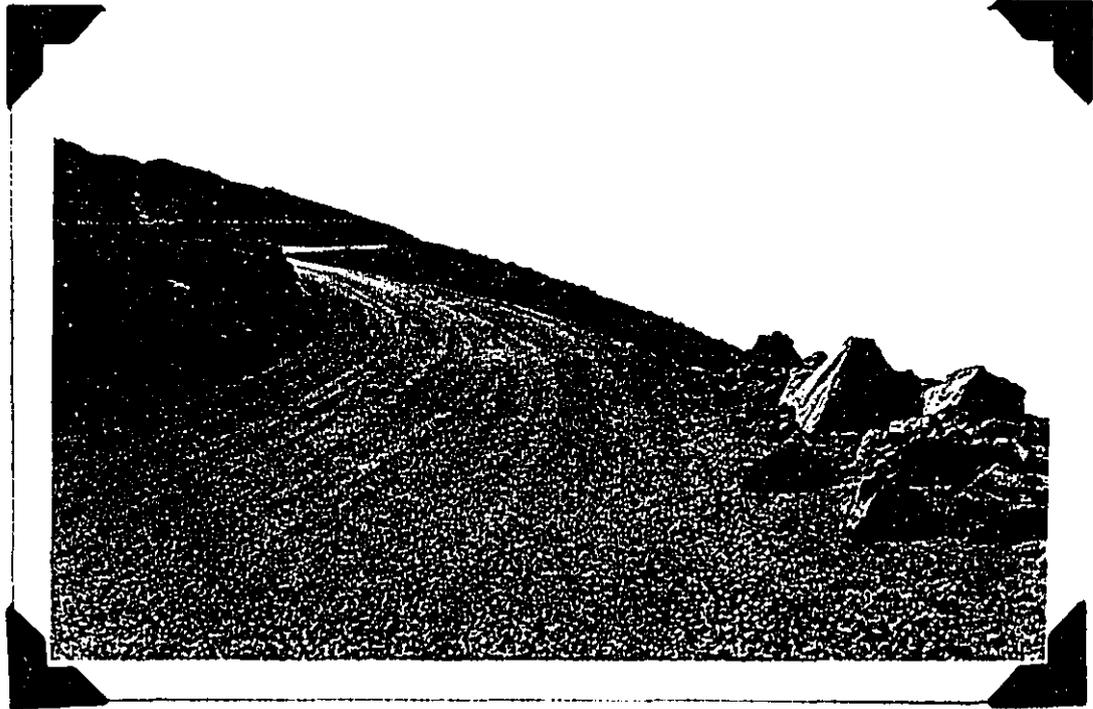
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No. 13. - Front of advancing Aa flow near Puu Koli on northern slope of Mauna Loa, about 7 miles southwest of Humuula sheep station. Photo Sager



No. 14. - Construction crew working on new Halemaun trail, Haleakala. Force account PW funds.



No. 15. - Finished surface Haleakala road. Project No. 522



No. 16. - Utility plaza Haleakala development area surfacing under Project No. 522.

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STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

NOVEMBER, 1935

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	44,950.00	41,464.83	3,485.17
45/6406	Forest Prot. & Fire Prev., 1935-'36	300.00	41.57	258.43
4x436.1	Roads & Trails, National Parks, Emergency Construction	42,040.00	32,612.75	9,427.25
4x391	Roads & Trails, National Parks, Emergency Construction Act June 19, 1934	25,775.00	21,861.80	3,913.20
4-01640.8	National Ind. Recovery, Interior, National Parks, Roads & Trails Act June 16, 1933	495,538.47	494,967.57	570.90
4-05/7678.14	Public Works Administration Allotment to Interior, National Park Service 1935-'37:	6,300.00	0.00	6,300.00
4-03/7640.14	Nat'l. Ind. Recovery Interior, Nat'l. Park Service, 1933-'37	10,000.00	0.00	10,000.00
45415	Hawaii National Park, 1935	36,040.00	34,827.59	1,212.41

The Volcano Letter

No. 424—Monthly

U. S. Geological Survey, Hawaii National Park

JUNE, 1935

KILAUEA REPORT FOR JUNE, 1935

Including weekly press reports 1220 to 1223
June 2 to June 30, 1935, midnight

Section of Volcanology, U. S. Geological Survey
T. A. Jaggard, Volcanologist in Charge

VOLCANOLOGY

The month of June at Halemaumau pit of Kilauea Volcano was not remarkable for any important events until after the solstice when a very marked increase of earthquake frequency occurred along with notable sharp earthquakes at the end of the month. The press reports Vesuvian activity in Italy and earthquakes in Mexico.

Slides at Halemaumau

At 9:50 a. m. June 3, gravel was falling at the NW scar, and it was evident that some additional pieces of the rim slab had fallen there, and a remnant pinnacle appeared ready to fall. This is equally the case at the middle of the SSW scar, where a column on the rim is hanging out in unstable equilibrium. June 6, at 10:56 a. m. a noisy slide was heard. June 8, at 10:50 a. m. a moderate slide fell E, recording as a tremor on the Halemaumau seismograph. June 9, at 6:36 a. m. an eastern avalanche occurred, and at 9 a. m. the rock wall ENE was scarred and working. There was a fresh wet scar high up, and fresh red debris on the talus. At 12:52 p. m. a slide occurred above the E talus.

The second week produced repeated slides from the east buttress. At 9 a. m., June 14, and again at 9:05, avalanche dust arose. A visit at 9:15 showed that the slide was at the east wall; from the buttress there at 9:25 a large slide fell. At 3:30 p. m., June 15, and at 5:30 p. m., June 16, dust clouds arose.

This eastern sliding was replaced by avalanches on the opposite side of the pit during the third week. The west wall sent up dust June 17, at 4:15 p. m. and 5:00 p. m. This was at the WNW scar which had been quiet of late. Noisy slides were heard 9:50 a. m., 2 p. m., and 2:55 p. m. June 21, while a party was running levels around the pit.

The week ending June 30, stirred the walls considerably owing to large numbers of earthquakes. Slides were almost continuous the afternoon of June 28, and it was evident that the earthquake of 9 a. m. that day had dislodged a slide SSE. At 9:30 a. m. there was a slide NE, at 11:57 a. m., one N. June 29, at 4:35 p. m., a dust cloud arose NNE. June 30, at 11:55 a. m. a slide occurred NE, and dust arose above the pit at 3:10 p. m.

This northeast sliding was accompanied by fresh soil cracks observed 100 feet back of the northeast rim of Halemaumau for a length of 50 feet on June 29; and new breaks in the dirt occurred inside of old cracks NNE; this phenomenon was observed also along the WNW edge of the pit.

Halemaumau Floor Solfataras

June 3, at 9:50 a. m., there was a trace of thin rising fume at the north corner of the 1934 lake cup. Fume was abundant at the Yellow Solfatara NW. June 9, this place was fuming, and fumes were visible at the four other vents north and east. With increasing northeast wind and clear dry weather this fuming from the five vents at the NW, NE, and E edges of the floor continued on June 10. At the west rim of the pit sulphur dioxide could be smelled presumably from the bright yellow solfataras NW and NNW. On days when the relative humidity become lower both the vapor vents and the yellow solfataras produced clouds less dense. The odor of sulphur dioxide along the west rim of the pit was noted by the levelling party June 21. June 22, heavier fume than usual was observed issuing from the NW solfatara at 10:30 a. m.

The earthquake week at the end of the month disturbed the cracks around Halemaumau and increased the odor of sulphur gases from the floor fumaroles. Most of this came

from the Yellow Solfatara northwest. The disagreeable odor of hydrogen sulphide was noticed in the early afternoon of June 28 and a little the next day.

Tilt Cellar Effects

The three tilt cellars around Halemaumau showed no unusual tilts after the earthquake of June 25, but their disturbance after the earthquake of June 28 was marked. The boom of the western clinoscope was moved 19 mm SSW, that of the northern instrument 14 mm E. and at the southeast station the movement was 17 mm NW. Two days later this southeast station had accumulated an additional tilt of 57 mm, before it settled down, always with northwesterly or westerly trend. One millimeter equals approximately two thirds of a second. Northwesterly tilt at the southeast station means a tipping of the ground in the direction of the center of the pit, or in the direction of the northern rift of Mauna Loa. It should always be remembered that these tilting results after earthquakes are only approximate, as a shock disturbs the instrumental adjustments, and also the block of ground may be fractured locally whereon the instrument stands.

Weekly measurement of 32 marked rim cracks around the upper edge of Halemaumau Pit resulted as follows:

Week ending forenoon of

June 8, 8 opened, 7 closed, aggregate opening 0.5 mm.
June 15, 12 opened, 3 closed, aggregate opening 5.5 mm.
June 22, 14 opened, 3 closed, aggregate opening 9.0 mm.
June 29, 11 opened, 4 closed, aggregate opening 9.5 mm.

Levelling

Spirit level determination of elevation changes around the rim of Halemaumau was made by A. E. Jones, June 4, 21, and 28. The base used was the bench mark at the southern gravel ridge of Kilauea Crater ("Spit"). Results showed that the NW trig station on Halemaumau rim had relative-lowered, or Spit B.M. had raised, between April 25 and June 4, 1 cm. or less; a reverse movement (NW up or Spit down) June 4 to June 21, 0.5 cm.; original movement (NW down or Spit up) June 21 to June 28, 2 cm. In this direction the total NW down or Spit up was 2.5 cm. or less since April 25 (see Volcano Letter 422).

Referring to the movement as NW station lowering, as was done in the Volcano Letter for April, and in other communications, this lowering of the crater floor is a continuation of movement in this direction since the eruption of Kilauea in September 1934, but is in contrast to the elevation of April 1935. The strong earthquake shock of June 28 may have been partly responsible for the sudden lowering of the crater floor between June 21 and 28. Levelling was in progress at the time of the quake, and was stopped by rain before a check could be made. It must be borne in mind that it is quite probable that the change of level of the eruption was a depression of the southern fault block under Spit relative to mean sea-level, and that the change of level since has been an elevation of that fault block relative to the crater floor. T.A.J.

EARTHQUAKES

TABLE

Week ending	Minutes of tremor	Very feeble earthquakes	Feeble earthquakes	Moderate to Strong earthquakes	Distant earthquakes	Local Seismicity
June 9	40	1	1	0	0	11.50
June 16	53	2	0	0	0	14.25
June 23	134	5	0	0	0	36.00
June 30	143	9	0	2	1	47.25

* For local seismicity index see Volcano Letter 371.

The following successive local disturbances began at the times indicated; the epicenters as shown were located from seismograms; when possible the depth of the source is indicated. The location of epicenters is based on five stations Kilauea, Hilo, Kona, Halemaumau, and Uwekahuna. The intensity is that recorded on the Kilauea instruments.

June 5, at 6:55 a. m., a feeble earthquake was felt at both Kilauea crater and Honokaa. It was located 15 miles

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The Volcano Letter

No. 423—Monthly

U. S. Geological Survey, Hawaii National Park

MAY, 1935

KILAUEA REPORT FOR MAY, 1935

Including weekly press reports 1215 to 1219
April 29 to June 2, 1935 midnight

Section of Volcanology, U. S. Geological Survey
T. A. Jaggar, Volcanologist in Charge

The month of May was like April in making critical changes in the wall of Halemaumau by avalanching, but transferring the sliding activity to the south and east corners. The opening of rim cracks also reached a maximum about the middle of the month, followed by immediate diminution.

Slides at Halemaumau

The first week was notable for much sliding from E and S. walls of Halemaumau. April 29, following 8:15 a. m., the SSW scar was sliding, and a stain of dust extended across the floor from it NE. The rim block at the top fell at 9:16 a. m., making a noisy avalanche. This was followed by trickling of small stones NW, and one rock fell NE. At 12:35 p. m. April 29 a small slide fell W, and a large one ESE at 12:45 p. m. On April 30 the SSW scar had extended farther west. May 1, from 1:40 to 3:30 p. m. with snapping sounds at intervals of five to 10 minutes, small slides occurred N, and two larger ones there at 3:15 and 3:20 p. m. After dribbling slides in various places on May 2, a heavy dust cloud arose at 5:10 p. m. from a slide at the NE wall. At 9:30 a. m. May 3, a noisy fall of rocks stripped the east buttress, and this was followed by numerous slides there, north and south of the buttress during the next two days. From such slides a small balanced pinnacle was left on top of the buttress at 11 a. m., May 3, and by the next day this had fallen. On May 4, avalanches occurred here at 9:47, 10:02, and 10:10 a. m., and 6:40 p. m. A large avalanche here May 5, about noon, set up a thick dust cloud.

The following slides were noted during the second week: May 6, 9:15 a. m. NE, 9:36 SW and NW, 9:45 NE; a dust streak extended out on the floor from this place. At 9:58 there were slides W and NW, and again for five minutes after 10:05 a. m., making a continuous dribbling of gravel and much dust. Similar dribbling slides SW and NE occurred 8:45 a. m., May 7. May 10 there was small sliding at the SSW and W scars. May 11 the same thing was going on at 8:45 a. m., and with the strong wind continuous dust arose from these western slopes. At 12:25 p. m., a strong landslide sent up much dust ENE. At 6:00 p. m., a strong slide occurred W. Slides May 12 were at 8:50 a. m. W, 9:38 a. m. E, 9:58 W, and at 12:50 p. m., a large dust cloud rose above the west side of the pit and spread out so as to fill the whole pit.

The avalanching declined during the third week. May 13 rocks were falling SW, W and NE.; at 9:38 a. m. an avalanche fell near the SW trig station, west of the SSW scar, where there have been recent opening of cracks and engulfing of the ash soil. It was obvious that this rim block was about to fall. At 12:45 p. m., May 13 an avalanche sent up dust NE, loud noises were heard in the pit at 1:30 and 2:30 p. m., and that these were the roars of avalanches was verified by one occurring May 15, about 5:40 a. m., so loud that it was heard at Volcano House. At 7:20 a. m., May 15, there was another roar and at 7:54 a. m., a big avalanche fell at the eastern edge of the SSW scar. The stage was now set for the falling of the rim block at the western edge of this scar, and this happened at 12:41 p. m., after minor preliminary slides, the shock shaking the seismographs, sending up thick dust, and making a loud roar heard at a distance. This event brought to a close the active working of that part of the Halemaumau rim.

The fourth week ending May 26 was relatively quiet. The only slides noted occasioned dust clouds seen May 20, at 9:55 a. m., and at 3:25 p. m., and on May 21 at noon and at 4:25 p. m.

The week ending June 2 produced spells of more than 15 minutes at a time when no rocks could be heard falling. May 27 at 10:24 a. m., there was a slide at the SSW scar and at 10:25 a. m. a slide fell NW. May 28 to May 31, the pit was quiet, except for a few rocks heard falling but not seen at 9:50 a. m. on the last date.

Halemaumau Floor Solfataras

On May 7 the fume vents at the edge of the floor were active NW and NE, and at 9 a. m. May 9, though the atmosphere was dry there was much fume from the three solfataras NW, N and E. May 28, about 8:45 a. m., five northern vents were fuming, thudding noises were heard twice, and fume was in greatest volume at the Yellow Solfatara NW where it came up puffing. May 30, at 9:10 a. m., after a rainy night, all five fuming places were puffing. May 31, at 9:50 a. m., after only slight rainfall, the five fuming places were inconspicuous.

Changes in Halemaumau Floor

The May avalanching spells built two new talus cones under the SSW scar, and made a pink stain of dust extending out on the floor. At the lower part of the gulch that extends down the wall along a crevasse at the east, above the large eastern talus cone, vapor rises from the wall itself. Here a buttress of fresh grey rock hangs out toward the pit, in the middle part of a new eastern scar. Big bowlders had extended the eastern talus, but none had been able to surmount the marginal ridge of the floor. The marginal valley here is very deep. The chasms in the top of this ridge lengthwise, and the five eastern radial cracks extending across the floor from the lake basin of 1924, appeared more widely open than ever. It is worthy of note that the talus slopes north and northwest, which were the scene of sliding activity in October, 1934 after the eruption, have not been in motion in 1935.

Measurement of Halemaumau Rim Cracks

Weekly measurement of 32 marked rim cracks around the upper edge of Halemaumau pit, resulted as shown in the tabulation that follows.

Week ending forenoon of

May 4, 11 opened, 3 closed, aggregate opening 6.5 mm.
May 11, 6 opened, 3 closed, aggregate opening 6.5 mm.
May 18, 12 opened, 6 closed, aggregate opening 5.0 mm.
May 25, 5 opened, 3 closed, aggregate opening 2.0 mm.

A large crack in the actual rim of the pit near the southwest trig station opened 23.5 cm in 14 days from April 20 to May 4. T.A.J.

EARTHQUAKES

TABLE

Week ending	Minutes of tremor	Very feeble earthquakes	Feeble earthquakes	Distant earthquakes	Local * seismicity
May 5	71	9	0	0	22.50
May 12	38	11	0	0	15.00
May 19	41	6	0	0	15.25
May 26	12	1	1	0	4.50
June 2	34	3	0	1	10.00

* For local seismicity index see Volcano Letter 371.

During the first week of May three slides in the Pit were large enough to record on the Observatory seismographs. During the second week five slides made very feeble records, with only one recorded during the third week.

The following successive local disturbances began at the times indicated; the epicenters as shown were located from seismograms; when possible the depth of the source is indicated. The location of epicenters is based on the smaller network of seismograph stations, Kilauea, Uwekahuna, and Halemaumau. The intensity is that recorded on the Kilauea instruments.

May 13 at 1:46 p. m. beginning of a series of five very feeble shocks, not reported felt, lasting until 2:01 p. m. Only two could be located. The second of the series was

REPORT OF THE CAMP DIRECTOR ECG FOR THE MONTH OF NOVEMBER, 1935.

TO THE SUPERINTENDENT HAWAII NATIONAL PARK.

Rearranging our working gangs and starting our project of fencing the Park boundaries to keep wild goats outside the park reduced the number of men working on the Mauna Loa truck trail, however good progress was made in spite of inclement weather and by working one Saturday we were able to make the trail usable as far as six tanks, a distance of about three miles. This was greatly appreciated by the numbers of people who went up the Park trail to view the eruption of Mauna Loa.

Two Foremen and two gangs of enrollees began work on the fencing project clearing the line and digging post holes. 640 rods were finished during the month.

We began construction of our new bunk house November 25th. Four carpenters were hired the balance of the labor being furnished by the enrollees. We expect to complete this in about two weeks. The cost will be about \$1200 including materials and labor.

This will relieve the congestion in our sleeping quarters which we have felt very much since the beginning of this period when the camp in the Haleakala section was discontinued and Kilauea Camp brought up to full strength.

The balance of the men were employed on Landscape maintenance, assisting the mechanics, camp duties, etc.-

In the camp everything was about as usual. So far we have escaped the Flu Epidemic which has caused considerable illness particularly in Hilo district. At the camp Physicians suggestion as little contact as possible was had between the camp and outside districts and that may account for our escape.

Besides our Catholic and Protestant religious services two Sundays in November were productive of interesting talks for the boys:- On the 17th Associate Park Naturalist, John E. Doerr Jr. spoke to the boys and it was greatly appreciated especially as Mr. Doerr is transferring to Crater Lake Park. Since we began our Camp in January, 1934, Mr. Doerr has been in charge of such educational work as has been carried on in the Camp and the boys feel they know him and appreciate his many lectures to them. On the 24th another interesting talk was given by Mr. C.J. Carlson, Regional Executive, Boy Scouts of America. This was Mr. Carlson's first visit to this island and the time given our camp was greatly appreciated.

We are indebted to the Hilo Library, who placed on our canteen shelves one hundred books. These books are issued to the boys on a card system similar to that used in the library and books lost or mutilated will be charged for. The selection was made by the library themselves and as time goes on the books which are not used will be traded in for others which may prove more popular.

We had our usual talkies during the month.

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CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

The Volcano Letter

No. 424—Monthly

U. S. Geological Survey, Hawaii National Park

JUNE, 1935

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T. A. Jaggar, Volcanologist in Charge

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The week ending June 30, stirred the walls considerably owing to large numbers of earthquakes. Slides were almost continuous the afternoon of June 28, and it was evident that the earthquake of 9 a. m. that day had dislodged a slide SSE. At 9:30 a. m. there was a slide NE, at 11:57 a. m., one N. June 29, at 4:35 p. m., a dust cloud arose NNE. June 30, at 11:55 a. m. a slide occurred NE, and dust arose above the pit at 3:10 p. m.

This northeast sliding was accompanied by fresh soil cracks observed 100 feet back of the northeast rim of Halemaumau for a length of 50 feet on June 29; and new breaks in the dirt occurred inside of old cracks NNE; this phenomenon was observed also along the WNW edge of the pit.

Halemaumau Floor Solfataras

June 3, at 9:50 a. m., there was a trace of thin rising fume at the north corner of the 1934 lake cup. Fume was abundant at the Yellow Solfatara NW. June 9, this place was fuming, and fumes were visible at the four other vents north and east. With increasing northeast wind and clear dry weather this fuming from the five vents at the NW, NE, and E edges of the floor continued on June 10. At the west rim of the pit sulphur dioxide could be smelled presumably from the bright yellow solfataras NW and NNW. On days when the relative humidity become lower both the vapor vents and the yellow solfataras produced clouds less dense. The odor of sulphur dioxide along the west rim of the pit was noted by the levelling party June 21. June 22, heavier fume than usual was observed issuing from the NW solfatara at 10:30 a. m.

The earthquake week at the end of the month disturbed the cracks around Halemaumau and increased the odor of sulphur gases from the floor fumaroles. Most of this came

from the Yellow Solfatara northwest. The disagreeable odor of hydrogen sulphide was noticed in the early afternoon of June 28 and a little the next day.

Tilt Cellar Effects

The three tilt cellars around Halemaumau showed no unusual tilts after the earthquake of June 25, but their disturbance after the earthquake of June 28 was marked. The boom of the western clinoscope was moved 19 mm SSW, that of the northern instrument 14 mm E, and at the southeast station the movement was 17 mm NW. Two days later this southeast station had accumulated an additional tilt of 57 mm, before it settled down, always with northwesterly or westerly trend. One millimeter equals approximately two thirds of a second. Northwesterly tilt at the southeast station means a tipping of the ground in the direction of the center of the pit, or in the direction of the northern rift of Mauna Loa. It should always be remembered that these tilting results after earthquakes are only approximate, as a shock disturbs the instrumental adjustments, and also the block of ground may be fractured locally whereon the instrument stands.

Weekly measurement of 32 marked rim cracks around the upper edge of Halemaumau Pit resulted as follows:

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Levelling

Spirit level determination of elevation changes around the rim of Halemaumau was made by A. E. Jones, June 4, 21, and 28. The base used was the bench mark at the southern gravel ridge of Kilauea Crater ("Spit"). Results showed that the NW trig station on Halemaumau rim had relative-lowered, or Spit B.M. had raised, between April 25 and June 4, 1 cm. or less; a reverse movement (NW up or Spit down) June 4 to June 21, 0.5 cm.; original movement (NW down or Spit up) June 21 to June 28, 2 cm. In this direction the total NW down or Spit up was 2.5 cm. or less since April 25 (see Volcano Letter 422).

Referring to the movement as NW station lowering, as was done in the Volcano Letter for April, and in other communications, this lowering of the crater floor is a continuation of movement in this direction since the eruption of Kilauea in September 1934, but is in contrast to the elevation of April 1935. The strong earthquake shock of June 28 may have been partly responsible for the sudden lowering of the crater floor between June 21 and 28. Levelling was in progress at the time of the quake, and was stopped by rain before a check could be made. It must be borne in mind that it is quite probable that the change of level of the eruption was a depression of the southern fault block under Spit relative to mean sea-level, and that the change of level since has been an elevation of that fault block relative to the crater floor. T.A.J.

EARTHQUAKES

Week ending	Minutes of tremor	TABLE				
		Very feeble-earthquakes	Feeble earthquakes	Moderate to Strong earthquakes	Distant earthquakes	Local* Sismicity
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June 16	53	2	0	0	0	14.25
June 23	134	5	0	0	0	36.00
June 30	143	9	0	2	1	47.25

* For local seismicity index see Volcano Letter 371.

The following successive local disturbances began at the times indicated; the epicenters as shown were located from seismograms; when possible the depth of the source is indicated. The location of epicenters is based on five stations Kilauea, Hilo, Kona, Halemaumau, and Uwekahuna. The intensity is that recorded on the Kilauea instruments.

June 5, at 6:55 a. m., a feeble earthquake was felt at both Kilauea crater and Honokaa. It was located 15 miles

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deep under the Kona side of the island, lat. 19° 28' N, long. 155° 48' W.

June 6, at 9:46 a. m., a tremor was recorded, it was larger on the Kona seismogram. It was tentatively located on the seaward extension of the Hualalai rift, in lat. 19° 50' N, long. 156° 10' W.

June 16, at 4:35 p. m., a very feeble shock was recorded from the Kaoiki rift about 19° 20' N, 155° 25' W.

June 25, at 0:45 a. m., a moderate earthquake dismantled the Observatory seismograph. It awakened people quite generally on south half of the island. The source was two or three miles deep under the north rim of Kilauea crater. 19° 26.5' N, 155° 16.5' W.

June 27, at 8:14 a. m., a very feeble shock was felt in north Kona and Puuwaawaa. It appeared to be located near Kailua Bay, 19° 40' N, 155° 00' W.

June 28, at 9:00:19 a. m., a moderate to strong earthquake began to record on the Observatory seismographs. The strong motion seismograph was the only instrument

on the island not dismantled. The secondary wave did the dismantling. Some damage was caused in Hilo. The selected location was on the Mauna Loa northeast rift, 19° 36' N, 155° 11' W and five miles deep. It was felt generally on Hawaii.

Microseisms were normal 5, 6, 18 and 28, and were sub-normal the remainder of the period.

The preliminary waves only, of a teleseism began recording at 1:02:05 p. m., June 24. No location has been reported of it.

A.E.J.

TILTING OF THE GROUND

The table shows tilt by weeks from seismograms at Kilauea Observatory, northeast rim of Kilauea crater; and at Halemaumau the readings from each clinoscope and the resultant radial tilts for the three clinoscopes, towards or from the center of Halemaumau Pit.

At the Observatory the total accumulated tilt in the year June 30, 1935, is 3.0" N and 2.7" E.

TABLE OF TILT

Week ending	Observatory	Halemaumau Clinoscope Stations				Pit Resultant
		North	West	Southeast		
June 9	0.8" S 20° W	1.4" N 82° W	2.8" N 89° W	7.0" S 34° W	5.6" From	
June 16	1.3" N 45° E	1.4" S 70° W	2.4" S 92° W	9.2" N 18° E	3.2" toward	
June 23	0.6" N 65° E	2.2" N 63° E	6.8" N 37° W	2.8" S 70° E	7.6" from	
June 30	2.5" N 89° E	24.3" N 75° E	26.8" S 32° W	118." N 60° W	96." toward.	

A.E.J.

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The month of May was like April in making critical changes in the wall of Halemaumau by avalanching, but transferring the sliding activity to the south and east corners. The opening of rim cracks also reached a maximum about the middle of the month, followed by immediate diminution.

Slides at Halemaumau

The first week was notable for much sliding from E and S. walls of Halemaumau. April 29, following 8:15 a. m., the SSW scar was sliding, and a stain of dust extended across the floor from it NE. The rim block at the top fell at 9:16 a. m., making a noisy avalanche. This was followed by trickling of small stones NW, and one rock fall NE. At 12:35 p. m. April 29 a small slide fell W, and a large one ESE at 12:45 p. m. On April 30 the SSW scar had extended farther west. May 1, from 1:40 to 3:30 p. m. with snapping sounds at intervals of five to 10 minutes, small slides occurred N, and two larger ones there at 3:15 and 3:20 p. m. After dribbling slides in various places on May 2, a heavy dust cloud arose at 5:10 p. m. from a slide at the NE wall. At 9:30 a. m. May 3, a noisy fall of rocks stripped the east buttress, and this was followed by numerous slides there, north and south of the buttress during the next two days. From such slides a small balanced pinnacle was left on top of the buttress at 11 a. m., May 3, and by the next day this had fallen. On May 4, avalanches occurred here at 9:47, 10:02, and 10:10 a. m., and 6:40 p. m. A large avalanche here May 5, about noon, set up a thick dust cloud.

The following slides were noted during the second week: May 6, 9:15 a. m. NE, 9:36 SW and NW, 9:45 NE; a dust streak extended out on the floor from this place. At 9:58 there were slides W and NW, and again for five minutes after 10:05 a. m., making a continuous dribbling of gravel and much dust. Similar dribbling slides SW and NE occurred 8:45 a. m., May 7. May 10 there was small sliding at the SSW and W scars. May 11 the same thing was going on at 8:45 a. m., and with the strong wind continuous dust arose from these western slopes. At 12:25 p. m., a strong landslide sent up much dust ENE. At 6:00 p. m., a strong slide occurred W. Slides May 12 were at 8:50 a. m. W, 9:38 a. m. E, 9:58 W, and at 12:50 p. m., a large dust cloud rose above the west side of the pit and spread out so as to fill the whole pit.

The avalanching declined during the third week. May 13 rocks were falling SW, W and NE.; at 9:38 a. m. an avalanche fell near the SW trig station, west of the SSW scar, where there have been recent opening of cracks and engulfing of the ash soil. It was obvious that this rim block was about to fall. At 12:45 p. m., May 13 an avalanche sent up dust NE, loud noises were heard in the pit at 1:30 and 2:30 p. m., and that these were the roars of avalanches was verified by one occurring May 15, about 5:40 a. m., so loud that it was heard at Volcano House. At 7:20 a. m., May 15, there was another roar and at 7:54 a. m., a big avalanche fell at the eastern edge of the SSW scar. The stage was now set for the falling of the rim block at the western edge of this scar, and this happened at 12:41 p. m., after minor preliminary slides, the shock shaking the seismographs, sending up thick dust, and making a loud roar heard at a distance. This event brought to a close the active working of that part of the Halemaumau rim.

The fourth week ending May 26 was relatively quiet. The only slides noted occasioned dust clouds seen May 20, at 9:55 a. m., and at 3:25 p. m., and on May 21 at noon and at 4:25 p. m.

The week ending June 2 produced spells of more than 15 minutes at a time when no rocks could be heard falling. May 27 at 10:24 a. m., there was a slide at the SSW scar and at 10:25 a. m. a slide fell NW. May 28 to May 31, the pit was quiet, except for a few rocks heard falling but not seen at 9:50 a. m. on the last date.

Halemaumau Floor Solfataras

On May 7 the fume vents at the edge of the floor were active NW and NE, and at 9 a. m. May 9, though the atmosphere was dry there was much fume from the three solfataras NW, N and E. May 28, about 8:45 a. m., five northern vents were fuming, thudding noises were heard twice, and fume was in greatest volume at the Yellow Solfatara NW where it came up puffing. May 30, at 9:10 a. m., after a rainy night, all five fuming places were puffing. May 31, at 9:50 a. m., after only slight rainfall, the five fuming places were inconspicuous.

Changes in Halemaumau Floor

The May avalanching spells built two new talus cones under the SSW scar, and made a pink stain of dust extending out on the floor. At the lower part of the gulch that extends down the wall along a crevasse at the east, above the large eastern talus cone, vapor rises from the wall itself. Here a buttress of fresh grey rock hangs out toward the pit, in the middle part of a new eastern scar. Big boulders had extended the eastern talus, but none had been able to surmount the marginal ridge of the floor. The marginal valley here is very deep. The chasms in the top of this ridge lengthwise, and the five eastern radial cracks extending across the floor from the lake basin of 1924, appeared more widely open than ever. It is worthy of note that the talus slopes north and northwest, which were the scene of sliding activity in October, 1934 after the eruption, have not been in motion in 1935.

Measurement of Halemaumau Rim Cracks

Weekly measurement of 32 marked rim cracks around the upper edge of Halemaumau pit, resulted as shown in the tabulation that follows.

Week ending forenoon of

May 4, 11 opened, 3 closed, aggregate opening 6.5 mm.
May 11, 6 opened, 3 closed, aggregate opening 6.5 mm.
May 18, 12 opened, 6 closed, aggregate opening 5.0 mm.
May 25, 5 opened, 3 closed, aggregate opening 2.0 mm.

A large crack in the actual rim of the pit near the southwest trig station opened 23.5 cm in 14 days from April 20 to May 4. T.A.J.

EARTHQUAKES

TABLE

Week ending	Minutes of tremor	Very feeble earthquakes	Feeble earthquakes	Distant earthquakes	Local* Seismicity
May 5	71	9	0	0	22.50
May 12	38	11	0	0	15.00
May 19	41	6	0	0	15.25
May 26	12	1	1	0	4.50
June 2	34	3	0	1	10.00

* For local seismicity index see Volcano Letter 371.

During the first week of May three slides in the Pit were large enough to record on the Observatory seismographs. During the second week five slides made very feeble records, with only one recorded during the third week.

The following successive local disturbances began at the times indicated; the epicenters as shown were located from seismograms; when possible the depth of the source is indicated. The location of epicenters is based on the smaller network of seismograph stations, Kilauea, Uwekahuna, and Halemaumau. The intensity is that recorded on the Kilauea instruments.

May 13 at 1:46 p. m. beginning of a series of five very feeble shocks, not reported felt, lasting until 2:01 p. m. Only two could be located. The second of the series was

located about a mile south of Kilauea crater, not over two miles deep, Lat. $19^{\circ} 23' N$, Long. $155^{\circ} 17' W$. The third of the series could only be approximately located, two and a half miles west of Kilauea crater, Lat. $19^{\circ} 25' N$, Long. $155^{\circ} 20' W$. They were not recorded on the Hilo and Kona instruments.

May 23, at 1:37 a. m. a feeble shock was felt near Kilauea crater. It was located a mile west of Uwekahuna and five miles deep, Lat. $19^{\circ} 25.5' N$, Long. $155^{\circ} 18' W$.

The long waves of the destructive earthquake in Baluchistan began recording at 11:57 a. m. H.S.T. May 20.

Microseismic motion of the ground was normal April 29 and subnormal the remainder of the period. A.E.J.

TILTING OF THE GROUND

The table shows tilt by weeks from seismograms at Kilauea Observatory, northeast rim of Kilauea Crater; and at Halemaumau, the readings from each clinoscope, and the resultant of radial tilts for the three clinoscopes, towards or from the center of Halemaumau Pit.

At the Observatory the total accumulated tilt in the year ending June 2 is $3.6'' N$, and $0.5'' W$.

TABLE OF TILT

Week Ending	Observatory	Halemaumau Clinoscope Stations				Pit Resultant
		North	West	Southeast		
May 5	1.6" S 64° W	2.8" N 54° E	5.0" N 87° W	7.0" N 45° W	1.7" from	
May 12	1.0" N 16° E	2.0" N 15° E	6.8" N 36° W	5.8" S 83° E	9.3" from	
May 19	0.6" West	3.8" N 19° E	1.8" S 62° W	2.4" N 29° W	2.6" from	
May 26	0.9" N 30° E	3.8" N 69° E	1.4" S 25° E	5.4" N 28° E	1.1" toward	
June 2	1.0" S 77° W	1.0" S 80° W	1.6" S 83° W	2.8" S 27° E	2.2" from.	

A. E. J.

ERRATA

Following Sept. 11, 1934, Volcano Letter 415, the resultant tilt at Halemaumau should be as follows:

1934		1935	
Sept. 16	0.8" from	Jan. 6	165.4" toward
23	1.2" toward	13	1.1" toward
30	1.3" from	20	22.5" from
Oct. 7	7.9" from	27	7.1" from
14	11.0" toward	Feb. 3	7.7" toward
21	11.1" from	10	1.7" toward
28	8.2" from	17	3.1" toward
Nov. 4	2.0" toward	24	18.2" from
11	7.1" from	Mar. 3	14.2" from
18	12.6" from	10	4.2" toward
25	1.4" toward	17	12.1" toward
Dec. 2	28.0" from	24	3.1" toward
9	0	31	6.7" toward
16	1.1" toward	Apr. 7	8.9" from
23	5.7" from	14	4.3 from
30	7.8" from	21	18.9" from
		28	2.0" toward.

A.E.J.

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REPORT OF THE CAMP DIRECTOR ECW FOR THE MONTH OF NOVEMBER, 1935.

TO THE SUPERINTENDENT HAWAII NATIONAL PARK.

Rearranging our working gangs and starting our project of fencing the Park boundaries to keep wild goats outside the park reduced the number of men working on the Mauna Loa truck trail, however good progress was made in spite of inclement weather and by working one Saturday we were able to make the trail usable as far as six tanks, a distance of about three miles. This was greatly appreciated by the numbers of people who went up the Park trail to view the eruption of Mauna Loa.

Two Foremen and two gangs of enrollees began work on the fencing project clearing the line and digging post holes. 640 rods were finished during the month.

We began construction of our new bunk house November 25th. Four carpenters were hired the balance of the labor being furnished by the enrollees. We expect to complete this in about two weeks. The cost will be about \$1200 including materials and labor.

This will relieve the congestion in our sleeping quarters which we have felt very much since the beginning of this period when the camp in the Haleakala section was discontinued and Kilauea Camp brought up to full strength.

The balance of the men were employed on Landscape maintenance, assisting the mechanics, camp duties, etc.-

In the camp everything was about as usual. So far we have escaped the Flu Epidemic which has caused considerable illness particularly in Hilo district. At the camp Physicians suggestion as little contact as possible was had between the camp and outside districts and that may account for our escape.

Besides our Catholic and Protestant religious services two Sundays in November were productive of interesting talks for the boys:- On the 17th Associate Park Naturalist, John E. Doerr Jr. spoke to the boys and it was greatly appreciated especially as Mr. Doerr is transferring to Crater Lake Park. Since we began our Camp in January, 1934, Mr. Doerr has been in charge of such educational work as has been carried on in the Camp and the boys feel they know him and appreciate his many lectures to them. On the 24th another interesting talk was given by Mr. G.J. Carlson, Regional Executive, Boy Scouts of America. This was Mr. Carlson's first visit to this island and the time given our camp was greatly appreciated.

We are indebted to the Hilo Library, who placed on our canteen shelves one hundred books. These books are issued to the boys on a card system similar to that used in the library and books lost or mutilated will be charged for. The selection was made by the library themselves and as time goes on the books which are not used will be traded in for others which may prove more popular.

We had our usual talkies during the month.

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Various games, basket ball, volley ball, boxing, etc. were indulged in during the month when weather permitted.

Respectfully submitted,

Bertram G. Rivenburgh,
Camp Director, BCW HEP.

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10-157
(July, 1929)

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

TRAVEL REPORT

~~November~~ National Park for the Month of November, 1935

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	17,427	29,430	15,588	36,201	- 6,772	.187
Persons entering via other private transportation,	453	668	123	334	+ 334	1.00
Total persons entering via private transportation,	17,880	30,098	15,711	36,535	- 6,437	.176

OTHER TRANSPORTATION:

Persons entering via stages ^{Hotel} stages,	590	959	379	738	+ 221	.299
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	590	959	379	738	+ 221	.299
GRAND TOTAL ALL VISITORS,	18,470	31,057	16,090	37,273	- 6,216	.167

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii National Park for the Month of November, 1935

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction, New Halemaun Trail NPS (F.A.)	70	5	5	
518 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construc- tion (F.A.)	75	5	5	
521 Post Construction, Uwekahuna- Bird Park Road (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing, 10.643 miles, Cont. & Contg.	100	65.3	44.7	
FP663 For the erection of one obser- vation station and toilet; and one office and checking station, Haleakala	0	0	0	
FP677 Employee's residence and connect- ing service lines for newly appointed U.S. Commissioner	0	0	0	

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of November, 1935

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	ENG	FW	ENG	FW		
Number of employees beginning of month	15	2	1	9	18	1
Number of additions.....	0	0	1	0	0	3
Total.....	15	2	2	9	18	4
Number of separations.....	0	0	1	1	2	0
Number of employees close of month.....	15	2	1	8	16	4
Number of promotions during month.....	0	0	0	0	0	0
Aggregate amount of annual leave taken	0	0	0	0	7	0
Aggregate amount of sick leave taken....	5	0	0	0	2	0
Aggregate amount of leave without pay..	0	0	0	0	0	0

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10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of November, 1935

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	125.00	100.00
Total,	125.00	100.00
Remitted,	125.00	100.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	250.00
Park revenues received last year to date,	225.00
Increase,	25.00
Per cent of increase,	11%

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS AND RESERVATIONS

REPORT OF SALES OF PUBLICATIONS

November, 1935

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	797	119.85
Received during month,	0	0.00
Total,	797	119.85
Sold during month,	1	1.00
On hand at close of month,	796	118.85
<u>NON-GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		
Cash on hand beginning of month,		10.75
Sales during month,		1.00
Total,		11.75
Remitted during month,		1.85
Balance,		9.90

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

December 10, 1935

Mr. Edward G. Wingate, Superintendent,
Hawaii National Park.

SUBJECT: Report of Volcano Observatory for November , 1935

Dear Mr. Wingate:

In the absence of Dr. Jaggar who is at the scene of the present volcanic activity of Mauna Loa I have to report as follows for the activities of the Hawaiian Volcano Observatory for November, 1935. The routine of crater observations and measurements, reports, letters and manuscripts, seismograph work, levelling, and transit angle measurement, and upkeep of equipment, has proceeded as heretofore, under Messrs. Jaggar, Waeche and Yasunaka.

A series of photographs were made the early part of the month illustrating the activities of the Observatory. These included laboratory, office and field work.

The clinoscope from the North Station which was broken by the earthquakes of September 30 has been removed and transferred to the machine shop for repairs and alterations.

Measurements of the angles across the Crater of Kilauea have been altered to include a new triangulation station recently placed on the S.E. rim of the crater. To correlate with this additional angle measurement a new project has been discussed whereby future levelling across the crater is to be done from this S.E. station to Uwakahuna instead of around the rim of Halemauuan as had formerly been the case.

The station wagon used for field work has been painted the accepted green so as to conform to the uniform color of other Park cars.

Observations for November.

The group of earthquakes of September 30 - October 1, followed by a strong widely felt one of November 21, all located on Mauna Loa were apparently the forerunners of the eruption of Mauna Loa which broke out at about 6:30 P.M. November 21. The eruption was centered in a crack which had been opened up along the N.E. rift zone of the mountain from the summit crater to a point about four or five miles above the ten-thousand foot Rest House. Fountains played near the N.E. end of the crack about five miles above the Rest House. These fountains fed one main flow and several minor ones which flowed in a general direction to the

- 2 -

north toward the Humuila Sheep Station located in the broad valley between Mauna Loa and Mauna Kea. No damage has been done by the flow as it has been confined to a barren region containing very little vegetation and no human habitation. Although the fountains at the source have stopped the flow, much abated continues as this report is written.

Dr. Jagger and H.H. Waesche both made observation trips over the activity the morning of November 22, through the courtesy of officers of the U.S. Army Air Corps of Wheeler Field. The trip lasted approximately one hour and ten minutes so that good observations were possible. The eruption was first located from the air by Lt. Carl Trussdell, in a pursuit plane. The same morning a number of aerial photographs of the activity were made and the Observatory has been given a complete set.

On November 22 and 23, Observations were made by Dr. Jagger from the Humuila Section where both the source and the flow could be seen.

November 28, 29, and 30 Dr. Jagger, Mr. Wingate, Dr. Ballard of the Dept. of Physics of the University of Hawaii made observations from Humuila and hiked to the foot of a new flow which was issuing from the side of Mauna Loa instead of directly from the previous source at the fountains as had been the case with the former flow which had ceased movement and cooled.

H.H. Waesche, in the Company of Ranger Lamb made a trip to the fountains on Sunday, November 24. They reached the fountains after dark and made a number of still and moving photographic records of the activity, all of which were night pictures as they returned to the rest house before day light.

The numbers of local seismic disturbances for the five weeks ending December 1, were successively 49, 41, 48, 99, 162. Included in the 99 disturbances of the week ending November 24 were 3,198 minutes of harmonic tremor associated with the Mauna Loa eruption. The weekly seismic indices were, 14.75, 11.25, 13.00, 835.75 and 41.75. There were 31 very feeble earthquakes during the month. The visible outbreak of Mauna Loa was probably indicated by a series of two slight and two feeble earthquakes which registered about 6:30 P.M. November 21. The moderate earthquakes at 1:11 A.M. November 21 and felt over the entire island of Hawaii as well as in Honolulu was definitely premonitory to the eruption.

Sliding of from the rim walls of Halemaumau has been confined to only a few dribbles of small rocks and dust, reported from time to time during the month. One fair sized slide was probably caused by the earthquake of November 21. Otherwise the pit has been relatively quiet. There was apparently a slackening in quantity of fume from vents on the floor immediately following the Mauna Loa outbreak. However, no definite reaction in Halemaumau was visible or felt although the crack measurements of November 23, showed an increased percent opening, much above the normal amount. Total crack opening for the month was 45 millimeters.

Levelling around the Pit of Halemaumau with the assistance of

- 3 -

Dr. H.S. Palmer, Department of Geology, of the University of Hawaii, November 26, showed no change in relation to Spirit B.M. since October 18. Horizontal angles across Kilauea Crater and across Halemaunna Pit show a decided closing from October 30 to November 21, but have opened some since the latter date. Average tilt at Halemaunna stations during September was toward the Pit.

Visitors

11/4/35 Dr. Crawford and Mr. T.M. Livesay of the University of Hawaii.

11/17/35 Professor Meebold, German botanist

Dean Wist and Dr. Scott of the University of Hawaii

Dr. H.S. Palmer and Dr. Stearns.

11/27/35 Dr. Ballard of University of Hawaii.

Research and Publication

Radio broadcasts were made during the Mauna Loa Eruption by Dr. Jaggard over H.B.C. and C.B.S. Numerous press releases also were made by Dr. Jaggard.

Dr. Jaggard made a trip to Honolulu to attend a meeting of the Hawaiian Volcano Research Association.

Respectfully,

T. A. Jaggard, Volcanologist

By H. K. Waesche

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

OFFICE OF THE SUPERINTENDENT

HAWAII Kailua, Maui
November 30, 1935

The Superintendent,
Through the Chief Ranger,
Hawaii National Park, Hawaii.

Dear Sir:

The following report of the Haleakala Section for the month of November 1935, is respectfully submitted:

000 General.

010 Introduction.

The road surfacing work is now completed, including the road leading into the utility area and the plaza. It is a relief to have a smooth, dust and mud free pavement on the plaza in front of the garage.

020 General weather conditions.

Rainfall during November amounted to 2.90 inches. The prevailing wind direction was from the northeast. There were no clear days during the month.

100 Administration.

110 Status of work.

Regular reports were kept up to date. Routine work, purchases of supplies, patrols and inspections were carried on.

120 Park Inspections.

On November 6 & 7, an inspection of silversword plants in Haleakala crater was made with Ranger Lamb. Routine inspections of the Halemau trail work, the road maintenance work, the Rest House, the White Hill area and toilets were made.

122 Special Field Representative.

Associate Architect Merel S. Sager was in the Haleakala Section November 25 - 29, inspecting the Halemau trail work, the road surfacing work and the utility area.

Ranger

Ranger S.H. Lamb was in the Haleakala Section from November 4 - 10, inclusive, doing insect control work.

150 Equipment and Supplies.

An anvil and forge, miscellaneous tools and a shipment of enamelled signs were received this month.

200 Maintenance, Improvement and New Construction.

210 Maintenance.

Usual Maintenance work on the park road was carried on during the month. Much extra work was caused during the latter part of the month by material falling into the road from banks as a result of freezing and thawing.

220 Improvements.

Some work was done by the cantoneers, lining drainways with stone to prevent erosion, and in spreading soil on road banks with a view to getting grass to grow.

230 New Construction.

The new Halemanu trail is cut through to the crater floor, wide enough for foot travel, and about $\frac{1}{2}$ mile of the trail from the crater rim down, has been widened enough for horses.

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and guide service.

The park road was patrolled and the National Park Service represented by the District Ranger on week-ends and other times whenever possible. Also at night, during the first few days of the Mauna Loa eruption.

440 Insect Control

2 days work on and inspection of silversword plants in Haleakala crater with Ranger Lamb, were done on November 6 - 7.

500 Use of Park facilities by the public.

510 Increase or decrease in travel.

Check of travel for the month amounts to 3,500 visitors, an increase of 45% over the record for last month. This great increase is directly due to the eruption of Mauna Loa, an excellent view of which can be had from the top of White Hill.

600 Protection.

610 Police Protection.

The park road has been patrolled almost daily and trips over the Kalamum trail and to the Rest House have been made.

630 Accidents.

November 23, between 9:00 & 10:00 P.M., Studebaker car, No. 35128, Driver; Alfred Silva, passengers; Manuel Aveira and Joe Souza; Silva turned out too far on meeting a car, drove off the road and the car rolled down the bank. Joe Souza died from his injuries. The other occupants of the car suffered only minor injuries.

November 23, between 9:00 & 10:00 P.M., Dodge car, No. 30382, Driver; Harold Gent, no passengers; turned out too far on meeting a car, stopped his car and jumped out as it went over the bank. Very minor injuries. Both accidents happened on straight stretches of road at least 500 feet in length; the first about 2 miles below White Hill and the second (Harold Gent) about 4 miles below White Hill.

Yours respectfully,

J.A. Peck,
District Ranger

December 5, 1935

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

The following is the report of ranger activities during the month of November, 1935

000 - General

The ranger department activities during the month covered a range of recreational, educational, protection and maintenance of telephone lines painting and repairing signs, etc.

The most outstanding event of the month was the eruption of Mauna Loa on the evening of November 21.

020 - Weather Conditions

The total rainfall at headquarters was 9.64 inches for the month, at the CCC camp 8.98 inches and at Haleakala 2.90 inches. On November 16 there was 3.18 inches of rain in 24 hours. Snow was visible on Mauna Loa from the 12th to the end of the month.

100 - Administration

110 - Status of Work

All work was kept up to date. However, from the night of the eruption, November 21, to the end of the month, it was necessary to station a man permanently at the 10,000 foot resthouse, and to send a ranger with each horseback party.

120 - Park Inspections

Routine general park inspections were made of all work in progress during the month, including Mauna Loa truck trail and other projects. Between the 3rd and 10th Ranger Lamb was on Haleakala inspecting the silversword project in company with District Ranger Peck. Ranger Peck reports that inspections were made of the road maintenance work, resthouse, and White Hill area were made.

150 - Equipment and Supplies

One saddle and saddle horse, blacksmith forge, bitumal hand pump (for Haleakala) and numerous miscellaneous hand tools were received during the month.

170 - Plans, Maps and Surveys

When weather permitted work was continued on the boundary survey, preparatory for fencing by the ECW.

A supply of maps of the various islands, issued by the Tourist Bureau, was received.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Usual maintenance of roads, trails, and equipment was carried on during the month. At Haleakala much extra work was caused during the latter part of November by material falling into the road from banks as a result of freezing and thawing.

220 - Improvements

At Haleakala some work was done by the cantoneers, lining drains with stone, spreading soil on road banks with a view to growing grass, etc.

230 - New Construction

Project 7, Haleakala Highway Bituminous Surfacing contract was completed and final inspection made by Associate Architect M.S. Sager on November 29. It was recommended that this project be accepted as satisfactory.

The new Haleman-u trail is cut through to the crater floor, wide enough for foot travel and about a quarter of a mile of the trail from the crater rim down has been widened enough for horses.

260 - Landscape Work

The CCC crew continued landscape work around headquarters area with most satisfactory results.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

Mr. George Lycurgus, manager of the Volcano House, left the first part of the month for the mainland and thence to Greece. He plans to be gone approximately six months. During his absence his son, Nicholas, will act as manager.

320 - Cooperating Governmental Agencies

During the first part of the activity on Manna Loa a man from the Kilauea Military Camp was sent up to assist the ranger in charge.

The FERA project at the Volcano House is making very rapid headway. The new chimney and fireplace in the lobby were completed and other repair work is almost finished. Work was started on the tennis court in the rear of the hotel.

Captain W.W. Lloyd, who is to be the new executive officer at Kilauea Military Camp, arrived on the 26th.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The Uwekahuna museum was open all month, with a ranger assisting part of the time. All roads and the campground were patrolled on week-ends. District Ranger Peck patrolled the Haleakala highway the first few days of the eruption, as a great many cars were traveling on this road in order to get a view of the eruption on Hawaii.

Ranger Harry W. Doust, formerly of Glacier, telephoned very unexpediently from Hilo on the 4th, announcing his arrival, and that he was ready to report for duty. This was indeed a surprise, as we had received no reply from Glacier to our inquiries as to when to expect him.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Total travel to Kilauea for this month was 18,470 as compared with 16,090 for the same period last year. District Ranger Peck reports that travel for Haleakala was 3500, an increase of 455% over October, due to the eruption on Mauna Loa, an excellent view of which could be had from the top of White Hill.

530 - Visitors

November 2 - Dr. David L. Crawford, President of the University of Hawaii and Dr. Livesey, Director University summer schools, to discuss next season's volcano summer school plans. They departed on the 3rd.

November 9 - Thirty Five Elks from Honolulu

November 17 - Dean Wist and Dr. Scott of the University of Hawaii

Professor Meebold, German botanist. Prof. Meebold had previously visited the Haleakala section.

November 23 - Mrs. Doris Duke Cromwell, her husband, James Cromwell and Sam Kahanamoku and his sister Bernice. Messrs. Cromwell and Kahanamoku went to the source of the eruption on Mauna Loa. The entire party departed on the 29th.

At the end of the month 163 persons, including various scientists from all the islands, had made the trip to Mauna Loa to view the source of the flow.

600 - Protection

610 - Police Protection

The usual park patrol was carried on by the ranger staff.

630 - Accidents

November 23, between 9 and 10 p.m. Studebaker, No. 35128, driver Alfred

Silva, turned out too far for oncoming car, and rolled down bank on Haleakala Highway. Joe Souza, one of the passengers, died of his injuries. Other occupants suffered only minor injuries. On this same night, at about the same time, Dodge No. 30382, driver Harold Gent, also turned out too far for oncoming car. However, he stopped the car and jumped out as it went over the bank. He suffered only minor injuries. Both accidents occurred on straight stretches of road.

650 - Signs

Maintenance of existing signs was carried on and several new ones erected. A shipment of new enameled signs for Haleakala was received.

660 - Sanitation

All gutters were cleaned during the month.

900 - Miscellaneous

The regular monthly Volcano House dance was held on the 9th, the same day as the Elks' banquet at the hotel.

On the 29th the annual meeting of the Hawaii National Park Natural History Association was held, at which time new officers were elected since Mr. and Mrs. Doerr, former president and treasurer respectively, were leaving for Crater Lake National Park. New officers are Ranger S.H. Lamb, president, Constance Whitney, secretary and Mrs. S.H. Lamb, treasurer.

Respectfully submitted

Joseph H. Christ
Chief Ranger

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Visitors

Terr. Sen J. R. Farrington (some day don't arrived)

Mr + Mrs Chauncey Wightman - Terr Admin AAA - Nov 22-25

Dr + Mrs Harold T Stearns - U.S.G.S.

Dr Chester K Wentworth - Pres Honolulu Academy Sciences

Dr Harold K Palmer, Prof Geology Univ of Hawaii

Dr S. J. Ballard, Physics Dept Univ of Hawaii. To discuss plans for special research work at Kilauea next summer

Mr. Sam Trench - C Brewer + Co 22-25

Gen. Hugh Sumner Commander Hawaiian Dept flew over eruption on the 22nd?

Gen. J. B. Bowdler + E. E. Ziffelt flew over eruption on the 24th

M. L. D. Carlson - Brig Genl Expts - of the CCC camp 24th

Congressman Byron Harlan of Ohio brief visit to jail with Judge Metzger of H. on the 5th

Mrs. Vaul Stark, Special Director Girl Scouts - Nov 10

Judge Francis Brooks - Honolulu Nov 9-10

Delegato Samuel Walker King conferred with Dept relative park matters on the 15th - He Dept attended a dinner in his honor held at the Kila Hotel on the 14th

Mrs. Helen Berkeley - spent some time ^{visiting} at the K.M.C. the latter part of the month

000 - General

We shall save enough space for a report on Pele's activities on Mauna Loa.
~~XXXXXXXXXXXXXXXXXXXX~~

020 - General Weather Conditions

The total rainfall at headquarters was 9.64 inches for the month, at the CCC camp 8.98 inches and at Haleakala 2.90 inches. On November 16 there was 3.18 inches of rain in 24 hours. Snow was visible on Mauna Loa from the 12th to the end of the month.

100 - Administration110 - Status of Work

Work was kept as nearly current as possible, but necessarily fell behind to some extent because of the eruption on Mauna Loa. (have to blame it on something.) However, it will be caught up again since the flow has quieted down. *Following request by your office a special report was prepared on the subject of a permanent ACC. The report was submitted on Nov 21*

120 - Park Inspections by:121 - Superintendent

On November 16 ^{Adygt} I made a trip to Kohala, at the ^{north} other end of the island, returning to headquarters on the 17th.

From the 22nd of the month to the end ^{Adygt} I spent a great deal of time inspecting the lava flow from the air, at the front and at the source.

122 - Special field representatives of National Park Service

On the 29th Associate Landscape Architect M.S. Sager made final inspection of the bituminous surfacing of the Haleakala highway project. During the remainder of the month he was at headquarters supervising various ECW projects. On the 24th he went over to Humuula to view the front of the lava flow, returning to headquarters on the 25th.

123 - National Park Service Officers

Word was received from the Director stating that he or a member of his staff would visit Hawaii within the next six months. This was very welcome news indeed, and it is sincerely hoped that whoever comes will be able to spend enough time to get around to all the islands.

130 - Finance and Accounts

On the 30th of the month Special Disbursing Agent James K. Higashida received word that his accounts were to be closed out at the end of November and all balances deposited to the credit of the Chief Disbursing Officer of the Treasury Department, as all disbursing was to be handled through the Treasury Department, Asia being done in other parks.

150 - Equipment and Supplies

One saddle and saddle horse, Hacksmith forge, bitumuls hand pump (for Haleakala) and numerous miscellaneous hand tools were received during the month.

170 - Plans, Maps and Surveys

When weather permitted, work was continued on the boundary survey, preparatory for fencing by the ECW.

A supply of maps of the various islands, issued by the Tourist Bureau, was received.

18 - P. mt
200 - Maintenance, Improvements and New Construction

210 - Maintenance

Usual maintenance of roads, trails, and equipment was carried on during the month. At Haleakala much extra work was caused during the latter part of ~~the~~ November by material falling into the road from banks as a result of freezing and thawing.

220 - Improvements

At Haleakala some work was done by the cantoneers, lining drains with stone, spreading soil on road banks with a view to growing grass, etc.

230 - New Construction

On November 9 bids were opened for the construction of an observation station, checking station and comfort stations on Haleakala, but all bids received were far in excess of the allotment. They were re-advertised, eliminating certain items with a view to reducing cost but which would, at the same time, render the building less useful and less attractive to the public. These new bids disclosed the fact that in spite of the changes only the observatory station could be built within the allotment intended for all the buildings. *- Add. urgent request made for additional funds. Also bids solicited on original plan showed all buildings could be built as designed.*
Project 7, Haleakala Highway Bituminous Surfacing contract was completed and final inspection made by Associate Architect M.S. Sager on November 29. It was recommended that this project be accepted as satisfactory.

The new Halemanu-u trail is cut through to the crater floor, wide enough for foot travel and about a quarter of a mile of the trail from the crater rim down has been widened enough for horses.

260 - Landscape Work *← Mauna Loa bench trail -*

The GCC crew continued landscape work around headquarters area with most satisfactory results.

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310 - Public Service Operators

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320 - Cooperating Governmental Agencies

During the first part of the activity on Mauna Loa a man from the Kilauea Military camp was sent up to assist the ranger in charge. *Also a supply of blankets and tents were furnished*

Capt. W.W. Lloyd, who is to be the new executive officer at Kilauea Military Camp, arrived on the 26th.

The FERA project at the Volcano House is making very rapid headway. The new chimney and fireplace in the lobby were completed and other repair work is almost finished. Work was started on the tennis court in the rear of the hotel.

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Ranger Harry W. Doust, formerly of Glacier, telephoned very unexpectedly from Hilo on the 4th, announcing his arrival and that he was ready to report for duty. This was indeed a surprise as we had received no word from Glacier that he was on his way, ~~nor had they replied to our inquiries as to when we might expect him.~~

420 - Museum Service.

~~Before~~ Work on the museum development plan ~~was~~ was continued. Mr. Doerr intends to discuss these with Mr. Hall while in Berkeley.

Park Naturalist Doerr spent considerable time during November with Ranger Lamb, who is to take charge of the naturalist work after Mr. Doerr's departure for Crater Lake.

Mr. Doerr also continued to record information used in his lectures and guided trips, which, no doubt, will be extremely useful to those who carry on the educational work in the park.

~~Before~~ During the month Mr. Doerr made two inspections of the Mauna Loa eruption, one from the air on the 22nd and another to the front of the flow on the 24th

440 - Insect Control

On November 16 and 17 Ranger Lamb was on Maui, inspecting the silversword project at Haleakala

480 - Natural Phenomena

A detailed report of the activities of the Observatory and Dr. Jagger will be found at the back.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

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On the 29th the annual meeting of the Hawaii National Park Natural History Association, was held, at which time new officers were elected since Mr. and Mrs. Doerr, former president and treasurer respectively, were leaving for Crater Lake National Park. New officers are Ranger S.H. Lamb, president, Constance Whitney secretary and Mrs. S.H. Lamb, treasurer.

~~During the month~~ Word has been received that Calvin Christ, son of Chief Ranger Christ has been elected song-leader of his 9th grade class at Kamehameha School for Boys in Honolulu. Also because of his high scholastic standing Calvin was able to skip from the 7th to 9th grades.

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E. W.
Monthly Report
Wingate

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

December 3, 1935

Memorandum to Superintendent Edward G. Wingate.

The following is a report of work accomplished under my supervision during the month of November, 1935.

1. Made repairs to Geological laboratory building; new foundations and posts for water tank.
2. Repaired shoulders, Uwekahuna Pit road.
3. Made repairs to Chain of Craters and Main road.
4. Furnished one man several days to help repair trucks.
5. Packed and crated furniture of Mr. John E. Doerr Jr.
6. Made minor repairs to Quarters No. 8, 9 and 13.
7. Hauled Ranger Doerr's furniture from Park to Hilo.
8. Hauled trash from employees quarters. (9 times)
9. Painted Station wagon, D.I. No. 1162.
10. Listed material and supervised construction of bunk-house for CCC Camp.
11. Made minor repairs to Quarters No. 1.
12. Took care of all odd jobs and washed three park trucks.

R. R. Craik

R. R. Craik,
Foreman, HNP.

Wingate
E. W.

*L.O.
Monthly Report*

Dec. 2, 1935.

The Superintendent
Hawaii National Park,
Hawaii.

Dear Sir:

Following is a report of my time by hours,
for the month of November 1935.

Work on cars and trucks		97	hours
Pumping water as follows, High tank	24,500 gals.		
Water lawns	550 "		
Total	25,050 Gals.	13	"
Warehouse		9	"
Dress and make new tools for stone work		9	"
Repair and adjust Gravley power mower		7	"
Repair washing machine, Supts. res.		6	"
Repair tool handles		4	"
Dressing picks		4	"
Fill all batteries		4	"
Check in gasoline		4	"
Transfer gasoline to storage tank		4	"
Rig up connections for paint spray gun		4	"
Transfer kerosene to storage		3	"
Change telephone batteries		3	"
Clean up ser. station after Oil run over		2	"
Repair lawn mower		2	"
Repair meter on gasoline pump		2	"
Repair container for battery water bottle		2	"
Repair fire extinguisher		1	"
Repair telephone		1	"
Repair saddle slickers		1	"
Repair folding cots		1	"
Repair hose on gasoline pump		1	"
reclaim lead from old car batteries		1	"
Clean battery terminals		1	"
Solder kerosene cans		1	"
Repair log chain		1	"
Repair gasoline lanterns		1	"
Repair surveyors chain		1	"
Repair horse shoeing outfit		1	"
Reclaim old bolts		1	"
Solder gasoline cans for mauna Loa		1	"
Make stencil for marking road spots		1	"
Make connecting terminals for charging batteries		1	"
Repair car for Park visitor		1	"
Clean 5 gal. bottles for barrery water		1	"
Help with doerrs furniture		1	"
Repair siren switch and contact points.		1	"
Start car for Miss. Williams		1	"
Total		200	Hours.

Submitted by

F. F. Fischer

F. F. Fischer.
Mechanic

W. H. ...

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

November 10, 1935

The Director
National Park Service
Washington, DC

Dear Mr. Director:

000 - General

020 - General Weather Conditions

The total rainfall at headquarters was 9.3 inches, at the summer camp (CCC Camp) 8.28 and at the Haleakala section Ranger Peck reported 2.35 inches.

Following kona rains on the 6th and 7th snow appeared on the summit plateaus of both Mauna Loa and Mauna Kea. These mountains remained snow-capped until the 27th and a few patches were still visible on Mauna Kea on the last day of the month. This is the earliest heavy snowfall the superintendent has noted in 15 years in Hawaii and may well indicate a very wet winter.

100 - Administration

110 - Status of Work

Work was kept current during October. With the beginning of the new CCC enrollment period one extra enrollee was obtained for assistance in the superintendent's office.

120 - Park Inspections By:

121 - Superintendent

The superintendent returned to Kilauea on the 2nd, following a short visit to Honolulu where he conferred with Mr. E.E. Tillett, Field Supervisor ECW. He was at Kilauea until the 9th, during which time several inspections were made of the progress by the CCC on the Mauna Loa truck trail. From October 10 to 29 he was on the Island of Maui. While on Maui inspections of work on the new Halemau-u trail, under Public Works, the Haleakala road surfacing project, now under contract, work in improving drainage along the road by the maintenance crew, the

old resthouse and proposed location of a new resthouse building at the road terminus in company with Mr. E.J. Walsh, and the area proposed for residence and utility development near Pua Nianiau. The superintendent accompanied the members of the Congressional party in the islands to study the matter of statehood for Hawaii, Maui Chamber of Commerce and local officials, on a trip to the Haleakala section and tour of central Maui. He attended the hearings on statehood at Wailuku, Maui held at a later date, a regular meeting of the Maui Chamber of Commerce and conferred with the national park and promotion committees on other occasions and also was able to take in some of the excellent exhibits at the annual Maui County Fair. Numerous contacts were made with residents of Maui.

122 - Special Field Representatives of the National Park Service

Associate Landscape Architect M.S. Sager made two trips to Maui for the purpose of inspecting the RCW projects in the Haleakala section, October 2 to 4 inclusive and 20th to 25th inclusive. The balance of the month was spent on this island supervising the several RCW projects involving landscape work.

125 - Other Government Officers

Jack Moskowitz, Principal Highway Engineer, Bureau of Public Roads, visited the Haleakala section October 7 on business connected with the road surfacing project.

126 - Congressional Committees or Subcommittees

A party of Congressmen, including Representatives Eugene Crowe, Indiana, Ernest Lundeen, Minnesota, John J. Dempsey, New Mexico, Raymond J. Cannon, Wisconsin, Jack Nichols, Oklahoma and Governor Poindexter and Delegate Samuel Wilder King, who were visiting the islands with regard to Hawaii's plea for statehood, visited the Haleakala section on the 10th and the Kilauea section on the 13th. Very little time was given them to see the latter section of the park and it appears from reports of park officials present that their visit to Kilauea was arranged by the Army in Honolulu, with the end in view of soliciting their assistance toward taking over the area of park land now occupied by the Kilauea Military Camp. This visit and related matters were made the subjects of special correspondence to your office.

130 - Finance and Accounts

A detailed statement will be found at the back of this report.

150 - Equipment and Supplies

During the month the following equipment was received for the Kilauea section: one gasoline pump, one compressor, one one-quarter ton Ford V8 truck and one lubricating oil tank. An oil transfer pump and lubricating oil container were received to be used on Maui.

160 - Status of Alienated Lands

On October 3 the Hilo Tribune-Herald published a short news item to the effect that the local board of supervisors had given their approval to a proposal to donate to the Army a piece of land adjacent to the Blacksand beach at Kalapana as an added incentive for Army personnel to visit this island. No further information has been obtained. The proposed camp site would apparently be a portion of the area previously included in the proposed extension to the national park and at any event would establish an undesirable campground in close contact with the native village. This and other matters will be discussed with Delegate King when he visits the park in November.

180 - Circulars, Placards, Publicity Bulletins, etc.

One publicity bulletin regarding transfer of Park Naturalist Doerr to Crater Lake and the proposed promotions of Rangers Waesche and Lamb was released. Also an office order regarding inspections of ECW projects by the ranger and naturalist departments was issued.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

The usual maintenance of roads, trails, telephone lines and equipment was carried on during October. All culverts were cleaned and drains kept open.

220 - Improvements

A report by the camp director of CCC activities during the month is attached.

The old shelter at Helamauman pit was removed and the telephone line installed underground.

The new mower for the road shoulders was kept busy. Some work was done by the cantoniers in the Haleakala section with the help of one man from the Hawaiian Contracting Company in deepening and lining road gutters with rock to prevent erosion.

230 - New Construction

The Haleman-u trail is cut through from the crater rim to within 400 feet of the crater floor.

Word was received stating that the Secretary, on October 16, had approved the contract for the surfacing of the Haleakala road. Work was started immediately by the Hawaiian Contracting Company, who were the low bidders, - amount \$32,575.75. The project was approximately 30% complete at the end of the month.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

The FERA project at the Volcano House, consisting of rebuilding one of the chimneys, and other repair work is making satisfactory progress.

320 - Cooperating Governmental Agencies

Mr. L.P. Smith of the Department of Agriculture Soil Survey has moved his camp to the Hilina Pali section.

Major Hugh C. Gilchrist replaced Captain L.C. Boineau as commanding officer at the Kilauea Military Camp on October 1, Captain Boineau having been ordered to Chicago. A number of aloha parties were given in the community for these two officers.

A copy of the proposed license drawn up by Army headquarters in Honolulu, designed to cover the five-year extension of the existing lease to the Kilauea Military Camp, was forwarded to your office on October 5, together with comments on the same.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The Uwekahuna museum was kept open all during the month and a ranger was on duty to give information to visitors.

There were two horseback trips made over the new bridle path in the Kilauea section. The parties consisted of permanent park personnel and several members of the staff at the Kilauea Military Camp. This trail, which was an EOW project, is part of a 35-mile system of horseback trails in this section. This particular piece is approximately 12 miles in length and goes through a wide variety of country, ranging from desert to dense fern forest growth, and should prove very popular, both with local people and visitors.

All park roads and campgrounds were patrolled on weekends.

Ranger Kenneth J. Williams, who had been assistant Camp director at the Haleakala CCC camp, was furloughed from the CCC, and re-entered on duty as ranger at the Kilauea section on the first of October.

420 - Museum Service

Much of the park naturalist's time was spent on museum development plans for the park. Working drawings of the Haleakala Observation Station were received from the Branch of Plans and Design.

Word was received during October approving the transfer of Park Naturalist Doerr to Crater Lake and he is expecting to leave on the

December transport. At the same time a request was made by the Washington office for justifications for the promotions of Rangers Waesche and Lamb to the positions of assistant park naturalist in accordance with a previous recommendation made by the superintendent. It is expected to abolish the position of associate park naturalist and use part of the salary to cover the increases to these two men.

480 - Natural Phenomena

A copy of Dr. Jaggar's report of the activities at the Volcano Observatory is attached.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Total travel for the Kilauea section for October was 12,587 as compared with 21,183 for October, 1934. The total of weekend visitors to the Haleakala section was 630, a decrease of 30% under September.

520 - Special Visitors

On October 6 14 Boy Scouts were taken for a hike through Kilauea Iki and Bird Park.

On the 22nd, a group of performers from the circus, which was in Hilo, visited the park.

October 29 - Mr. and Mrs. W.M. Nichols flew over from Honolulu for a few hours. Mr. Nichols is president of the Yellowstone Park Hotel and Transportation Companies.

Mr. Arthur Robinson, photographer for the Hawaii Tourist Bureau, his wife and young son, spent about 10 days in the park, during which time he secured several photographs and some moving pictures.

600 - Protection

610 - Police Protection

The usual park patrol was carried on by the ranger force. Center-line spots were painted on the curves on the rim road.

650 - Signs

Several new signs, necessitated by improvements, were erected.

900 - Miscellaneous

The usual Volcano House dance was held on the 19th.

Ranger P.F. Murray was elected president of the local Parent-Teachers' Association, to fill the vacancy left when A.E. Jones, formerly connected with the Volcano Observatory, was transferred to Honolulu.

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Mr. Robert Shingle, prominent civic leader and for many years member of the Territorial senate, passed away on the 23rd.

Very respectfully

Edward G. Wingate
Superintendent

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REPORT OF CAMP DIRECTOR ECW H
FOR MONTH OF OCTOBER, 1935

We started our new enrollment period October 1st.

The camp maintained in the Haleakala Section on Maui was discontinued September 30th, and as the boys who were enrolled in that camp were all from Maui they were discharged.

To make up the number discharged on Maui and take care of other losses it was necessary to enroll eighty-two boys to bring our strength up to two hundred enrollees. This was accomplished during the early part of the month the bulk of them between October 1st and 5th. These new boys were from the following nationalities: Hawaiian 16, Portuguese 14, Japanese 23, Puerto Rican 6, Filipino 9, Korean 5, Chinese 1, others and mixed 8.

During the month it was necessary to discharge four boys. Two who had erroneously been accepted by the Selecting Agency one being but 16 years old and the other being married were given administrative discharge. One who flagrantly violated camp rules and regulations as well as being addicted to going out at will without permission was also dropped. One boy was given a dishonorable discharge for desertion.

After the effects of their inoculations wore off the balance of the boys settled down to the routine of camp life and their work and seem cheerful and appreciative of the opportunity of self support given them by their Uncle Sam.

In the settling down process of these boys I wish to give due credit to some forty-two old boys who were allowed to stay in camp by the order which permitted boys to re-enroll regardless of their term of service. These boys have been in camp in the Kilauea Section continuously for eighteen months and will be found as leaders, assistant leaders, and straw bosses and are helpful and useful generally.

The usual Sunday morning services were held during the month. One Catholic and one Protestant religious service and the other Sundays were handled by the Y.M.C.A.

Notification of the approval of our sixth period work program did not reach us till October 26th so all our work was on continuing projects which had had prior approval. Of these the largest and most important is the truck trail from Bird Park up Mauna Loa slopes to the end of vegetation. This was begun September 3rd and was opened up sufficiently so that an increased number of men and the two foremen returned from Maui could be used advantageously. Consequently 3161 man days were put in on that project and 570 were divided about equally between maintaining landscape work done previously and the removal of morning glories, one of the most vicious of exotics, from Bird Park.

The weather was good throughout the month and no time was lost.

Respectfully submitted,

Bertram G. Rivenburgh,
Camp Director, ECW HNP.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
October 30, 1935

The Superintendent,
Through the Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of October 1935, is respectfully submitted:

000 General.

010 Introduction.

As reported by Resident Engineer H.L. Handley, Bureau of Public Roads, 50% of the road surfacing project is completed at the end of this month. The completed part has a very good surface.

020 General weather conditions.

Rainfall during October amounted to 2.35 inches. The prevailing wind direction was from the northeast. There were no clear days during the month.

1000 Administration.

110 Status of work

Regular reports were kept up to date. Routine work-purchases of supplies, patrols and inspections were carried on.

120 Park Inspections

On October 27, an inspection of the silversword plants in Haleakala crater was made. Frequent inspection of the Halemanu trail work, the Rest House, the road maintenance work, the White Hill area and toilets were made.

122 Special Field Representative

Associate Architect Merel S. Sager was in the Haleakala Section October 3 and 4, October 21 to 25 inspecting the Halemanu trail work, the road and building site.

Superintendent Edward G. Wingate, Mrs. Wingate and Master Wingate were on Maui from October 10 to 29 inclusive. Superintendent Wingate made frequent inspections of the Haleakala Section.

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125 Other Government Officers.

Jack Moskowitz, Principal Highway Engineer, Bureau of Public Roads, visited the Haleakala Section October 7 on business connected with the road surfacing project.

The Haleakala Section was visited by Representatives Eugene Crowe-Indiana, Ernest Lundeen-Minnesota, John J. Dempsey-New Mexico, Raymond J. Cannon-Wisconsin, Jack Nichols-Oklahoma, Governor Poindexter and Delegate Samuel Wilder King.

150 Equipment and Supplies.

A tank and pump outfit for lubricating oil and a transfer pump for gasoline were received October 23.

200 Maintenance, Improvement and New Construction.

210 Maintenance.

Usual maintenance of the park road was carried on during the month. All culverts were cleaned out and drainways kept open.

220 Improvements.

Some work was done by the cantoneers, with the help of one man from the Hawaiian Contracting Co., in deepening and lining road gutters with rock to prevent erosion.

230 New Construction.

The Halemau trail is cut through from the crater rim to within approximately 400 feet of the crater floor, for foot travel only.

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and guide service.

The park road was patrolled and the Park Service represented by the District Ranger on week-ends whenever possible. A fairly accurate check of the week-end travel was kept.

440 Insect Control.

An inspection trip was made into the crater on October 27 to determine whether the seeds of the silversword plants had matured. The seed had matured on all of the 7 or 8 plants examined. Some of the cheese-cloth protectors were pulled loose at the bottom by the wind, leaving them open to insects.

500 Use of Park facilities by the Public.

510 Increase or decrease in travel.

Week-end check of travel for the month amounts to 630 visitors, a decrease of 30% under last month.

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- 3 -

500 Protection.

610 Police protection.

The park road has been patrolled almost daily and frequent trips over the Halemson trail have been made.

Respectfully,

J. A. Peck,
District Ranger.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

OFFICE OF THE SUPERINTENDENT

HAWAII

November 7, 1935

Mr. Edward G. Wingate, Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory for
October, 1935

Dear Mr. Wingate:

The routine of the Volcano Observatory has continued as usual, the staff being Messrs. Jagger and Waesche in National Park employment, and Yasunaka in Research Association employment.

The Volcano Letter for May and June has been printed, these being the last months of Geological Survey administration.

The earthquakes of September 30, broke the north clinoscope and it has been dismantled pending improvement.

Observations for October

The group of exceptional earthquakes September 30 - October 1, disturbed Halemaunau walls, made avalanches, and opened cracks excessively owing to the long swaying movement. The centers were not at Kilauea.

The numbers of local disturbances per week for the four weeks ending October 27, were successively 180, 38, 47, 33. The weekly seismic indices were 69.00, 10.00, 20.25, 9.00. The first fortnight showed Mauna Loa origins. A spasm of slight, feeble and very feeble shocks, 11 in number, October 15 - 16, differed from the Mauna Loa spasm of September 30 - October 1, in that it centered at Kilauea.

Halemaunau pit has been quiet and nothing unusual has been reported for Mauna Loa. Horizontal angles across Kilauea Crater and across Halemaunau pit, measured from the Observatory, have notably opened September 25 to October 30. Elevation of northwest Halemaunau rim, relative to Spitt B.M. was very slightly lowered September 19 to October 18. The averaged tilt at Halemaunau stations lately away from the center, changed to a tilt towards the center in July and August.

Visitors

M. L. Fuller, distinguished geologist of Easton, Massachusetts, visited the Observatory October 3rd. Dr. Browne, Chief of Experiment Stations, U.S. Department of Agriculture was here October 12 with Soil Survey men. Mr. A. E. Jones, lately seismologist here, and transferred in August to the Soil Survey, moved to a position on the Honolulu Board of Water Supply October 15th. There is a possibility of employment for R. H. Finch on the Hawaii Soil Survey. Mr. Finch was Associate Volcanologist at Lassen Volcanic National Park until June 30, 1935. He is far too highly trained a scientist to allow to retire to farming.

Mr. Jones, before leaving Hawaii, completed soil profiles around Kilauea Volcano which are instructive contributions to local geology.

A delegation of Congressmen at Kilauea Military Camp, October 13th, was addressed by Mr. Jagger on the needs of the Park and of scientific research on Hawaii. These were Messrs. Crowe, Cannon, Nichols and Lundeen.

Mr. Nichols, President of Yellowstone Park Hotel and Transportation companies was here on the 29th.

Equipment

October 8th, the new lathe was moved to the Instrument Shop, equipped with A.C. motors and on October 29, a test of the motor was made by Mr. Fischer, the Park mechanic. This shop is being rehabilitated along with other rooms of the Observatory. A $\frac{1}{2}$ h.p. motor was obtained and installed for the jeweller's lathe and drill. A filing case for pamphlets was built by the carpenter. The large transit, plane table, alidade and Johnson tripod have been transferred to Park use by the Director of Geological Survey.

Research and Publication

Mr. Jagger has added numerous pages to his memoir on Kilauea; worked over map drawings; finished two articles on the Mauna Loa eruption of 1933 and the Kilauea eruption of 1934; partially finished report to Director of Geological Survey on the activities of the Hawaiian Volcano Observatory for the fiscal year 1934-'35; and with the Park photographer has made photographs of instruments and routine operations of the Observatory, for publication, and for record.

The following papers have been published:

By A.E. Jones: - A seismologic Study of the Kilauea Eruption 1931-'32. University of Hawaii Research Publications No. 9, (1935) 60 pages, 7 tables, 9 figures. Completed February 1, 1935.

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- 3 -

By A.E. Jones: - Earthquakes associated with the 1934 Eruption of Kilauea, Hawaii. Jour. Washn. Acad. Sci. Vol. 25, No. 10, October 15, 1935, pp. 429 - 435, 2 tables, 2 figures. Completed June 19, 1935.

By R.M. Wilson: - Ground Surface Movements at Kilauea Volcano, Hawaii, University of Hawaii Research Publications No. 10, 1935, 56 pages, 10 tables, 8 figures. Completed in 1932.

Very respectfully,

T. A. Jagger
Volcanologist.

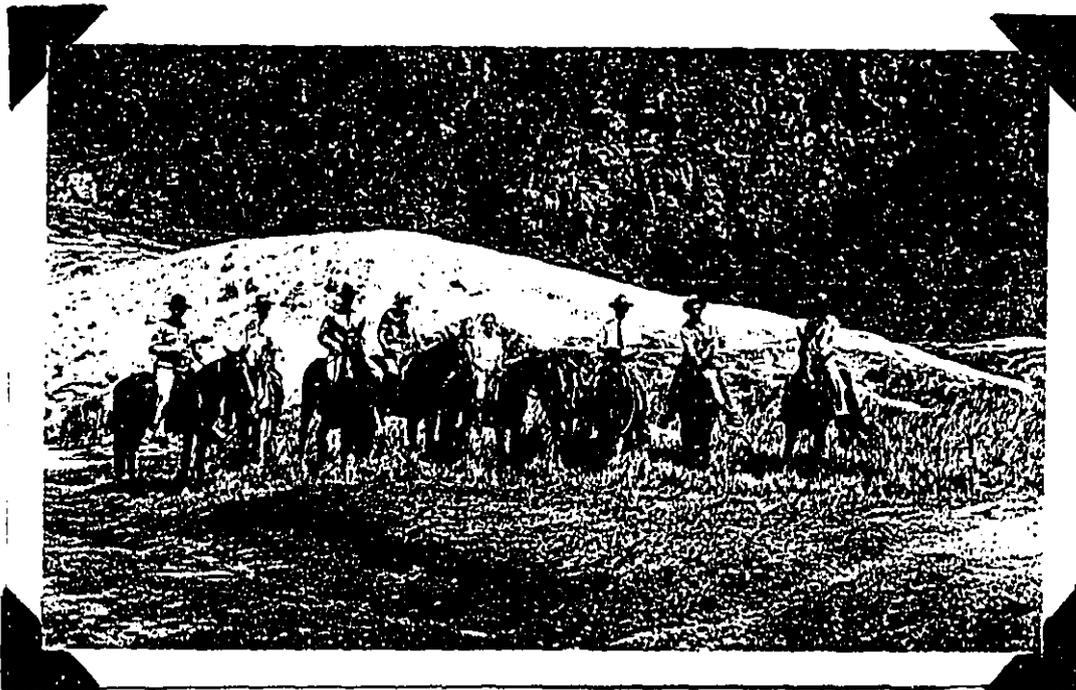


Scene along new bridle path system constructed by CCC. System has some 35 miles of trail. This picture taken in desert country southwest of Kilauea Volcano.

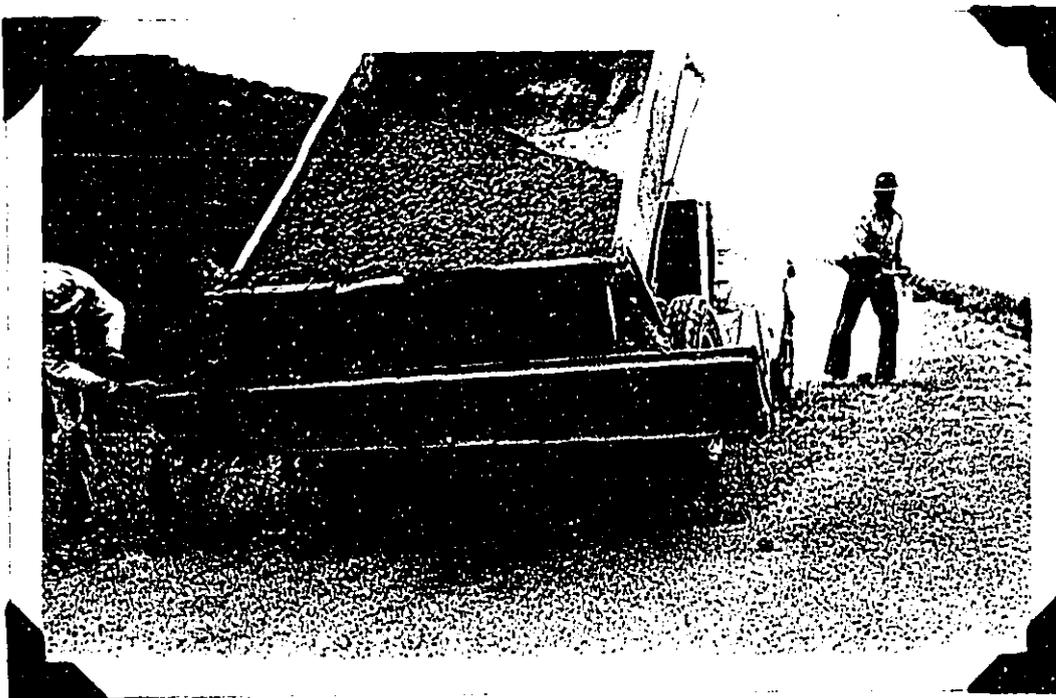


CCC Bridle Path. From desert country, Picture No. 1, trail passes through semi dry forest into wet fern forest jungles east of Kilauea. This picture taken in transition zone between semi dry and wet forests.

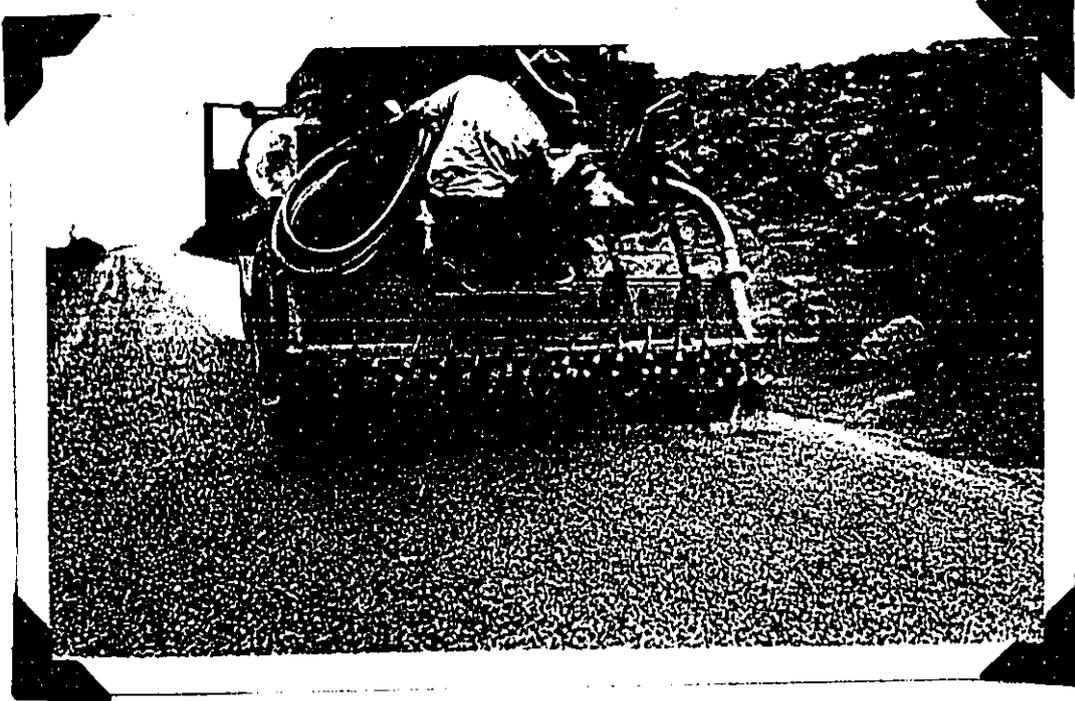
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000 Bridle Path System: Trail circles Kilauea. This picture taken at The Sulphur Banks near The Volcano House Hotel.



Haleakala Road - Spreading crushed rock. Contract project, PW funds.



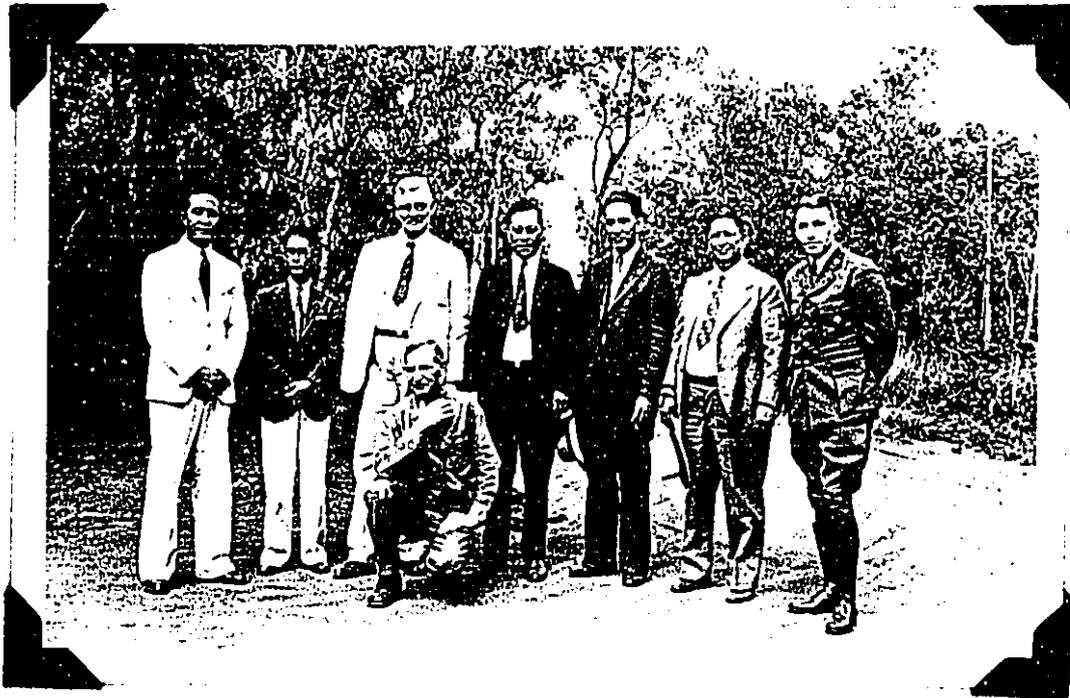
Haleakala Road. Spreading asphalt emulsion. Contract project PW funds.



Haleakala Road. Rolling after applying emulsified asphalt to crushed rock. Contract project PW funds. NOTE: Mist and low clouds. Contractor experienced same trouble from this type of weather.



New fireplace at picnic ground Kipuka Puaulu. The park picnic grounds are heavily used on pleasant days.



Members of Territorial Legislature from Island of Hawaii at CCC Camp during inspection of park in September. Kneeling Quartermaster John Deter; Standing left to right: Representatives Kealoha, Sakakihara, Wilhelm, Ahuna, Lai Hupp, Senator Kimi and Superintendent E. G. Wingate.



Mauna Loa Truck Trail, CCC Project. Looking down toward Kipuka Puanulu.



Mauna Loa Truck Trail, CCC Project. Between Kipuka Puanulu and Kipuka Ki crossing Aa flow with sparse vegetation.



**Manna Loa Truck Trail, CCG Project. Approaching Kipuka Ki.
Note difference in vegetation from that on Aa flow in
preceding picture.**

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park
Hawaii

Office of the Superintendent

October 31, 1935

PRESS MEMORANDUM - FOR IMMEDIATE RELEASE

Advice of the transfer of Associate Park Naturalist John E. Doerr to Crater Lake National Park, Oregon was received by radiogram from the Director of the National Park Service today.

Mr. Doerr entered the government service as Park Naturalist in Hawaii National Park in May, 1931. Prior to his entrance on duty in Hawaii, he was for four years head of the Department of Geology at North Dakota Agricultural College and for ten seasons served as Field Geologist with the Wisconsin Geological Survey.

Born in Indiana in 1901, he received the degrees of Bachelor and Master of Arts from the University of Wisconsin.

As the first naturalist connected with Hawaii National Park, his efforts are largely responsible for bringing the educational service of this park up to the high standard maintained in the National Park on the mainland. His lectures and talks given to thousands of visitors to the volcano region have been of the highest calibre and were received with unflinching enthusiasm.

Active in social and fraternal affairs, he was honored recently by being elected President of the Hilo Rotary Club.

The same radiogram also announced the establishment of two new positions on the staff of this park in the Assistant Scientist Grade, and the appointment thereto of Park Rangers Samuel H. Lamb and Hugh H. Waesche.

Ranger Lamb who for the past year has acted as Assistant to the Park Naturalist will be in immediate charge of the Naturalist activities of the park. He was born in Oklahoma in 1909, and received the degree of Bachelor of Science from the Colorado Agricultural College and the degree of Master of Science in Forestry from the University of Michigan. Entering on duty in Hawaii in June, 1934, Ranger Lamb had previously served two seasons in Rocky Mountain National Park and one year with the U.S. Forest Service as Technical Foreman with the Civilian Conservation Corps. His work in Hawaii has been especially effective, particularly in connection with his investigation of the causes of the decline of the rare Haleakala Silversword.

- 2 -

In recognition of his special training in the field of Geology and the able work he has done on his assignment at the Volcano Observatory, Park Ranger Hugh H. Waesche will be appointed to the other of the two new Assistant Scientist positions. In this position he will be Assistant to and work under the immediate direction of Dr. T. A. Jaggar, Volcanologist.

Ranger Waesche is a native of the District of Columbia having been born in Washington City in 1904. A graduate of Virginia Polytechnic Institute with the degrees of Bachelor and Master of Science, he was for five years an instructor in the Geology department of that institution. Before coming to Hawaii in December, 1934, he served three seasons as Ranger Naturalist in the Grand Canyon and Crater Lake National Parks.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

October 9, 1935

SPECIAL OFFICE ORDER NO. 13

Subject: Inspection ECW Field Projects

Effective this date the ranger and naturalist divisions are directed to make it a part of their routine duties to inspect progress on the various work projects carried on by the CCC.

This inspection will include observation of methods employed, hazardous working conditions, condition of the work, efficiency of the foremen, morale of the enrollees, care of equipment, the relation of the conduct of the work to park policies, etc. In short, I would like to have for my information and guidance reports, whenever deemed desirable, but not less than one monthly, covering a general but careful observation of all phases of the ECW field work.

These inspections are in no wise to interfere with the progress of the work unless judgment indicates the immediate necessity for such action in which case action shall be taken through the foreman on the job.

Edward G. Wingate,
Superintendent

Distributions:
Director - 2
Superintendent - 1
Chief Clerk - 1
Chief Ranger - 1
Each Ranger
Park Naturalist - 1
Foreman - 1
General Mechanic - 1
Monthly Report - 1
ECW - 1
Tillett - 1
Sager - 1

STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

OCTOBER, 1935

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	44,950.00	40,225.88	4,724.12
45/6406	Forest Prot. & Fire Prev., 1935-'36	300.00	41.57	258.43
44436.1	Roads & Trails, National Parks, Emergency Construction	42,040.00	32,575.75	9,464.25
44391	Roads & Trails, National Parks, Emergency Construction Act June 19, 1934	25,775.00	21,024.76	4,750.24
4-01540.8	National Ind. Recovery, Interior, National Parks, Roads & Trails Act June 16, 1933	495,538.47	494,963.57	574.90
4-05/7678.14	Public Works Administration Allotment to Interior, National Park Service 1935-'37:	6,300.00	0.00	6,300.00
45415	Hawaii National Park, 1935	36,040.00	34,830.48	1,209.52

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10-157
(July, 1929)

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

TRAVEL REPORT

Hawaii National Park for the Month of October, 1935

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	12,003	12,003	20,613	20,613	- 8,610	.413
Persons entering via other private transportation,	215	215	211	211	4	.019
Total persons entering via private transportation,	12,218	12,218	20,824	20,824	- 8,606	.413

OTHER TRANSPORTATION:

Persons entering via stages ^{Hotel} ,	369	369	359	359	10	.028
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	369	369	359	359	10	.028
GRAND TOTAL ALL VISITORS,	12,587	12,587	21,183	21,183	- 8,596	.406

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of October, 1935

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	25.00	50.00
Total,	25.00	50.00
Remitted,	25.00	50.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	125.00
Park revenues received last year to date,	125.00
Increase,	0.00
Per cent of increase,	None

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii National Park for the Month of October, 1935

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction, New Halemanu Trail NPS (F.A.)	65	5	5	
518 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construction (F.A.)	70	5	5	
521 Post Construction, Uwekahuna-Bird Park Road (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing, 10.643 miles, Cont. & Contg.	44.7 %	44.7 %	0	

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of October, 1935

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	REG	PWA	REG	PWA		
Number of employees beginning of month	16	3	1	10	17	1
Number of additions	2	0	0	0	2	0
Total	18	3	1	10	19	1
Number of separations	0	1	0	1	1	0
Number of employees close of month	18	2	1	9	18	1
Number of promotions during month	0	0	0	0	0	0
Aggregate amount of annual leave taken	7 1/2	0	0	0	0	0
Aggregate amount of sick leave taken	0	0	0	0	10	0
Aggregate amount of leave without pay	0	0	0	0	0	0

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10-161
(Sept. 1933).

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS AND RESERVATIONS

REPORT OF SALES OF PUBLICATIONS

OCTOBER, 1935

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	798	120.70
Received during month,	0	0.00
Total,	798	120.70
Sold during month,	1	.85
On hand at close of month,	797	119.85

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		

Cash on hand beginning of month,	9.90
Sales during month,85
Total,	10.75
Remitted during month,	0.00
Balance,	10.75

Form No. 1009-Met'l.

U. S. Department of Agriculture, Weather Bureau.

COOPERATIVE OBSERVERS' METEOROLOGICAL RECORD:

Month of October, 1935, 1935; Station, Volcano Observatory; County, Hawaii

Hour of Observation, 8:00 A.M.

State, Hawaii; Latitude, _____; Longitude, _____; Time used on this form, H.S.F.

MONTHLY SUMMARY.

TEMPERATURE.

Mean maximum, 71.4
 Mean minimum, 58.9
 Mean, 65.1
 Maximum, 77; date, 1
 Minimum, 54; date, 29
 Greatest daily range, 18.8 October 17

PRECIPITATION.

Total, 9.03 inches.
 Greatest in 24 hours, 2.21; date, 13

SNOW.

Total snowfall, _____ inches; on ground 15th, _____ inches;
 at end of month, _____ inches.

NUMBER OF DAYS—

With .01 inch or more precipitation, 26
 Clear, 8; partly cloudy, 11; cloudy, 12

DATES OF—

FOG: Light 6, 13, 19, 20, 21, 25
THUNDERSTORMS

Thunderstorms, _____

Hail, _____

Sleet, _____

Auroras, _____

REMARKS:

DATE.	TEMPERATURE.				PRECIPITATION.			WIND DIRECTION SPEED	PREVAIL- ING WIND DIRECTION.	CHARACTER OF DAY, SUNRISE TO SUNSET.	‡ MISCELLANEOUS PHENOMENA.
	MAXI- MUM.	MINI- MUM.	RANGE	* SET MAX.	TIME OF BEGINNING.	TIME OF ENDING.	‡ AMOUNT.				
	1	2	3	4	5	6	7	8	9	10	11
1	77.0	63.7	13.3	74.1			0.52	82	Lt	NNE	FO
2	75.0	63.3	11.7	71.5			0.01	73	Mod.	NE	FO
3	75.7	60.4	15.3	65.0			Tr.	84	"	NE	FO
4	70.0	63.1	6.9	67.0			0.01	85	Lt	NE	FO
5	72.0	62.1	9.9	64.6			0.07	84	Lt	SSW	Rain
6	66.0	60.4	5.6	65.8			0.38	87	Lt.	S.	Rain Fog
7	70.9	57.7	13.2	63.3			0.29	85	Lt.	NE	Clear Snow on Mauna Kea
8	70.0	56.0	14.0	61.2			0.02	86	Mod	ESE	FO
9	69.5	55.2	14.3	64.0			0.03	75	Mod	NE	Clear
10	71.0	59.9	11.1	66.1			Tr	84	Lt	NE	FO-rain
11	71.7	58.8	12.9	64.0			0.28	83	Lt	SW	Clear
12	61.3	--	--	59.0			2.18	92	Lt	NNE	Rain
13	64.5	56.5	8.0	61.1			2.21	100	Lt	SW	" Fog
14	74.7	56.0	18.7	66.0			0.04	70	Lt	NE	Clear Snow on M. Kea & M. Loa
15	74.0	58.6	15.4	63.9			0.03	82	Lt	NE	" " " " " "
16	74.4	57.5	16.9	63.8			0.03	89	Mod	NE	" " " " " "
17	76.8	58.0	18.8	71.0			0	76	Lt	NE	Cl.-rain " " " " " "
18	74.3	58.0	16.3	65.5			0.92	82	Lt	SW	Clear " " " " " "
19	72.2	57.0	15.2	67.4			0.02	77	Lt	SW-W	Cloudy Fog
20	70.1	62.7	7.4	65.8			0.11	92	Lt	SW	Rain Fog
21	69.4	57.5	11.9	62.8			0.29	89	Lt	NE	FO "
22	70.2	60.0	10.2	64.6			0.04	84	Lt	NE	FO Trace snow-M. Kea
23	72.9	58.0	14.9	61.9			0.05	90	Lt	ESE	FO " " " "
24	73.0	57.4	15.6	65.6			Tr.	81	Lt	NE	Clear " " " "
25	72.0	59.7	12.3	63.1			0.13	90	Lt	SW	Cloudy Fog
26	68.6	56.5	12.1	64.0			0.27	88	Galm	NE	FO
27	68.6	58.2	10.4	61.9			0.20	90	Lt	SW	FO-rain
28	67.8	59.8	8.0	60.5			0.28	84	Mod	SW	FO Trace snow-M. Kea
29	72.2	54.0	18.2	61.5			0.01	85	Lt	NE	FO
30	74.7	59.0	15.7	66.8			Tr	79	Lt	ESE	Cl.-Oldy
31	74.8	63.1	11.7	68.2			0.01	81	Lt	NE	FO-rain Trace snow-M. Kea
SUM.	2215.3	1768.1	385.9	2011.0			9.03	2609			
MEAN	71.4	58.9	12.9	64.9			.291	84			

* Reading of maximum thermometer immediately after setting.
 † Including rain, hail, sleet, and melted snow.
 ‡ Thunderstorms, halos, auroras, etc.

P. A. Jaggard

Cooperative Observer.

(IN TRIPLICATE.)

See cover for instructions.

Post-Office Address, _____

DOCUMENT CAPTURED AS RECEIVED

Nov. 1 1935.

Mr. Wingate.
Dear Sir:

I hereby submit quarterly report of one quart fire extinguishers, you will find this report one month late, due to not having the necessary fluid.

This fluid had been ordered but was held up by strikes in shipping lines.

Two new one quart extinguishers were installed at the Observatory, one in the workshop and one in the basement, in October.

Extinguishers found full were as follows

Res. # 1	Car # 181
" # 2	" # 1135
" # 3	" # 1140
" # 4	" # 1141
" # 5	" # 1162
" # 8	Service station
" # 10	Dr. Jagers office
" # 13	Museum engine room
" # 14	
" # 15	
" # 16	

Extinguishers found Three quarters full as follows

Res. # I basement
" # II
Car # 180
2 # 1139
Observatory garage
Warehouse
Machine shop

Extinguishers found one half full as follows

Res. # 6
" # 7
Car # 1133
" # 1138
" # 1158
" # 1160
Museum projector

Extinguishers one quarter full

Res. # 9

Extinguisher found empty

Car # 182

Submitted by,

F. F. Fischer

F. F. Fischer
Mechanic

DOCUMENT CAPTURED AS RECEIVED

The Superintendent
Hawaii National Park,
Hawaii.

Nov. 1, 1935.

Dear Sir:

Following is a report of my time by hours,
for the month of October 1935.

Repairing cars and trucks	117	Hours
Trips to Hilo for parts	11	"
Repairing tools and tool handles	9	"
Repairing jack hammer	9	"
Preparing and setting up new lathe for Observatory	9	"
Pumping water as follows, High tank	23,000 gal.	
Pit toilets	300 "	
Uwekahuna toilets	900 "	
Watering plants	200 "	
Total	24,400 Gal.	7 "
Check and refill fire extinguishers	5	"
Check in gasoline	4	"
Fill batteries	4	"
Transfer gasoline to storage	4	"
Dressing tools for stone work	4	"
Install new air pump	4	"
Transfer kerosene to storage	3	"
Make target for Observatory	3	"
Repair telephones	3	"
Clean paint brushes, repair steel brushes	2	"
Repair batteries	2	"
Check road building equipment for E.C.W.	2	"
Install new gasoline and motor oil pumps	2	"
Sharpen lawn mower	2	"
Make sighting tubes for the Eye of the Eel	1	"
Check in kerosene	1	"
Repair gasoline lanterns	1	"
Make branding stone for Hui O Pele certificates	1	"
Drying fire hose	1	"
Cut glass for Museum	1	"
Install cutout switches on telephones	1	"
Repair valve for fire hydrant	1	"
Repair siren switch line	1	"
Take C.C.C. mechanic to Military Camp hospital	1	"
Total	216	Hours.

Submitted by

F. F. Fischer

F. F. Fischer
Mechanic.

*Miss Whitney
for Sp. Agent
[Signature]*

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

November 5, 1935

MEMORANDUM TO SUPERINTENDENT EDWARD G. WINGATE

Dear Sir:

The following is a report of work accomplished under my direction during the month of October, 1935.

1. Built outdoor fire-places at Bird Park and Camp site at old Prison Camp.
2. Cleaned and refilled toilets at Uwekahuna and Pit.
3. Cleaned gutters of all buildings, Quarters area.
4. Repaired Bird Park road.
5. Repaired Golf links road.
6. Filled in washes on Uwekahuna Pit road shoulders.
7. 1 man - (5 days) repairing and greasing trucks.
8. Cleaned and scraped part of roof, Quarters #13.
9. Repaired and trimmed linoleum, Office building.
10. Cut grass, Utility Area. (Twice)
11. Cut grass shoulders, rim and main roads.
12. Removed part of wainscot and inspected wood work, Office building.
13. Sandpapered, stained and varnished public space, Office building.
14. Hauled garbage, Quarters area. (9 times)
15. Installed new gasoline pump.

- 2 -

16. Built stone steps, warehouse.
17. Built two stone piers at gasoline shed.
18. Asphalted new garage floor.
19. Repaired hot-water heater, Quarters #11.
20. Filled in holes on Chain of Craters road.

R R Craik

R. R. Craik,
Foreman, H.N.P.

W. H. Egan

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

November 11, 1935

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

The following is the monthly report of activities for the ranger department during October.

000 - General

Work consisted of recreational, protection and maintenance of trails, telephone lines, painting and repairing signs.

020 - Weather Conditions

The total rainfall at headquarters was 9.3 inches, at the summer camp (CCC camp) 8.28 and at the Haleakala section Ranger Peck reported 2.35 inches.

On the morning of October 7, Mauna Kea was covered with snow, this is the earliest snow has been on the mountain for many years.

100 - Administration

110 - Status of Work

Repairs on roads are about 80% completed. Repairs on motor vehicles were kept up during the month.

120 - Park Inspections

General routine inspection of all work was made during the month. An inspection trip was made to the 10,000 foot resthouse on Mauna Loa, at which time things were found generally satisfactory.

On October 27 Ranger Peck made an inspection trip to the Haleakala crater for the purpose of looking over the silversword. He also made frequent inspections of the Halemau trail work, the resthouse, road maintenance work and the comfort stations in the Haleakala section.

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122 - Special Field Representatives

Associate Architect Sager made an inspection trip to the Haleakala section during October.

125 - Other Government Officers

Jack Moskowitz, Principal Highway Engr., BPR, visited the Haleakala section October 7 on business connected with the road surfacing project. The Haleakala section was also visited by a Congressional committee, consisting of Representatives Eugene Crowe, Indiana, Earnest Lundeen, Minnesota, John J. Dempsey, New Mexico, Raymond J. Cannon, Wisconsin, Jack Nichols, Oklahoma and Governor Poindexter and Delegate Samuel Wilder King.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

The usual maintenance of roads, trails, telephone lines and equipment was carried on during the month. All culverts were cleaned and drains kept open.

220 - Improvements

The old shelter at Halemau mau pit was removed and the telephone line installed underground.

The new mower for the ^{road} shoulders was kept busy.

Some work was done by the cantoneers in the Haleakala section with the help of one man from the Hawaiian Contracting Company in deepening and lining road gutters with rock to prevent erosion.

230 - New Construction

The Halemau trail is cut through from the crater rim to within 400 feet of the crater floor.

260 - Landscape Work

The usual crew from the ECK continued clearing and planting around headquarters area with very satisfactory results.

300 - Activities of Other Agencies in the Park

320 - Cooperating Governmental Agencies

Mr. L.P. Smith of the Department of Agriculture Soil Survey has moved his camp to the Hilina Pali section.

The FERA project at the Volcano House, consisting of rebuilding one of the chimnies, and other repair work is making satisfactory progress.

400 - Flora, Fauna and Natural Phenomena410 - Ranger, Naturalist and Guide Service

The Uwekahuna museum was kept open all during the month and a ranger was on duty to give information to visitors.

There were two horseback trips made over the new bridle path in the Kilauea section. The parties consisted of permanent park personnel and several members of the staff at the Kilauea Military Camp. (This trail was an ECW project.

All park roads and campground were patrolled on weekends.

Ranger Kenneth J. Williams, who had been assistant camp director at the Haleakala CCC camp, was furloughed from the CCC, and re-entered on duty as ranger at the Kilauea section on the first of November.

500 - Use of Park Facilities by the Public510 - Increase or Decrease in Travel

Total travel for the Kilauea section for October was compared with 21,183 for October, 1934. Travel for the weekends at Haleakala was 630, a decrease of 30% under September.

530 - Visitors

On October 6 14 Boy Scouts were taken for a hike through Kilauea Iki and Bird Park.

On the 22nd, a group of performers from the circus which was in Hilo visited the park.

October 29 - Mrs. and Mrs. W.M. Nichols/ Mr. Nichols is president of the Yellowstone Park Hotel and Transportation Companies. flew over from Honolulu for the day

Mr. Robinson, photographer for the Hawaii Tourist Bureau spent about 10 days in the park, during which time he secured several photographs, both still and motion.

600 - Protection610 - Police Protection

The usual park patrol was carried on by the ranger force.

Center-line spots were painted on the curves on the rim road.

650 - Signs

Several new signs necessitated by improvements, were erected. Maintenance was done on existing signs.

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660 - Sanitation

All gutters were kept clean

900 - Miscellaneous

The usual monthly Volcano House dance was held on the 19th.

Mr. Robert Shingle, prominent politician of the Islands passed away on the 23rd, and on the 24th Mrs. Barringer, wife of a well-known man on this island passed away.

Respectfully submitted

Joseph H. Christ
Joseph H. Christ
Chief Ranger

JHC/cw

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

OFFICE OF THE SUPERINTENDENT

HAWAII

October 7, 1935

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows the monthly report of activities for this park for September.

000 - General

On September 25 this office received an important communication from the Commanding General, Hawaiian Department, commenting at length on the proposed form of permit prepared by this office and designed to cover the extension for five years of the existing lease to the Trustees of the Kilauea Military Camp. The letter from the Commanding General also enclosed a form of license prepared by him and designed to cover this same extension. This entire matter was discussed with Mr. E.E. Tillett in Honolulu on a special trip made for the purpose and the entire correspondence is being transmitted separately.

020 - General Weather Conditions

Very sultry weather prevailed during September. The total rainfall at headquarters was 9.12 inches, at the summer camp 7.57. At Haleakala Ranger Peck reported 10.97 inches. He also reports there were no clear days. On September 26 and 27 there were thunderstorms of such violence in the Kilauea section they kept the office ranger busy changing fuses on the telephone switchboard.

100 - Administrative

110 - Status of Work

On September 7 the board of appraisers appointed by the superintendent under instructions from the Director, for the purpose of appraising the summer camp property leased by the management of the Kilauea Volcano House to the ECW for a CCC camp, reported their findings. This report with comments was immediately forwarded to the Director.

The work project program for the sixth enrollment period ECW after being reviewed by Field Supervisor E.E. Tillett, was transmitted on September 8.

On September 19 the superintendent commenced gathering data for a comprehensive illustrated report from the administrative viewpoint which is to be prepared and will cover development and improvements already accomplished or underway as well as future plans including possible additions to the park. Such a report seems desirable since as far as this office can determine no similar report has ever been prepared. There are several excellent special reports on this park available, but Dr. H.P. Meinecke's report of September 21, 1932 is the only one which has been broad enough to be of general guidance. It is hoped that this report will supply the Director's office with the information ordinarily gathered through the usual inspections of the other parks and which, due to the time and distance involved, this park has been denied its just share.

The services of temporary clerk-telephone operator Jane Christman were terminated at the close of September 11. Due to the pressure of regular office work nothing was done on the back files during the month. Stenographic assistance was given Dr. Jagger, Volcanologist, one day each week.

120 - Park Inspections By:

121 - Superintendent

Routine inspections were made in the Kilauea section with particular attention given to progress on the Manna Loa truck trail under construction by the CCC. The Hilina Pali section was inspected on September 20 and the new bridle path between Thurston Lava Tube and the Chain of Craters road on September 17.

The superintendent left Kilauea headquarters for Honolulu on September 29 to confer with Field Supervisor E.E. Tillett, ECW. The 30th was spent in his office in Honolulu.

122 - Special Field Representatives of the National Park Service

Associate Landscape Architect M.S. Sager remained on this island the entire month supervising ECW trail and landscape work. He also spent some time preparing preliminary drawings for various buildings in the park.

125 - Other Governmental Officers

Senior Highway Engineer H.L. Handley of the BPR Office in Honolulu spent one day in the park.

126 - Congressional Committees

On September 1, two members of the military sub-committee of the House appropriations committee, which had come to Honolulu to inspect the Army posts, etc., flew over this island but did not land.

130 - Finance and Accounts

A detailed statement of the park appropriations will be found at the back of this report.

150 - Equipment and Supplies

A new mowing machine to replace the one which was returned to the factory, a battery charger, six wheelbarrows and miscellaneous tools - the latter two being for Haleakala - and an electric motor for the Observatory were received in September. During the month nine bids were prepared for miscellaneous ECW equipment and supplies for the sixth enrollment period. Due to lack of competition it was necessary to re-advertise the food bids on a monthly basis.

180 - Circulars, Placards, Publicity Bulletins, etc.

Two office orders, one dealing with the selling of still or motion pictures of park scenes by employees of the Service and the other with picking fruit in the park area were issued. Copies are attached.

On September 23 the superintendent had as his guests for luncheon representatives of three of the leading papers of Hilo, after which he took them on a tour of the park including all work projects in progress, the CCC camp, etc. The next day three of the papers contained articles on this inspection trip, which were quite well written and fairly accurate. It is believed considerable good-will was created by this means and the superintendent intends to make it an annual event.

The first week of the month was devoted to preparing the dummy copy for revision of the circular of general information from suggestions, corrections and additions made by staff members and others. The copy was forwarded on September 8.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

The usual maintenance of roads, trails, telephone lines, trucks and other equipment was carried on during the month.

220 - Improvements

Following several inspections and discussions with Associate Landscape Architect M.S. Sager the superintendent approved the razing of the dilapidated galvanized iron shelter at Halemauau and the relocation and placing underground for a distance of 100 feet the existing telephone line. This project was in line with one of the superintendent's firmest convictions that the area adjacent to the fire pit of Kilauea crater should be maintained in as natural a manner as possible. In fact development should be held to a minimum, over the whole crater floor as well as the surrounding rim. Even this small change has greatly improved the approach to the fire pit.

230 - New Construction

The Halemau-u trail project is practically 100% completed from the road to the rim of the crater, a distance of 1 1/4 miles. This trail is being made wide enough for foot travel only. Engineer Wong estimates the trail from the rim down into the crater to be 20% complete.

Work was started by the CCC boys on the Mauna Loa truck trail, September 3. This is to be confined to patrol, fire fighting and volcanic eruption emergencies.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

The FERA commenced work at the Volcano House again this month, the men having been furloughed because of lack of funds for projects. After an inspection it was decided that the chimney would have to be torn down and a new one built as the present one is in a dangerous condition from cracks caused by earthquakes.

At the superintendent's request Foreman Craik made an inspection of the flooring, joists, posts, etc., at the Volcano House. He found 20 of the supporting posts rotted and in need of replacement. If the amount of three to five thousand dollars is expended on this building in the near future it should last another 10 years or so; otherwise it will be in such a decayed condition that maintenance and repairs will be excessive.

320 - Cooperating Governmental Agencies

Mr. L.P. Smith and Mr. A.E. Jones of the Department of Agriculture Soil Survey are engaged in mapping the soil of this vicinity according to the depth.

The new steam bath for the enlisted men of the Kilauea Military Camp was completed this month. Work was also started on the new barber shop at the camp. The FERA supplied labor for these jobs.

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400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

A detailed report on the Haleakala section, submitted by District Ranger J.A. Peck, is attached.

Park Naturalist Doerr was on the mainland visiting Lassen Volcanic and Crater Lake national parks in company with Dr. Bryant, and also the Berkeley and San Francisco offices. He returned on the 19th. A detailed report concerning his trip has already been submitted to your office.

Approval of the transfer of Ranger Doust of Glacier National Park was given and as soon as the Washington office completes the necessary transfer papers it is expected he will leave for this park.

470 - Animals

The annual wild animal census report was submitted on September 22 following considerable investigation by members of the ranger staff, Territorial Forester O.H. Judd and the superintendent. A special trip to and through the Haina Pali section of the park was made by the superintendent for the purpose of checking on the numbers of wild goats in the park.

490 - Miscellaneous

Former Park Ranger Everett Brumaghin on September 6 donated to the park a potted seedling which he said was from one of the seeds which he had germinated of the only living specimen of the *Hibiscadelphus Giffardianus*. The sole remaining tree is in the grounds of Mr. James Henderson's mountain home and Mr. Brumaghin stated Mr. Henderson had given him a few seeds. The park is taking every precaution to protect this seedling in the hope that it proves to be rare tree as stated.

The annual forest insect report was submitted on September 29.

480 - Natural Phenomena

Between 10:37 p.m. September 30 and 3 a.m. October 1 this island was rocked by a series of earthquakes, none of which did any damage, however.

A copy of Dr. Jagger's report of the Observatory activities for the month is attached.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

The annual report of park travel submitted September 30 showed a total of 207,208 visitors to the park during the year not including the Haleakala section where as yet it is impossible to keep any accurate check on the travel. This figure represents a decrease of 33,620 persons over the previous year and was almost entirely accounted for during the month of September which in the year previous experienced heavy travel due to the eruption in Kilauea Volcano. During the past year both volcanoes in the park were quiet in this respect.

530 - Special Visitors

September 4 - Congressman Philip Goodwin, New York and daughter visited the park for half a day. On their trip through the park they were accompanied by the superintendent.

September 7 - A.J. Schmid, US Commissioner, El Paso Texas, for one day.

Mr. Riley Allen, Editor of the Honolulu Star-Bulletin and Mrs. Allen. The Allens were given every opportunity to visit the various work projects under CCC now in progress and other improvements recently completed in the park. While here Mr. Allen prepared an interesting special article on the park which was published in his paper. They departed on the 11th.

September 16 - Six Territorial senators and representatives of this island in for the day as luncheon guests of the superintendent. Taken on the general park tour by the superintendent and chief ranger and appeared keenly interested in the recent developments in the park.

September 22 - Mrs. E.P. Irwin, wife of the editor of the Honolulu Times and of a kamaaina family, was an interested visitor until the 28th.

September 30 - 250 Shrines from Islam Temple San Francisco and Territorial temples in for the day.

540 - Public Camps

The two public picnic or campgrounds improved early in the year are subject to intensive use on week-ends and holidays. It appears necessary to add additional areas to these campgrounds before next summer.

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600 - Protection

610 - Police Protection

On September 29 Mrs. Lillian Aires of Hilo who owns a cottage outside of the park boundaries complained that her house had been broken into and the tops of several tables and benches had been stolen, other things had been left intact. She stated that this theft had followed many petty thefts.

650 - Signs

Several new signs necessitated by improvements, were installed in the campground area. Caution signs were placed on the boundary line between Keauhou and Halape, also along the beach to restrict net fishing in the park. Maintenance work was done on existing signs to put them in good condition.

900 - Miscellaneous

The usual monthly dance was held at the Volcano House on the 21st.

On the 27th the regular meeting of the Hilo Branch of the Federal Business Association was held at the Yacht Club.

On September 4 Major Wood, the medical officer at the Kilauea Military Camp was replaced by Captain Harrell.

Very respectfully

Edward G. Wingate
Superintendent

CW

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Tree planting in front of administration building. RCW project

STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

SEPTEMBER, 1935

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	44,950.00	38,475.68	6,474.32
45/6406	Forest Prot & Fire Prev., 1935-'36	300.00	42.83	258.17
4X391	Roads & Trails, National Parks, Emergency Construction Act June 19, 1934	25,775.00	19,881.23	5,893.77
4X336.1	Roads & Trails, National Parks, Emergency Construction	42,040.00	0.00	42,040.00
4-0X640.8	National Ind. Recovery, Interior, National Parks, Roads & Trails Act 6/16/33	495,538.47	494,963.57	574.90
4-05/7678.14	Public Works Administration, Allotment to Interior, National Park Service, 1935-'37:	6,300.00	0.00	6,300.00
4-03/7640.14	Nat'l Ind. Recovery, Interior, Nat'l Park Service, 1933-'37	11,250.00	11,085.34	164.66
45415	Hawaii National Park, 1935	36,040.00	34,832.63	1,207.37

10-157
(July, 1929)

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

TRAVEL REPORT

Hawaii National Park for the Month of September, 1935

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Decrease	
					Number	Percent
PRIVATE TRANSPORTATION:						
Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	12,594	197,237	38,334	228,408	31,171	.136
Persons entering via other private transportation,	361	2,967	723	3,683	716	.194
Total persons entering via private transportation,	12,955	200,204	39,057	232,091	31,887	.137
OTHER TRANSPORTATION:						
Persons entering via stages ^{Hotels} ,	550	7,004	1,472	8,737	1,733	.198
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	550	7,004	1,472	8,737	1,733	.198
GRAND TOTAL ALL VISITORS,	13,505	207,208	40,529	240,828	33,620	.139

	This Year	Last Year	Increase	
			Number	Percent
Automobiles in public camps during month,				
Campers in public camps during month,				

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10-159
(May, 1931)

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of September, 1935

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	REG	PW	REG	PW		
Number of employees beginning of month	15	3	1	11	17	0
Number of additions.....	0	0	0	0	0	1
Total.....	15	3	1	11	17	1
Number of separations.....	2	0	0	1	0	0
Number of employees close of month.....	16	3	1	10	17	1
Number of promotions during month.....	0	0	0	0	0	0
Aggregate amount of annual leave taken	19 1/2	0	0	0	30	0
Aggregate amount of sick leave taken....	0	0	0	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0

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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii National Park for the Month of September, 1935

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction New Halemau Trail NPA (FA)	60	5	25	
518 Haleakala Road, Landscaping (FA)	100	0	0	
520 Haleakala Road, Post Construction (FA)	65	5	10	
521 Post Construction, Uwekahuna-Bird Park Road, (FA)	100	0	0	

10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of September, 1935

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	50.00	50.00
Total,	50.00	50.00
Remitted,	50.00	50.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	100.00
Park revenues received last year to date,	75.00
Increase,	25.00
Per cent of increase,	25%

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS.
BUILDINGS AND RESERVATIONS

REPORT OF SALES OF PUBLICATIONS

September, 1935

	Number	Value
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GOVERNMENT PUBLICATIONS:

On hand beginning of month,	798	120.70
Received during month,	0	0.00
Total,	798	120.70
Sold during month,	0	0.00
On hand at close of month,	798	120.70

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		

Cash on hand beginning of month,	13.75
Sales during month,	0.00
Total,	13.75
Remitted during month,	3.85
Balance,	9.90

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

October 5, 1935

Mr. Edward G. Wingate, Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory
for September, 1935.

Dear Mr. Wingate:

I have to report as follows for the activities of the Hawaiian Volcano Observatory for September, 1935. The routine of crater observations and measurements, reports, letters and manuscripts, seismograph work, levelling, and transit angle measurement, and upkeep of equipment, has proceeded as heretofore, under Messrs. Jaggar, Waesche and Yasunaka.

Considerable progress has been made in reducing a file of letters requiring answer, through the assignment once a week to Mr. Jaggar of the services of a park typist. New shelves, six in number, were finished by the carpenter on September 20, reducing congestion in Mr. Jaggar's office.

Plans were considered and estimated for, during the month, having in view a new temporary building to be built by the Work Progress Administration. This building was for specimens and instruments, to relieve the congestion of the Observatory. At the end of the month it appeared that the engineering building of the Hawaiian Volcano Research Association will soon be vacated, and this will be used for the purpose stated.

The weekly press report, hitherto reproduced by carbon copies, was transferred to mimeograph, improving the impression and making possible larger numbers of copies if needed.

Observations for September

The four weekly reports for September 2-29 compared with the five for July 29-September 1, show decreased slides at Halemauau, few instrumental seismic disturbances and lower seismic index; and increased number of felt earthquakes, opening of cracks at Halemauau, and number of distant earthquakes registered. The Kilauea seismicity, shown by tremors, thus became less, while felt earthquakes originating away

from Kilauea crater increased in number. Tilting of the ground was small.

The average weekly seismicity decreased from 27.7 to 16.9. The monthly total of observed slides decreased from 22 to 17. The total number of local seismic disturbances, largely tremors, decreased from 524 to 222.

The opening of the 32 measured crack locations for four weeks in September totalled 14.5 mm., as against 9.0 mm for the preceding four weeks in August. There was a change from opening to closing temporarily for the equinox week ending September 22.

The number of felt earthquakes increased from 1 in August to 5 in September. Four of the latter indicated origin 21 to 54 miles from Kilauea. There were 6 distant earthquakes in the equinoctial four-week period, as against 2 in the preceding five-week period.

The suggestion from all these measurements is that world and island seismic intensity increased with the equinox, while Kilauea volcanic tremors lessened rapidly between August 18 and September 1. The average weekly number of disturbances was 56 in September as against 105 in August.

After the weeks here considered, there was a seismic crisis beginning in the last two hours of September 30. Two moderate earthquakes at 10:35 p.m. and 11:58 p.m. (with numbers of smaller ones continuing) were generally felt on Hawaii Island. They appeared to originate in the Mauna Loa center. No volcanic activity was discovered externally.

This is the time of the year, September to December, when past experience has shown lava pressure increasing. It is of interest that averaged tilt at Halemaunau is away from the center since the September eruption, 1934. Also that horizontal angles and levelling from August to September, 1935, across the Kilauea depression, exhibit an upward bend to their curves.

Instrumental Equipment

An inventory of apparatus to be transferred was mailed the Director of the Geological Survey September 26, and on the same date the Director of the Coast Survey was requested to transfer to the Park Service the loan of certain instruments.

Progress has been made in redesigning the tilt-meters at Halemaunau, which have been unsatisfactory when disturbed by earthquakes. I think I have a method of optical recording by microphotography, which will work, and will eliminate earthquake effects.

The artillery lathe purchased has been equipped with an A.C. motor.

Publication

Two papers by R.H. Finch, recently Associate Volcanologist at Lassen Volcanic National Park, have appeared during the month. These were written and approved for publication under the administration of volcanology by the Geological Survey. They are: - "On the Mechanics of Kuées Ardentes," Jour. Geol. July-August 1935, pp. 545-550, 4 figures. "Akutan Volcano," Zeitschrift für Vulkanologie, August 1935, Berlin, pp. 155-161, 3 figures, 4 plates. The first describes downblasts at Lassen May 22, 1915 compared with the Earibbee Islands 1902 and Katmai 1912. The second describes the active volcano on Akutan Island in the Aleutians, mapped and photographed by Finch in 1931.

The second proof, this time with illustrations, of Wilson's paper on Kilauea displacements, was read September 14, the illustrations proving unsatisfactory. Improvement of them is in progress. This is the University of Hawaii publication.

I have continued work on the memoir for Geological Society of America on Craters, and have added a considerable number of pages to the manuscript dealing with the history of Kilauea and Mauna Loa craters in this century. A notable 9-months periodicity for Kilauea lava appears; and for the 1926 Mauna Loa earthquakes, about 62% higher frequency day time than night.

September 16 I visited the bottom of the new well 200 feet deep at Olan Mill, which is pumping five million gallons daily of pure water from a level 14 feet above sea-level. This is the slope of Kilauea volcano which swelled up and down several feet by tumescence between 1912 and 1927. In spite of this the water is at 66° F., about the mean annual air temperature of Mountain View. Similar cold water gushes out at Punaluu. This, to me, is incomprehensible.

Very respectfully

T.A. Jaggar
Volcanologist

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

OFFICE OF THE SUPERINTENDENT

HAWAII

Wailuku, Maui
September 28, 1935

The Superintendent
Through the Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of September 1935 is respectfully submitted:

000 General

010 Introduction

The Hawaiian Contracting Co. have moved their equipment into the park area and work has started on the road surfacing project. Resident Engineer H. L. Handley, Bureau of Public Roads, has arrived and the Dodge truck #1152 has been loaned him until a station wagon is ready for him, which will be about October 1.

020 General weather conditions

Rainfall during September amounted to 10.97 inches. The prevailing wind direction was from the northeast. There were no clear days during the month.

100 Administration

110 Status of Work

Regular reports on motor vehicles were made. Purchases of supplies and routine patrols were kept up.

120 Park Inspections

Frequent inspections of the park road and road maintenance work, the Halemaun trail project and the Rest House were made. September 21 to 23 inclusive, an inspection and exploring trip into Haleakala crater was made. The trails in the crater, built and improved by the CCC, are in good condition.

125 Other Government Officers

Mr. Handley, Engineer of the Bureau of Public Roads, made an inspection of the Haleakala road on September 19. He seemed pleased with the condition of the road surface.

127 Other Agencies

Mr. H. T. Stearns of the Ground-Water Division, Maui, spent several days in the crater making ground-water investigations in and outside the park area.

150 Equipment and supplies

A shipment of 6 wheelbarrows and miscellaneous tools were received September 23.

200 Maintenance, Improvement and New Construction**210 Maintenance**

Usual maintenance of the park road was carried on during the month.

220 Improvements

Drainways at various places along the park road were lined with rock to prevent erosion. This work was done by the cantoneers in addition to their regular maintenance work.

230 New Construction

The Halemann Trail Project is practically 100% complete from the road to the crater rim, a distance of approximately $1\frac{1}{2}$ miles. From the rim down to the crater floor, the trail is being made wide enough for foot travel only, approximately three quarters of a mile of which is built. Engineer A. H. Wong estimates the trail from the rim down to be 20% complete.

240 Improvement of Approaches to the Park

Surface patching work was done on the Territorial section of the Haleakala road during the month.

260 Landscape Work

In addition to their usual duties, the cantoneers have been engaged in transplanting grass to the road banks that are most conspicuous.

400 Flora, Fauna and Natural Phenomena**410 Ranger, Naturalist and guide service**

The park road was patrolled and the Park Service represented by the District Ranger on week-ends whenever possible, and a fairly accurate check of travel to this Section made at those times.

470 Animals

Goats are now frequently seen on the mountain slopes below the Rest House.

500 Use of Park facilities by the Public**510 Increase or decrease in travel**

Week-end check of travel for the month amounts to 905 visitors, an increase of 30% over last month.

530 Visitors

Many of the men from the National Guard Camp that has been on Maui this month, have visited Haleakala. This largely accounts for the increase in travel this month.

600 Protection

610 Police protection

Almost daily patrol of the park road and area has been maintained.

630 Accidents

No accidents in the Haleakala Section were reported.

900 Miscellaneous

The CCC camp has moved out and disbanded. They left their quarters at the Rest House and the grounds in very good condition. Much favorable comment is heard on the condition of the road and of the improvements in the park area, also the condition of the Rest House.

Respectfully,

J. A. Peck,
District Ranger.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Hawaii National Park

September 27, 1935

GENERAL OFFICE ORDER NO. 21 - Amendments to

SUBJECT: Permit to pick fruit in Park

General Office Order No. 21 is hereby amended by the addition of the following sections:

12. No berries of any kind may be picked for any purpose on the open flats either mauka or makai of the Government road between the Sulphur banks and the boundary of the Kilauea Military Camp. The prohibited area is bounded by the fault cliff running westward from the Sulphur bank area.

13. Berries may be picked and eaten in Kipuka Puauulu (Bird Park) but may not be carried away in any quantities whatsoever without special permission of the Superintendent. The Chief Ranger is directed to inform this office every Saturday noon whether or not conditions in Kipuka Puauulu warrant issuance of any permits during the succeeding week.

14. In all other sections of the park berries may be picked as hereinbefore provided, except that no berries are to be picked within a distance of 50 feet on either side of any roads.

15. The Chief Ranger is directed to prepare, with the approval of the representative of the Landscape Division, suitable information signs which are to be placed where plainly visible at points of entrance to restricted areas and these amendments will become effective when the signs have been erected.



Edward G. Wingate,
Superintendent.

Distribution:

Director - 2
Superintendent - 1
Chief Clerk - 1
Chief Ranger - 1
Each Ranger - 1
Volcanologist - 1
Park Naturalist - 1
Foreman - 1
General Mechanic - 1
Permanent Laborers
Monthly Report - 7

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

September 22, 1935

GENERAL OFFICE ORDER #39

Subject: Still and Motion Pictures

In reply to an inquiry made by this office relative to the subject above the Director replies as follows:

"There is no objection to park employees photographing motion or still pictures in the park provided that such activities are not of a commercial nature but the acceptance of money or gratuities of any character for such services is in violation of the United States Code, Title V, Section 66, which prohibits the receipt of government officials, or employees, of any salary in connection with service as such official or employee from any source other than the United States Government.....

"The same prohibition in law is applicable to park employees furnishing personal photographs of scenes in the park to private publications for sale to the public. This office will appreciate contributions of photographs by park employees of scenes in the park but all semblance of commercialism.....will not be tolerated."

There is, therefore, no authority for any park employee to receive any money or other gratuity for photographs, still or motion, of scenes in the park furnished the public and the employees of this park are directed to conduct themselves accordingly.

Distribution:
Director - 2
Superintendent - 1
Chief Clerk - 1
Chief Ranger - 1
Each Ranger - 1
Volcanologist - 1
Park Naturalist - 1
Foreman - 1
General Mechanic - 1
Permanent Laborers
Monthly Report - 7



Edward G. Wingate
Superintendent

Form No. 1009-Met.

U.S. Department of Agriculture, Bureau

COOPERATIVE OBSERVERS' METEOROLOGICAL RECORD:

Month of September, 1935, 192 ; Station, Volcano Observatory, County, Hawaii
 Hour of Observation, 8:00 A.M.
 State, _____; Latitude, _____; Longitude, _____; Time used on this form, H.S.T.

MONTHLY SUMMARY.

TEMPERATURE.

Mean maximum, _____
 Mean minimum, _____
 Mean, 65.61
 Maximum, 81.0; date, Sept. 28
 Minimum, 53.0; date, " 6
 Greatest daily range, 20.8 - Sept. 21

PRECIPITATION.

Total, 9.12 inches.
 Greatest in 24 hours, 2.93; date, Sept. 30

SNOW.

Total snowfall, _____ inches; on ground 15th, _____ inches;
 at end of month, _____ inches.

NUMBER OF DAYS—

With .01 inch or more precipitation, 25
 Clear, 7; partly cloudy, 16; cloudy, 7

DATES OF—

Fog, Light Sept. 2, 4, 6, 10, 11, 12, 16
 Thunderstorms, Sept. 23, 24, 27, 29, 30

Hail, _____
 Sleet, _____
 Auroras, _____

REMARKS:

DATE.	TEMPERATURE.				PRECIPITATION.		Wind		PREVAILING WIND DIRECTION.	CHARACTER OF DAY, SUNRISE TO SUNSET.	MISCELLANEOUS PHENOMENA.
	MAX. MIN.	RANGE.	* SET MAX.	TIME OF BEGINNING.	TIME OF ENDING.	AMOUNT.	WIND VELOCITY.	WIND DIRECTION.			
	1	2	3	4	5	6	7	8			
1	75.3	62.8	12.5	66.7		.10	90	Lt.	S.W.	P.O.	
2	74.5	58.0	16.5	61.8		.54	92	Lt.	N.E.	Clay	Fog
3	67.0	56.9	10.1	61.0		.17	89	Mod.	N.E.	P.O.	
4	70.0	58.8	11.2	60.9		.04	89	Str.	N.N.E.	Clay	Fog
5	72.6	55.6	17.0	67.0		.06	81	Mod.	E.N.E.	P.O.	
6	68.0	53.0	15.0	64.0		2.38	92	Lt.	E.	Rain	Fog
7	69.8	57.0	12.8	62.0		.71	87	Mod.	N.E.	Clear	
8	70.5	56.0	14.5	63.7		.03	80	Str.	E.N.E.	P.O.	
9	71.6	55.3	16.3	61.5		.02	83	Mod.	N.E.	Clear	
10	68.8	57.2	11.6	67.2		.01	82	Lt.	N.E.	Rain	Fog
11	71.5	60.1	11.4	61.9		.82	91	Mod.	E.N.E.	Rain	Fog
12	65.6	59.6	6.0	61.9		.32	90	Str.	N.E.	Rain	Fog
13	69.8	56.0	13.8	60.8		.09	92	Str.	N.E.	P.O.	
14	68.3	58.0	10.3	60.2		.05	86	Str.	N.E.	Clear	
15	72.0	58.3	13.7	63.3		Tr.	73	Lt.	N.E.	Clear	
16	73.5	55.8	17.7	62.0		.10	90	Lt.	E.N.E.	P.O.	Fog
17	72.0	56.0	16.0	62.6		.05	83	Lt.	N.E.	P.O.	
18	71.0	59.8	11.2	62.0		.03	81	Mod.	N.E.	Clear	
19	72.0	57.8	14.2	62.2		Tr.	81	Mod.	N.E.	Clear	
20	72.7	53.7	19.0	64.0		Tr.	81	Mod.	N.E.	P.O.	
21	75.3	54.5	20.8	64.0		.01	78	Mod.	E.N.E.	P.O.	
22	75.3	54.7	20.6	64.5		.08	74	Lt.	S.	P.O.	
23	76.8	60.0	16.8	66.8		.05	79	Lt.	W.S.W.	Rain	Thunderstorm, Mauna Loa
24	77.1	59.0	18.1	65.1		.45	86	Lt.	NE-N	P.O.	" "
25	79.8	63.1	16.7	67.0		.01	80	Lt.	NE-N	P.O.	
26	76.0	62.0	14.0	70.0		.01	80	Lt.	E.	P.O.	
27	79.5	63.0	16.5	68.0		.06	80	Lt.	N.E.	P.O.	Thunderstorm, Mauna Loa
28	81.0	62.1	18.9	67.0		Tr.	74	Lt.	S.S.W.	Clear	
29	79.8	60.3	19.5	67.5		Tr.	86	Lt.	N.E.	P.O.	Thunderstorm, 2 to 7 PM
30	76.0	59.2	16.8	67.3		2.93	81	Lt.	S.W.	P.O.	" 2 PM
31											
SUM.	2193.1	1743.6	449.5	1928.9		9.12	2511				
MEAN	73.10	58.12	14.98	64.29		0.304	83.7				

* Reading of maximum thermometer immediately after setting.
 † Including rain, hail, sleet, and melted snow.
 ‡ Thunderstorms, halos, auroras, etc.

T. A. Jagger, Cooperative Observer.
 Per H.H. Waesche, Hawaii National Park
 Post-Office Address, _____

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
September 28, 1935

The Superintendent
Through the Chief Ranger,
Hawaii National Park, Hawaii

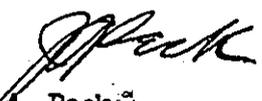
Dear Sir:

Enclosed are copies of weather report, Rangers monthly report and narrative report for the month of September, 1935.

Week-end travel check this month amounted to 179 cars and 905 visitors compared with 136 cars and 683 visitors last month, an increase of 30%.

The Halemau Trail Project is practically 100% complete from the park road to the crater rim. From crater rim to crater floor the trail is 20% complete, according to estimates of Mr. A. H. Wong, Engineer.

Yours respectfully,


J. A. Peck,
District Ranger

8

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
September 28, 1935

The Superintendent
Through the Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of September 1935 is respectfully submitted:

000 General

010 Introduction

The Hawaiian Contracting Co. have moved their equipment into the park area and work has started on the road surfacing project. Resident Engineer H. L. Handley, Bureau of Public Roads, has arrived and the Dodge truck #1152 has been loaned him until a station wagon is ready for him, which will be about October 1.

020 General weather conditions

Rainfall during September amounted to 10.97 inches. The prevailing wind direction was from the northeast. There were no clear days during the month.

100 Administration

110 Status of Work

Regular reports on motor vehicles were made. Purchases of supplies and routine patrols were kept up.

120 Park Inspections

Frequent inspections of the park road and road maintenance work, the Halemau trail project and the Rest House were made. September 21 to 23 inclusive, an inspection and exploring trip into Haleakala crater was made. The trails in the crater, built and improved by the CCC, are in good condition.

125 Other Government Officers

Mr. Handley, Engineer of the Bureau of Public Roads, made an inspection of the Haleakala road on September 19. He seemed pleased with the condition of the road surface.

127 Other Agencies

Mr. H. T. Stearns of the Ground-Water Division, Maui, spent several days in the crater making ground-water investigations in and outside the park area.

150 Equipment and supplies

A shipment of 6 wheelbarrows and miscellaneous tools was received September 23.

200 Maintenance, Improvement and New Construction

210 Maintenance

Usual maintenance of the park road was carried on during the month.

220 Improvements

Drainways at various places along the park road were lined ^{with} rock to prevent erosion. This work was done by the cantoneers in addition to their regular maintenance work.

230 New Construction

The Halemau Trail Project is practically 100% complete from the road to the crater rim, a distance of approximately $1\frac{1}{2}$ miles. From the rim down to the crater floor, the trail is being made wide enough for foot travel only, approximately three quarters of a mile of which is built. Engineer A. H. Wong estimates the trail from the rim down to be 20% complete.

240 Improvement of Approaches to the Park

Surface patching work was done on the Territorial section of the Haleakala road during the month.

260 Landscape Work

In addition to their usual duties, the cantoneers have been engaged in transplanting grass to the road banks that are most conspicuous.

400 Flora, Fauna and Natural Phenomena

410 Ranger, Naturalist and guide service

The park road was patrolled and the Park Service represented by the District Ranger on week-ends whenever possible, and a fairly accurate check of travel to this Section made at those times.

470 Animals

Goats are now frequently seen on the mountain slopes below the Rest House.

500 Use of Park facilities by the Public

510 Increase or decrease in travel

Week-end check of travel for the month amounts to 905 visitors, an increase of 30% over last month.

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530 Visitors

Many of the men from the National Guard camp that has been on Maui this month, have visited Haleakala. This largely accounts for the increase in travel this month.

600 Protection

610 Police protection

Almost daily patrol of the park road and area has been maintained.

630 Accidents

No accidents in the Haleakala Section were reported.

900 Miscellaneous

The CCC camp has moved out and disbanded. They left their quarters at the Rest House and the grounds in very good condition.

Much favorable comment is heard on the condition of the road and of the improvements in the park area, also the condition of the Rest House.

Respectfully,

J. A. Peck
J. A. Peck,
District Ranger

JF

October 4, 1935

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

Following is the report of ranger activities during the month of September.

000 - General

The ranger department activities during the month consisted of recreational, educational, protection and maintenance of trails, telephone lines, painting and repairing signs.

020 - Weather Conditions

Very sultry weather has prevailed during September. The total rainfall at headquarters was 9.12 inches, at the summer camp, 72.57. At Haleakala Ranger Peck reported 10.97 inches. He also reports there were no clear days. On September 26 and 27 there was a thunderstorm in the Kilauea section of such violence it kept the office ranger busy changing fuses on the telephone switchboard.

100 - Administration

110 - Status of Work

Repairs on roads are about 60% complete. Repairs on motor vehicles were kept up during the month.

120 - Park Inspections

General routine inspections of all work were made during the month.

An inspection trip was made to Hilina Pali by the superintendent and chief ranger, for an estimate on wildlife in that area.

The annual inspection of forest insects^{cont. from} was conducted by the chief ranger and Ranger Lamb.

On Haleakala Ranger Peck made frequent inspections of the road and road maintenance work, the Halemau-u trail project and the rest house. September 21 to 23 inclusive he made an inspection and exploration trip into Haleakala crater. He reports the trails in the crater in good condition.

[Handwritten signature]

150 - NEW Equipment

Equipment received during the month consisted of a mowing machine, battery charger, six wheelbarrows and miscellaneous tools - the latter^{two} items were for the Haleakala section. *See Jimmy elec note -*

200 - Maintenance, Improvements and New Construction

210 - Maintenance

The usual maintenance of roads, trails, telephone lines, trucks and other equipment was carried on during the month.

220 - Improvements

Drains at various places along the park road were lined with rock to prevent erosion. This work was done by the cantoneers in addition to the regular maintenance work.

230 - New Construction

The Haleman-u trail project is practically 100% completed from the road to the rim of the crater, a distance of $1\frac{1}{4}$ miles. This trail is being made wide enough for foot travel only. Engineer Wong estimates the trail from the rim down into the crater to be 20% complete.

260 - Landscape Work

In addition to the regular duties the cantoneers on the Haleakala road were engaged in transplanting grass on the road banks.

300 - Activities of Other Agencies in the Park

320 - Cooperating Governmental Agencies

Mr. L.P. Smith and Mr. A.E. Jones of the Department of Agriculture Soil Survey are engaged in mapping the soil of this vicinity according to the depth.

^{new}
The steam bath for the enlisted men of the Kilauea Military Camp was completed this month. Work was also started on the new barber shop at the camp. *The FERA supplied labor for these jobs*

The FERA has started work again at the Volcano House. The chimney in the main building will have to be torn down and a new one built for the present one is in a dangerous condition from crack caused by an earthquake.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The Uwekahuna museum was kept open during September and a ranger on duty on duty to give information to visitors.

The park roads and campgrounds were patrolled on weekends.

500 - Use of Park Facilities by the Public

530 - Visitors

On September 25th 250 Shriners from San Francisco and the other islands, were visitors for one day.

Mr. Handley of the Bureau of Public Roads office in Honolulu was an overnight visitor.

On September 16 Mr. Wingate and the chief ranger spent the afternoon with the representatives and senators from east and west Hawaii. They were taken on the general park tour.

On September 7 Mr. A.J. Schmid, US Commissioner from El Paso Texas and son spent one day in the park. They were accompanied by Ranger Lamb for a tour of the park.

600 - Protection

610 - Police Protection

The usual patrol of the park was carried on by the rangers during the month.

Caution signs were placed on boundary line between Keauhou and Halape, also along the beach to restrict net fishing in the park.

650 - Signs

Several new signs necessitated by improvements, were installed in the campground area. Maintenance work was done on existing signs to put them in first-class shape. Signs, requesting cooperation in keeping the grounds clean, were placed in the picnic grounds.

660 - Sanitation

Gutters on residences were cleaned, during the month.

900 - Miscellaneous

The usual monthly Volcano House dance was held on the 21st.

Very respectfully

Joseph H. Christ
Chief Ranger

JHC/cw

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*to W
for report
Egan*

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

OFFICE OF THE SUPERINTENDENT

HAWAII

Oct. 1, 1935.

Mr. Joseph H. Christ
Acting Superintendent
Hawaii National Park.

Dear Sir;

The following is a report of work accomplished under my direction during for the month of September 1935.

1. Minor alterations Quarters #1.
2. Repairs to main road and Bird ^{park} road.
3. Cleaned and painted roof, office building; one coat paint.
4. Built two filing cabinets for Observatory.
5. Built air tight case for specimens of plants.
6. Put Quarters #4 in shape for Ranger Williams, laid linoleum, cleaned windows, hauled furniture from Quarters #13.
7. Hauled garbage from Quarters area eight times.
8. Cleaned all buildings.
9. Pumped water to tank Quarters #1.
10. Inspected hotel building.
11. Dug trench for underground telephone line at pit.

Robt R Craik

Craik, Foreman

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Oct. 1, 1935.

The Superintendent
Hawaii National Park,
Hawaii.

Dear Sir:

The following is a report of my time by hours
for the month of Sept. 1935.

Repairing cars and trucks	88	Hours
Pumping water, as follows, from Reservoir.		
High tank	26,000 gal.	
Watering trees	1,650 "	
Total	27,650 Gal.	10 "
Repairing tools in warehouse	10	"
Dressing tools, forge work	8	"
Rock crusher starting and adjusting	8	"
Trips to Hilo for parts	6	"
Assemble new power mower and adjust	6	"
Distill battery water	4	"
Fill all batteries	4	"
Replace and repair tool handles	3	"
Warehouse	4	"
Check in gasoline-	4	"
Sharpen sickle bar for power mower	2	"
Sharpen lawn mower	2	"
Solder kerosene cans	2	"
Assemble new telephones	2	"
Paint saddle slickers	2	"
Repair air compressor	2	"
Install new battery charger	2	"
Repair fire pump in pump house	2	"
Transfer kerosene to storage tank	2	"
Transfer motor oil to storage tank	2	"
Transfer gasoline to storage tank	1	"
Check in kerosene	1	"
Clean lower garage	1	"
Repair flash lights	1	"
Repair door hanger for fire equipment house	1	"
Repair gasoline pump in service station	1	"
Make electric tester, bell type	1	"
Repair battery	1	"
Repair old 1 1/2 inch hose	1	"
Repair step ladder	1	"
Repair air hose	1	"
Dry fire hose	1	"
Repair wheel barrow	1	"
Help Mori. find line trouble in Warehouse area	1	"
Repair steel tape line	1	"
Check in tires	1	"
Repair Air jack hammer	1	"
	192	Hours

Submitted by
F. F. Fischer
F. F. Fischer
Mechanic.

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000 - General

Wingate (he's ~~only~~ not even a private)-

020 - Weather Conditions

Christ

100 - Administrative

110 - Status of Work

The Services of temporary clerk-telephone operator Jane Christman were terminated at the close of September 11. Due to the pressure of regular office work nothing was done on the back files during the month. Stenographic assistance was given Dr. Jaggard, Volcanologist, one day each week.

120 - Park Inspections Byp

121 - Superintendent

He did go to Hilina Pali

*Sept 7 Report of road work Camp -
" & ECW program 6th period submitted
" & along with Circular Seal Clapton*

122 - Special Field Representatives of the NPS

Sager on this island all month.

125 - Other Governmental Officers

Senior Highway Engineer H.L. Handley of the BPR office in Honolulu spent one day in the park.

126 - Congressional Committees

Should anything be said about the sub-committee what was supposed to have come to the military camp? - *Say they arrived in Honolulu - were ~~arrived~~ advised by Army + that a couple flew over to Hawaii + did not land.*

130 - Finance and Accounts

Higashida

150 - Equipment

A new mowing machine to replace the one which was returned to the factory, a battery charger, six wheelbarrows and miscellaneous tools - the latter two being for Haleakala - and an electric motor for the Observatory were received in September. *see my note*

180 - Circulars, Placards, Publicity Bulletins, etc.

Two office orders, one dealing with the selling of still or motion pictures of park scenes by employees of the Service and the other with picking fruit in the park area, were issued. Copies are attached.

On September 23 ^{de Sufet} I had as ~~my~~ guests for luncheon representatives of the ^{three of} ~~four~~ leading papers of Hilo, after which ~~we~~ took them on a tour of the park including all work projects in progress, the CCC camp, etc. The next day three of the

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September 30 - 250 Shriners from Islam Temple San Francisco and territorial temples in for the day.

600 - Protection

Christ - Who protects us from all evil.

900 - Miscellaneous

Do you know of any juicy tidbits of human interest fit to print?

Any dance? - No births? Birthdays etc?

~~Complaints - Soldier~~

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100- Administration:

On September 25 this office received an important communication from the Commanding General, Hawaiian Department commenting at length on the proposed form of permit prepared by this office and designed to cover the ~~existing~~ ^{proposed} extension of the existing base to the District of the Kilauea Military Camp. The letter from the Commanding General also enclosed a form of license prepared by him and designed to cover this same extension. This entire matter was discussed with Mr. E. E. Zilleit in Honolulu on a special trip made for the purpose, and ^{the entire correspondence} is being transmitted separately.

110 - - -

On September 7 the board of officers appointed by the Dept under instructions from the Director for the purpose of appraising the Summer Camp property held by the management of the Kilauea Volcano House to the E.C.W. for a C.C. camp reported their findings. Their report with comments was immediately forwarded to the Director.

The work project program for the 6th quarter period E.C.W. after being reviewed by Field Supervisor E. E. Zilleit was transmitted on September 8.

180 The first week of the month was devoted to preparing the dummy copy for revision of the Circular of General

disformation from suggestions ~~and~~ corrections and additions made by staff members and others. The dummy copy was forwarded on September 8.

On September 19, the Dept. commenced gathering data for a comprehensive ^{illustrated} report ^{for the Assistant Secretary} which is to be prepared and will cover developments and projects already accomplished and underway as well as future plans including possible additions to the park. Such a report seems desirable since as far as this office can determine no similar report has ever been prepared. There are several excellent special reports on this park available but Mr. W.P. Meininger's report of — data is only one which has been broad enough to be of general guidance. It is hoped that this report will supply the Director's office with the information ordinarily gathered through the usual inspection of the other parks and which due to the time and distance involved this park has been denied its just share.

400 - ⁷⁶⁰³ Former Park Ranger Everett Brumby on Sept 6 donated the park a potted seedling which he said was from one of three seeds of the only living specimen of *Hesperisidelfra Giffardiana* which he had germinated. The sole remaining tree is the grounds of Mr. James Henderson's mountain home and Mr. Brumby stated Mr. Henderson had given him a few

seeds. The park is taking every precaution to protect this seedling in the hope that it proves to be the ~~the~~ rare tree as stated. - Forest insect report annual submitted on Sept 29.

470 Animals -

The annual wild animal census report was submitted on September 22 following considerable investigation by members of the ranger staff, District Forester H. H. Judel and the Superintendent. A special trap & otter trap to Hilina Park section of the park was made by the Dept for the purpose of checking on the number of wild goats in the park.

510 Travel -

The annual report of park travel submitted September 30 shows a total of 207,208 persons visiting the park during the year not including the Haleakala section where as yet it is impossible to keep any accurate check on the travel. This figure represents a decrease of 33,620 persons over the previous year and was almost entirely accounted for during the month of September which in the year previous experienced heavy travel due to the eruption in Kilauea Volcano. During the past year both observers in the park were quiet in this respect.

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530. Congressman Philip Goodwin, New York and daughter visited park and were accompanied by [unclear] on their trip.

Mr. & Mrs. Riley Allen - Editor Horrible Star Bell - How long? Mrs. Allen were given every opportunity to visit the various work projects under C.C. now in progress and other improvements recently completed in the park. While ^{here} Mr. Allen proposed an interesting special article on the park which was published in his paper.

Mrs. - [unclear], wife editor Horrible Star Bell and of a [unclear] family was an interested visitor for several days.

314: A woman living in one of the several cottages complained of the offensive actions of a soldier from the Military Camp. The man of whom a ^{general} description had been furnished however left for [unclear] before he could be apprehended. This was done. The delay in apprehension was due to the request of the woman that unless necessary she would prefer not to have to appear at the Military camp and identify the man publicly.

220: - - - - - Following several inspections and discussions with Assistant Architect Mr. Seger the Dept. approved the raising of the dilapidated [unclear] iron shelter at Holmanman and the placing underground for a distance of - feet the existing telephone line.

This project was in line with one of the Superintendent's firmest convictions that the area adjacent to the fire pit of Kelowna Crater should be maintained in as natural a manner as possible. In fact development should be held to a minimum over the whole crater floor as well as the surrounding rim. Even this small change has greatly improved the approach to the fire pit.

540: The two public picnic or camp grounds injured early in the year are subject to intensive use on week ends and holidays. It appears necessary to add additional area to these camp grounds before next summer.

170 - Sober drawings for ^{Park} Museum plan -

120: Routine inspections were made in the Kelowna Section with particular attention given to progress on the Mann Fern trail trail under construction by the U.C. The Kelowna Police section was inspected on September 20 and the new fire trail path between Stewart Fern table and the Chain of Craters road on Sept 17.

The Dept left Kelowna headquarters for Hazelton on Sept 29 to confer with Field Supervisor G.E. Dillitt, E.C.W. The 30th was spent in his office in Hazelton.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

September 9, 1935

The Director
National Park Service
Washington, DC

Dear Mr. Director:

Following is the monthly report of activities for this park for August, 1935.

000 - General

The park was honored on August 13 by a "short" visit from Postmaster General J.A. Farley, Mrs. Farley and the Executive Assistant to the Postmaster General Mr. Ambrose O'Connell. They arrived by Inter-Island plane accompanied by Mrs. and Mr. Stanley Kennedy of Honolulu.

Due to the little time available for a visit to the park, Mr. Kennedy when he phoned from Honolulu, informing the superintendent of Mr. Farley's visit, passed on the request that the visit be kept confidential. However, the local paper got wind of it from Honolulu and passed the word around so that a considerable gathering of Hilo people, politicians, etc., were on hand when the party arrived, with the result that the little time available to see the park was cut even shorter by Mr. Farley's having to engage in a tree-planting ceremony in Hilo.

The Postmaster General and party finally arrived about 12:30 p.m. at the Volcano House, where they were met by the superintendent, some of the park staff, the commanding officer of the military camp and a few others. Following a brief stop at the hotel (no time for lunch) accompanied by the superintendent and followed (fortunately) by a park car with the acting park naturalist, a trip to Halemauuan was made which, for sheer speed through the park exceeded even the notorious "flying" visit of Amelia Earhart. The public at least allowed her sufficient time to have luncheon at the Volcano House. The Farleys had to postpone lunch until they got in the plane returning to Honolulu. To add to the distinguished visitors discomforts Mr. Kennedy's pet Pierce-Arrow refused to function just after leaving the Volcano House and the party had to be bundled into the superintendent's car following. The Farleys were mighty good sports and he did get some shots of Halemauuan with his movie camera and a fleeting look at the lava tube.

As on every previous occasion when a distinguished visitor has come to the park, the weather was perfect; which was something, because, as previous superintendents will agree, it can be awfully raw.

020 - Weather Conditions

The total rainfall at the summer camp was 1.18 compared to 5.13 inches of last month and at the Observatory the total rainfall was 2.59 inches as compared to 7.94 inches last month. On the Haleakala section of the park the total rainfall was 1.33 inches for August 13 to 31 incl.

100 - Administration

110 - Status of Work

Considerable progress was made on the back files during the month. All other work was current.

120 - Park Inspections By:

121 - Superintendent

On August 1 the superintendent made a trip to the summit of Mauna Loa, returning to headquarters on the 3rd. On this trip he was accompanied by Mrs. Wingate, Mrs. C.A. Bowman, Jr., and Mrs. Gordon Scruton of Hilo, Clerk-stenographer Constance Whitney, Captain L.C. Boineau, commanding officer at the Kilauea Military Camp and David Kalakaua of Honolulu. A survey was also made of the proposed location of the Mauna Loa truck trail with Landscape Architect M.S. Sager and Engineer Wong. An inspection was made of the Bird Park area in company with L.W. Bryan, Assistant Territorial Forester for this island and Territorial Forester Charles Judd. Routine inspections of headquarters area were made from time to time during August.

122 - Special Field Representatives of National Park Service

Associate Landscape Architect M.S. Sager remained on this island the entire month supervising EOW landscape projects, etc.

123 - National Park Service Officers

On August 20 the permanent appointed personnel of the park made an inspection of all the hotel facilities.

125 - Other Governmental Officers

On August 7 Mr. Jack Moskowitz, Principal Highway Engineer, Bureau of Public Roads, Honolulu, accompanied by Mr. Klein of the Bureau Regional Office and Mr. R.W. Hendry, Territorial Engineer, made an inspection of this island. Mr. Moskowitz is the new Bureau representative for the islands, replacing Mr. E.S. Wheeler who was transferred to the San Francisco office.

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August 13 - Postmaster General James A. Farley and Mrs. Farley, accompanied by Ambrose O'Connell, executive assistant to Mr. Farley.

130 - Finance and Accounts

A detailed statement will be found at the back of this report.

140 - Labor Situation

Beginning August 7 all employees under WPA were put on an indefinite furlough due to lack of funds.

150 - Equipment and Supplies

A gasoline light for the 10000 foot rest house on Mauna Loa was donated by Mr. Kellner of the American Factors. A rain gauge, which was obtained from the Weather Bureau in Honolulu, was installed at Haleakala on August 13.

160 - Status of Alienated Lands

Definite plans for including certain sections of Kalapana within the boundaries of the park are to be made pending the personal investigation by Delegate Samuel W. King upon his return to the island. Word had been received by the Hilo Chamber of Commerce that Mr. King was ready to introduce a bill providing for the inclusion of the Kalapana area within the park boundaries.

170 - Plans, Maps and Surveys

Associate Engineer A.H. Wong arrived from Maui on the 17th to make location survey of the proposed Mauna Loa truck trail, which is an ECW project. Mr. Wong is in charge of the Halemau-u trail construction on Haleakala.

180 - Circulars, Placards, Publicity Bulletins

Revision of the circular of general information for 1936 was started about the middle of the month. Copies of press releases which were issued during August are attached.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Minor repairs were made to several quarters and wood and garbage were hauled. Following a complete road inspection by BPR officials and based on their recommendations considerable surface repairs were undertaken. The rest house kitchen at Puu Ulaula was painted during August.

220 - Improvements

The cantoneers on the Haleakala highway are still at work and continued the planting of grass on the road slopes

230 - New Construction

District Ranger Peck reports that the new Halemau-u trail on Haleakala is practically complete as far as the rim. Word was received that \$2250 had been approved for the completion of this trail.

Bids for Haleakala road armor coat surfacing were opened on the 31st. Award to the low bidder - Hawaiian Contracting Company, -amount \$32,575.75, was recommended for acceptance by Mr. Moskowitz in charge of the Honolulu office of the Bureau of Public Roads and approved by the superintendent.

Following recommendations made to your office during July, word was received on August 27 that the PW Administrator had approved the allotment of funds for the construction of an observation station, toilets and checking station at Haleakala in the amount of \$7000.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

On August 19 the staff of the Volcano House was taken on a general park tour by the superintendent and Ranger Murray. This trip was made in order to familiarize the hotel employees with the park and to give them some ideas concerning park policies, etc.

314 - Complaints

On August 5 a complaint was received from a local woman regarding the actions of one of the soldiers at the military camp. However, when requested to go to the camp and assist in identifying him she refused. The second time she complained the chief ranger stated that he would be brought to park headquarters for identification but he had returned to Honolulu.

Several complaints were received at the superintendent's office regarding the continual barking of the park operator's dog. Upon investigation the hotel management was requested to have the dog removed from the park.

316 - Modification of Existing Contracts

On August 18 the completed draft of five year extension of the permit for the Kilanea Military Camp was sent to the Trustees for their comments and suggestions.

Contract I-6p-16 (renewal), grazing permit for 25 head of cattle owned by the Hawaiian Agricultural Company, at Kipuka Ki, was forwarded to your office for approval on August 25.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The services of temporary ranger Gordon Mackenzie were terminated at the close of the 31st.

From August 6 to 11 a group of 125 sons of Army officers, were camped at the Kilauea Military Camp. During this week a special program of naturalist activities was carried out for the group. On the 24th and 25th special programs were arranged for the cadets and officers of the ship "Taisei Maru" of the Nautical College of Tokyo. The programs included lectures and park tours.

420 - Museum Service

Park Naturalist Doerr left on the 2nd to attend a Rotary Convention at Reno. While he is on the mainland he expects to visit the San Francisco and Berkeley offices, as well as several of the national parks. Ranger S.H. Lamb has been designated as acting park naturalist during his absence.

480 - Natural Phenomena

A report of the Volcano Observatory will be found at the back of this report.

490 - Miscellaneous

The acting park naturalist was called to the Haleakala section on the 28th, returning on the 30th, to instruct the ECW foremen in the collection and distribution of the silverword seed now ripening.

While in the Crater of Haleakala a brief survey was made of the Koolau gap. Certain local people are interested in this region as a possible park extension to give protection to the rare greensword and other plants.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

There was a total of 21,112 visitors to the Kilauea Section during August as compared with 22,314 for the same period last year.

530 - Special Visitors

August 6 - 138 boy scouts arrived for a week's stay, stopping at the military camp.

August 10 - Charles Judd, Territorial Forester, accompanied by his wife and son, to spend the balance of the month. Mr. Judd was found to be willing and very able to discuss matters pertaining to forestry work in the park. He was escorted to Pali Hiliua by the chief ranger and to Pua Uluala, the 10,000 foot rest house on Mauna Loa, by the acting park naturalist.

August 4 - R.B. von KleinSmid, President University of Southern California and Prof. A. Palyzoides, Managing Editor "World Affairs"

August 19 - Miss Barbara Rowland, winner of "Outdoor Girl" contest at Salinas California, accompanied by her parents, remained at the Volcano House overnight.

August 21 - Mr. Channcey Wightman, Territorial AA Administrator, to spend approximately two weeks in this vicinity.

August 24 and 25 - One hundred sixty cadets, officers and men from the ^{Japanese} training vessell "Taisei Maru".

Mr. R. King, Territorial Surveyor; Mr. Charles H. Merriam, Manager Land Department, C. Brewer & Company and Mr. Frank Atherton, President Castle & Cooke, Ltd., son and guest, were also visitors at the Volcano House during August.

600 - Protection

620 - Fire Protection

On August 12 a fire drill was held in the evening, in order to check the arrival of the staff and CCC enrollees, also the length of time for water to get through the hose.

Inspection of fire hazards in the vicinity of the Volcano Observatory was made by Ranger Murray during the latter part of the month.

640 - Destruction of Predatory Animals

Correspondence was continued with your office regarding the eradication of wild goats from park lands. It is proposed to erect a goat-proof fence around the entire park boundary as an ECW project for the sixth enrollment period, if approval is given.

It is also equally necessary that the wild pigs be eradicated from park and advice was requested as to whether these animals, who are descendants of the pigs brought in by the early Hawaiian as far back as 1150 A.D., would be considered "exotic" and therefore liable to destruction. ✓

900 - Miscellaneous

Camp Director, B.G. Rivenburgh was on sick leave for 13 days with a very serious case of shingles which centered on his forehead in the vicinity of his left eye. He is now back at work and though not fully recovered, in a much improved condition.

On August 15 we were very much shocked to learn of the death of R.J. "Bill" Williams after a long illness. Bill was superintendent for E.E. Black, who had a great many road contracts in this vicinity, including the park, and was well known and liked by everyone.

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There were three dances, each very well attended, held at the
Volcano House during August.

Very respectfully

Edward G. Wingate
Superintendent

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

September 1, 1935

Mr. Edward G. Wignate, Superintendent
Hawaii National Park.

Subject: Report of Volcano Observ-
atory for August.

Dear Sir:

I have to report as follows for the activities of the Hawaiian
Volcano Observatory for August, 1935.

Routine of Observatory

The volcanologist has been at work on reports, letters and manu-
scripts and occasional field work. The ranger-geologist has carried out
seismograph, levelling and transit routines. The janitor has taken part
in seismograph, levelling and field routines and cared for buildings,
grounds, cars and shops.

Observations for August

Halemauau pit has remained quiet. There were some slides at the
north and west. The greatest weekly crack opening at pit edge was August
26-September 1 when the aggregate was 7 mm and fourteen points showed open-
ing. The weekly local seismic index during the month decreased from 33 to
15, and the numbers of tremors from 133 to 49. A slight earthquake August
17 was generally felt over the island and was strongish at Kapapala. This
and another August 31 appeared to originate under Mauna Loa. Monthly
levelling of Halemauau August 13, showed depression 1.2 cm of N.W. sta-
tion since July 3 and the horizontal angles from the Observatory to pit
and larger crater showed slight closing. The correspondence of angle
readings and levellings, since March, indicates that this kind of work
should be as frequent as possible.

Geological Survey Relations

The Geological Survey has returned a manuscript by H.O. Wood and
R.H. Finch entitled "Earthquake Measurements at the Hawaiian Volcano Ob-
servatory 1912-22." This has been awaiting publication about eleven
years.

The Director of the Geological Survey, replying to a request for transfer of equipment of the Observatory, has indicated that surveying instruments and aneroids and one camera should be returned. Other apparatus, purchased from volcanology funds, may be transferred when listed and inventoried. Inventory is being made.

In reply to a correspondence between the two Directors about Lassen seismographs, referred to me, I recommended that not to exceed \$25 might be spent at Lassen for seismogram materials out of Hawaii volcanology funds. (See letters of August 30, Dr. Jagger to Director, National Park Service, and Superintendent Wingate ditto).

Educational Cooperation

Page proof of a research publication of the University of Hawaii, "Ground Surface Displacements at Kilauea, Hawaii" by R.M. Wilson, was corrected and sent back to printer August 27. Professor Carl Andrews kindly assisted with correcting the mathematical formulae. Professor Andrews teaches topographical engineering. He kindly offers to make least squares adjustments, with the aid of his students, if the work may be done next spring. I have discussed with him retriangulating through the University. He suggests that Park officers measure the angles, and the University do the computing. If the University officers were to do the field work, it would have to be in limited periods, and they and student assistants would expect to be transported, housed and provided by the Park Service. Possibly some arrangement might be reached, whereby the new net along Chain of Craters might be flagged and towered by the Park Service, and the University men be transported by the Army, given hotel accommodation while here by the Park Service as temporary assistants, and the scientific work be sponsored and published by the University as a repeated activity in the future. There are now two triangulations awaiting adjustment, both by E.G. Wingate, Kau Desert, 1932 and Puna, 1933. This work is fundamentally important for the progress of knowledge of Kilauea and Mauna Loa.

The Volcano Letter

The March and April issues were sent out early in August. The notes for May, June and July are at hand and finished. The Hawaiian Volcano Research Association directors met August 1. They received a report on transfer to Park Service. They appointed a committee, in which Dr. Jagger is a member, to consider enlarging the monthly Volcano Letter beginning with the July number. Methods of printing and illustrating are under advisement.

Miscellaneous Items

A.E. Jones contributed time in July to finishing manuscript for Volcano Letter and was remunerated by the Association. Engineer Gray of the Army has been studying rainfall records of the Observatory with a view to increasing the water supply of the military camp. Research on Hawaii

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took a step forward by means of an expedition offered by Hawaii Academy of Science, to study summit region of Manna Kea more thoroughly than heretofore. It occupied three weeks, was attended by numerous scientists and was provided for by Army camps and packers and CCC pack animals. Captain H.H. Meyer acted for the Army and Dr. C.K. Wentworth was director of science. Mr. A.E. Jones and others of the Soil Survey took part. Geologist H.T. Stearns and Engineer K.N. Vaksvik of the U.S. Geological Survey, have published a valuable book under the Territory of Hawaii, "Geology and Ground-water Resources of Oahu." Mr. Henry Dougherty, special writer in the Editorial Department of the Honolulu Advertiser, and editor of the Paradise of the Pacific, has recently visited the park, and will write some volcano articles. I furnished him with recent scientific papers.

I have continued work during the month on the manuscript and illustrations of "Crater" memoir for Geological Society of America.

Respectfully

F.A. Jaggar
Volcanologist

TAB/cw

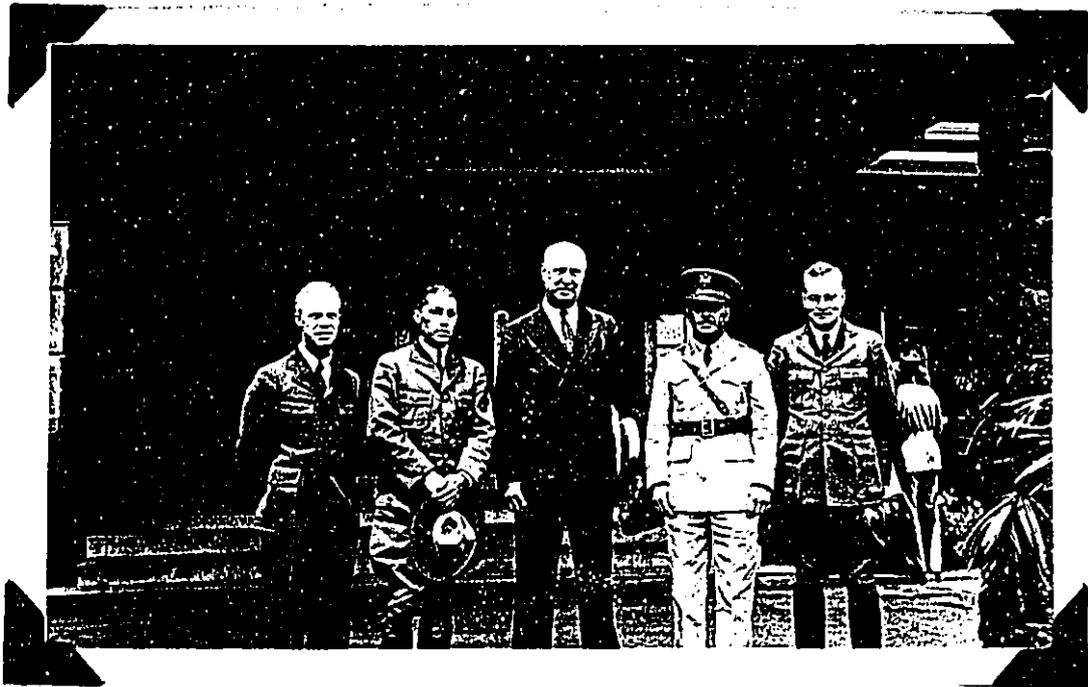
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Party at 10,000 foot elevation Mauna Loa, August 1. Left to right: Mrs. C.A. Bowman, Jr., Hilo; Miss Constance Whitney, NPS; Mrs. Edward G. Wingate, wife of the superintendent; David Kalakaua, Honolulu; Mrs. Gordon Scruton, Hilo and Capt. L.C. Boineau, Kilauea Military Camp, H.N.P.

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Postmaster General Farley on his visit to Hawaii National Park





Rear view of superintendent's residence before and after landscaping and planting by ECW



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10-157
(July, 1929)

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

TRAVEL REPORT

Hawaii National Park for the Month of August, 1935

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	DECREASE	
					INCREASE for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						

Persons entering via motor vehicles;	19,556	184,643	20,739	190,074	5,431	.029
Persons entering via other private transportation,	567	2,606	407	2,960	354	.12
Total persons entering via private transportation,	20,123	187,249	21,146	193,034	5,785	.03

OTHER TRANSPORTATION:

Persons entering via RAIL ^{BOAT} TRUCK ,	989	6,454	1,168	7,265	811	.112
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	989	6,454	1,168	7,265	811	.112

GRAND TOTAL ALL VISITORS,	21,112	193,703	22,314	200,299	6,556	.033
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	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,				
Campers in public camps during month,				

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

~~March~~ National Park for the Month of August, 1935

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	25.00	0.00
Total,	25.00	0.00
Remitted,	25.00	0.00
On hand close of month,	0.00	0.00
Park revenues received this year to date,	50.00	
Park revenues received last year to date,	25.00	
Increase,	25.00	
Per cent of increase,	50%	

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10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of August, 1938

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	REG	PW	REG	PW		
Number of employees beginning of month	20	3	1	9	18	7
Number of additions.....	0	0	0	3	0	0
Total.....	20	3	1	12	18	7
Number of separations.....	2	0	0	1	1	7
Number of employees close of month.....	18	3	1	11	17	0
Number of promotions during month.....	0	0	0	0	0	0
Aggregate amount of annual leave taken	18	0	0	0	16	0
Aggregate amount of sick leave taken....	0	0	0	0	21	0
Aggregate amount of leave without pay..	0	0	0	0	0	0

* One temporary furlough

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10-158

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii

August, 1935

National Park for the Month of

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area Road, Paving (F.A.)	100	0	0	
517 Location Survey and Construction New Halemanu Trail NPS (FA)	55	25	20	
518 7 Haleakala Road, Landscaping (FA)	100	0	0	
520 Haleakala Road, Post Construction (FA)	60	10	20	
521 Post Construction, Uwekahuna-Bird Park Road, (FA)	100	0	5	

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10-161

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Hawaii National Park, T.H.

REPORT OF SALES OF PUBLICATIONS

August, 1935

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	803	124.65
Received during month,	0	0.00
Total,	803	124.65
Sold during month,	5	3.95
On hand at close of month,	798	120.70

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		

Cash on hand beginning of month,	14.37
Sales during month,	3.95
Total,	18.32
Remitted during month,	4.57
Balance,	13.75

STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

AUGUST, 1935

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii Nat'l Park, 1936	44,950.00	37,295.52	7,654.48
45/6406	Forest Prot. & Fire Prev., 1935-36	300.00	0.00	300.00
4x391	Roads & Trails, National Parks, Emergency Construction Act 6/19/34	23,525.00	18,266.87	5,258.13
4x436.1	Roads & Trails, Nat'l Parks Emergency Construction	42,040.00	0.00	42,040.00
4-03640.8	Nat'l Ind. Recovery, Int., Nat'l Parks, Roads & Trails Act 6/26/33	495,538.47	494,963.57	574.90
4-03/7640.14	Nat'l Ind. Recovery, Int., Nat'l Park Service, 1933-'37	11,250.00	11,085.34	164.66
45415	Hawaii National Park, 1935	36,040.00	34,827.96	1,212.04

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

August 19, 1935

PRESS BULLETIN
FOR IMMEDIATE RELEASE

EDWARD G. WINGATE, SUPERINTENDENT

Mr. A. H. Wong, Associate Engineer on the staff of Hawaii National Park has arrived on this Island from Maui to take charge of the surveys for the proposed truck trail on Mauna Loa.

This road will be entirely within the boundaries of Hawaii National Park and will be used for protection and administrative purposes only. It will be 8 feet wide and unsurfaced. The length will be approximately $10\frac{1}{2}$ miles and it will reach nearly to the 7,000 foot elevation. The construction of this trail which was approved by Secretary of the Interior, Harold Ickes, is to be done by the C.C.C. boys now stationed in the park.

Before actual construction can start, Mr. Wong will have about two weeks work restaking the survey made by the Bureau of Public Roads about ten years ago.

Superintendent Wingate has long felt the necessity of a truck trail of some sort on the mountain. In case of a fire in the heavy grass country at the 6,000 ft. elevation or future eruptions on Mauna Loa, valuable hours may be saved by being able to drive immediately to 7,000 feet. The only fires in recent years in the section of the park on the island of Hawaii have occurred in this area, and the necessity for shortening the trail distance to Mauna Loa in emergencies was demonstrated during the 1933 outbreak at Mokuaweoweo when scientific observations and protection work by the park staff were seriously handicapped by the length of the trail trip and time consumed.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park, Hawaii

PRESS BULLETIN
FOR IMMEDIATE RELEASE

Edward G. Wingate, Superintendent

Due to the popularity of previously conducted trips to the summit of Mauna Loa three additional trips have been scheduled for August 15, 16, 17; August 29, 30, 31 and September 12, 13, 14.

These trips are under the guidance of park rangers thoroughly familiar with the mountain and are made possible through the cooperation of Mr. Arthur M. Brown, who furnishes riding animals at a charge of \$5.00 per day each. The park furnishes a guide and packer, who cares for the animals and attends to cooking.

Two rest houses, with sleeping and cooking accommodations are located at suitable points on the mountain and the visitor is required only to provide his own food, blankets and such warm clothing as he may desire.

Reservations for these trips which are limited to a maximum of eight persons and a minimum of four should be made through the office of the superintendent, Hawaii National Park.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park
Hawaii

February 15, 1935

GENERAL OFFICE ORDER NO. 35⁶

SUBJECT: INSTRUCTIONS TO BE FOLLOWED IN EVENT OF VOLCANIC ACTIVITY

1. Observe carefully location and nature of eruption, density of smoke and direction of wind, and
2. Immediately notify park headquarters
3. Stand by for instructions
4. The Chief Ranger will station men in following positions should conditions warrant: during an outbreak at Halemaumau

Ia. If prevailing wind is from the NE or east and smoke is dangerously dense immediately dispatch a ranger to Uwekahuna to close the road at that point until after investigation has been made and he is instructed to open road or otherwise

b. Dispatch one ranger to Halemaumau by way of east rim road who will use his judgment as to necessity for closing that road and act accordingly.

IIa. If wind is from southwest or west and smoke is dense the Uwekahuna road could safely be left open to traffic though a ranger should be sent immediately over this road for inspection and report.

b. Same instructions as in Ib.

III. Communication is important and a reliable operator must be stationed at the switchboard and remain there until relieved.

IV. The staff of the Volcano Observatory has perfect freedom of movement at all times.

V. Keep cool, do not exaggerate.



Edward G. Wingate
Superintendent

Distribution.
Chief Clerk
Chief Ranger
Each Ranger
Foreman
Superintendent.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park
Hawaii

August 9, 1935

GENERAL OFFICE ORDER NO. 37

SUBJECT: USE OF UNIFORMS

My attention has been directed to a 'Memorandum for all Superintendents' dated July 30, 1932 and signed by former Director Horace M. Albright which in part reads as follows:

"1. I am told that there is a great tendency on the part of National Park Service officers and men to get out of uniform in the evenings, particularly when they are about hotels, lodges, and camps. There is only one person whom we are willing to allow out of uniform when associating with the public, and that is the Superintendent himself. We believe it desirable at times for the Superintendent to lay aside his uniform and get into civilian clothes, because it not only gives him a chance to get away from the public, but it also affords him a better opportunity to observe the kind of service that is being given to the public by his organization.

Rangers are supposed to be on duty at all times, and we have always been particularly glad to have men in uniform about the hotels and lodges and on the dance floors and at the entertainments, although we always ask the Superintendents to be careful and see that too many men are not at one place at the same time.

All Superintendents will therefore see to it that their men are kept in uniform."

The uniformed personnel of this park is therefore directed to comply with the above instructions.



Distribution:

Chief Clerk
Chief Ranger
Each Ranger
Foreman
Superintendent
Park Naturalist
Director 2
Monthly 7
File
Volcanologist

Permanent Laborers
General Mechanic

Edward G. Wingate
Superintendent

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park, Hawaii

August 9, 1935

SUPPLEMENT NO. 1, GENERAL OFFICE ORDER NO. 29

Subject: Introductory statement regarding the Department of the Interior and the National Park Service to be used at the beginning of all official lectures and guide tours.

In accordance with repeated previous instructions from the Director the following introductory statement must be made without fail at the beginning of all official lectures and guide tours.

"The Department of the Interior originally established in 1849 as the 'Home Department' is charged with the responsibility for advancing the domestic interests of the people of the United States. Among its several bureaus which include among others the Bureau of Indian Affairs, the Geological Survey, the Division of Territories and Island possessions, the General Land Office and Office of Education, is the National Park Service.

"This Service was established by Congress to promote and regulate the use of the various national parks, monuments and reservations for the purpose of conserving the scenery and natural and historic objects and wildlife and to provide for their present enjoyment so as to leave them unimpaired for the enjoyment of the future generations. There are now 24 national parks and 113 other monuments and reservations under its direction, each established to preserve some outstanding scenic, historic or scientific area. No two parks are alike.

"Hawaii National Park was created to preserve the most representative areas of volcanic interest in the United States.

"In Hawaii, as in all the other parks, the government has provided roads and trails and a trained staff to conserve the natural features and to protect and inform the visitor. It has contracted with responsible firms for the installation of hotel and other accommodations.

"The representative of the government in charge of this park is Superintendent Edward G. Wingate. He will be glad to receive any criticisms that may be offered to better the service or remarks concerning your visit to Hawaii."

To avoid monotony or because of changing conditions the above wording may be altered in form upon written approval of the change by this office.

Distribution:

Director	2	Park Naturalist	1
Superintendent	1	Foreman	1
Chief Clerk	1	General Mechanic	1
Chief Ranger	1	Permanent Laborers	-
Each Ranger	-	Monthly Report	7
Volcanologist	1		

Edward G. Wingate
Edward G. Wingate
Superintendent

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park, Hawaii

August 14, 1935

GENERAL OFFICE ORDER #38

Subject: Preservation of Public Property, Natural Features and Curiosities

Following our fire hazard reduction program conducted under Civil Works and ECW I have noticed a growing tendency on the part of the visiting public to gather and carry away for various purposes considerable quantities of down and dead wood. Inspection in Kipuka Puaulu shows that this collecting has not been confined to down wood but that branches have been broken and cut from growing trees. This practice is contrary to Rule 1 of the Rules and Regulations governing the national parks, approved by the Secretary of the Interior June 6, 1935, which reads as follows:

"1. PRESERVATION OF PUBLIC PROPERTY, NATURAL FEATURES AND CURIOSITIES

The destruction, injury, defacement or disturbance in any way of any public building, sign, equipment, monument, statue, marker or other structure, or of any tree, flower, vegetation, rock, mineral, formation, stalactite, stalagmite, phenomenon of crystallization, incrustation in any lava tube, cave, steam vent, or cone, or of any animal, bird or other wild life, or of any ruins or relics, or of any other public property of any kind, is prohibited; Provided, that flowers may be gathered in small quantities when, in the judgment of the superintendent or custodian, their removal will not impair the beauty of the park or monument. Before any flowers are picked, permit must be secured from the superintendent or custodian."

There is, therefore, no authority for the gathering of any wood except by campers for the purpose of making camp fires as stated in Rule 2(e) and as permitted by the superintendent for the purpose of making collections for schools, colleges, universities, museums or other public use by competent and properly identified applicants.

Collection for private or personal use is not authorized

Gathering in Kipuka Puaulu of down or dead wood for camp fires is prohibited.

Distribution	
Director - 2	Volcano House
Superintendent - 1	KMC - 1
Chief Clerk - 1	Foreman - 1
Chief Ranger - 1	Gen. Mechanic-1
Each Ranger	Permanent Lab. - 1
Volcanologist - 1	Monthly Report - 7
Park Naturalist-1	File - 1

Edward G. Wingate
Edward G. Wingate
Superintendent

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park, Hawaii

August 27, 1935

GENERAL OFFICE ORDER NO. 9 (REVISED)

Subject: Cost Accounting System for Motor Vehicles

General Office Order #9 is hereby revised to bring it in accordance with circular dated June 29, 1935 from the office of Branch of Engineering. Please insert this revised page in your file of general office orders in place of the order dated August 24, 1932.

1. In order to operate this system successfully every employee must cooperate fully. The records kept must be exact. It must be remembered that each truck will be compared against other trucks of the same type and that the records of Hawaii National Park are compared with the records of other parks. It is necessary, therefore, that our records be carefully kept and operating costs reduced in every possible way so that our operating costs will compare favorably with those of other parks.
2. The supervision of the system will be under the direction of Chief Ranger Joseph H. Christ, who is designated master of transportation, and as such has supervision of all motor equipment, including assignments.
3. Form A. The data for this form, which is designed to secure a description of each piece of equipment and all of its parts, will be a responsibility of the chief clerk.
4. Form B. Each driver of a motor vehicle will turn in form B daily for all trips taken. All second or low gear mileage must be converted into equivalent high-gear mileage.
5. Form C. This is a record of gas and oil used and each driver will fill in the quantities used from the record kept at the gasoline and oil shed.
6. Form CC. Individual vehicle gas, oil and grease card; for daily issues where only a few pieces of equipment are in use; or monthly summary issues to individual pieces of equipment either in conjunction with form C or without.
7. Form D. This repair sheet will be filled out by the superintendent's office and turned over to the mechanic to make the repairs.
8. Form E. This is regular storehouse requisition form 10-43 for parts or supplies needed and will be made out by the general mechanic doing the work.

9. Form F. This will not be used as it does not appear necessary at present for our small operation.

10. Form G, recapitulation, will be compiled by the chief clerk's office each month.

11. The chief clerk's office in the administration building will be charged with the operation of the cost account system. The chief clerk or his designated assistant must secure all of the necessary forms each day, check them, enter the cost of gasoline, oil, repair parts, labor, etc., and extend them, keeping the system up to date daily.



Edward G. Wingate
Superintendent

Distribution:
Director - 2
Superintendent - 1
Chief Clerk - 1
Chief Ranger - 1
Each Ranger
Volcanologist - 1
Park Naturalist - 1
Foreman - 1
General Mechanic - 1
Permanent laborers
Monthly report - 7
File - 1

Form No. 1009-Met

U. S. Department of Agriculture, Weather Bureau.

MONTHLY SUMMARY.

COOPERATIVE OBSERVERS' METEOROLOGICAL RECORD:

Month of August, 1935, 192 ; Station, Volcano Observatory; County, Hawaii
 State, Hawaii; Latitude, _____; Longitude, _____; Hour of Observation, 8.00 A.M.
 Time used on this form, H.S.T.

DATE.	TEMPERATURE.				PRECIPITATION.			WIND DIRECTION ON GROUND AT OBSERVATION.	PREVA- LING WIND DIRECTION.	CHARACTER OF DAY, SUNRISE TO SUNSET.	MISCELLANEOUS PHENOMENA.
	MAXI- MUM.	MINI- MUM.	RANGE.	*SET MAX.	TIME OF BEGINNING.	TIME OF ENDING.	AMOUNT.				
	1	2	3	4	5	6	7	8	9	10	11
1	68.0	58.8	11.2	59.2			.10	83.0	Mod.	N.E.	P.O. AM - Rain PM
2	69.8	58.5	13.3	67.7			.07	88.0	Lt.	N.E.	P.O. AM - Clear PM
3	73.2	58.2	17.0	68.1			.07	81.0	Lt.	N.E.	Clear AM
4	68.5	54.4	14.1	54.8			.01	85.0	Str.	N.E.	P.O. - CL. PM
5	72.0	55.5	16.5	66.5			.01	80.0	Mod.-Str	N.E.	Clear
6	72.6	54.8	17.8	65.2			Tr.	74.0	Str.	N.E.	Clear
7	74.8	54.7	20.1	64.8			Tr.	78.0	Mod.	N.E.	Clear-Rain AM
8	68.7	62.7	6.0	63.5			.25	91.0	Lt.	N.W.E.	Foggy-Rain AM
9	74.0	55.0	19.0	66.2			.08	78.0	Lt.	N.W.E.	Cl. AM - Rain PM
10	65.3	58.6	6.7	59.5			.58	92.0	Lt.	N.W.E.	Clidy-Rain
11	70.0	55.3	14.7	61.5			.30	90.0	Mod.	N.E.	Fair AM - Rain PM
12	72.0	58.3	13.7	66.0			.08	76.0	Mod.	N.W.E.	Clear
13	75.0	62.0	13.0	65.0			.02	82.0	Mod.	N.W.E.	Clear
14	71.0	59.9	11.1	62.0			.17	83.0	Mod-Str.	N.E.	P.O.-Rain PM
15	74.5	55.1	19.4	64.0			.02	87.0	Mod.	N.E.	Clear
16	70.7	60.0	10.7	60.5			.16	90.0	Mod.	N.E.	Rain-Drizzle AM
17	77.4	54.5	22.9	67.5			.01	83.0	Lt.	N.E.	P.O. AM - Cl. PM
18	75.0	58.2	16.8	65.5			Tr.	81.0	Mod.	N.E.	Clear
19	69.5	56.2	13.3	64.8			.01	83.0	Str.	N.W.E.	Clear
20	73.0	58.4	14.6	60.4			Tr.	91.0	Str.	N.W.E.	P.O.-Cl.
21	72.0	54.0	18.0	66.1			.00	77.0	Mod.	N.E.	Cl. AM - Rain PM
22	72.6	56.5	16.1	64.7			.02	77.0	Lt.	N.E.	P.O. AM - CL. PM
23	73.0	54.5	18.5	66.5			Tr.	73.0	Mod.	N.E.	Clear
24	65.2	58.5	6.7	63.5			.19	93.0	Mod.	N.W.E.	Rain-Fog
25	71.0	55.7	15.3	63.4			.12	89.0	Mod.	N.E.	P.O. AM - Rain PM
26	70.0	60.6	9.4	63.0			.25	83.0	Lt.	N.W.E.	Clear
27	72.3	54.4	17.9	65.7			Tr.	72.0	Mod.	N.W.E.	Cl. AM - Rain PM
28	72.0	68.4	11.6	61.0			.04	85.0	Mod.	N.E.	Clear
29	73.0	57.9	15.1	67.1			Tr.	76.0	Lt.	N.W.E.	Clear AM - Rain PM
30	73.0	58.6	14.4	63.7			.06	76.0	Mod.	N.E.	Cl. AM - Clidy. PM
31	74.7	62.8	11.9	66.2			.01	80.0	Mod.	N.E.	Clidy AM - Rain PM
SUN.	2223.8	1774.8	1450.0	1938.4			2.59	2568.0			
MEAN.	71.7	57.8	14.8	64.0			.06	83.7			

TEMPERATURE.
 Mean maximum, 71.7
 Mean minimum, 57.3
 Mean, 64.5
 Maximum, 75.0; date, 13 & 18
 Minimum, 54.3; date, 17
 Greatest daily range, 23.1, August 17

PRECIPITATION.
 Total, 2.59 inches.
 Greatest in 24 hours, .56; date, 9 - 10

SNOW.
 Total snowfall, _____ inches; on ground 15th, _____ inches;
 at end of month, _____ inches.

NUMBER OF DAYS—
 With .01 inch or more precipitation, 23
 Clear, 10; partly cloudy, 16; cloudy, 5

DATES OF—
 FOG XXXXXXXX
 XXXXXXXX August 8, 16, 24

Thunderstorms, _____
 Hail, _____
 Sleet, _____
 Auroras, _____

REMARKS:

*Reading of maximum thermometer immediately after setting.
 †Including rain, hail, sleet, and melted snow.
 ‡Thunderstorms, halos, auroras, etc.

T.A. JAGGAR, Cooperative Observer.

(IN TRIPLICATE.)

See cover for instructions.

Post-Office Address, Hawaii National Park

Director, etc.

000 - General

You, please

020 - General Weather Conditions

Christ - + Max & Min Temperatures

100 - Administration

110 - Status of Work

Considerable progress was made on the back files during the month.

120 - Park Inspections By:

121 - Superintendent

Aug 1-3, Mauna Loa : 5 miles (approx) W. of - 2 1/2 miles
By + Charlie J. J.

122 - Special Field Representatives

123 - District
Sager

125 - Other Gov. Ofc's.

Aug. 7 - Henry, Terr. Engr., Klein, Reg. Ofc. BPR, Moskowitz, Prin.
Highway engr., Honolulu

Aug. 13 - Farley and O'Connell

130 - Finance and Accounts

A detailed statement will be found at the back of this report.

140 - Labor Situation

I suspect there is one of sorts. - L. W. P.

150 - Equipment

160 - Stamps Christ and Jimmie
alumniated from New chrs. 8/11

180 - Circulars, Placards, Publicity Bulletins

Revision of the circular of general information for 1936 was started about the middle of the month

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200 - Maintenance, Improvements & New Construction

210 - Maintenance

Minor repairs were made to several quarters ~~and on roads~~ and wood and garbage were hauled. - Christ - *Following a complete road inspection by B.P.A. officials and based on their recommendations considerable surface repairs were undertaken!*

220)

Christ and Craik

230) - *Silvestra*

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

see Wright

Have they and others been active enough to make a record?
314 - Complaints

316 -
400 - Flora, Fauna & Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Mackenzie pau close 31st. Lamb

420 - Museum Service

Doerr left for coast Aug. 2. Lamb actg. v.n.

480 - Natural Phenomena

A report of the Volcano Observatory will be found at the back of this report.

490 - Miscellaneous

Silversword and greensword - Lamb

500 - Use of Park Facilities by the Public

510 - Travel -
Jimmie

530 - Visitors

Christ

- Ramsey Wright near Red Bluff Aug 2!

600 - Protection

Christ

640
900 - Miscellaneous

Don't know of anything except the unusual amount of dances.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

September 4, 1935

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

The following is the report of ranger activities during the month of August.

000 General

010 The ranger department activities during the month covered a wide range what with recreational, educational, protection and maintenance of telephone lines, painting and repairing signs.

020 Weather conditions

The total rainfall at the Summer Camp was 1.18 inches compared to 5.13 inches of last month and at the Volcano Observatory the total rainfall was 2.59 as compared to 7.94 inches last month. On the Haleakala section of the park the total rainfall was 1.33 inches for August 13 to 31.

100 Administration

110 Status of work

All work is up-to-date.

120 Park Inspections

Routine general park inspections on all the work in progress were made during the month.

Inspections trips to Bird Park, Hilina Pali, Mauna Iki, the 6,500 and the 10,000 foot elevations were made during the month.

H10 } District Ranger Peck made routine inspections of the new Halemauu trail, the toilets at White Hill, etc. He also looked over water possibilities on Haleakala with Mr. H. A. Powers.

The Superintendent made an inspection trip to the summit of Mauna Loa at the first of the month.

Superintendent # 2

September 4, 1935

150 Equipment

Mr. Kellner of American Factors donated a gas light for the 10,000 foot elevation rest house on August 8.

A rain guage, which was obtained from the weather bureau in Honolulu, was installed at Haleakala on August 13.

200 Maintenance, Improvements and New Construction

The usual maintenance of roads, trails, telephone lines, trucks and other equipment was carried on during the month.

210 } Ranger McKenzie painted the kitchen at the Puu Ulaula rest house on Mauna Loa.

220 } The cantoneers are still at work on Haleakala and have started transplanting more grass on the road banks. The grass that was transplanted last month has started to grow.

230 } District Ranger Peck reports that the new Halemauu trail is practically finished as far as the crater rim.

On August 17, Mr. Henry Wong, Associate Engineer on the staff of this park arrived from Maui to take charge of the surveys for the approved trail on Mauna Loa. The surveys to date have been completed and work on the road, to be done by C.C.C. boys, is expected to start sometime in September.

300 Activities of other agencies in the park

310 Park Operators

Three dances were held this month at the Volcano House.

On August 20 the appointed staff went on a tour of inspection through the Volcano House and surrounding grounds. This inspection was subject to a memorandum to the Superintendent.

400 Flora, Fauna, and Natural Phenomena

410 Ranger, Naturalist, and guide service

Park Naturalist Doerr, left the park on August 2 for a trip to the coast. Ranger Lamb has been Acting Park Naturalist during the month.

Temporary Ranger McKenzie's time was up at the end of this month. He has been working in the park for three months.

480 Natural phenomena

Acting Park Naturalist Lamb was called to Maui to instruct the

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The Superintendent # 2

September 4, 1935

ECW foremen in the collection and distribution of the silversword seed now ripening. While in the crater he made a brief survey of the Hoolau Gap inspecting greensword and other rare plants.

500 Use of Park Facilities by the Public

530 Visitors

On August 6, 138 boy scouts arrived for a weeks stay in the park, stopping at the Military Camp.

Mr. R. King, Territorial Surveyor; Mr. Chas. H. Merriam, Manager of Land Department, C. Brewer & Co.; Frank Atherton, son and guest were all visitors of the park during the month.

On August 10, Chas. Judd, Territorial Forester arrived to spend some time in the volcano district. He was accompanied by his wife and son. The Chief Ranger took Mr. Judd on a trip to Hilina Pali for an inspection trip and at a later date Acting Park Naturalist escorted the whole family to the Pua Ulaula rest house on Mauna Loa, where they spent one night, returning to the park the following day.

Postmaster General and Mrs. James A. Farley; Mr. Ambrose O'Connell, executive secretary to the postal chief flew to the big island on August 13. They spent a few hours in the park and were taken around by the Superintendent and Acting Park Naturalist Lamb. Accompanying the Farley's on their trip were Mr. and Mrs. Stanley Kennedy.

Miss Barbara Rowland, the outdoor girl, and her family arrived in the Park on August 19 remaining at the Volcano House all night.

On August 24 and 25, 160 cadets, officers, and men off of the Training Vessel, Taisei Maru, were visitors of the park. Special tours and lectures were arranged for the visitors.

600 Protection

620 Fire protection

On August 12 a fire alarm was turned in by the Superintendent. This was a fire drill and the time was checked on how long it took the water to get through the hose, the staff to arrive, and how long it took the C.C.C. boys to arrive. The hose connections were very slow and an explanation for this was subject to a memorandum to the Superintendent.

A regular fire hazard inspections of buildings around the Observatory was conducted by Ranger Murray in the latter part of the month. This inspection was also subject to the memorandum to the Superintendent.

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The Superintendent # 2

September 4, 1935

650 Signs

Signs were prepared and painted as required.

Traffic strips were painted at the Volcano House to better regulate the parking.

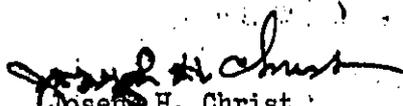
660 Sanitation

Gutters on residents were cleaned, etc., during the month.

900 Miscellaneous

A commercial airplane landed at the emergency landing field near the Halemaumau pit. Chief Ranger and Miss Whitney immediately went over and told the aviators that they were not to land unless in emergency therefore they took off right away. ?

Very respectfully,


Joseph H. Christ
Chief Ranger

Note:

On August 15 Ranger Murray and Ranger McKenzie discovered an accident on the Kau road about 1 1/4 miles west of the Bird Park - Kau intersection. Two cars going in opposite directions had a near head on collision. One was a ford sedan #20875 and the other a Chrysler #25543. The damage was slight and no one was hurt. The accident had taken place about 7 p.m. the evening before. Both men worked at the same plantation and they said they had settled the payment of damages between.



The park was honored on August 13 by a "short" visit from Postmaster General J. C. Farley, Mrs. Farley and the Executive Assistant to the Postmaster General, Mrs. Anderson ~~to~~ ^{the} ~~Commodore~~. They arrived by inter-island plane accompanied by the ~~and~~ Mrs. Steady Kennedy of Honolulu.

Due to the little time available for a visit to the park the Kennedy when he phoned from Honolulu informing the Superintendent of the Farley's visit passed on the request that the visit be kept confidential. However, the local paper, got wind of it from Honolulu ^{and passed the word around as they} a considerable gathering of his people, politicians etc. was on hand when the party arrived with the result that the little time available to see the park was cut even shorter by the Farley's having to engage in a tree planting ceremony in Hilo.

The Postmaster ^{and} party finally arrived about 12:30 PM at the Poliers Home where they were met by the Superintendent, some of the park staff, the Commanding Officer of the Military Camp and a few others. Following a brief stop at the Hotel (no time for lunch) accompanied by the Superintendent and flanked (partially) by a park car with the acting Park Warden a trip to Helemanua was made which for sheer speed through the park exceeded even the notorious "flying" visit of Amelia Earhart. The public at least allowed her sufficient time to ~~eat~~ ^{try} luncheon at the Poliers Home. The Farley's had to

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just some lunch until they got on the plane returning to Honolulu. In add to the distinguished visitor discomforts Mr. Kennedy just Pierce-Larson refused to function just after leaving the Wilson House and the party had to be bundled into the Superintendent's car following. The Fairley was mighty good sports and he did get some shots of Kalamann with his movie camera and a fleeting look at the lion tamer.

As on every previous occasion when a distinguished visitor came to the park the weather was perfect. Which was something because, as previous Superintendents will agree, it can be awfully raw.

Aug 18th - Completed draft of K.H.C. Permit act
316 } act to Trustees

330 } Bids Haleiwa Road armoire coat supporting act
act - Opened on Aug 31? - Award to low bidder
Hawaiian Contracting Co. - amount? recommended
for acceptance by Mr. J. Moberly, in charge office B.P.B.
Moberly approved by Dept.

310 } Aug 19 - Staff of Volcan House taken on General
Park tour by Dept and Roger Murray. This
trip was made in order to familiarize the Hotel
employees with the park and to give them some
ideas concerning park policies etc

198 } Aug 20 - Park Staff inspected Hotel facilities etc

314 } Aug 22 Complaint Hotel visitor re dog barking -
investigated and Hotel Operator sent dog out of park

316 } Aug 25 - Contract 1-6-p-16 (renewal) grazing permit for
25 head cattle, Kapaemahu Ki. to Hawaiian Agri Co.

640 } Aug 28 - Correspondence with your office concerning the
eradication of wild goats from park lands was continued
(see letters)

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230 } Following recommendations made ^{to go office} during July, work
was received on Aug 27 that the Chemin P. D.
had approved all tent jobs construction Operation
Station and toilets, and checking Station Hole Hole.
230 (~~at~~ also 2750 for completion Holman-a-Job

+ } Rivoertburg's 'Shingles' 13 days
900 }
+ } Death 'Bill' Williams - Superintendent for EC
Blod after long illness -

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Sept. I, 1935.

The Superintendent,
Hawaii National Park,
Hawaii.

Dear Sir:

The following is a report of my time by
hours for the month of Aug. 1935.

Repairing of passenger cars and trucks		101 Hours	
Pumping water as follows, High tank	29,500 gal.		
Richardson # 17	9,500 "		
Wingate # 1	6,000 "		
Watering trees	2,250 "		
Bird Park	2,100 "		
Higashida # 2	2,000 "		
Lamb # 7	1,500 "		
Kauhi # 10	1,500 "		
Fischer # 3	1,500 "		
Lava tube tanks	1,200 "		
Uwekahuna toilets	1,200 "		
Korley # 8	1,000 "		
Waesche # 9	500 "		
	60,050 Gal.	21	"
Repairing tools in warehouse		10	"
Drying fire hose		6	"
Check in gasoline		5	"
Rep. and sharpen lawn mower		5	"
Fill all car batteries first and fifteenth of month		4	"
Prepare power mower for shipment and help take snaps		4	"
Uwekahuna light plant		4	"
Rep. linemans reel		3	"
Take inventory of Park residences		3	"
Make connections for and test portable pump (Homelite)		3	"
Repair old suction hose		3	"
Rep. old battery		2	"
Rep. fire pump		2	"
Transfer kerosene to storage tank		2	"
Patch tire tubes		2	"
Rep. two leaky one quart fire extinguishers		2	"
Rewire siren switch house with rubber covered wire		2	"
Fire equipment house and tools		2	"
Rep. grass shears		2	"
Warehouse		2	"
Make marking letters for marking wood handles N. P. S.		2	"
Repair vise		2	"
Check fire line and test fire pump for E. C. W.		2	"
Rep. tires for two Park visitors		2	"
Rep. telephone ringer		1	"
Transfer motor oil to storage tank		1	"
Clean bed roll		1	"
Rep. air pressure tank for heavy oil (600 W)		1	"
Rep. air compressor		1	"

Continued to sheet # 2

Clean paint brushes	1 Hour.
Rep. flash lights	1 "
Volcano house inspection	1 "
Dressing rock tools	1 "
Rep. trail measurer	1 "
Transfer gasoline to storage tank	1 "
Check in kerosene	1 "
Solder kerosene can	1 "
Rep. bitumuls or road oil pump-	1 "
Check and repair foldind canvas army cots	1 "
Repair table for quarters # 8	1 "
Unpack and assemble new steel cabinets for office	1 "
Rep. battery for Park visitor	1 "
Total	216 Hours.

Submitted by,

F. F. Fischer,

F. F. Fischer

Mechanic.

egw

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

September 3, 1935

Memorandum to Superintendent Edward G. Wingate:

The following is a report of work accomplished under my direction during the month of August, 1935.

1. Sandpapered, stained and varnished all floors in Quarters #15.
2. Increased underpinning under water tanks, C.C.C. Camp.
3. Installed water faucets outside Quarters #1 and 16.
4. Minor alterations Quarters #1.
5. Scraped and stained all floors in Quarters #2.
6. Hauled water and filled water tank at Horse coral, Bird Park.
7. Filled water tanks at Quarters #1 and at Lava Tube.
8. Repaired broken macadam on park roads.
9. Hauled garbage and rubbish from all park employees quarters.
(9 times)
10. Replaced broken window panes in Quarters #11, 9 and 7.
11. Cut grass on park employees lawns at odd times.
12. Started bug proof cabinet for museum.
13. Shipped mowing machine and movie camera to California.
14. Installed extra windows at warehouse.

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Memorandum to Superintendent Edward G. Wingate: September 3, 1935

- 15. Repaired stopped drain pipes at Office building and
 Quarters #11.
- 16. Painted back porch and steps Quarters #7.
- 17. Hauled fire wood from C.C.C. Camp to Utility area.

R. R. Craik

R.R. Craik,
Foreman

E.G.W.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

FILE

OFFICE OF THE SUPERINTENDENT

August 10, 1935

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows the monthly report of activities for this park for July.

000 - General

The fifth session of the University of Hawaii summer school ended on July 25.

During the month Dr. W.W. Krauss, of the Swedish State Institute of Race Biology, delivered a series of 3 lectures on the following subjects: "The Races of Mankind," "Social and Physical Effects of Race Crossing" and "Social Effects of Race Crossing in Europe, Past and Present." These lectures were all well received and of considerable importance locally as the islands have a very large race-crossed population. It was pleasing to hear, that as a result of his extensive investigations, Dr. Krauss state that race crossing in no way produced inferior individuals unless the parents were themselves inferior.

Of great importance to this park was the transfer on July 1 of the Volcano Observatory and its volcanologist, Dr. T.A. Jaggar, from the Geological Survey to the National Park Service.

The Observatory was organized by an association formed for the purpose, of prominent local residents interested in the scientific investigation of the Hawaiian volcanoes. This group was incorporated as the Hawaiian Volcano Research Association and in cooperation with the Massachusetts Institute of Technology established in 1912 an observatory on the rim of Kilauea Crater. Professor T.A. Jaggar, then on the staff at M.I.T. and who had made previous investigations in Hawaii, was appointed Director of the Observatory and during the entire 23 years following has supervised and directed its work.

The transfer of the Observatory has brought into close association with the park some of the outstanding men of Hawaii and the addition of Dr. Jagger's name to the Park Service roll is a distinct asset.

Unfortunately, no provision was made in the transfer for Seismologist A.E. Jones and the amount of funds made available by Congress for this work remained the same as the year previous. To fill this vacancy and provide an interested and capable assistant to the volcanologist Ranger H.H. Waesche has been assigned to full time duty at the Observatory. During the month of June Ranger Waesche had been directed to assist in and learn the routine work in which he was constantly advised by Mr. A.E. Jones.

A press release covering the transfer in more detail is attached.

020 - General Weather Conditions

The total rainfall at the Summer Camp was 5.13 inches compared to 1.78 inches of last month and at the Volcano Observatory the total rainfall was 7.94 inches as compared to 3.07 inches last month.

100 - Administration

110 - Status of Work

The annual report for this park was mailed on July 24 and on July 11 the annual report of inspection of fire hazards was submitted to the Washington office.

No work was done on the files during the month.

120 - Park Inspections By:

121 - Superintendent

The superintendent returned to Kilauea headquarters on July 3, following two weeks spent on the island of Maui inspecting park and ECW work in the Haleakala section. He remained at Kilauea until the 21st when he again went to Maui on an investigation of criticisms that the government was not furnishing proper accommodations on Haleakala. While on Maui he attended and spoke at a meeting of the chamber of commerce, outlining steps already taken to improve conditions as well as plans for the future. He was particularly pleased to note the fine support given the park administration as shown in the remarks of several other speakers. Both District Ranger Peck in charge of the Haleakala section and Assistant Camp Director (ECW) K.J. Williams attended the meeting. He returned to Kilauea on the 24th.

While at Kilauea routine inspections were made of ECW work and such park projects as were in progress.

Together with General Hugh A. Drum a short inspection was made of the CCC camps on July 20.

122 - Special Field Representatives of the National Park Service

Effective July 1 Associate Architect Sager was furloughed to the ECW as an associate landscape architect and will continue work here in this park. He spent the month of July in Kilauea, with the exception of the 15th to 19th, when he was in Honolulu conferring with the new B.P.R. resident engineer, Mr. Jack Moskowitz, on road matters.

123 - National Park Service Officers

On July 12 Mr. E.E. Tillett, formerly chief accountant of the Park Service, who had been furloughed to the ECW as field supervisor for this territory, arrived in the park for a two-day inspection. He departed on the 14th for Honolulu.

125 - Other Governmental Officers

On July 17 Major General Hugh A. Drum, commanding officer of the Hawaiian Department arrived in the park for an inspection of the Kilauea Military Camp and for a conference with the superintendent on the extension of the lease of the military camp.

Major General Halstead Dorey, commanding Hawaiian Division and Mrs. Dorey were also in the park at the same time.

Generals Drum and Dorey returned to Honolulu on the 24th.

130 - Finance and Accounts

A detailed statement of the park appropriations will be found at the back of this report.

140 - Labor Situation

Due to lack of funds a general furlough of all FERA workers was ordered for several days. Most of them were later ordered back to work under WPA.

Also due to lack of any funds for construction on road and trail work on projects submitted under Public Works it was necessary to lay off six laborers on July 10.

150 - Equipment and Supplies

The following equipment was received during July: one Bell and Howell motion picture camera, complete with lens, carrying case, tripod, etc., three rolls "Kilauea Volcano Eruption, 1934", two letter size filing cabinets, a portable water pump with suction hose and one reel of the film "Volcanoes", in addition to miscellaneous small hand tools and supplies.

180 - Circulars, Placards, Publicity Bulletins, etc.

Copies of press releases and office orders which were issued from this office during July are attached.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

The necessary repairs were made to equipment and government buildings and the usual maintenance of roads, trails, telephone lines, etc. was carried on. Newringers have been installed in several telephone boxes and the switchboard was given a thorough overhauling by a man from the telephone company.

220 - Improvements

The cantoniers continued work on the Haleakala road and are now planting grass on the shoulders. A short strip of road leading to the new picnic ground at Kipuka Puanalu was completed by a CCC crew.

230 - New Construction

Work is progressing on the new Halemau-u trail in the Haleakala section and work has been started on temporary comfort stations at the terminus of the Haleakala road.

CCC crews completed four miles of trail in the new bridle path system at Kilauea and three miles of new trail were completed in Haleakala.

260 - Landscape Work

The grounds in front of the administration building were prepared for planting and the stone curbing was relaid along better lines by the CCC landscaping crew. Some screen planting was done in the general headquarters area.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

The clubroom addition to the Volcano House was completed on July 20, at which time a dance was given to celebrate the opening. The heating

system was also completed during the early part of July.

311 - Character of Service Rendered to the Public

The meals served at the Volcano House and improvements such as the new heating system have been the cause of many favorable remarks; Dr. W.W. Krauss and Dr. M. Faus of Honolulu being particularly pleased with the meals and kitchen equipment.

314 - Complaints

While on Maui during the first part of the month Mr. E.J. Walsh, Manager of the Grand Hotel, Wailuku, conveyed to the superintendent several mild complaints concerning lack of shelter and toilets on Haleakala. After inspection Assistant Camp Director Williams, ECW, was directed to thoroughly clean up the interior of the rest house and paint the walls, also do what he could to fix up the old stone toilets. Upon returning to Kilauea 20 new mattresses were ordered to replace those worn out by CCC use. A few days later an article appeared in the Maui News voicing a complaint by a visitor to the mountain that the rest house was not being properly maintained. A personal investigation was made as reported under Sec. 121, and separate correspondence to your office. From the standpoint of the tourist visiting Haleakala over the new road the complaints were justified but actually the rest house was in better condition when inspected than when turned over to the Park last fall and this the superintendent was pleased to note the Maui people realized. The rest house never did compare favorably with the Ahwahnee at Yosemite.

316 - Modification of Existing Contracts

On June 28 a letter was received from your office enclosing a letter from the Comptroller General requesting to be advised if there were any reasons in view of facts cited therein, why lease No. I-6p-46 ECW for rental of the "summer camp" to house CCC enrollees should not be cancelled. Reply was made to this letter and forwarded by airmail to your office on July 11. A copy of this reply was furnished Mr. E.E. Tillett for such comment as he desired to make to your office.

350 - Donations

The donation of three valuable books was made to the park by Judge C.C. Conradt and his son, August. They are as follows: Hallbrand's "Flora of the Hawaiian Islands," (out of print); "Indigenous Trees of the Hawaiian Islands" by J.F. Rock and W.A. Bryan's "Natural History of Hawaii," the last being a gift by Prof. Bryan to the donor. A press release regarding this donation is attached.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Harold Morley entered on duty July 5 as a temporary ranger-naturalist for one month.

District Ranger Feck made routine inspections at Haleakala. One trip was made into the crater by the way of the Sliding Sands trail, camping overnight at Pua Hale and out the following day on the Haleman-u trail.

During the month the new Kilauea Iki trail was used for the first time in conducting a nature study trip. This trip will be a regular part of the activities of the naturalist department in the future, weather permitting.

On July 4, 5 and 6 Ranger Murray conducted three summer school people on a trip up Mauna Loa. The next trip was scheduled for the 18th, 19th and 20 and proved so popular that a party of nine went up, accompanied by the chief ranger and a packer. More trips have been scheduled for the coming months.

420 - Museum Service

The month just ended was an exceptionally busy one from the standpoint of regular as well as special educational activities. The major portion of the time of the park naturalist, assisted by one permanent ranger and a temporary ranger-naturalist, was spent in lecture, museum and field contact work. There was little time for other phases of work other than handling routine office duties. In addition to the regular contact activities some time of the naturalist staff was spent with classes and special lectures for the Volcano Session of the University of Hawaii Summer School.

During the 1935 session of the summer school in the park the naturalist division made arrangements, handled the necessary publicity and conducted eight evening lectures at the Volcano House. For that phase of educational activities we experienced very good cooperation from the university. Mr. G.P. Gordon, director of the Volcano session and Dr. John W. Coulter deserve special thanks for their efforts in helping to arrange the program of evening lectures.

430 - Natural Phenomena

Beginning with this report natural phenomena will be included in the report of the Volcano Observatory which is attached.

490 - Miscellaneous

A great many silversword plants were reported in bloom in Haleakala Crater by District Ranger Peck. He also states that the cheesecloth protectors put around the plants by Ranger Lamb seem to be most effective in keeping off insects. The second progress report on the silversword project was submitted by Mr. Lamb during the early part of July.

500 - Use of Park Facilities by the Public510 - Increase of Decrease in Travel

There was a total of 24,058 visitors to the Kilauea section during the month as compared with 23,911 for the same period in 1934.

530 - Special Visitors

On July 1 and 2 cadets, officers and men of the USS Tennessee visited the park.

Six grandchildren of Princess Kawanānākoā ended a month's visit to the park on July 21. David Kalakaua, son of the Princess and grandson of King Kalakaua spent the month at Arthur M. Brown's ranch.

Mrs. Robert Hind, wife of Territorial Senator Robert Hind, and party were overnight guests at the Volcano House on July 13. The superintendent accompanied them on a trip over the park roads.

Dr. Hugh Young, prominent physician of Johns Hopkins Hospital, Baltimore was also a visitor to the park.

On July 18 George Armitage, Executive Secretary of the Hawaii Tourist Bureau arrived in the park and departed on the 21st. While Mr. Armitage was here he showed colored moving pictures of Hawaii which were made under the direction of the Tourist Bureau.

Mr. George ^{li} Brown, former President, Territorial Board of Agriculture and Forestry, was an overnight visitor on the 20th.

Lady Evelyn Drummond, sister-in-law of Sir Eric Drummond, British Ambassador to Italy, enroute to New Zealand, visited both the Kilauea and Haleakala sections on July 21, 21 and 22. The superintendent had the pleasure of accompanying her to Maui. She appeared pleased with the special arrangements which he made for her.

Maj. Gen. Hugh A. Drum, his wife, daughter and aide visited the park from the 17th to 24th. He was extended such courtesies as a man with his simple tastes would accept.

Mr. E.A.R. Ross, Secretary, C. Brewer & Company, and Mrs. Ross, a prominent kamaaina family arrived in the park on the 27th and plan to stay until about the second week in August.

600 - Protection

620 - Fire Protection

A fire drill was held on July 2 at 1:15 p.m.

900 - Miscellaneous

On July 10 Foreman Epos of the CCC camp reported that a skeleton had been found in the Kaa desert area. With the thought in mind that the skeleton might be that of a young private lost on the desert five years previous the Kilauea Military Camp authorities were notified and a party was organized to investigate the bones. The next day the deputy sheriff, Captain Boineau, Major Wood (MC), the chief ranger and others hiked into the desert, took pictures of the skeleton and then carried the bones back to the military camp where they were packed and shipped to Honolulu for further identification. At a later date word was received that there was not enough evidence to prove that the skeleton was that of Private M. Rubenstein.

On July 19, a group of men from the Military Camp, returning from an over-night hike to Kalapana, reported a member of their party missing. They had conducted a fruitless search for the man and then decided to report to headquarters for further action. The next day Ranger Mackenzie lead a party down the pali at Ainahou, but he was later found by another party which was searching around Kalapana.

The superintendent attended a dinner at the Hilo Yacht Club in honor of General and Mrs. Drum, given by the officers of Kilauea Military Camp, a luncheon at the Hilo Hotel given by the Tourist Bureau and one at the Volcano House given by Mr. Lycurgus, also for the Drums.

Jennie Higashida, nine-year old daughter of Chief Clerk Higashida, won first prize with her dog in Class B at the annual mutt show held in Hilo on July 3.

On July 12 the regular monthly meeting of the Federal Business Association was held at the Hilo Yacht Club. Those who attended from this office included the superintendent, ECW Camp Director Rivenburgh and Chief Clerk Higashida.

Early in July E.S. Wheeler, who had been in charge of the B.P.R. office for this territory during the past 10 years, was transferred to regional headquarters of the Bureau. Mr. Jack Moskowitz of the San Francisco Bureau office replaced him, arriving in Honolulu on the 16th.

Respectfully submitted

CW

Edward G. Wingate, Superintendent

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STATISCAL REPORT NO. 8

FINANCE AND ACCOUNTS

JULY, 1935

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	44,950.00	38,513.45	8,436.55
45/6406	Forest Prot. & Fire Prevention, 1935- /'36	300.00	---	300.00
4X391	Roads & Trails, National Parks, Emergency Construction Act 8/19/34	23,525.00	16,789.75	6,735.25
4-03/7640.8	N.I.R., Int., National Parks, Roads & Trails, 1933-'37	495,538.47	494,963.57	574.90
4-03/7640.14	N.I.R., Interior, National Park Service, 1933-'37	11,250.00	11,085.34	164.66
45415	Hawaii National Park, 1935	38,040.00	34,827.96	1,212.04
45406	Forest Prot & Fire Prevention, 1935	300.00	299.94	.06

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10-157
(July, 1929)

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

TRAVEL REPORT

Hawaii National Park for the Month of July, 1928

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Decrease XXXXXXXX for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,
 Cars reentry,
 Motorcycles,

Total motor vehicles,

Persons entering via motor vehicles, **22,735 165,087 22,788 169,335 4,248 .025**

Persons entering via other private transportation, **472 2,039 320 2,553 514 .20**

Total persons entering via private transportation, **23,207 167,126 23,108 171,888 4,762 .027**

OTHER TRANSPORTATION:

Persons entering via ~~stages~~ ^{Total} stages, **851 5,465 803 6,097 632 .104**

Persons entering via trains,

Persons entering otherwise,

Total other transportation, **851 5,465 803 6,097 632 .104**

GRAND TOTAL ALL VISITORS, **24,058 172,591 23,911 177,985 5,384 .03**

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
 Campers in public camps during month,

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of July, 1935

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	Reg.	PW	Reg.	PW		
Number of employees beginning of month	18	3	1	10	19	9
Number of additions.....	2	0	6	6	1	8
Total.....	20	3	7	16	20	17
Number of separations.....	0	0	6	7	2	10
Number of employees close of month.....	20	3	1	9	18	7
(change of designation)						
Number of transfers during month.....	1	0	0	0	0	0
Aggregate amount of annual leave taken	1 3/4	0	0	0	6	0
Aggregate amount of sick leave taken....	0	0	0	0	4	0
Aggregate amount of leave without pay..	0	0	0	0	0	0

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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii

July, 1935

National Park for the Month of

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area Road, Paving (F.A.)	100	0	2	
517 Location Survey and Construction New Halemau Trail NPS (FA)	30	20	8	
518 7 Haleakala Road, Landscaping (FA)	100	0	0	
520 Haleakala Road, Post Construction (FA)	50	20	10	
521 Post Construction, Uwekahuna- Bird Park Road, (FA)	100	5	15	

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10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii

National Park for the Month of July, 1935

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	25.00	25.00
Total,	25.00	25.00
Remitted,	25.00	25.00
On hand close of month,	0.00	0.00
Park revenues received this year to date,	25.00	
Park revenues received last year to date,	25.00	
Increase,	0.00	
Per cent of increase,	0.00	

10-161

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF SALES OF PUBLICATIONS

July, 1935

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	825	130.00
Received during month,	0	0.00
Total,	825	130.00
Sold during month,	22	5.35
On hand at close of month,	803	124.65
<u>NON-GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		
Cash on hand beginning of month,		9.02
Sales during month,		5.35
Total,		14.37
Remitted during month,		0.00
Balance,		14.37

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UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

HAWAII NATIONAL PARK

HAWAII

OFFICE OF THE SUPERINTENDENT

August 1, 1935

Mr. Edward G. Wingate, Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory

Dear Sir:

I have to report as follows for the activities of the Hawaiian Volcano Observatory at Kilauea Volcano for July, 1935.

Transfer

The Observatory was transferred from the Geological Survey to the National Park Service July 1. Its operation continues to have the assistance of the Hawaiian Volcano Research Association, with headquarters in Honolulu, and affiliation with the University of Hawaii. The plant is leased by the Association to the government annually for one dollar. Dr. T.A. Jaggar continues as volcanologist.

Personnel

Mr. Hugh Waesche, park ranger, with training as a geologist, assists at the Observatory and has learned the routine. Mr. Austin E. Jones was formerly seismologist and by giving a course in "Geology of Kilauea" in the Summer Session of University of Hawaii at Hawaii National Park, Mr. Jones was able to transmit to Mr. Waesche some of his experience, while still residing here. H. Yasunaka is an employee of the Volcano Research Association, resident here, caring for grounds, machinery and cars, and knowing the field and laboratory routine.

Observations for July

After increased seismic activity in June, the first week in July was quieter. There were sulphur odors from a fuming yellow Solfatara inside Halemauau pit, and some slides from the walls. The tilt instruments at the pit edge showed unusual movements after a felt quake July 4. The second week produced numerous slides, three felt earthquakes, and much instrumental tremor. The third week was quiet and the fourth was remarkable for nothing but an exceptional opening of the rim cracks around the pit. There were about 580 local seismic disturbances for the month, most of them tremors recorded only instrumentally. A large distant earthquake was registered July 28.

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Educational Cooperation

In accordance with the practice of past years, Mr. Jagger gave a lecture course on "Volcanology" in the University of Hawaii summer session in Honolulu. It was attended by 70 persons, men and women, mostly teachers. This course counts two credits, and the students wrote excellent theses on library investigations. The lectures were illustrated by lantern slides and covered volcanoes in Italy, the Grecian Archipelago, Japan, Alaska, Tonga, the Caribbee Islands, Java, Central America, New Zealand and Hawaii. Mr. Jagger returned to Kilauea for visits July 6 and 7, and July 20 and 21.

Addresses were made by Mr. Jagger at the University Club, Honolulu July 11 on "Growth by Cooperation and by Voluntary Giving," and on "Hawaiian Volcanoes" August 5 at the "Hui Lokahi" an alumni fraternity of the University.

Research and Publication *research publications of the University of Hawaii*

The July "National Geographic" published an account of Niuafoou, a Tongan island, by Jagger. Proofs were read of two articles by Jones and Wilson, former workers at the Observatory, dealing respectively with locating earthquake centers under Kilauea crater and with ground surface movements at Kilauea. A finely illustrated paper by John B. Stone, another former worker here, has been published by the Volcanological Review of Friedlaender, dealing with an expedition of the Hawaiian Volcano Research Association in Chile in 1929-30. Two copies are appended to this report. Other papers in press are an article by Jones on "1934 Earthquakes at Kilauea" in the Journal of the Washington Academy of Sciences, and one by Jagger on the "Geology and Volcanology of Niuafoou" in a memoir of the US Naval Observatory.

Research is being concentrated on a memoir on "Origin and Development of Craters," by Jagger, for which the Geological Society of America has made a grant for drawing and typing. Mr. R.E. Lee is employed in drafting maps in series.

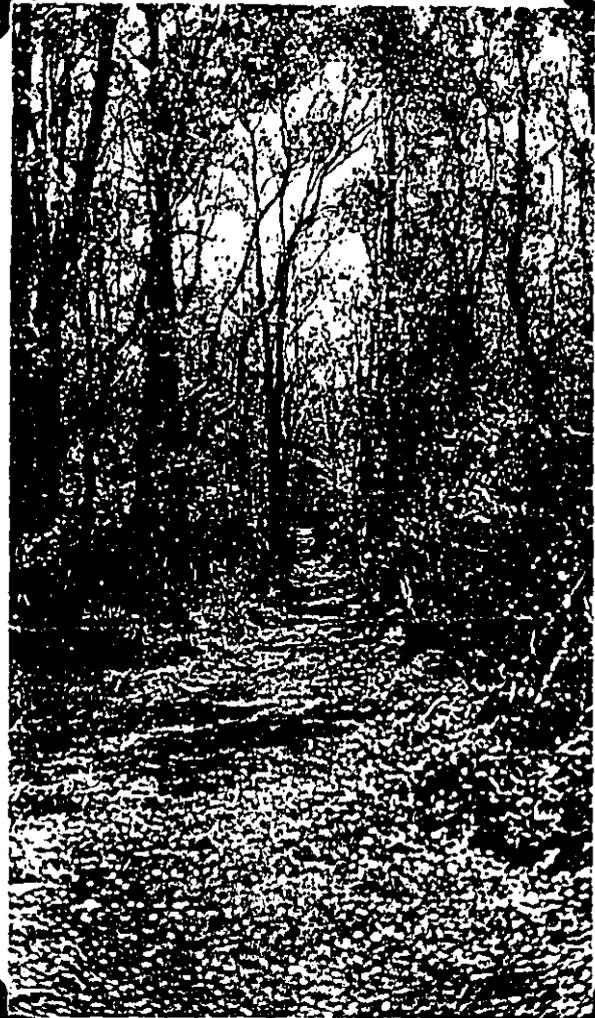
Respectfully

T.A. Jagger
T.A. Jagger,
Principal Volcanologist

TAJ/cw

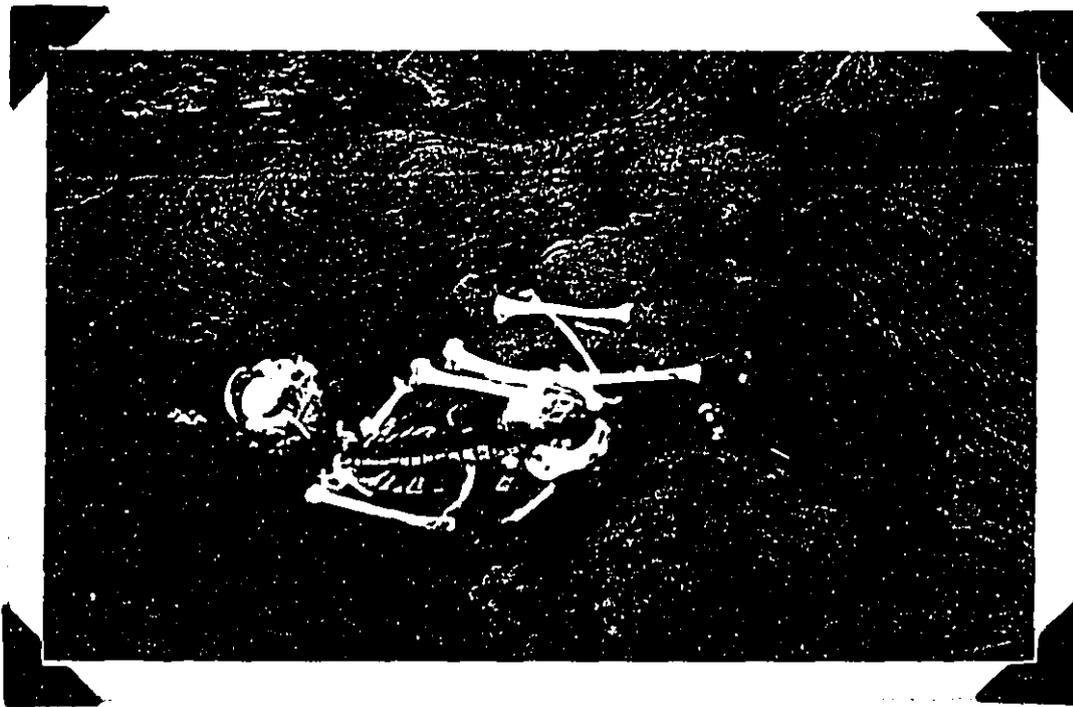


Location, bridge trail between Chain of Craters road and old Keouhou road, RCW project

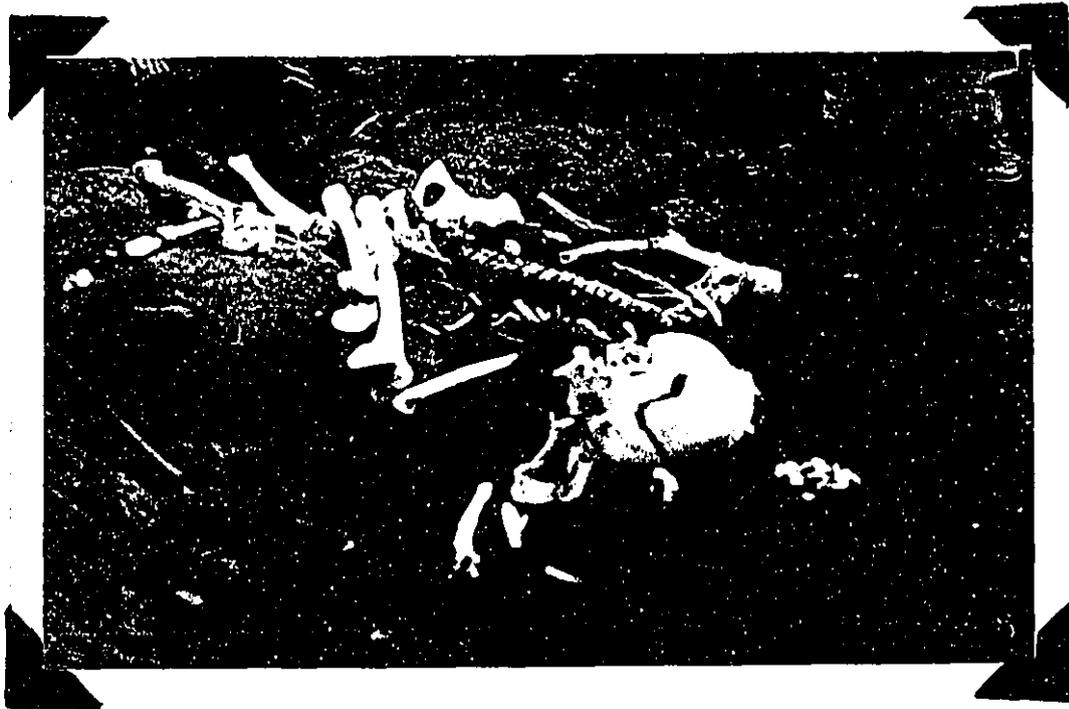


Completed trail

These photographs were taken in different sections and show wet and semi-dry forest



Human skeleton which was found on Kau Desert





Remains of human skeleton which was found on Kau desert by an ECW trail crew.

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Construction of road to picnic ground adjacent to Bird Park, ECW project



Shelter at picnic ground, vicinity of Bird Park, ECW project

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

PRESS BULLETIN
FOR IMMEDIATE RELEASE

EDWARD G. WINGATE, SUPERINTENDENT

Dr. W. W. Krauss, of the Swedish State Institute of Race Biology, Upsala, Sweden, will deliver a series of three evening lectures at the Volcano House. His first lecture will be Wednesday evening July 10 at 7:30. His subject will be The Races of Mankind. On Thursday evening at 7:30 Dr. Krauss will talk on the subject, The Physical Effects of Race Crossing in Man. The third lecture of the series will be on the subject, Social Race Problems of Europe, Past and Present and will be given at the same time Friday evening, July 12. All three of these lectures will be illustrated.

This series of lectures is being arranged through the cooperation of the University of Hawaii and the National Park Service. Those who have had an opportunity of hearing Dr. Krauss lecture in Honolulu are enthusiastic over his subjects which he presents in an interesting and forceful manner. These three lectures are free and the public is cordially invited to attend.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park, Hawaii

PRESS BULLETIN
FOR IMMEDIATE RELEASE

Edward G. Wingate, Superintendent

On Wednesday, Thursday and Friday evenings at 7:30 at the Volcano House the community will have an opportunity to hear Dr. W. W. Krauss, Anthropologist of the Swedish State Institute for Race Biology, Uppsala, Sweden, in a series of three lectures on various aspects of race biology. Dr. Krauss is giving the series of lectures at the Volcano House on special invitation and through the cooperation of the National Park Service and the University of Hawaii.

The following testimonial of Dr. Krauss's official duties was given by Prof. H. Lundborg, Director of the Institute.

"Wilhelm Wolfgang Krauss, Ph.D., who has studied under the distinguished anthropologist R. Poch at Vienna University, is since January 1, 1922 employed at the Swedish State Institute for Race Biology.

He has in this connection had various duties at the Institute: Assistant in Anthropology, masculine travel assistant, and pro temp. Anthropologist. At certain times he has been appointed as Librarian and Office Superintendent. During the first years of his appointment he was mainly occupied with anthropological investigations among military contingents, students at teacher's training colleges, and school children in different parts of Sweden, besides Lapps and Finn peasants, in which work he employed the utmost care and accuracy. He might in this connection have examined in all over 40,000 individuals! Afterwards he has with greatest zeal and interest taken part in the elaboration of the greater works of the Institute.

Because of the knowledge of languages that Dr. Krauss has - he has extensive knowledge in various languages, such as German, Swedish, English, French, and Italian, as well as some knowledge of Spanish and Latin - his time during the last few years to a large extent has been employed in caring for the Institute's comprehensive correspondence, together with translations into and critical examinations of manuscripts in foreign languages. Dr. Krauss has also for a time had supervision over the photographic archive and has himself carried out the photography of race types.

During the last years he has been occupied especially with studies of literature on race crossing in man and other problems of social anthropology. Moreover, he has during his holiday in different years visited most of the more important anthropological museum of Europe.

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2 Press Release, Hawaii National Park

In different respects he has been of much valuable help to the Institute, Dr. Krauss has always with creditable zeal and dutifulness, willingness and interest performed his different duties. At the Institute he is especially known for his great helpfulness. Uppsala at the State Institute for Race Biology, 24 May 1934."

On Wednesday evening, July 10, Dr. Krauss will give an illustrated lecture on The Races of Mankind. On the following evening he will talk on The Social Effects of Race Crossing in Man. On Friday Evening he will talk on the subject, Race Problems of Europe, Past and Present. The three evening lectures will be held at the Volcano House and are scheduled to begin at 7:30. The public is invited to attend.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park, Hawaii

PRESS BULLETIN
IMMEDIATE RELEASE

Edward G. Wingate, Superintendent

The donation of three valuable books by Judge C.C. Conradt and his son, August, as a nucleus for a future library in the Haleakala section of Hawaii National Park was announced by Superintendent Edward G. Wingate on his return from the island of Maui on July 24.

In discussing plans for a proposed observation station and museum at the summit of Haleakala Judge Conradt suggested the possible inclusion of a small library and offered to make the original contribution. The three books donated to the park by Judge Conradt are Hillebrand's, "Flora of the Hawaiian Islands," now out of print; "Indigenous Trees of the Hawaiian Islands" by J.F. Rock and F.A. Bryan's "Natural History of Hawaii," the last being a gift by Professor Bryan to the donor. These books are of great value to the park since the flora of Haleakala is both diverse and interesting.

Judge C.C. Conradt is, like all Maui people, a devoted admirer of the great crater of Haleakala. Born at Koba, Kauai July 21, 1873, he was District Magistrate on Molokai for 14 years and since 1923 has held the same office at Wailuku, Maui. He is a graduate of Punahou School in Honolulu.

Judge Conradt presented the volumes to the park on his birthday, July 21.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park, Hawaii

PRESS BULLETIN
FOR IMMEDIATE RELEASE

Edward G. Wingate, Superintendent

On July 1, 1935, the Volcano Observatory, established in 1912, was transferred to the National Park Service and its scientific investigations became a part of the activities of Hawaii National Park. The Park Service thus becomes the fourth institution to sponsor this important work.

Organized by a group of public spirited men of the Islands, incorporated as the Hawaiian Volcano Research Association, the Observatory was first administered by the Massachusetts Institute of Technology. In 1918 administrative control was placed in the hands of the federal government and under the US Weather Bureau. Through a transfer effected in 1924, the Geological Survey, a bureau of the Department of the Interior, took charge of the work and directed its progress until July 1, 1935.

During all these years Dr. T.A. Jaggar, Volcanologist, has been in immediate charge of the observatory work and will remain so under the Park Service administration. It seems fitting that this eminent scientist, who began his career making geologic investigations in Yellowstone National Park in 1893, and who worked so effectively as representative of the Hawaii Chamber of Commerce in Washington for the establishment of a national park in Hawaii, should now become a staff member of the Park Service. Dr. Jaggar's contributions to scientific knowledge are substantial and his reputation as a student of the mechanism and structure of volcanoes is world-wide.

Dedicated by law to permanency, the National Park Service is peculiarly qualified to carry on the work of the observatory, the first requirements of which are continuity of measurement and observation and permanency in the study of the earth's processes.

Page 2 - Press Release, Hawaii National Park

As in the past, the Hawaiian Volcano Research Association will continue its cooperative interest in and financial support of the institution which it founded. This association erected the first observatory buildings, later leasing them to the federal government, and supplied the original books and instruments. It has provided funds for machinery and equipment for special investigations in Alaska, Japan and elsewhere and employed supplementary research fellows and assistants in Hawaii. It has brought many distinguished scientists to Hawaii to study the volcanoes. Its aim has been to promote the establishment of volcano stations throughout the world and to publish a continuous record of the observations.

The observatory has adhered to the original policy laid down under the administration of the Massachusetts Institute of Technology, of permanent field observations which were not to fluctuate but be of steady growth retaining all that was best for permanent routine and the publication of a continuous record.

The work of the observatory is in the field of pure science - it makes investigations of geology, geodesy, seismology, physics, astronomy, meteorology, oceanography and chemistry. It measures the heat of steam vents and of lava fountains. It measures the slow, gradual shifting of the earth's crust and jarring displacements of earthquakes. It analyzes volcanic gases and measures ocean tides. It studies the structure and products of volcanoes; it measures rainfall and atmospheric temperatures and studies their relation to the tilts of the ground about the volcano. It is contributing day by day new facts to add to the store of man's knowledge about the earth which is his home.

The Volcano Letter

No. 422—Monthly

U. S. Geological Survey, Hawaii National Park

APRIL, 1935

KILAUEA REPORT FOR APRIL, 1935
Including weekly press reports 1211 to 1214
March 31 to April 28, 1935 midnight
Section of Volcanology, U. S. Geological Survey
T. A. Jaggar, Volcanologist in Charge

VOLCANOLOGY

The month of April at Halemaumau pit was chiefly remarkable for the partial obliteration of the black, solidified lava cascades of September 6, 1934. This was achieved by avalanching, the upper wall NW falling away April 20, and the rim slab was completely removed in front of the West Steamhole. This west steam crack has been a landmark on the edge of Halemaumau since 1924, sending up white clouds of vapor always visible. The enlargement of the pit by engulfment of the rim rock in front of this crack, for a width of 20 feet lengthwise of the margin for 250 feet, leaves the western wall of the former steam crack merely part of the pit wall. The steam is gone. A few small steam cracks extend from here northward, back of the edge of the pit. The thudding noises in the floor have notably decreased since February.

Slides at Halemaumau

April 2 at 5:07 p. m. a noisy slide fell from the north wall, and coursed through the notch to the talus below, some of the bowlders reaching the floor. April 4 at 11:20 a. m. a small slide fell from the south notch which has been recently working. April 5 the pit was quiet between 5:10 and 5:45 p. m., but at 5:46 a moderate slide fell from the southeast wall north of the Tourist Lookout; this was followed by small slides NE and SSW. April 6 at 9 a. m. the rim of Halemaumau above the SSW scar revealed fresh cracking in the surface of the 1924 ash drifts and in the rock below, for 20 feet back from the edge. The length of the fresh breaks was 165 feet. The block of rim appeared ready to fall. April 7 at 9 a. m. there was slight dribbling of stones down the west wall, and there were southern slides later.

April 8 there was small sliding west and south at 9:30 a. m. April 10 at 9:15 a. m. a moderate slide fell from the southeast wall. April 16 a large slide about 1:30 p. m. fell from the NW buttress athwart the lava cascade locality and above the Yellow Solfatara. April 17 at 8:55 a. m. there was a small slide at the east corner of the pit.

Small quakes accompanying slides were recorded April 18. The next day April 19 slides five times made very feeble earthquake records on seismograms, and a still larger number of tremor records at Halemaumau. Seismograph records of slides thereafter became less frequent.

The working of the cascade rift northwest reached a climax of avalanching at 5:50, 5:53 and 5:55 a. m. April 20, largely sweeping away the black ribbons of lava cascade from the wall. What was left was almost covered by fresh dust. The cascade remnants are at the talus south of the scar (West Talus) and at the Yellow Solfatara on the north of it. There were several small earthquakes during the forenoon. A big slide at 9 a. m. fell over the northern end of the cascade, the larger rocks reaching the floor before the finer material. Marked crack No. 38 at the western rim had opened a little. The air in the pit was charged with vapor and fume, and some dust. A slide at 9:02 a. m. fell from three quarters of the way up the wall, over the north end of the lava cascades.

At 9:50 a. m. April 20 there was a small slide WNW. A small quake rang the annunciator at the Observatory at 1:36 p. m., and four minutes later dust arose from the north side of Halemaumau. There was continuous western sliding all day, with avalanches noted at 3:05, 3:15, and after 6:00 p. m. Rock trickling at the west continued all day April 21.

It was this April 20 crisis that destroyed the big west-rim steam crack, as described in the first paragraph above. The new talus below is large, widening the big west talus northward for 250 feet, and piled above the floor 200 feet. The west talus has been widened farther by recent tumbles of rock east of the SW rift caverns in the wall, so that the whole debris slope is now twice as wide as in August 1934 at the elevation now represented by the bottom contour. Two cascades of solidified lava remain on the main talus cone, as produced on September 6th.

Rocks continued to dribble down the western wall, with few intermissions, until April 28. April 22 slides on that scar were noted at 11:13, 11:17, and 11:25 a. m. and later, making dust clouds. April 23 small slides fell from the NW buttress at 8:50, 9:30 and 9:48 a. m. April 24 at 11:05 a. m., rocks fell at the northeast. April 25 rocks were falling on both east and west sides of Halemaumau. At 10:45 a. m. a large block fell, from 75 feet below the rim, at the east. At 12:47 p. m. a large slide was heard at the Observatory, and sent up a cloud of dust. April 26 at 8:50 a. m. there were steady small slides SSW and NW. April 28 rocks were falling more or less continuously at the western scar, making a noisy avalanche at 8:52 a. m. One slide was heard at the east. At 2:25 p. m. a slide at the northeast wall sent up a thick cloud of dust, followed at 2:32 p. m. by two smaller clouds.

Miscellaneous Phenomena

Fumes rose from the Yellow Solfatara in variable amounts. There are four other fuming places at the north and east edges of the floor. April 20 fume was more conspicuous at the NNW talus than at the East talus. During the small WNW slide of 9:50 a. m. that day there was hardly any fume at the East talus; ten minutes later it puffed fume. April 26 white vapor was variable at the three taluses W, S, and SE.

Levelling

Spirit levelling at the Halemaumau rim April 25 by A. E. Jones, using as base the bench-mark at the southern gravel ridge of Kilauea crater (Split), determined that points on the rim of Halemaumau, since April 3, 1935, had been elevated about 1 cm. or less.

The eruption of September 1934, by this datum, (Volcano Letter 416) had shown elevation 39 cm. of the north rim, and depression each side of the raised area. This April lift is the first movement of elevation since the eruption.

Thus during the week prior to April 3, the levelling of that date had shown lowering of from 1 to 3 cm. since March 27. On March 27 there had been lowering in the 5½ months since October of from 4 to 7 cm. This makes the April 25 elevation a distinct change of habit, probably indicative of renewed lava pressure.

Rim Crack Measurements

Weekly measurement of 32 marked rim cracks around the upper edge of Halemaumau pit, resulted as shown in the tabulation that follows.

This indicates a notable disturbance of the entire pit by the breakdown on April 20 of the western wall, followed by quiet. A similar crack-opening, aggregating 13.5 mm., affecting 19 cracks, occurred on March 16, during the avalanching of that month. There were other maxima January 5, February 2 and February 23. These were the months of snapping noises and of numerous slides. They were also months of lowering rim.

Week ending forenoon of

April 6, 12 opened, 6 closed, aggregate opening 6.5 mm.
April 13, 11 opened, 3 closed, aggregate opening 5.0 mm.
April 20, 16 opened, 1 closed, aggregate opening 12.0 mm.
April 27, 7 opened, 5 closed, aggregate opening 2.0 mm.

T. A. J.

EARTHQUAKES

Week ending	Minutes of tremor	Very feeble earthquakes	Distant earthquakes	Local Seismicity
April 7	61	2	0	16.25
April 14	44	1	0	11.50
April 21	38	8	0	13.50
April 28	55	1	0	14.25

* For local seismicity index see Volcano Letter 371.

The following successive local disturbances began at the times indicated; the epicenters as shown were located from seismograms; when possible the depth of the source is indicated. The location of these three very feeble shocks is based on the main station at Kilauea Observatory and two subsidiary stations around the crater. The intensity is that recorded on the Kilauea instruments.

April 3 at 9:34 a. m. 4 miles deep under Kilauea south-west rift zone; lat. 19° 23' N, long. 155° 19' W.

April 20 at 1:10 a. m. 2 miles deep under Kaoliki Fall rift, 19° 21' N, 155° 18' W.

April 20 at 5:53 p. m. 1 mile deep under Waldron's ledge, part of the east rim of Kilauea crater.

April 22 at 0.18 p. m. an earthquake was felt at Haka-lau, it recorded as a tremor at the Observatory.

Microseisms were normal April 10 to 14, and subnormal the remainder of the period. A. E. J.

TILTING OF THE GROUND

The table shows tilt by weeks from seismograms at Kilauea Observatory, northeast rim of Kilauea Crater; at Halemaumau; the readings from each clinoscope, and the algebraic sum of radial tilts for the three clinoscope cellars, towards or away from the center of the Pit.

At the Observatory the total accumulated tilt in the year ending April 28, 1935 is 2.4" N and 0.7" E.

TABLE OF TILT

Week ending	Observatory	Halemaumau Clinoscope Stations			Pit Resultant
		North	West	Southeast	
April 7.....	0.6" S 60° E	1.1" N 7° E	0.3" N 20° W	4.8" S 71° E	8.9" from.
April 14.....	0.8" N 39° E	5.9" N 84° E	4.2" N 36° W	2.6" N 32° E	0.2" toward.
April 21.....	1.1" S 66° W	7.9" N 38° E	0.9" N 66° W	12.2" S 67° E	17.4" from.
April 28.....	0.8" N 86° W	1.7" S 12° W	1.9" S 31° W	1.1" N 32° E	3.1" toward.

A. E. J.

DOCUMENT CAPTURED AS RECEIVED

The Volcano Letter

NO. 421—MONTHLY

U. S. Geological Survey, Hawaii National Park

MARCH, 1935

KILAUEA REPORT FOR MARCH, 1935
Including weekly press reports 1207 to 1210
March 3 to March 31, 1935 midnight
Section of Volcanology, U. S. Geological Survey
T. A. Jaggar, Volcanologist in Charge

VOLCANOLOGY

The same processes of fuming, snapping, and avalanching from the walls, have continued in Halemaumau pit.

Slides at Halemaumau

March 4, at 9 a. m.; March 5, at 9:10 a. m.; March 6, a few rock falls after 9 a. m. and a slide at northeast corner 9:28 a. m.; March 7, a few rocks falling between 9:20 and 9:30 a. m.; March 8, rocks heard falling about 9:05 a. m.; March 10 debris on the bottom southeast, was in two new places. These are the incidents observed during a half-hour visit to the pit each forenoon.

March 16, debris at the west showed that a slide had occurred. Another slide scar appeared southeast, and other slides had occurred over the east bay, and at the NNE. March 23, at 9:02 a. m. a noisy avalanche reached the floor and sent up dust, at the south corner of the pit; the disturbance broke the rim, where fresh cracks in the soil were found, parallel to the edge of pit, fifteen feet back from the verge, and extending lengthwise more than a hundred feet. Another slide there at 2:25 p. m. made a similar dust cloud, and the noise was heard at a distance. Two other small slides fell from the west and north walls during the next half-hour.

March 28, slides were heard at 8:40 and 10:20 a. m. March 31, it was evident from the Pit seismograms, and from the dust over the south end of the pit floor, that a large slide had fallen at 8:15 p. m. March 30. The scar was from a point 100 feet below the top of the SSW wall, the same area that had been "working" lately. Cracks were widening in the soil above. The disturbance on the Halemaumau seismogram was much larger than on the Observatory record.

Miscellaneous Phenomena

Rainfall reached 7.5 inches in the four days preceding March 6, at the Halemaumau rain-gauge. Vapor plumes on the hot pit floor occasionally united into a dense cloud. At 9 a. m. March 8, an unexplained hissing noise seemed to be at the SW bay, and lasted about 3 seconds; earlier two dull thuds were heard NW and W. There had been five records of pit shocks on the Halemaumau seismogram, during the preceding 24 hours. The day before this there were one or two little shocks. On March 5, there were 8 small earthquakes on the Halemaumau record, only one of which was recorded at the Observatory two miles to the northeast, and that as a mere tremor.

The heavy rains tended to disturb the tilt instruments. However, there is always more intense volcanic tilting, and seismic activity, at the Halemaumau instruments, than at the northeast edge of Kilauea crater where the Observatory stands. This shows how important it is, in volcanology, to study seismically the innermost focus of a crater, in equipping with seismographs such a place as the summit crater of Mauna Loa. That particular crater must be so equipped very soon.

The radial floor crack at the bottom of Halemaumau, trending east, appeared to have widened March 16. The sulphur at the Yellow Solfatara northwest had so increased

March 21 that the stain extended out on the floor, and its fume column was noticed at stations behind buttresses on the west rim of the pit, where it had been invisible before. March 25 about 8:40 a. m. two dull detonations were heard about five minutes apart. Three more were heard to the east of the pit between 9:20 and 9:30 a. m.

Weekly measurement of 32 marked rim cracks around the upper edge of Halemaumau Pit resulted as follows:

Week ending forenoon of

March 9, 7 opened, 4 closed, aggregate opening 2.5 mm.
March 16, 19 opened, 0 closed, aggregate opening 13.5 mm.
March 23, 10 opened, 4 closed, aggregate opening 5.0 mm.
March 30, 11 opened, 5 closed, aggregate opening 3.0 mm.

T. A. J.

EARTHQUAKES

TABLE

Week ending	Minutes of tremor	Very feeble earthquakes	Distant earthquakes	Local * Seismicity
March 10	22	2	0	6.50
March 17	20	4	0	7.00
March 24	16	2	0	8.00
March 31	20	6	0	8.00

* For local seismicity index see Volcano Letter 371.

The following local very feeble disturbances began at the times indicated; the epicenters as shown were located from the seismograms; when possible the depth of the source is indicated. The location of epicenters is based on three main seismograph stations, Kilauea, Hilo, and Kona. For crateral earthquakes, stations at Uwekahuna and Halemaumau are used. The intensity is that recorded on the Kilauea instruments.

March 5 at 5:31 a. m. located one mile deep under the southwest end of Kilauea crater.

March 9 at 1:58 a. m. located half a mile deep under the east side of Halemaumau Pit.

March 20 at 4:48 p. m. felt at Puuwaawaa, but not recorded well enough to be located.

March 24 at 11:29 a. m. felt at Uwekahuna, located 5 miles deep under that wall of Kilauea crater.

March 25 at 0:20 a. m. 3 miles deep under the southwest rift zone, 1 to 2 miles from Kilauea crater.

March 26 at 5:52 p. m. 1 mile deep, 2 miles southwest of Uwekahuna.

March 27 at 0:38 p. m. 1 mile deep under Kaoliki fault, lat. 19° 26' N, long. 155° 20' W.

March 28 at 11:48 p. m. 3 miles east of the summit crater of Mauna Loa, lat. 19° 27' N, long. 155° 34' W.

March 29 at 2:59 a. m. reported felt in Hilo, not well located.

Microseismic motion of the ground was abnormal March 4, 13, and 16; normal March 7, 14, 15, 18, 19, 20, 22, 24, 25, and 29; and subnormal during the remaining days of the month.

A. E. J.

TILTING OF THE GROUND

The table shows tilt by weeks from seismograms at Kilauea Observatory, northeast rim of Kilauea crater; at Halemaumau the readings from each clinoscope and the algebraic sum of radial tilts for the three clinoscope cellars, towards or from the center of the Pit.

At the Observatory the total accumulated tilt in the year ending March 31, 1935 is 1.1" N and 0.6" E.

TABLE OF TILT

Week Ending	Observatory	Halemaumau Clinoscope Stations			
		North	West	Southeast	Pit Resultant
March 10	1.4" S 55° W	2.5" N 67° W	5.1" N 82° W	8.7" S 48° W	6.2" from
March 17	0.7" N 67° E	3.3" S 53° E	1.6" North	12.8" N 9° W	12.1" toward
March 24	2.9" S 50° W	1.3" S 68° W	0.9" S 86° W	4.2" N 6° E	4.9" toward
March 31	1.5" S 12° W	1.8" S 65° W	3.0" N 11° E	6.4" N 50° E	4.9" toward.

A. E. J.

Form No. 1009-Met'l.

U. S. Department of Agriculture, Weather Bureau.

MONTHLY SUMMARY.

COOPERATIVE OBSERVERS' METEOROLOGICAL RECORD:

Month of July, 1935; Station, Volcano Observatory; County, Hawaii
 Hour of Observation, 8:00 a.m.
 State, _____; Latitude, _____; Longitude, _____; Time used on this form H.S.T.

TEMPERATURE.

Mean maximum, _____
 Mean minimum, _____
 Mean, 63.9
 Maximum, 75.7; date, 16
 Minimum, 50.1; date, 9
 Greatest daily range, 19.7 July 2

PRECIPITATION.

Total, 7.94 inches.
 Greatest in 24 hours, 3.57; date, 25

SNOW.

Total snowfall, _____ inches; on ground 15th, _____ inches;
 at end of month, _____ inches.

NUMBER OF DAYS—

With .01 inch or more precipitation, 29
 Clear, 3; partly cloudy, 18; cloudy, 8

DATES OF—

Killing frost, _____
 Thunderstorms, _____
 Hail, _____
 Sleet, _____
 Auroras, _____

REMARKS:

Dates of Light Fog. 2, 4, 9, 12, 13, 19, 23, 25, 29

DATE.	TEMPERATURE.				PRECIPITATION.			WIND.	PREVAILING WIND DIRECTION.	CHARACTER OF DAY, SUNRISE TO SUNSET.	MISCELLANEOUS PHENOMENA.
	MAX. NUM.	MIN. NUM.	RANGE.	*SET MAX.	TIME OF BEGINNING.	TIME OF ENDING.	AMOUNT.				
	1	2	3	4	5	6	7	8	9	10	11
1	69.7	54.5	15.2	61.8			.06	85.0	Lt.	N.E.	P.C. Rain AM Cd. P.M.
2	74.5	54.8	19.7	65.7			.03	95.0	Lt.	N. to NE	Cl. a.m. - Misty p.m.
3	71.2	55.3	15.9	66.8			.03	79.0	Lt.	N.E.	
4	67.8	56.4	11.4	63.0			.06	85.0	Mod.	N.E.	Cl. a.m. Misty p.m.
5	70.0	59.8	10.2	62.2			.32	89.0	Mod.	N.E.	Cl. a.m. Pt.
6	63.5	56.7	7.8	61.4			.07	91.0	Lt.	N.E.	Rainy
7	70.3	55.5	14.8	68.7			.89	94.0	Lt.	N.E.	Cl. a.m. Rain P.M.
8	68.7	56.0	12.7	61.0			.23	89.0	Mod.	N.E.	Oldy -rain p.m.
9	67.5	50.1	17.4	58.4			.27	89.0	Mod.	N.E.	Foggy a.m. Rain p.m.
10	72.9	52.0	18.9	64.5			.01	70.0	Mod.	N. E.	Part Cl dy
11	75.4	53.0	12.4	70.0			.01	79.0	Slt.	E.	P.O. a.m. rain p.m.
12	75.5	56.6	18.9	69.5			.08	73.0	Lt. to Mod.	N.E.E.	P.O. rain a.m. Fog p.m.
13	72.7	61.0	11.7	63.0			.15	92.0	Lt.	N.E.	Mist and fog a.m.
14	73.0	55.3	17.7	63.5			.01	90.0	Lt.	N.E.	Oldy a.m. Cl. p.m.
15	73.0	53.5	19.5	67.0			.05	76.0	Lt.	N.E.E.	Pt. am. Oldy p.m.
16	75.7	59.9	15.8	65.0			.01	78.0	Lt.	S.W.	P.O. cl. p.m.
17	71.2	59.0	12.2	65.5			tr.	80.0	Lt.	N.E.	P.O. a.m. rain p.m.
18	71.8	56.0	15.8	63.0			.11	90.0	Lt.	E.N.E.	Rain a.m. p.m. Cl night
19	67.0	59.2	7.8	63.0			.15	89.0	Lt.	N.E.	Mist & fog a.m. rain p.m.
20	70.2	59.8	10.4	61.0			.10	80.0	Str.	N.E.	Clear
21	72.0	54.7	17.3	64.5			tr	82.0	Mod.	N.E.	Clear
22	75.0	55.6	19.4	66.8			.01	80.0	Str.	N.E.	P.O. a.m. rain p.m.
23	68.0	52.0	6.0	65.5			.73	93.0	Mod.	E.N.E.	Oldy, a.m. rain p.m. foggy
24	72.0	58.9	13.1	61.9			.13	81.0	Str.	N.E.	Clear a.m. rain p.m.
25	67.4	61.8	5.6	64.0			3.47	90.0	Lt.	N.E.	Rain and fog a.m. rain p.m.
26	67.3	55.7	11.6	62.0			.56	82.0	Str.	N.E.	Clear a.m. rain p.m.
27	69.0	55.5	13.5	68.8			.10	90.0	Str.	E.N.E.	
28	70.0	56.3	13.7	63.0			.06	89.0	Mod.	N.E.	
29	68.0	57.5	10.5	64.8			.13	89.0	Mod.	N.E.	Rain and foggy
30	69.0	57.0	12.0	63.2			.10	86.0	Str.	N.E.	Rain a.m. Clear p.m.
31	74.3	55.8	18.5	65.3			.01	78.0	Str.	N.E.	Cl. a.m. Rain p.m.
SUM	21.9	56.6	17.4	62.7			7.94	264.30			
MEAN	70.9	57.0	13.8	63.7			.756	85.2			

*Reading of maximum thermometer immediately after setting.
 †Including rain, hail, sleet, and melted snow.
 ‡Thunderstorms, halos, auroras, etc.

(IN TRIPLICATE.)

See cover for instructions.

F. A. Jagger, Cooperative Observer.

H.H.W.

Post-Office Address, Hawaii Nat'l Park

the KMC.

Major General Halstead Dorey, commanding Hawaiian Division, and Mrs. Dorey were also in the park at the same time. ??

Generals Drum and Dorey returned to Honolulu on the 24th.

130 - Finance and Accounts

A detailed statement of the park appropriations will be found at the back of this report.

140 - Labor Situation

Do we have one?

150 - Equipment and Supplies

Camera and grass cutter

170 - Plans, Maps and Surveys

?

180 - Circulars, Placards, Publicity Bulletins, etc.

Copies of press releases and office orders which were issued from this office during July are attached.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

The necessary repairs were made to equipment and govt. buildings and the usual maintenance of roads, trails, telephone lines, etc. was carried on. New ringers have been installed in several telephone boxes and the switchboard was given a thorough overhauling by a man from the Telephone Company

220 - Improvements

The cantoneers are ^{continued} still at work on the Haleakala road and are now planting grass on the shoulders. A short strip of road leading to the new picnic ground at Kipika Paauhau was completed by a CCC crew.

230 - New Construction

WORK IS PROGRESSING ON THE NEW ~~Haleakala~~ Halemau-u trail in the Haleakala section and work has been started on the ^{temporary} new comfort stations at ^{the terminus of the} White Hill

Haleakala Road

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260 - Landscape Work

The grounds in front of the administration building were prepared for planting and the stone curbing was relaid along better lines by the ECW landscaping crew. Some screen planting was done in the general headquarters area.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

The clubroom addition to the Volcano House was completed on July 20, at which time a dance was given to celebrate the opening. The heating system was also completed during the early part of July.

320 - Coop. Cont. Agencies
400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Harold Morby entered on duty July 5 as a temporary ranger-naturalist for one month.

District Ranger Peck made routine inspections at Haleakala. One trip was made into the crater by the way of the Sliding Sands trail, camping over night at Pua Hale and out the following day on the Halemau-u trail.

During the month the new Kilauea Iki trail was used for the first time in conducting a nature study trip. This trip will be a regular part of the activities of the naturalist department in the future, weather permitting.

420 - Museum Service

Doerr

490 - ~~XXXXXXXXXX~~ Natural Phenomena

~~Support from District Office is being discontinued.~~ On July 1 the Hawaiian Volcano Observatory was transferred from the Geological Survey to the National Park Service. However, the position of seismologist, which was occupied by A.E. Jones, was abolished at the close of June 30.

~~Extracts from Kilauea reports.~~

Beginning with this report Natural Phenomena will be included in the report of the Volcano Observatory which is attached.

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490 - Miscellaneous

Copy from Christ's report re silverswords

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Higashida

530 - Special Visitors

July 1 and 2, cadets, officers and men of the USS Tennessee

July 18-19-20-21 George Armitage, Executive secretary of the Hawaii Tourist

Bureau.

600- Protection

Christ - He's the only one who can -

900 - Miscellaneous

Mauna Loa trips, finding of skeleton, EBA meeting and Jennie Higashida, nine-year old daughter of Chief Clerk Higashida of this office, ^{1st} first prize in Class B at the annual mutt show held in Hilo on July 3.

Muskowitz

DOCUMENT CAPTURED AS RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

August 5, 1935

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

The following is the report of ranger activities during the month of July.

000 General

010 The ranger department activities during the month covered a wide ranger what with recreational, educational, protection and maintenance of telephone lines, painting and repairing signs.

The truck trail to the 6,500 foot elevation on Mauna Loa has been approved as an ECW project.

020 Weather conditions

The total rainfall at the Summer Camp was 5.13 inches compared to 1.78 inches of last month and at the Volcano Observatory the total rainfall was 7.94 inches as compared to 3.07 inches last month.

100 Administration

110 Status of work

The clearing, restretching and replacing of new poles on the telephone lines was completed at the end of this month.

Progress of work on the new Halemauu trail is very good. Approximately one half mile of trail is now completed. Work has been started on the comfort stations at White Hill.

120 Park Inspections

Routine general park inspections on all the work in progress were made during the month.

Trips to Bird Park, Giant Koa and Mauna Iki were made and also inspections trips to Napau Crater and Hilina Pali were made.

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Superintendent Wingate # 2

August 5, 1935

District Ranger Peck made routine inspections at Haleakala. He made an inspection trip into the crater, going in by way of the Sliding Sands trail, camping over-night at Puu Hale, and then out by way of Halemauu trail.

150 Equipment
On July 6 a lawn tractor was received.

200 Maintenance, Improvements and New Construction

The usual maintenance of roads, trails, telephone lines, trucks and other equipment was carried on during the month.

The cantoneers are still at work on Haleakala and are now planting grass sod on road shoulders.

Telephone lines were patrolled and repaired. New ringers have been installed in several of the boxes and the office switchboard was given a thorough looking over by an agent from the Telephone Company.

In the Haleakala section work is progressing on the new Halemauu trail and work has been started on comfort station at White Hill.

300 Activities of Other Agencies in the Park

310 Park Operators
The usual monthly dance was held at the Volcano House July 20.

The clubroom addition at the Volcano House was completed on July 20.

The installation of steam heat in the Volcano House was completed during the middle of last month.

400 Flora, Fauna, and Natural Phenomena

410 Ranger, Naturalist, and guide service.
On July 8, Ranger Naturalist, Harold Morley entered on duty in the park for one month.

480 Natural Phenomena
A great many Silversword plants were reported in bloom in Haleakala crater by District Ranger Peck. Also he states that the cheese-cloth protectors put around the plants by Ranger Lamb seem to be effective in keeping the insects off.

500 Use of Park Facilities by the Public

530 Visitors
Cadets off of the U. S. S. Tennessee on July 1 and 2 visited the

Superintendent Wingate 3

August 5, 1935

the park and were conducted on tours.

Major General Hugh A. Drum was a visitor to the Park during the month. Also Major General Halstead Dorey, Commanding the Hawaiian Division, and Mrs. Dorey were visitors to the Park.

One of the outstanding features of the month was a series of three evening lectures given at the Volcano House by Dr. W. W. Krauss, anthropologist with the Swedish State Institute of Race Biology, Uppsala, Sweden.

George Armitage, Executive Secretary of the Hawaii Tourist Bureau visited the park and showed Tourist Bureau films at the Kilauea Military Camp. The local community was cordially invited to attend free of charge.

On July 4, 5, and 6 Ranger Murray conducted three summer school people, from the hotel, on a trip up Mauna Loa. The next trip was scheduled for the 18, 19, and 20th which trip proved so popular that a party of nine went up accompanied by Chief Ranger and Henry Kini. More trips have been scheduled for the coming months.

600 Protection

620 Fire protection

On July 2, 1:15 p.m. a fire alarm was turned in by the Chief Ranger stating it to be in the old Volcano House. The siren was blown immediately and within four minutes water was through the hose. John Makimoku and his gang of men arrived in two and a half minutes as they had been working nearby and Mr. Detor and a carload of boys from the camp office arrived in 12 minutes. The switchboard operator stated that everyone in the community lifted their phones immediately to find the cause of the alarm.

It is recommended that the ECW purchase 150 feet of 1½" fire hose for fire protection at the CCC Camp.

650 Signs

Signs were repaired and painted as required.

660 Sanitation

Gutters on residents were cleaned, etc.

900 Miscellaneous

On July 10 Foreman Enos of the ECW Camp reported that a skeleton had been found in the Kau desert area. With the thought in mind that the skeleton might be that of a young private lost on the desert five years previous the Kilauea Military Camp authorities

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Superintendent Wingate # 4

August 5, 1935

were notified and a party was organized to investigate the bones. On July 11, Deputy Sheriff, Captain Boineau, Major Wood, Chief Ranger and others hiked into the desert, found the bones, and after taking pictures, returned to the Military Camp where the bones were carefully packed and shipped to Honolulu. At a later date word was received that there was not enough evidence to prove that the bones were those of Private M. Rubenstein.

This affair was subject to a memorandum to the Superintendent on July 12.

On Friday afternoon, July 19, 1935, a group of men from the Kilauea Military Camp returning from an over-night hike to Kalapana reported a member of their party missing. They had conducted a fruitless search for the man, and then had finally decided to report to headquarters for further action.

Ranger MacKenzie lead a party down the Pali at Ainahou in search of the man but he was later found by another search party which was searching around Kalapana.

Very respectfully,

Joseph H. Christ
Joseph H. Christ
Chief Ranger

E. J. ...

CW
7a Report

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

August 1, 1935

Mr. Edward G. Wingate
Superintendent Hawaii Nat'l. Park

Dear Sir:

The following is a report of work accomplished under my direction during the month of July, 1935.

Most of the work during the month was routine work only, four men being employed.

1. Completed repairs and painting, Quarters #13
2. Completed painting Quarters #4
3. Painted kitchen, Quarters #3
4. Painted kitchen and living room, Quarters #7
5. Cleaned and filled comfort stations, Uwekahuna and Pit.
6. Filled tanks at Lava Tube.
7. Hauled fire-wood from CCC Camp to Quarters area.
8. Hauled garbage from employee's quarters, Numbers 9, *Tones*
9. Painted shelter at old prison camp.
10. Repaired shoulders, Uwekahuna Road.

R. R. Craik
R. R. Craik
Foreman.

E. G. W.

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C.W.

Aug. 1, 1935.

The Superintendent,
Hawaii National Park,
Hawaii.

Sir:

The following is a report of my time by
hours for the month of July, 1935.

Work on cars and trucks		98	Hours.
Repair Grader		28	"
Pumping water as follows, High tank	25,500 gal.		
Lava tube tank	2,400 "		
Pit toilets	1,200 "		
Bird Park tank	600 "		
Museum toilets	600 "		
Watering trees	600 "		
Res. # 9	300 "		
Total	31,200 Gal.	8	"
Check in gasoline		6	"
Inspect and service all fire eqtinguishers		6	"
Assemble new mower for trimming shoulders		5	"
Fill all batteries, Clean terminals		4	"
Siren		4	"
Trip to town for parts		4	"
Warehouse		4	"
Dressing tools		4	"
Dry Fire hose		4	"
Repair tool handles		4	"
Transfer kerosene to storage		4	"
Repair tools for E.C.W.		3	"
Repair Fire pump		2	"
Repair Tractor		2	"
Check fire line at Volcano House		1	"
Repair tubes		1	"
Transfer gasoline to storage tank		1	"
Repair steel tape line		1	"
Repair tire for Park visitor		1	"
Repair type writer		1	"
Repair torch for Lava tube		1	"
Transfer motor oil to storage tank		1	"
Check batteries in traffic counters		1	"
Repair telephone ringer		1	"
Repair garbage can from pit		1	"
Repair starter for Park visitor		1	"
Make wrench for Museum projector		1	"
Sharpen lawn mower		1	"
Clean battery terminals		1	"
Deliver gasoline to Observatory		1	"
Repair lawn roller		1	"
Clean upper and lower garages		1	"
		<hr/>	
		Total	208 Hours.

Submitted by,
F. Fischer
F. Fischer
Mechanic.

Memo to Miss Whitney

Equipment received during July, 1935

1 set 70-D Bell & Howell motion picture camera, complete with lens, carrying case, meter and tripod.

3 rolls "Volcano Kilauea Eruption 1934" 16mm in 100' per roll

2 only Letter size, filing cabinets

1 only Portable water pump with suction hoses

1 reel 35mm non-inflammable print of VOLCANOES (approx. 1,000')

also miscellaneous ~~work~~ small hand tools, etc.,

JKH

Annual Report (Inspection) Fire Hazard

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10-23
(May 1923)
6-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

FILE NO.

MONTHLY REPORTS
FOR
~~DECEMBER~~, 1936

1936-2

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All files should be returned promptly to the File Room. Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

January 12, 1937

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows the report of activities of Hawaii National Park for the month of December.

000 - General

The only event of importance during the month was the continuance of the maritime strike which almost completely cut off receipt of food supplies from the continental United States. This necessitated heavy imports from Canada, the Orient, Australia, New Zealand and other foreign countries. It has been estimated that duties paid on these importations since the latter part of October amount to \$400,000 resulting in a considerable rise in food prices locally. In spite of these imports there is great scarcity of certain items and the few dealers who offered bids for January CCC supplies bid on minor items only. A small order was placed with the Army Quartermaster covering urgent needs at the CCC Camp.

A few local and Army Quartermaster prices are quoted for comparison. Butter - Hilo, \$.65 lb., Quartermaster \$.31 lb; Rice - Hilo \$7.60 bag, Quartermaster \$4.00; Onions, dried - Hilo \$.15 lb., Quartermaster \$.02 lb.; Evaporated Milk, tall cans, - Hilo \$.096 can, Quartermaster \$.05 can; Potatoes, 50 lb. lots - Hilo \$2.13, Quartermaster \$1.00. Oranges while almost non-procurable sell at \$1.00 a dozen. Potatoes, milk and onions can only be secured in small quantities and a number of other items cannot be procured at all. The prevailing high prices are beginning to be considerable of a financial strain on the park personnel as well as other residents in the islands.

On December 4, a copy of a report to Governor Poindexter from the Hilo Chamber of Commerce on the local food situation was mailed your office.

020 - General Weather Conditions

December was not only rainy but at times very high winds caused minor damage. Rainfall at headquarters totaled 18.93 inches, 14.13 inches fell at the CCC Camp, and 3.20 inches at the summit of Haleakala.

Compared to the West Maui mountains where 96 inches of rain fell during December park headquarters was quite dry. On the night of December 29 - 30, heavy rains flooded the lower levels of Hilo and traffic along the Hilo - Volcano road above Mountain View was held up for several hours due to high water. Minor street damage was done and considerable goods in Hilo warehouses was spoiled. Storms on the 23rd and 24th left a blanket of snow down to the 11,500 foot level on both Mauna Kea and Mauna Loa, which was increased by a heavy fall on the 29th when the snow line was down to the 10,000 foot level. Rainfall for the year totaled 85.97 inches and was somewhat below normal. During 1936, there were 100 days listed as clear but there were only 3 days during which some rain did not fall. There were 64 days on which .01 inch of rain or less fell.

The basement of the park Administration Building was flooded by a heavy rain on the night of December 29, but this was fortunately discovered by the Superintendent who with the help of ECW clerk Underwood and Laborer Kaui was able to move the stationery stores without much damage and to divert the water which had been puring in.

Exceptionally high winds prevailed from December 9 to 15, during which time it was necessary to order the row of exotic Eucalyptus trees fronting the Volcano House property removed to avoid serious accidents from falling limbs and trees.

100 - Administration

Clerk-Stenographer Constance Whitney was granted annual leave and left on December 16, to take a vacation on the mainland.

110 - Status of Work

With Miss Whitney absent the entire burden of correspondence fell to ECW enrollee Gabriel Ah Yo. He was given some help in typing by two other enrollees and with the aid of the new Ekiphone dictating machine all correspondence was up to date at the end of the year. Filing, however, will have to await Miss Whitney's return as there is no time for anyone to do it.

All reports with the exception of the special report in connection with the visit of Special Agents Rollins and Vanden Heuvel were prepared on schedule. This report partially prepared for sometime was delayed due to the absence of several employees and the pressure of work on those remaining.

At the end of the year, besides the absence of Miss Whitney, Ranger Murray, who had been laid up for some time, was in the Navy Hospital Honolulu; Foreman Craik was absent on the mainland, called there by the serious illness of his brother, and Assistant Naturalist Lamb was absent on temporary duty at the Berkeley Office. Mechanic Fischer had not fully recovered from his serious heart attack of last summer. CCC Project Superintendent Stephens was still carrying both the duties of this posi-

tion and those of Camp Director as his appointment as Camp Director, replacing B.G. Rivenburgh resigned, recommended in November had not been approved. The Chief Ranger was also carrying the duties of the Foreman while Ranger Williams was occupied full time as Acting Naturalist, leaving only Ranger Doust free for the miscellaneous duties of the Ranger division.

Following a radio request for information by this office, we were advised by radio on December 29, that the President had provided by executive order for Christmas holiday beginning at 1:00 pm December 24, and extending through December 26. The memorandum mailed to the field on December 5 covering this order, was received here December 30.

120 - Park Inspections

121 - Superintendent

It was necessary for the Superintendent to be on duty at Kilauea headquarters throughout the month. Inspections of the CCC Camp was made on December 4, at which time he talked to the enrollees on Park Rules and Regulations. On December 10, accompanied by the Chief Ranger he inspected the CCC park boundary fencing project from Ainalou Ranch to the beach at Halape. On December 11, inspection was made of clean up work done by the Army and CCC around the incinerator site, and the painting of the Kilauea Military Camp buildings. The Mauna Loa Truck trail was inspected on the 14th, the Chain of Craters area on the 27th and Kipuka Puaulu and the picnic and camping grounds on the 28th. Short visits to Halemauau were made several times in the month.

130 - Finance and Accounts

A detailed financial statement is attached.

140 - Labor Situation

Due to the continuance of the maritime strike preventing the receipt of needed equipment, it was impossible to resume work on the road projects in the park and the per diem laborers remained idle. Unemployment due to the strike does not appear to have increased on this island to any great extent.

150 - Equipment

The only equipment received were an order of books for the library, a spring binder for the Haleakala Observation Station and an air pump for the Volcano Observatory.

170 - Plans, Maps, Surveys

On December 15, a revised plan of the proposed Kalapana addition, in which the area was considerably reduced, was sent Governor

Poindexter for consideration. Copies were furnished the Director and Delegate King. The Chief Ranger completed staking out the remaining portion of the park boundary prior to fencing by the CCC.

180 - Circulars, Placards, Publicity Bulletins, etc.

The weekly press release on the activities of the Hawaiian volcanoes was continued and notices of employment in private industry of CCC enrollees were sent out.

The Honolulu Star-Bulletin on December 11 made editorial comment, a portion of which is quoted, on our Natural History Bulletin No. 1, The Birds of Hawaii National Park. "Bird lovers in the islands will find a helpful guide and mentor in a recent Natural History Bulletin published by the Educational Department of Hawaii National Park. --- This little work is so obviously useful that it ought to encourage the park service to bring out others of a similar nature."

Early in December the "Ka Hui o Mauna Loa," a paper published by the Journalism Class of the CCC Camp under the guidance of Educational Advisor G.O. Hyer made its first appearance.

On December 28, radio station KEBC in Hilo, devoted a short program which it was sending to the mainland to this park.

100 sets and 100 sheets envelope stickers and 30,000 individual stickers for this park were received on December 5 and distributed to various travel agencies in the islands.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Routine maintenance was carried on in both sections of the park. A special maintenance crew of CCC enrollees was put to work repairing damage to drainage and shoulders on the Halemauau-Uwekahuna road where considerable stone rip-rap had become undermined and damaged by the heavy rain on the 29th. All trail paths were also cleared by CCC maintenance crews.

220 - Improvements

Hitching racks for saddle horses were put up at Uwekahuna and at Halemauau and log seats were built at several points along the foot paths to Kilauea Iki, Halemauau and Steaming Bluffs.

230 - New Construction

Work was begun on the new Volcano House gasoline service station and was rapidly nearing completion at the end of the month. The stone masonry on this job is unusually good. The total cost of the job will be about \$3,000.

300 - Activities of other Agencies in the Park

316 - Modification of existing contracts

On December 5, a Special Use Permit covering a one year extension of the lease to the Hawaiian Dredging Company with additional provisions was forwarded your office for approval. The Dredging Company painted their cottage to conform to the park color scheme.

Four other leaseholders made application for similar extensions of their leases under the same conditions.

400 - Flora, Fauna, and Natural Phenomena

410 - Ranger, Naturalist and Guide/Service

With the departure on leave of Assistant Naturalist S.H. Lamb, Ranger Williams was designated Acting Naturalist. Due to the small staff now on duty here, it has been necessary to assign all lectures and public contact work to Ranger Williams.

420 - Museum Service

The two enrollees continued to keep the Haleakala Observation Station open to the public and were assisted in contact work by the District Ranger whenever possible.

440 - Insect Control

During the month arrangements were completed with Mr. O.C. McBride, Entomologist with the Department of Agriculture in Honolulu, to visit the Kilanea Section of the park during the spring and again in the fall to study insect damage to the Koa trees on the lower Mauna Loa slopes.

460 - Birds

Copies of Mr. George Munro's report to the Bishop Museum, the H.S.P.A. and the Hui Mann covering field studies during the past summer on the several islands of native bird life were mailed your office on December 18.

470 - Animals

While inspecting the CCC fence project along the southeastern park boundary on December 10, upwards of 1,000 goats were seen in the lower sections of the park and a lesser number observed on private property adjoining.

490 - Miscellaneous

A report on "Geologic Examples in Hawaii National Park" prepared by Lamb, Waesche and Jaggard with notes on Haleakala by Mr. H.T. Stearns of the U.S. Geological Survey was mailed to your office on December first.

Senior Foreman Olson in charge of the Haleakala unit CCC reported that the enrollees had planted 238 Kōlea and 108 Mamani seeds in tins for use in future reforestation in the crater.

500 - Use of Park Facilities by the Public

510 - Increase or decrease of travel

Travel to the Kilauea Section was 13,066 compared with 16,033 for December 1935. At Haleakala there were 1,246 visitors compared with an estimated total of 1,333 for the same month last year. Both the maritime strike and lack of volcanic activity were factors in the decrease.

530 - Visitors

The Secretary of the Territory of Hawaii, Mr. Charles Hite, his wife and children spent the last three weeks of the month at the Volcano House.

Mr. and Mrs. Charles Atkinson, Honolulu capitalist, December 13 - 31.

Princess Kawananakoa, member of the Hawaiian Home Commission and granddaughter Kekaulike, December 4.

Liliuokalani Kawananakoa, daughter of the Princess and party were guests at the Volcano House December 6 - 7.

Mr. Kiyoshi Sawada, prominent Japanese actor and party visited the park on December 6. They were conducted by Ranger Doust and Chief Clerk Higashida. They were highly pleased with their trip and the following is quoted (translated/liberally) from Mr. Sawada's recording on the new dictating machine - "Not only that - I wish to thank you most kindly for the kindness of the Hawaii National Park officers in guiding us to the different places so nicely -- the trip has been most enjoyable and interesting and when I return to Japan I will surely tell them of the park and the volcanoes."

600 - Protection

610 - Police protection

One Filipino was brought before the Superintendent by the Chief Ranger for speeding. He had been clocked at fifty-four miles an hour in the headquarters area. He was reprimanded and the incident was reported to the manager of the plantation where he was employed.

620 - Fire Protection

The Chief Mechanic made inspection of and reported on the condition of all fire extinguishers.

A fire drill was held on December 28, in the headquarters area.

Water under pressure was on the 'fire' in 2½ minutes from the time the alarm was sounded.

630 - Accidents

December 14, 6:40 pm, car USDI 183, Superintendent driving, ran over a race horse while returning from Hilo. The horse had just been killed by another car. Damage to car negligible.

650 - Signs

Additional metal nature labels were distributed along the Kipuka Puanu, Halemauau, Steaming Bluff and Sandalwood trails.

900 - Miscellaneous

The Christmas dance on December 26, at the Volcano House was well attended. A Christmas party with gifts for each child was given December 23, at the Volcano House for the park and military camp children. Ranger Williams was in charge of arrangements.

The Superintendent was guest speaker at the CCC Camp Christmas party on the 24th and again had the pleasure of talking to the boys when the CCC "Sons of Roosevelt Club" held its Christmas celebration in Hilo. With Mrs. Wingate he had the honor of being included in the Hui o Na Alii reception and dinner for Princess Kawananakoa on the fourth as well as one other party given in her honor.

An able article on "Artists in Hawaii" prepared by Mrs. T.A. Jagger was mailed your office on December 18.

Copies of various correspondence dealing with the Kapapala Ranch grazing rights were mailed your office for submission to the Solicitor of the Interior Department for his opinion on December 18.

Mrs. Shelby M. Singleton, mother of Mrs. Wingate, died in Wilmette, Illinois on December 14.

Respectfully submitted,

Edward G. Wingate
Superintendent



No. 1. Mr. Kiyoshi Sawada and group of Japanese actresses.



No. 2. Volcano House gasoline station under construction. The old garage in the background has since been painted to conform to park colors.



No. 3. Young "hina hina" plant (geranium tridens Hilleb) in flower, Haleakala.



No. 4. Waiapanapa.--This lovely pond is a short distance outside of the Haleakala section of the park on the densely forested eastern slope. There is no trail and it has been seen by few people. Heavy clouds generally blanket the region.



No. 5. ECW fence crew on park boundary project near the sea on the Keauhou boundary. Grass and shrubs which would normally be found here have been completely destroyed by the thousands of wild goats roaming the region.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

January 7, 1937

Edward G. Wingate, Superintendent
Hawaii National Park, T.H.

Subject: Report of Volcano Observatory for December, 1936.

Dear Mr. Wingate:

There have been no changes in personnel or routine at the Hawaiian Volcano Observatory during the past month. Dr. Ballard, Physicist of University of Hawaii, flew over from Honolulu December 28, and gave one day to setting up glass-blowing apparatus. Weekly reports have been issued to the press, and the Volcano Letter is published to September inclusive.

Volcanic Activity of the Month

Kilauea volcano has become very quiet, this possibly indicating a continuance of the upward pressure of lava from below. The end of December was cold and stormy, and this season and year, on statistical basis, are liable to eruption, but nothing happened on Kilauea or Mauna Loa. The following tabulation shows by weeks the seismicity, the counted number of slides in Halemauau pit, the amount of aggregate opening of cracks, and the numbers of local seismic shakings. The seismicity increased mildly until after solstice, and then suddenly lowered. The slides and crack openings declined.

<u>Week ending</u>	<u>Seismicity</u>	<u>Slides</u>	<u>Cracks(m.m.)</u>	<u>Tremors & Quakes</u>
December 6	5.00	1	6.00	12
" 13	8.75	0	6.00	13
" 20	7.75	2	5.00	25
" 27	12.75	1	2.50	33
January 3	0.50	0	0.00	2

Work of Volcanologist

The Montserrat report was forwarded to England from the Washington office December 9, and other copies are being typed for the use of some officials in Montserrat.

The preparation of the Volcano Letter occupied much time. The August and September numbers are issued, the October number in press

and the November number is in manuscript. The plan of the publication September to December is to review with illustrations the Mauna Loa eruption of the summit crater in 1933, and its sequels of prediction and Kilauea eruption 1934, and final data of the lava flow toward Hilo 1935.

A conference with the Superintendent and Naturalist Lamb December 3, discussed review of plans for new Volcano Observatory and Natural History building. The numerous cooperations with educational institutions and government bureaus, the bulk of collections, of library, and of exhibits, and the extensive accumulations that may come from Mauna Loa in the future, make it desirable that the new structure be larger than at first planned, and preferably with two storeys.

The Defense of Hilo from lava flows

(This portion of report to be submitted separately.)

E.G.W.

Work of Seismologist

Assistant Geologist Wassche wrote articles for the Park Naturalist on "Minerals of Hawaii National Park" and on "Geology of Makaopuhi Pit."

He completely overhauled the principal seismograph, the Bosch-Omori, at the Observatory, polishing the pivots, installing new magnets on the timer, and greatly increasing sensitiveness.

All the December seismological data, and computations of tilt, crack opening, etc., were completed by the end of the month, so that all data for December Volcano Letter will be on hand in January.

The mechanic Okuda has completed the counter-shafts, and has the circular saw and machine auger in the carpenter shop in operation. He is building additional trays for cases to hold the Spalding Mineral Collection. Sato has continued cataloguing the library, and Yasunaka carries much of the daily routine of the crater, as well as acting as caretaker of cars, janitor, gardener and messenger. A number of books on physics, chemistry and geology have been added to the library. In the glass-blowing equipment are comprised flame and oxygen tanks, air compressor and blow pipes.

A publication of which reprints were received is "Memorial of Bundjiro Koto" by T.A. Jaggar, Proceedings of the Geological Society of America for 1935, pp. 263-272, plate 12, published June 1936, (copies herewith).

Very respectfully,

T.A. Jaggar
Volcanologist.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

Wailuku, Maui
December, 30, 1936

The Superintendent,
Thru The Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of December, 1936 is respectfully submitted:

000 General.

010 Introduction.

There is nothing of unusual importance to mention this month. The C.C.C. crew is camped in the rest house until a bunk house can be built at the park garage.

020 General Weather Conditions

3.20 inches of rain fell at White Hill during the month. The prevailing wind direction was from the northeast. There were 2 clear days during the month.

100 Administrative.

110 Status of Work.

All work was kept up to date during the month.

150 Equipment and Supplies.

A canvas binder for registry sheets was received December 14.

200 Maintenance, Improvements and New Construction.

210 Maintenance.

Usual maintenance work on the road was carried on. It was necessary to remove much material that fell into the road on account of the wet and freezing weather.

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and Guide Service.

The Ranger in charge was on duty at White Hill at times of heaviest travel, whenever possible, to give information and other service.

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500 Use of Park Facilities by the Public.

510 Increase or Decrease in Travel.

Check of travel shows 249 cars and 1246 people were in the Haleakala Section during the month of December, 1936, a decrease of .3% under the record for last month.

530 Visitors.

Mr. Benjamin Silbert, well known artist, visited the crater of Haleakala on December 22.

Harold St. John, Professor of Botany, University of Hawaii, was in the crater on the 24 - 25 - 26 of this month.

600 Protection.

610 Police Protection.

Frequent patrols were made during the month. No arrests were made.

Very respectfully,


J. L. Peck,
District Ranger

Handwritten mark

STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

DECEMBER, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
1471000	National Park Service, 1937	44,500.00	42,596.94	1,903.06
146/71000	National Park Service, 1936-'37:	338.00	67.13	270.87
14-1010	Roads & Trails, Nat'l Park Svc.	22,500.00	5,026.53	17,473.47
14-1130	Roads & Trails, National Parks, Emergency Construction	40,870.65	37,167.15	3,703.50
14-1007	Roads & Trails, Nat. Parks, Emer- gency Construction Act 6/19/34	25,775.00	25,624.67	150.33
14-44-0629	N.I.R., Int., Nat. Parks, Roads & Trails Act June 16, 1933	495,538.47	495,459.29	79.18
14-405/70762	P.W.A., Allotment to Interior, Nat'l Park Service, 1935-'37:	9,303.00	9,076.30	226.70
14-443/70634	N.I.R., Int., National Park Service, 1933-'37:	21,085.34	21,085.34	0.00
1461000	National Park Service, 1936	45,001.00	44,775.64	225.36
145/61000	National Park Service, 1935-'36:	300.00	283.18	16.82
1451000	National Park Service, 1935	36,040.00	34,785.95	1,254.05

10-157
(Dec. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

TRAVEL REPORT

HAWAII National Park for the month of December, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	12,486	38,055	15,036	44,466	-6,411	.104
Persons entering via other private transportation,	191	728	397	1,065	-337	.316
Total persons entering via private transportation,	12,677	38,783	15,433	45,531	-6,748	.148

OTHER TRANSPORTATION:

Persons entering via Stages ^{Hotels} ,	389	1,364	600	1,559	-195	.125
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	389	1,364	600	1,559	-195	.125
GRAND TOTAL ALL VISITORS,	13,066	40147	16,033	47,090	-6,943	.147

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-157
(Dec. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

TRAVEL REPORT

...Haleakala Section, Hawaii... National Park for the month ofDecember, 1936.....

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Decrease Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,	249	740	813	1214	474	39%
Persons entering via motor vehicles,	1246	3862	1065	5195	1333	25%
Persons entering via other private transportation,						
Total persons entering via private transportation,	1246	3862	1065	5195	1333	25%

OTHER TRANSPORTATION:

Persons entering via stages,						
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,						
GRAND TOTAL ALL VISITORS,	1246	3862	1065	5195	1333	25%

NOTE: Last travel year is estimated only.

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-158
December 1934

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

HAWAII

National Park for the month of December, 1936

SPS 0-2502

Description of projects	Percent constructed to date	Percent constructed this month	Percent constructed last month	Probable date of completion
520.1 Haleakala Road, Post Construction (F.A.)	42	5	5	
523 Uwekahuna-Bird Park Road, surfg. treatment, 1.75 miles (F.A.)	99	0	2	
524 Residential Area Roads, Completion 3/4 mile, org. grdg. & Surfg. (H.A.)	21	0	1	
525 Headquarters Area Roads, Improvements (F.A.)	0	0	0	
F.P. 633.14 For the erection of one observation station and toilets; one office and checking station, including the purchase of one wood heating stove and miscellaneous furniture, Haleakala.	100	0	0	
F.P. 677.14 Employee's Residences and connecting service lines for newly appointed U.S. Commissioner	0	0	0	

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10-159
(May 1931)
(99566)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

.....HAWAII..... National Park for the Month ofDecember.....1936.....

	This Month				This Month Last Year			
	Appointed		Non-Appointed		Appointed		Non-Appointed	
	Reg.	P.W.	Reg.	P.W.	Reg.	P.W.	Reg.	P.W.
Number of employees beginning of month	20	0	0	0	18	2	1	8
Number of additions.....	0	0	0	0	0	2	0	1
Total.....	20	0	0	0	18	4	1	9
Number of separations.....	0	0	0	0	1	1	0	2
Number of employees close of month.....	20	0	0	0	17	3	1	7
Number of promotions during month.....	2	0	0	0	0	0	0	0
Aggregate amount of annual leave taken	27	0	0	0	24	0	0	0
Aggregate amount of sick leave taken....	20	0	0	0	1	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0	0	0

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10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

HAWAII National Park for the Month of December, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	25.00	0.00
Total,	25.00	0.00
Remitted,	25.00	0.00
On hand close of month,	0.00	0.00
Park revenues received this year to date,	298.50	250.00
Park revenues received last year to date,		
Increase,	48.50	
Per cent of increase,194	

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10-161
(Sept. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REPORT OF SALES OF PUBLICATIONS
HAWAII NATIONAL PARK
HAWAII

December, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	959	147.55
Received during month,	0	0.00
Total,	959	147.55
Sold during month,	0	0.00
On hand at close of month,	959	147.55

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,	
Received during month,	
Total,	
Sold during month,	
On hand at close of month,	

Cash on hand beginning of month,	9.98
Sales during month,	0.00
Total,	9.98
Remitted during month,	0.00
Balance,	9.98

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REPORT OF THE ACTING CAMP DIRECTOR, ECW
to the
PARK SUPERINTENDENT, HAWAII NATIONAL PARK, FOR THE
MONTH ENDING December, 31st, 1936.

The labor turn over for the month was as follows;

HALEAKALA SECTION.

- 1 Desertion.
- 1 To accept permanent employment.

KILAUEA SECTION.

None.

Work was done on approved projects and a total of 2801 man days consumed. The weather was consistantly bad during the latter part of the month. Over 14 inches of rainfall was recorded and all water storage tanks are filled to capacity.

Since the arrival of Mr. Gardner O. Hyer as Educational Adviser a Camp Library has been established as a branch of the traveling library of Hilo. Mr. Hyer has also started a class in Journalism and from this class has drawn his staff for the Camp Paper, Ka Hui O Mauna Loa. Articles are submitted to the Educational Adviser and these are corrected, as part of the class program.

An English class has been started and are studying Grammar, Syntax Diagraming parts of speech, analysis, spelling, use of dictionary and penmanship.

A single typewriter is being used for instruction purposes.

Open forum discussions on problems of the day; citizenship, and personal hygiene.

One Catholic Service was held by Father Gregory of Pahala, and a talk by Mr. Raymond Squire of the Hilo Boarding School.

Most of the enrollees elected to take the holidays during the New Year and about 135 sat down for Christmas dinner. A tree was set up and decorated by the Educational Adviser, and Christmas exercises were handled by him at which the Park Superintendent spoke.

Practice games of Basketball were played during the month and the teams showed great improvement. Volley ball and soft ball baseball are also increasingly popular.

The camp health was well above average with 1 appendectomy necessary and no lost time accidents.

Respectfully submitted,



W. J. Stephens.
Acting Camp Director, ECW HNP.

REPORT OF THE CAMP SUPERINTENDENT ECW.
 To The
 PARK SUPERINTENDENT HAWAII NATIONAL PARK, FOR
 MONTH ENDING DECEMBER, 31st, 1936.

During the month the following man days were used on approved projects as listed below.

E.C.W.	#	131	Fencing park boundry	1170
		204	Road Maintenance.	500
		207	Trails horse. (Mani)	203
		1001	Educ. guide. cont. sta. work.	44
		1004	Eradication exotics.	884
			Total	2801

The work on the park boundary fence was continued and the Puna side to the beach was completed by the end of the month. Constant storms with heavy winds made camping uncomfortable and resulted in the practical destruction of all the canvas. These tents have been in service for 2 $\frac{1}{2}$ years, the first year in the Crater of Haleakala and when returned were badly weathered. Further camping will necessitate almost total replacement.

Approximately 20 miles of Highway was reconditioned, ditches cleaned and repaired and rip rap replaced.

Weather conditions in the Haleakala Section were uniformly bad and practically all work in that section was done repairing damage to trail. Contact work was continued at the Rest House.

About 100 acres were cleared of exotics during the month and it is noted that the native fern growth is returning rapidly.

Respectfully submitted,


 W. J. Stephens.
 Camp Superintendent, ECW.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

January 10, 1937

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

There follows the report of the activities of the ranger department during December.

000 - General

There is nothing of unusual importance to mention this month, District Ranger Peck states the CCC crew is camped in the rest-house until a bunk-house can be built at the park garage.

020 - General Weather Conditions

Total rainfall at headquarters was 18.93 inches, at the CCC Camp 14.13 inches and at Haleakala 3.20 inches. On the night of December 29 - 30, the traffic was stopped on the main belt road between Park headquarters and Mountain View due to the height of the water on the road which made it impossible for the cars to pass. The Olaa Police were kept on duty all night.

100 - Administration

110 - Status of Work

All work was kept current in both the Kilauea and Haleakala Section. The fence line crew is now on the last stretch.

120 - Park Inspections by:

Routine park inspections were made of all work in progress including field inspections. The morning glory was cleared around the young coconut plants as was suggested by the Superintendent on his inspection trip to Halape. The Chief Ranger made an inspection of the rest-house at the 10,000 ft. elevation and found everything to be in good order, however the trail needs maintenance work from the end of the Mauna Loa Truck trail to the rest-house.

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- 2 -

150 - Equipment and Supplies

District Ranger Peck received a canvas binder for registry sheets December 14.

170 - Plans, Maps and Surveys

Plans, for building Employee's residence were received during the month estimated at \$11,000.00 The survey of the boundary was completed in so far as the fencing project calls for.

200 - Maintenance, Improvements and New Construction

Usual maintenance of roads, trails and equipment was carried on in both sections of the park. All bridle paths were cleared by the ECW Maintenance crew. Hitch racks were installed at Uwekahuna and the parking area the Bit. Benches were installed at various places along the foot-paths of Kilauea Iki, Halemaumau and Steaming Bluff.

300 - Activities of Other Agencies in the Park

The usual dances were held at the Volcano House during the month. A Christmas Tree party for the children of families residing in the park was also held at the Volcano House. Another Christmas Tree party was held at the CCC Camp for the enrollees.

An up to date service station for the Volcano House was started during the month and is being built by the Standard Oil Company of California at a cost of \$3,000.00. The Hawaiian Dredging Co., painted their building in conformity with national park color standard.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Due to the absence of Assistant Naturalist Lamb on the mainland and the illness of Ranger Murray very little contact was made by the Ranger staff. The District Ranger at Haleakala was on duty at White Hill where his services were required in giving out information, etc., to people visiting that section.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Total travel to Kilauea was as compared with 16,033 for December, 1935. On Haleakala travel was 1333, a 25% increase over December, 1935.

530 - Visitors

Dr. Ballard of the University of Hawaii made a short trip to the Volcano Observatory in connection with his research work of gas, etc.

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530 - Visitors cont'd:

A troupe of Japanese actors and actresses visited this park on December 6, 1936.

600 - Protection

610 - Police Protection

Daily patrols were made during the month, and frequent inspections were made of the residences adjacent to the park. Traffic violators were cautioned and warned by the Ranger Staff.

620 - Fire Protection

A fire drill was held at the Park headquarters on the 28th. A copy of the report on this drill is attached. All fire extinguishers were refilled during the month.

Very respectfully,

Joseph H. Christ
Joseph H. Christ
Chief Ranger

Dec. 31, 1936.

The Superintendent,
Hawaii National Park,
Hawaii.

Dear Sir:

I hereby submit my report on all fire extinguishers located in the Park area.

There are twelve two and one half gallon soda and acid type extinguishers, these were all emptied and recharged, they are located as follows, Observatory 2, Fire truck 2, Museum 1, Machine shop 1, Warehouse 1, Upper garage 1, Lower garage 1, Office 1, E.C.W. Office 1, Office garage 1.

There are thirty nine one quart hand extinguishers, these were all examined and tested, those not in working condition were replaced with good ones, the hand extinguishers are located as follows, Residences 15, Cars and trucks 13, Observatory 5, Museum 2, Warehouse 2, Machine shop 1, Service Sta. 1,

When the hand extinguishers were examined sixteen were found full, nineteen were three quarters full, two one half full and two one quarter full.

The soda and acid extinguishers are recharged annually, the one quart hand size extinguishers are tested and filled quarterly.

Report submitted by,

F.F.Fischer

F. F. Fischer

Mechanic.

[Handwritten initials]

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Dec. 31, 1936

The Superintendent,
Hawaii National Park,
Hawaii.

Dear Sir:

The following is the report of my time by hours
for the month of Dec. 1936.

Work on cars and trucks			101 hours.
Check, recharge, fill and repair Fire extinguishers			17 "
Repair tools			11 "
Pump water as follows,	High tank	27,000 gal.	
	Fischer	1,000 "	
	E.C.W.	600 "	
	Total	28,600 Gal.	10 "
Check in gasoline			7 "
Rep. Museum light plant			7 "
Warehouse			5 "
Check in kerosene			4 "
Fill all car batteries			4 "
Repair Siren			3 "
Service C.C.C. cars			3 "
Go to Hilina Pali for car			2 "
Transfer motor oil to storage tank			2 "
Round up stray equipment from warehouse			2 "
Rep. steel tape lines			2 "
Rep. Sickles			2 "
Survey E.C.W. equipment			1 "
Repair E.C.W. switch board for light plant			1 "
Repair car for Park visitor			1 "
Clean lower garage			1 "
Observatory machine shop			1 "
Repair air hose for compressor			1 "
Repair fire pump			1 "
Repair Gasoline lantern			1 "
Repair Tire tubes			1 "
Repair telephones			1 "
			<hr/>
			Total 192 Hours

Report submitted by,
F. F. Fischer

F. F. Fischer.

Mechanic.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

HAWAII December 31, 1936

Superintendent Wingate
Hawaii National Park

Dear Sir:

I made my last inspection of the Mauna Loa Truck Trail work around the first of December. I think that as soon as practical a corral and a small building should be placed at the end of the road. This would help a great deal in case of volcanic activity on the mountain, and would save a lot on horses as well as time.

Inasmuch as I understand that this road will eventually go to the 10,000 foot level these buildings could be of a temporarily nature.

The moral of the C.C. boys I have observed during the month seems to be very good, and outside of some of the trucks driving a little to fast and getting on the wrong side of the road occassionally I have nothing more to report at this time.

Yours very truly,



Ranger Harry W. Doust

10-33
(May 1929)

6-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

-----Hawaii----- NATIONAL PARK

FILE NO.

MONTHLY REPORT
NOVEMBER 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All files should be returned promptly to the File Room. Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

December 9, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows the report of activities of Hawaii National Park for the month of November.

000 - General

The Pacific coast maritime strike which commenced the latter part of October, began to seriously threaten the general food supply of the islands toward the middle of the month. Due to lack of sufficient stocks held in storage of staple foods other than meat, milk and vegetables grown locally and because the islands import such foods as rice, flour, bacon, ham, eggs and various canned goods, as well as large quantities of vegetables, the tie-up of shipping can in a short while cause considerable hardship here. Governor Poindexter, Delegate King and others have been exerting every effort to secure shipment of foods to Hawaii but at the end of the month their efforts had been without effect. The CCC camp was fortunate in securing contracts for most of the food items needed in December.

The general election early in November resulted locally in a more than 2-to-1 victory for the incumbent Delegate, Samuel W. King, over Mr. B.G. Rivenburgh formerly camp director, CCC, here in the park. This result was not unexpected.

020 - General Weather Conditions

Total rainfall at headquarters was 2.64 inches, at the CCC camp, 1.81 inches and Haleakala 3.10 inches. The water supply at the Army camp became so low that it was necessary to haul nine miles from the half-way house beyond the western park boundary.

100 - Administration

110- Status of Work

All office work and reports were current

120 - Park Inspections By:

121 - Superintendent

On the 5th inspection was made of the CCC camp with Acting Camp Director Stephens and Mr. and Mrs. F.C. Atherton of Honolulu. The camp was also inspected on the 19th and the 28th. Frequent visits to the fire pit in Kilauea Crater were made where continued sliding from the north and east rims has given rise to much speculation concerning the probability of an early return of molten lava to the crater.

The newly completed section of the goat-proof boundary fence between the Kalapana trail crossing and Napau Crater were inspected on the 19th. No goats were seen and damage by wild pigs was slight. On the 26th a trip through Kilauea Iki was made and on the 29th the Mauna Loa truck trail was inspected.

125 - Department of the Interior Officers

E.E. Tillett, Field Supervisor, ECW, in company with Mr. Warren Lytle, CCC Camp Director, Keanae, Maui, inspected the Haleakala section, November 21 and 22.

127 - Other Governmental Agencies

Mr. William Crosby of the Territorial Forest Service, also inspected the Haleakala section November 21 and 22.

130 - Finance and Accounts

A detailed financial statement will be found at the back of this report.

140 - Labor Situation

Because of the tie-up of ships in San Francisco, it was necessary to lay off the road crew which has been employed for several months, because of the lack of equipment, the most important of which is a gasoline roller which is on one of the boats in San Francisco Bay.

150 - Equipment and Supplies

One stove for the Haleakala observation station was received by District Ranger Peck. Two dictating machines (executive and secretarial models) and an electric shaving machine were received at Kilauea headquarters.

170 - Plans, Maps and Surveys

Suggested changes and revisions have been made by the staff to the master plan for this park and, except for the submission of the sheet for the Kilauea Military Camp, is ready for final drafting.

180 - Circulars, Flacards, Publicity Bulletins, etc.

Two Natural History Bulletins, Nos. 1 and 2, the first dealing with the trees of Hawaii National Park and the second with the birds, were prepared and mailed to a large list. Both of these have received favorable comment by the local and Honolulu newspapers.

On November 9, the regular Hawaii Calls radio broadcast, sponsored by the Hawaii Tourist Bureau, was sent out from the Volcano House, and was considered by many as being one of the best programs put on by the Tourist Bureau. It was largely a program of authentic Hawaiian music.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Usual maintenance of roads, trails and equipment was carried on in both sections of the park. The trail leading to the resthouse at Haleakala was repaired and put in good condition.

220 - Improvements

A short, spur trail was added to the bridle path around the rim of Kilauea crater, to enable riders to have the use of a trail instead of riding across country.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

315 - New Contracts

New lease was prepared and submitted to the Hawaiian Dredging Company for signature, covering the extension of the rental of their cottage on a yearly basis, not to exceed five years.

320 - Cooperating Governmental Agencies

Work has been commenced on painting all buildings at the Military Camp brown with buff trim in conformity with national park standards.

WPA engineers started surveying the route of the much agitated road across the island about 60 miles in length running from Hilo on the east to Helunalea in Kona on the west. The road will pass through the saddle between Mauna Loa and Mauna Kea and reach a maximum elevation of 7000 feet. More than 50% of the road will be over barren waste land. Its construction is supported by the Army as a necessary defence project and many local politicians who, though they have never been on the ground advocate the road as a means to opening up large tracts of land to small farming development.

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400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The services of temporary ranger Eldon S. English were terminated at the close of November 30.

420 - Museum Service

Two CCC enrollees have been stationed at the Haleakala Observation Station throughout the month. Due to the shipping tie-up on the Pacific coast the number of contacts by the naturalist division has been considerably less than heretofore. There have been almost no tourists who usually make the two-day trip around the island over the weekend, and on the 28th fell to a new low, when there were no people present at the Saturday morning lecture.

480 - Natural Phenomena

A detailed report of the Volcano Observatory will be found at the back.

Form 1-612 recommending the appointment of Dr. Stanley S. Ballard, of the Department of Physics of the University of Hawaii, as Research Associate in Geophysics, to serve without compensation was submitted for approval.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel to Kiluea was 13,143 as compared with 18,470 for November, 1935. At Haleakala there were 1251 visitors. The maritime strike has practically eliminated mainland tourist travel to both sections of the park.

530 - Visitors

November 4 - Mr. and Mrs. Frank Atherton for several days. Mr. Atherton was former president of Castle & Cooke.

November 4 - Admiral Joseph Defrees, USN

November 4-5 - One hundred four sailors from the USS Bushnell

November 15 - Admiral Ernest King, USN, chief of the Naval air force.

November 15-16 - One hundred eighty sailors from the USS Wright and three squadrons of Navy planes.

November 27 - Mr. E.G. Baldwin of Maui for several days. The Baldwins are an old kamaaina family and Mr. Baldwin is an engineer of note and considered an authority on land boundaries.

600 - Protection**620 - Fire Protection**

Quarterly fire inspection was made in November of all buildings belonging to the park and operators. A fire suppression manual prepared jointly by the park naturalist and chief ranger was mailed to the Division of Forestry on the 21st.

900-Miscellaneous

Because of the illness of his brother in Frankfort, Kentucky, park foreman Robert R. Craik left for the mainland on the 25th.

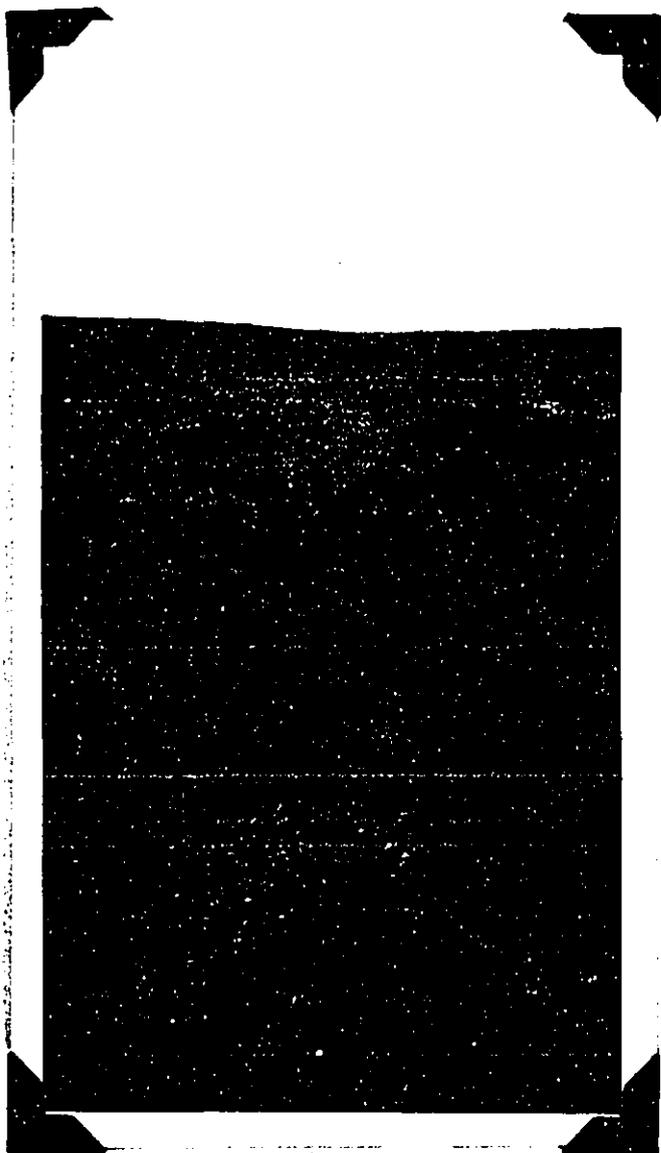
Usual quarterly Federal Business Association meeting and dinner was held at the Volcano House on the 4th. This was also in the nature of an aloha for the Navy radio station operator R.H. Bradford, who was to be transferred to the mainland.

The superintendent was one of a group to welcome Admiral Defrees when his ship again visited Hilo on November 4. On the 17th, he was a guest of the Chamber of Commerce at a luncheon for Admiral King. He attended the dedication of the new YWCA building in Hilo and the funeral of police officer William Oili who had been killed in line of duty.

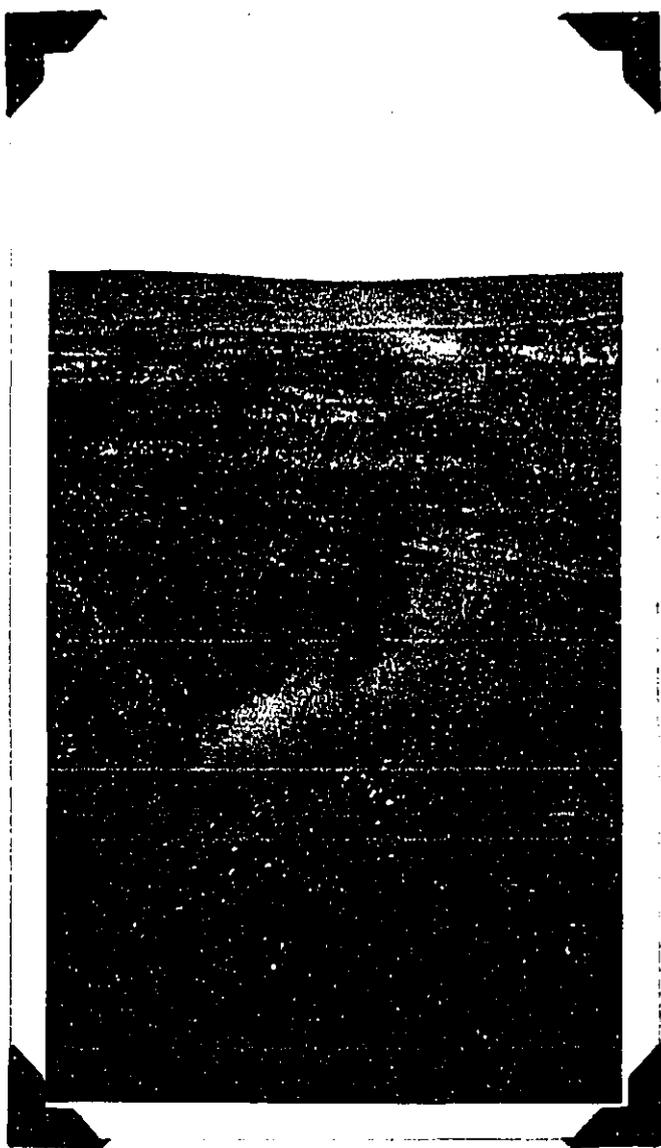
Respectfully submitted

Edward G. Wingate
Superintendent

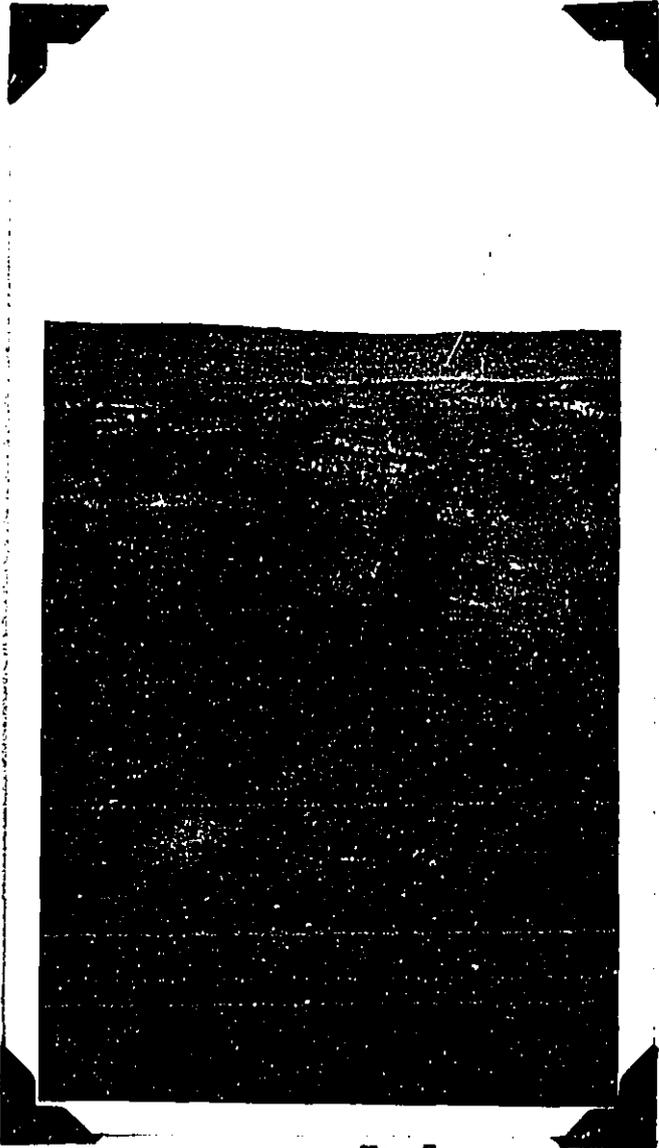
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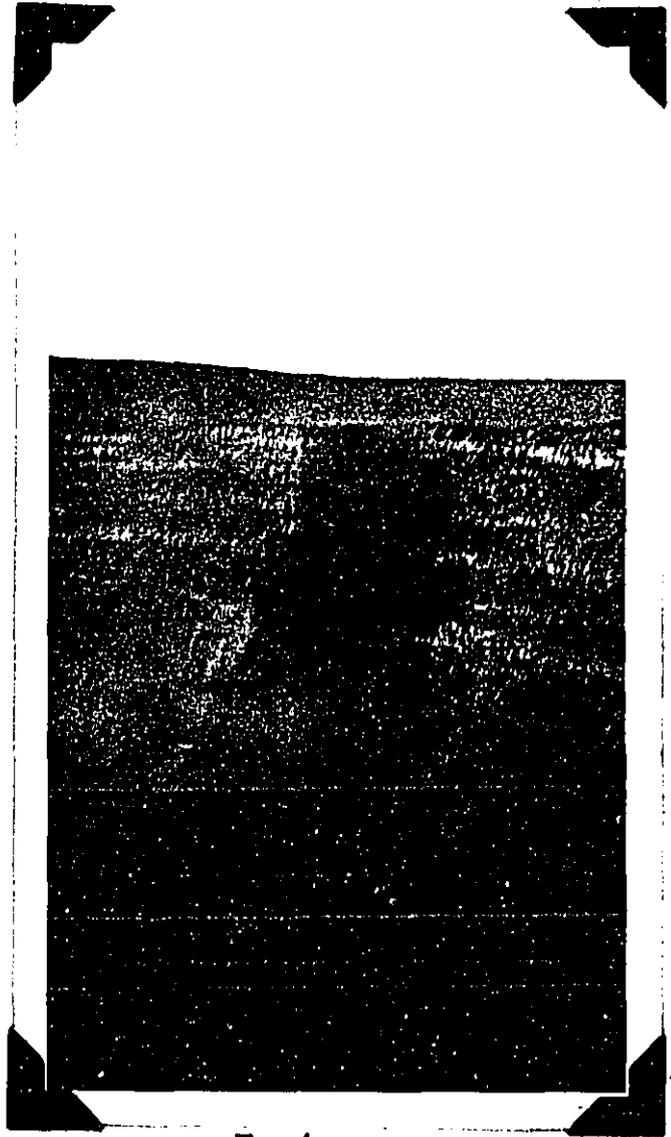
No. 1
(See next page for title)



No. 2
(See next page for title)



No. 3



No. 4

The above pictures are a series of four views showing the development of an avalanche or large slide from the north wall of Halemauau. These pictures were taken early in November at various intervals over a period of two hours. No. 1 shows a dark scar left by one of many small slides which were breaking loose from the lower part of the wall. In No. 2 and 3 the scar has increased in size and the sliding was progressively higher up the wall. No. 4 was taken just after a section of the upper rim collapsed. It was this slide which brought down the huge boulder shown lying on the floor in the next picture.



No. 5

Sliding continued from the north and northeast walls throughout the month. This slide occurred about 10 days later than those shown in the first four pictures.

Dec. 1936 report



No. 6

This photograph taken in May, 1936 is included for comparison with the preceding pictures to show the immense amount of material which, sliding during October and November, has heaped up beneath the north and northeast walls. The wall is about 750 feet high.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park
Hawaii

December 4, 1936.

Edward G. Wingate, Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory for November, 1936.

Dear Mr. Wingate:

The staff of the Volcano Observatory has remained unchanged and the usual routine has included daily seismograph attention, visits to Halemaumau Pit, record there of slides, fumes, cracks and tilt, monthly levelling, reading of horizontal angles every ten days, issuance of weekly press report and plating curves of all measurements.

The mechanics have added concrete floor to half the carpenter shop, made numerous carpentry improvements in shops and laboratories, and have made progress in adaptation of a counter-shaft and belting for power auger and circular saw.

Volcanic Activity of the Month

The avalanches and crack-opening of the Halemaumau rim continued but declined. The following tabulation shows by weeks seismicity, counted number of slides, crack-opening, and local earthquake and tremor frequency:--

Week Ending	Seismicity	Slides	Cracks (mm)	Quake Frequency
Nov. 8	15.50	19	518.5	39
Nov. 15	19.75	15	20.0	45
Nov. 22	11.25	14	5.5	30
Nov. 29	7.50	17	0.5	21

A notable change in habit of the last week was shown by many rim-cracks closing, the seismic motion decreasing, and levels run for the month showed NW Pit Station elevated 6.7 cm relative to Spit Bench mark, where depression had been almost continued since 1934. There was similar elevation before the Halemaumau eruption 1934.

Work of Volcanologist

The Montserrat Report of 42 pages and 88 cuts was mailed to the representative of the Royal Society, via Washington office, November 4.

The volcanologist lectured with slides and motion pictures on "The 1935 Manna Loa Eruption" in Lihue November 6, Waimea November 7, both on the Island of Kauai.

He had conferences with President Crawford and University workers in Honolulu November 9, and with the Board of Directors, Hawaiian Volcano Research Association, in Honolulu December 10. At this meeting the Association approved expenditure of \$1740 for bringing back publications of Volcano Observatory up-to-date, plates and uncompleted volumes to be finished, and indexes made.

On November 12, a report on ocular micrometer for tilt-meters was received from the Gaertner Scientific Corporation. Numerous letters have been received from Dr. S. Ballard of the University of Hawaii on Gaertner and Hilger Spectrographs. These matters are pending. Also a correspondence with Mr. Aldrich, editor of the Memoirs, Geological Society of America, on proposed memoir by Dr. Jaggard on "Origin and Development of Craters."

With Assistant Geologist Woesche, Dr. Jaggard has continued to prepare texts for the Volcano Letter, printed in Honolulu to July, 1936 inclusive by the Hawaiian Volcano Research Association. The August number is in press. With the July issue we returned to type and half-tone, after trying out the Multilith process for eight months. The illustrations are immeasurably better by the old method.

Work of Seismologist

Assistant Geologist Woesche has carried the regular routine of instrumental work, including weather instruments. He has plotted the changes of individual rim-cracks since January 1, 1935. Experiments were made in changing the time-marking device on the Bosch-Omori Seismograph. The object was to eliminate the time-gap in the line. A vibrator mark proved unsatisfactory when the long waves of an earthquake were writing and a return to the time-gap was adopted.

A visit from Capt. C.H.C. Keppler, U.S.N., commanding the "Minneapolis," and his officers about November 15, was welcomed as Captain Keppler commanded the Eclipse Expedition on "Niuafoou" in Tonga in 1930, to which Dr. Jaggard was attached as geologist.

Very respectfully,

T.A. Jaggard

T. A. Jaggard
Volcanologist

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STATISTICAL REPORT NO. 8
FINANCE AND ACCOUNTS
NOVEMBER, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
1471000	National Park Service, 1937	44,500.00	42,259.89	2,240.11
146/71000	National Park Service, 1936-'37:	338.00	67.13	270.87
14-1010	Roads & Trails, Natl Park Svc.	22,500.00	5,026.53	17,473.47
14-1130	Roads & Trails, National Parks, Emergency Construction	40,870.65	36,886.27	3,984.38
14-1007	Roads & Trails, Nat. Parks, Emer- gency Construction Act 6/19/34	25,775.00	25,624.67	150.33
14-44-0629	N.I.R., Int., Nat. Parks, Roads & Trails Act June 16, 1933	495,538.47	495,459.29	79.18
14-405/70762	P.W.A., Allotment to Interior, Natl Park Service, 1935-37:	9,303.00	9,076.30	226.70
14-443/70634	N.I.R., Int., National Park Service, 1933-'37:	21,085.34	21,085.34	0.00
1461000	National Park Service, 1936	45,001.00	44,775.64	225.36
145/61000	National Park Service, 1935-'36:	300.00	283.18	16.82
1451000	National Park Service, 1935	36,040.00	34,785.95	1,254.05

10-157
(Dec. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

TRAVEL REPORT

Hawaii National Park for the month of November, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	12,456	25,569	17,427	29,430	3,861	.131
Persons entering via other private transportation,	246	537	453	668	131	.196
Total persons entering via private transportation,	12,702	26,106	17,880	30,098	3,992	.132

OTHER TRANSPORTATION:

Persons entering via ^{stage} stages,	441	975	590	959	16	.017
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	441	975	590	959	16	.017
GRAND TOTAL ALL VISITORS,	13,143	27,081	18,470	31,057	3,976	.128

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-157
(Dec. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

TRAVEL REPORT

Haleakala Section, Hawaii National Park for the month of October, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,

Cars reentry,

Motorcycles,

Total motor vehicles, 271 271
~~241~~ ~~241~~

Persons entering via motor
vehicles, 1,365 1,365

Persons entering via other
private transportation,

Total persons entering via
private transportation, 1,365 1,365

OTHER TRANSPORTATION:

Persons entering via stages,

Persons entering via trains,

Persons entering otherwise,

Total other transportation,

GRAND TOTAL ALL VISITORS, 1,365 1,365

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,

Campers in public camps during month,

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10-157
(Dec. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

TRAVEL REPORT

Haleakala Section, Hawaii National Park for the month of November, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,	250	491				

Persons entering via motor vehicles,	1,251	2,616				
Persons entering via other private transportation,						
Total persons entering via private transportation,	1,251	2,616				

OTHER TRANSPORTATION:

Persons entering via stages,						
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,						
GRAND TOTAL ALL VISITORS,	1,251	2,616				

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii National Park for the month of November, 1936

0-8562

Description of projects	Percent constructed to date	Percent constructed this month	Percent constructed last month	Probable date of completion
520.1 Haleakala Road, Post Construction (F.A.)	37	5	5	
523 Uwakahuna-Bird Park Road, surf. treatment, 1.75 miles (F.A.)	99	2	0	
524 Residential Area Roads, completion 3/4 mile, drg. grdg. & surf. (F.A.)	21	1	10	
525 Headquarters Area Roads, Improvement (F.A.)	0	0	0	
FP 633.14 For the erection of one observation station and toilets; one office and checking station, including the purchase of one wood heating stove and miscellaneous furniture, Haleakala	100	0	0	
FP 677.14 Employee's Residence and connecting service lines for newly appointed U.S. Commissioner.	0	0	0	

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10-159
 (May 1931)
 (99566)

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of November, 1936

	This Month				This Month Last Year			
	Appointed		Non-Appointed		Appointed		Non-Appointed	
	REG	P.W.	REG	P.W.	REG	P.W.	REG	P.W.
Number of employees beginning of month	21	0	7	0	18	2	1	9
Number of additions.....	0	0	0	0	0	0	1	0
Total.....	21	0	7	0	18	2	2	9
Number of separations.....	1	0	7	0	0	0	1	1
Number of employees close of month.....	20	0	0	0	18	2	1	8
Number of promotions during month.....	0	0	0	0	0	0	0	0
Aggregate amount of annual leave taken	15½	0	0	0	0	0	0	0
Aggregate amount of sick leave taken....	9½	0	0	0	5	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0	0	0

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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of November, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	100.00	125.00
Total,	100.00	125.00
Remitted,	100.00	125.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	273.50
Park revenues received last year to date,	250.00
Increase,	23.50
Per cent of increase,094

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10-161
(Sept. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REPORT OF SALES OF PUBLICATIONS

HAWAII NATIONAL PARK
HAWAII

November, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	959	147.55
Received during month,	0	0.00
Total,	959	147.55
Sold during month,	0	0.00
On hand at close of month,	959	147.55

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		

Cash on hand beginning of month,	9.98
Sales during month,	0.00
Total,	9.98
Remitted during month,	0.00
Balance,	9.98

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REPORT OF CAMP SUPERINTENDENT
to the
PARK SUPERINTENDENT FOR THE MONTH
ENDING NOVEMBER 30, 1936

During the month the following men worked on the approved projects.

E.C.W. 7.	\$131 Fencing Park Boundary	1060
	1004 Removing exotics	737
	204 Road & trail maintenance	600
	207 Trails horse, Haleakala	297
	1001 Educ. guide cont. sta. wk.	<u>40</u>

2734

Work on the fence was somewhat slow but a good deal of pioneer work was accomplished which does not show. The crews were in camp at the beach and the packing of water was the greatest hardship. It is hoped that this side of the boundary will be completed by Christmas.

737 mandays were expended in the removal of exotic Jerusalem Cherries and black berry.

Road and trail maintenance work was continued, the weather being favorable for this type of work.

Two boys were put at the Haleakala Contact Station and the District Ranger reports their work as satisfactory.

Haleakala horse trail work was continued and Mr. Olson reports condition in the camp and on the job as satisfactory.

Respectfully submitted,



W. J. Stephens,
Camp Superintendent.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
November 30, 1936

The Superintendent,
Thru The Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of November, 1936 is respectfully submitted:

000 General.

010 Introduction.

Due to the maritime strike, very few tourists from the mainland are reaching Haleakala.

020 General Weather Conditions.

3.10 inches of rain fell at White Hill during the month. The prevailing wind direction was from the northeast. There were 8 clear days during the month.

100 Administrative.

110 Status of work.

All work was kept up-to-date during the month.

120 Park Inspections by

125 Other Governmental Officers.

Mr. E. E. Tillett, Field Supervisor ECW and Mr. W. Lytell, Camp Director ECW, inspected the Haleakala Section November 21 - 22.

127 Other Agencies.

Mr. William Crosby of the Territorial Forest Service, inspected the Haleakala Section November 21 - 22.

150 Equipment and Supplies.

An electric vehicle counter was received November 3. A stove was received on November 30.

200 Maintenance, Improvements and New Construction.

210 Maintenance.

Usual maintenance work on the road was carried on. The trail to the rest house was repaired and put in good condition during the month.

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and Guide Service.

The Ranger in charge was on duty at White Hill on week-ends and holidays, whenever possible, to give information and other service. The 2 C.C.C. boys on duty at the observation station have rendered good service.

500 Use of Park Facilities by the Public.

510 Increase or decrease in Travel.

Check of travel shows 250 cars and 1251 visitors were in the Haleakala Section during the month of November, 1936, which is a decrease of 8% under the record for last month.

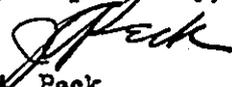
The maritime strike has practically eliminated tourist travel from the mainland.

600 Protection.

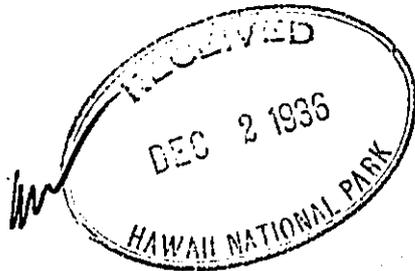
610 Police Protection.

Frequent patrols and inspections were made during the month. No arrests were made.

Very respectfully,



J. A. Peck,
District Ranger.



REPORT OF ACTING CAMP DIRECTOR TO THE
PARK SUPERINTENDENT

The labor turn over for the month was as follows:

Kilauea Section - - - 5 to accept permanent employment.
1 Dishonorable discharge. - Desertion.

Haleakala Section - - 1 to accept permanent employment.
1 due to health cannot stand elevation
and climate.

Work on the projects continued on schedule, sickness was average
and no serious or communicable diseases reported.

Church services were held as scheduled. Mr Hyer the Educational
Adviser has taken hold in good shape and has started classes in
English Grammar and Journalism. Attached is a list of notes on what
has been accomplished to date.

An excellent basket ball team has been developed which has de-
feated several local teams and if it is possible to enter one of the
the local leagues we should furnish with a creditable standing.

The weather has been dry but there is still no serious shortage
of water in the tanks.

Respectfully submitted,

Wilkinson J. Stephens,
Acting Camp Director, ECW HMP.

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December 3, 1936

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

There follows the report of the activities of the ranger department during November.

000 - General

020 - Weather Conditions

Total rainfall at headquarters was 2.64 inches, at the CCC camp 1.81 inches and at Haleakala 3.10 inches. The water supply at the Army camp became so low that it was necessary to haul from the half-way house, Kau.

100 - Administration

110 - Status of Work

All work was current. The fence gang is progressing at a good rate, and it is expected they will be finished by December 20, with the Halape section.

The road gang at headquarters was laid off, since it was impossible to continue work until the roller, which is in San Francisco, arrives.

120 - Park Inspections by:

Routine park inspections were made of all work in progress, including field inspections. District Ranger Peck made frequent inspections of the Haleakala section. It is recommended that in the Halape section the morning glory vines might be cleared around the young coconuts, which were planted in this area. The fence gang should be able to do this. A horse trail should be constructed underneath the pali from Halape to Kaone. This would save considerable time and energy, instead of climbing the pali trail over Pua Kapukapu.

123 - National Park Service Officers

E.E. Tillett, Field Supervisor ECW, in company with Mr. Warren Lytle, CCC Camp Director, Keanae, inspected the Haleakala section, November 21-22.

127 - Other Governmental Agencies

Mr. William Crosby of the Territorial Forest Service, also inspected the Haleakala section on November 21-22.

150 - Equipment and Supplies

One stove for the Haleakala observation station was received by District Ranger Peck. Two Dictaphone machines (executive and secretarial models) and an electric shaving machine were received at Kilauea headquarters.

170 - Plans, Maps and Surveys

Suggested changes and revisions have been made by the staff to the master plan for this park, and, except for the submission of the sheet for the Military Camp, is ready for final drafting.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Usual maintenance of roads, trails and equipment was carried on in both sections of the park. The trail leading to the resthouse at Haleakala was repaired and put in good condition.

220 - Improvements

A spur trail was added to the bridle path around the rim of Kilauea crater, to enable riders to visit the pit.

300 - Activities of Other Agencies in the Park

320 - Cooperating Governmental Agencies

Work has been commenced on painting all buildings at the Military Camp brown with beige trim, in conformity with national park standards.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The services of temporary ranger Eldon E. English were terminated at the close of November 30.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel to Kilauea was as compared with 18,470 for November, 1935. At Haleakala there were 1251 visitors. The maritime strike has practically eliminated mainland tourist travel, and during November there were very few week-end tourists from Honolulu.

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600 - Protection

610 - Police Protection

Daily patrols were made during the month, and frequent inspections were made of the residences adjacent to the park. Traffic violators were cautioned whenever caught.

620 - Fire Protection

The usual quarterly fire inspection was made in November.

630 - Accidents

Drivers accident report form No. 26 has been placed in all government cars.

Respectfully submitted

Joseph B. Christ
Joseph B. Christ
Chief Ranger

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66
Franky Fischer

Dec. 1, 1936.

The Superintendent,
Hawaii Natl. Park,
Hawaii.

Dear Sir:

The following is a report of my time by hours for
the month of November 1936.

Work on cars and trucks		79 Hours
Pumping water as follows	High Tank 17,500 Gal	
	Observatory 8,000 "	
	E. C. W. 4,000 "	
	Wingate Res. 2,000 "	
	Kauhi Res. 1,500 "	
	Uwakahuna 600 "	
	<u>Total 33,500 Gal.</u>	15 "
Repair Tools		11 "
Repair Telephones		8 "
Repair Museum projector		5 "
Check in gasoline		4 "
Warehouse		4 "
Rep. Surveyors instruments		4 "
Rep. Grader		4 "
Rep. Fire equipment		5 "
Rep. Gasoline lanterns		3 "
Rep. Fire pump		3 "
Rep. Gravelly mower		3 "
Check in Kerosene		3 "
Transfer Gasoline to storage tank		2 "
Rep. Tubes		2 "
Fill car batteries		2v "
Clean paint brushes		1 "
Transfer motor oil to storage tank		1 "
Rep. Grease gun		1 "
Rep. Flash lights		1 "
Observatory Lathe		1 "
Rep. Log chain hooks		1 "
Rep. Bitumuls pump		1 "
Rep. Museum light plant		1 "
Sharpen lawn mower		1 "
Sharpen meat grinder E.C.W.		1 "
Rep Steel tape line		1 "
	<u>Total</u>	<u>176 Hours</u>

Submitted by,
F. F. Fischer

F. F. Fischer
Mechanic.

FF
Dec 2/36

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

PRESS MEMORANDUM, Release on Receipt

Edward G. Wingate, Superintendent

Mrs. Flora N. Sinclair of Honolulu has recently donated an oil heater to the Hawaii National Park for use at the resthouse at Puu Ulaula, at the 10,000 foot elevation on Mauna Loa, in appreciation of her recent very pleasant and interesting trip to the summit of Mauna Loa. Other members of this party were Mrs. Jack Wilson of Honolulu, Henry Stern of DeLand, Florida, and Park Ranger Philip Murray. This is indeed a very useful and much-needed addition to the resthouse, for which the Park Service is very grateful as the weather at this high elevation is chilly after sundown and in the early morning. Certainly, the added comfort made possible through this donation will be thoroughly appreciated by the numerous visitors to Mauna Loa.

Edward G. Wingate, Superintendent of Hawaii National Park, announces that he is in receipt of a set of road maps of the entire continental United States which have been furnished by the Texas Company. These maps are very complete and should prove of material assistance to anyone planning an automobile trip on the mainland. The maps are on display at the park administration building and anyone desiring to view them may do so at any time.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

MEMORANDUM FOR THE PRESS

Edward G. Wingate, Superintendent

With the arrival on November 1 of Mr. Gardner O. Hyer, the educational program for the enrollees in the Civilian Conservation Corps Camp at Hawaii National Park commenced taking shape. Mr. Hyer was appointed the educational advisor to the camp upon the recommendation of the Educational Advisory Committee composed of Dr. Ray Scott, Supervisor of Education, University of Hawaii, Mr. Frank Midkiff and Mr. Harvey Freeland. The educational program in the camp will be similar to those obtaining throughout the camps on the mainland.

The educational projects are designed to more fully fit the enrollees for employment in industry after leaving camp.

Since arriving at Kilauea Mr. Hyer has opened a greatly augmented camp library for the use of the enrollees. The library now contains a considerable number of books on travel, adventure, detective stories and other fiction. The collection contains a number loaned by the Hilo Public Library, from the public schools of the Territory and various independent firms and individuals. The library will be operated in conformity with the standards of the Hilo Public Library.

On November 18 the enrollees met for the purpose of organizing a staff which will edit and publish a camp paper; this paper to be published through a class in journalism, the class work consisting of instruction and practical application of journalism. Other classes now being formed, or already under way, are in English grammar and truck gardening. The park has set aside a

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small area for the use of the educational advisor and the enrollees in this truck gardening project. Great importance is attached to the gardening class since a great many of the enrollees must, upon leaving camp, find employment for themselves in agriculture.

Camp Director Stephens and the educational advisor plan to continue the practice of inviting outstanding men of the committee to address the enrollees on various problems of importance. The educational program in the camp is supplementary to a program of project training already in effect in which the enrollees are instructed in the uses of various tools and pieces of equipment, machinery, etc. It should result in bringing this CCC camp up to the standards maintained in the best of the camps on the mainland.

10-98
(May 1929)
G-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii NATIONAL PARK

FILE NO.

MONTHLY REPORT

OCTOBER 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All Files should be returned promptly to the File Room: Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

November 10, 1936

CCC

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows the monthly report of activities of Hawaii National Park for October, 1936.

000 - General

For several months past there had been noted an increasing amount of widening of cracks about the rim of Halemauau east, northeast and north. Small slides from the walls beneath had been reported from time to time. This opening of cracks culminated on October 22 when a major slide, or avalanche, occurred, affecting an area of approximately 1500 feet by a maximum ^{depth} of 100 feet. This major slide was followed by many smaller ones and at the end of the month small slides were still frequent. Seismic activity for some time has been centered beneath Kilauea and this, together with the continued breaking down of the northeast rim has raised hopes of an early return of lava to Halemauau. Dr. Jaggard's complete report for the month is attached.

020 - General Weather Conditions

Total rainfall at headquarters was 8.74 inches, at the CCC camp 7.93 inches and at Haleakala 2.6 inches. At Kilauea there were four thunderstorms during October, rather a rare occurrence in this locality. Toward the latter part of the month it was very wet, there being a total of 2.55 inches of rain on the 30th.

100 - Administration

110 - Status of Work

All work was up to date. The forest insect report was mailed on the 4th, the wood utilization report on the 15th and the bibliography relating to this locality was sent to Ansel Hall on the 8th, also a road maintenance cost report was forwarded to Mr. Kittredge's office on the 9th.

120 - Park Inspections by:121 - Superintendent

In company with Mr. C.L. Gable, Chief, Operators' Division, he left Hilo on the 7th for an inspection of the Haleakala section and CCC camps in the crater and for conferences in Honolulu relative to operations of the Volcano House, proposed Kalapana extension, educational adviser for the CCC camp and other park matters. He returned to Kilauea on the 21st. At Kilauea routine inspections were made of the Manna Loa truck trail, CCC camp, Kipuka Puaulu, park roads and facilities and the progress of work on road project FP 524. He accompanied Mr. Gable on a trip around the island of Hawaii on the 6th.

123 - National Park Service Officers

Charles L. Gable, Chief of the Operators' Division, arrived in the park on the 4th and left on the 7th. On his return to Honolulu he and the superintendent stopped at Maui to inspect the Haleakala section. While in the park Mr. Gable made several valuable suggestions, particularly in connection with CCC housing facilities and the use of enrollees to assist the permanent personnel. These suggestions are being carried out as far as funds will permit. His thought that a small resthouse and lunch room might properly be constructed at Haleakala by the CCC is being considered. The building, when completed, could be leased to the park operator serving the public. During his stay at Kilauea Mr. Gable was one of the guests of honor at a large no-host dinner, which was given also as an aloha for Major and Mrs. H.C. Gilchrist, former commanding officer at the Kilauea Military Camp, Major and Mrs. Harry Collins, new commanding officer, and the new principal of the local grammar school and her assistant.

130 - Finance and Accounts

A complete financial report for October is attached.

150 - Equipment and Supplies

One traffic counter for the Haleakala section and a small amount of miscellaneous office equipment were the only things received in October.

200 - Maintenance, Improvements and New Construction210 - Maintenance

Usual maintenance of roads, trails, equipment, etc., was carried on in both sections of the park. Some of the fills on the Haleakala road were built up with more material.

220 - Improvements

The Manna Loa telephone line was extended from the horse trail to the end of the truck trail and a phone will be installed there. This line was also connected to the park switchboard.

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230 - New Construction

At the end of October the residential area road was 20% completed. A small temporary building to house the gasoline and oil was erected near the Haleakala garage as a fire protection measure.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

313 - Schedules of Rates

Approved revised and supplemental schedules of basic rates for 1936 for Kilauea Volcano House were received on the 21st.

320 - Cooperating Governmental Agencies

The Army Engineering Corps has been relocating and checking the boundaries, buildings, etc., at the Kilauea Military Camp in connection with the revision of the master plan for Hawaii National Park.

A new water storage system and rain shed have been constructed recently on Bishop Estate land by the Army, for the use of the Military Camp.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Two lectures were given to CCC enrollees, one being on the handling of fire equipment by Ranger Doust and the other by Ranger Williams regarding the native Hawaiian birds.

Approval has been received for the temporary assignment of Assistant Naturalist S.H. Lamb to the Berkeley office for one or two months after the first of the year.

470 - Animals

Some time was devoted by the ranger force during the month to catching rats in cooperation with the Territorial Board of Health, who are conducting an extensive campaign against bubonic plague on this island.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Total travel to Kilauea was 13,938 as compared with 12,587 for October, 1935. On Haleakala travel was 1365, a 10% increase over September.

530 - Visitors

October 13 - Rear Admiral and Mrs. J.B. Defrees and Miss Helen Defrees, departing on the 15th.

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October 19 - J. Marshall, special feature writer for Collier's Magazine, visited the park for the purpose of interviewing Dr. Jagger regarding a contemplated article for his publication.

600 - Protection

610 - Police Protection

Due to persistent vandalism at the recently completed Haleakala observation station permission has been obtained to station two CCC enrollees there continually, in order to give information as needed and also protect the station from would-be prowlers.

620 - Fire Protection

A fire drill was held at the CCC camp on the 10th.

630 - Accidents

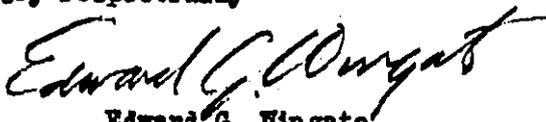
On October 3 a car driven by a Filipino of Papaikou village left the road near the Kan entrance. The driver was badly cut on the head, but his wife, the only other passenger escaped injury. There were no other cars involved, the driver apparently losing control while going at too high a speed and the car tipped over.

900 - Miscellaneous

A supplemental schedule of appraised value of quarters, No. 3, as decided upon in conference here was mailed to Mr. Gable in the field on the 24th.

In order to run for the position of Delegate to Congress from the Territory of Hawaii, E.G. Rivenburgh, CCC Camp Director at Kilmea resigned effective October 20. In order to fill this vacancy the promotion of Project Superintendent W.J. Stephens has been recommended.

Very respectfully



Edward G. Wingate
Superintendent

GW

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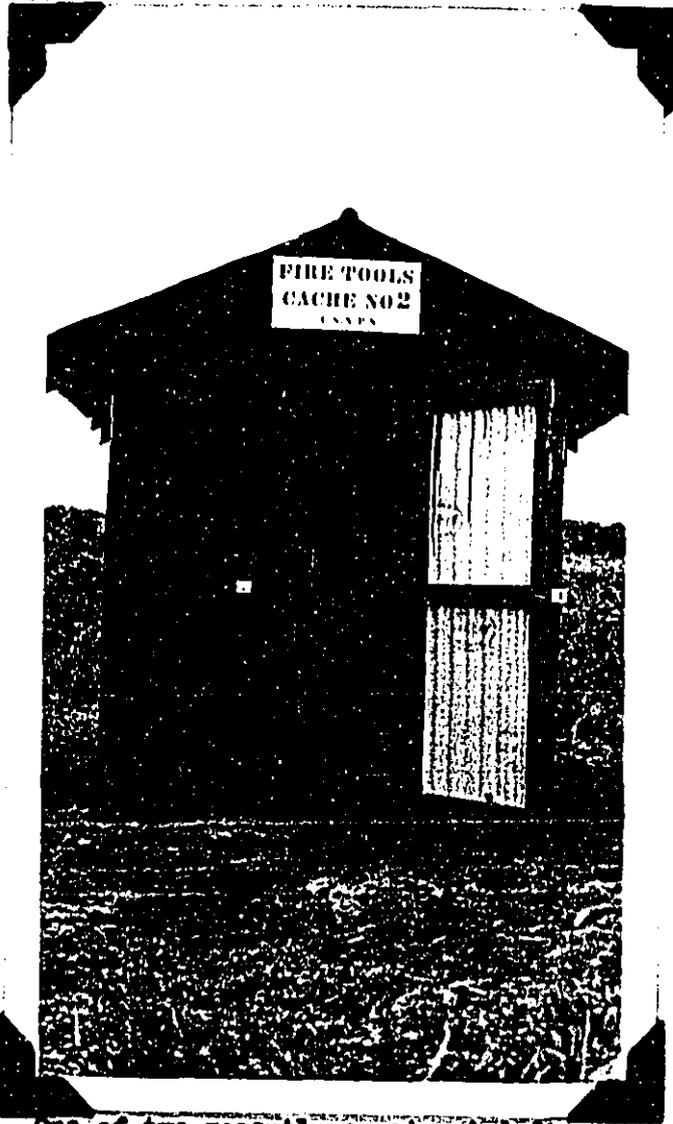


1. Charles L. Gable, Chief Operators' Division. This picture taken while on a trip around the Island of Hawaii.

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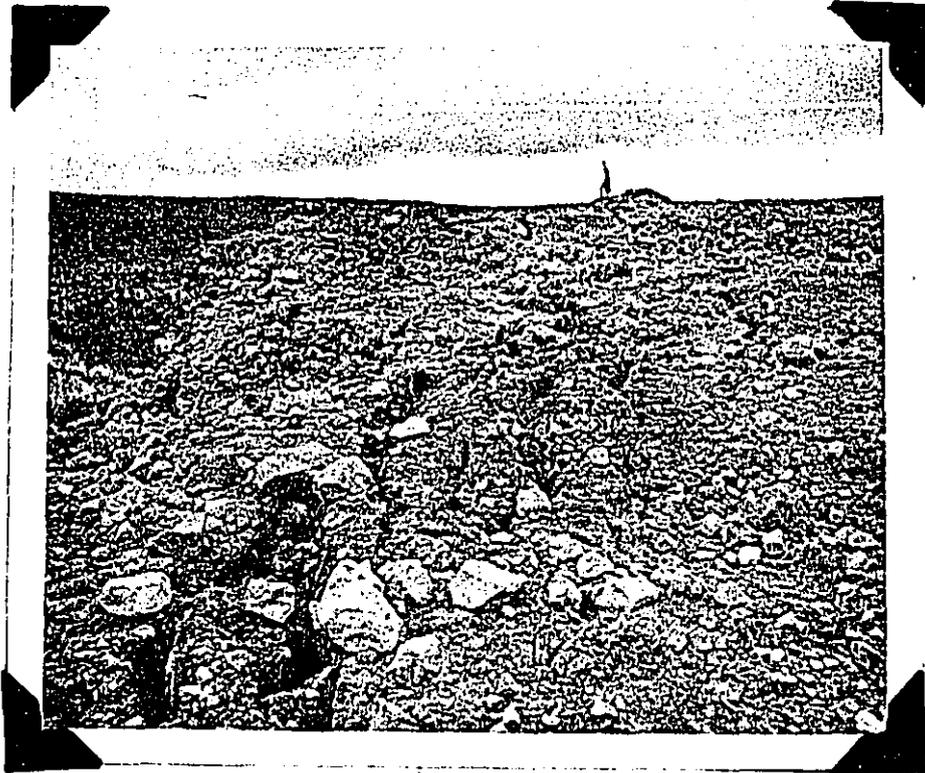
2. Mr. Gable and Superintendent Wingate on Mr. Gable's return to Honolulu.



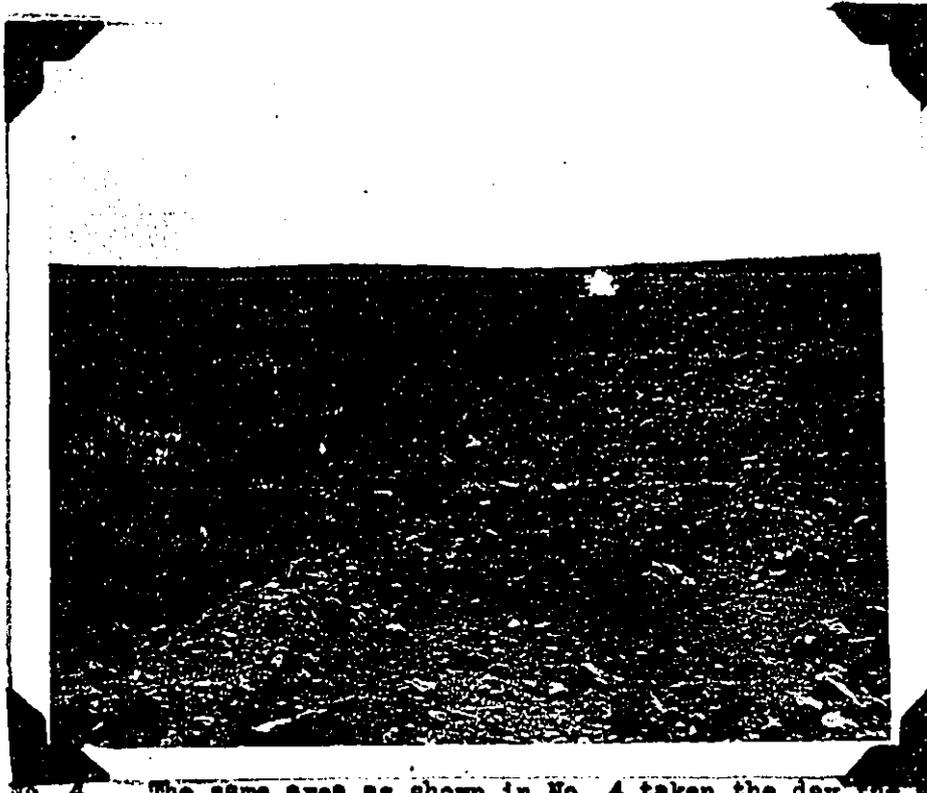
3. One of two recently constructed fire caches located on the Mauna Loa Truck Trail.



No. 5. A large Ohia tree in Kipuka Pualu 5 feet in diameter and about 80 feet high. This is one of the best specimens of Ohia to be found in the park.



No. 3. This picture taken 10/20/36 shows the pit wall in the vicinity of Crack M 31. This picture was taken the day before the sliding occurred. Notice that Mr. Woesche is standing nearly 50 feet back from the rim. Contrast with No. 4.



Picture No. 4. The same area as shown in No. 3 taken the day the sliding occurred 10/22/36. Notice that the point where Mr. Woesche was standing is now directly on the rim.



No. 1. Taken 10/1/35 from the south end of the fire pit showing the wall where avalanching has been occurring during the last half of October. Contrast this picture, taken before new sliding began, with Picture No. 2 taken after.



No. 2. Taken 10/22/36 after several large slides had occurred. Contrast this picture with No. 1. Notice the new talus slope formed in the center of the picture.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

OFFICE OF THE SUPERINTENDENT

HAWAII

November 4, 1936

Edward G. Wingate, Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory for October, 1936

Dear Mr. Wingate:

The staff of the Volcano Observatory was augmented by the appointment of Sutejiro Stao, under the University of Hawaii as Assistant in Experimental Geophysics, with half his stipend paid by the Hawaiian Volcano Research Association. He becomes my recorder and amanuensis, and began work October 19, arriving from Honolulu October 17. This appointment will speed up clerical work.

Volcanic Activity of the Month

The extraordinary event of October was the culmination in Halemauau pit, by a big avalanche October 22, of all the sliding and opening of north-east cracks on the rim. This began at the time of the September eruption of 1934 and one crack, No. 46, has shown a curve of increasing opening, until the whole wall fell, for 100 feet back, and eliminated this crack and five others. The opening of this crack for successive weeks from September 26 was 13, 17, 24, and 47 mm. The numbers of earthquakes for these weeks were 77, 95, 29, 66. The broken edge of the pit has been roped off for some time, and as the rupture back of the rim continued close to the trail at the end of October, it was again roped off. Other phenomena have not been extraordinary. The number of local disturbances for the week of the avalanche was 121, largely tremors due to slides. The decline in earthquake numbers the third week shown above (October 4 to 11) shows that seismic action did not coincide with the crack opening as causing it.

Work of Volcanologist

The weekly press reports have been issued, the Volcano Letter is in press to June, and I have been working on Volcano Letter articles and on final Montserrat report. The basement, which had been a storage place, has been cleared and furnished as a laboratory. Periodicals have been moved to University Building. Shelves and specimen cases have been set up there. The new lathe has been cleared of grease and its principles studied. The

Gaertner Company has been written to with reference to employing an ocular protractor and microscope for studying pendulum shift due to ground tilting. A tentative design has been drawn.

On October 17 notice came that Mr. Jagger has been elected first vice-president of the Association for Volcanology, of the International Geophysical Union, now meeting at Edinburgh. The next meeting will be Washington, DC, in 1939, where the first vice-president will be required to be somewhat active in direction of details. The president is A. Michel Levy.

The sum of \$1000 advance in April by the Hawaiian Volcano Research Association for immediate credit of Montserrat travel, was returned to the Association by repayment from the Royal Society, October 18.

A valuable gift to the Volcano Observatory was received from the heirs of Mrs. E.I. Spalding of Honolulu, October 21. This consists of five boxes of minerals of Hawaii, and numerous collected notes and clippings about the volcanoes, carefully bound in several volumes. This will be stored in a special case marked with the detail of the donation. Mr. and Mrs. Spalding were friends of the Observatory and collected extensively in Hawaii during their life time. Mr. Spalding was formerly connected with the Spreckels Bank of Honolulu.

A visit was made to Humuula, the scene of last December's lava flow, on October 26. The natives there still see fumes at the 1935 summit crater. There was little heat perceptible in the flow.

The countershaft and concrete floor for the circular saw-table in the carpenter shop were installed during the closing days of October. The electric motor now runs the shop machines.

Some assistance was given to Mrs. Arthur Withington, preparing a book on Hawaii, October 28-31; and earlier similar contact, October 17, was made with Mr. J. Marshall of Collier's.

Reports from Dr. Ballard indicate that he is actively assembling information, about instruments and books required at the Observatory, for bettering our equipment for the collection and spectroscopic study of volcanic gases and for modernizing the library in physics and chemistry.

Work of Seismologist

Mr. H.H. Waesche, assistant geologist, has brought up to August the formal reports on seismology for the Volcano Letter, and has furnished the usual weekly reports on seismographs, levelling, triangulation and crack movement.

He has worked on determining instrumental constants, added a new amplifier to the time signal radio for direct marking of seismograms, with the naturalist, Mr. Lamb, has taken pictures of the Halemaumau rim cracks, and assisted Mr. Lamb with articles on the columnar jointing of Makaopuhi and on the minerals of the park, for a report on the geology requested by Mr. Trager.

He has further plotted curves for the opening rim cracks.

Very Respectfully

T.A. Jagger, Volcanologist

STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

"OCTOBER, 1936"

<u>Symbol</u>	<u>Appropriation</u>	<u>Allotted</u>	<u>Expended & Obligated</u>	<u>Balance</u>
1471000	National Park Service, 1937	44,500.00	41,789.88	2,710.12
146/71000	National Park Service, 1936-'37:	338.00	67.13	270.87
14-1010	Roads & Trails, Nat'l Park Service	22,500.00	4,800.01	17,699.99
14-1130	Roads & Trails, National Parks, Emergency Construction	40,870.65	36,194.30	4,676.35
14-1007	Roads & Trails, Nat'l Parks, Emer- gency Construction Act 6/19/34	25,775.00	25,626.10	148.90
14-44-0629	N.I.R., Int., Nat'l Parks, Roads & Trails Act June 16, 1933	495,538.47	495,459.29	79.18
14-405/70762	P.W.A., Allotment to Interior, Nat'l Park Service, 1935-'37:	9,303.00	9,052.30	250.70
14-443/70634	N.I.R., Int., National Park Service, 1933-'37:	21,085.34	21,085.34	0.00
1461000	National Park Service, 1936	45,001.00	44,775.64	225.36
145/61000	National Park Service, 1935-'36:	300.00	283.18	16.82
1451000	National Park Service, 1935	36,040.00	34,785.95	1,254.05

10-157
(Dec. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

TRAVEL REPORT

Hawaii National Park for the month of October, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent
<u>PRIVATE TRANSPORTATION:</u>						
Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	13,113	13,113	12,003	12,003	1,110	.092
Persons entering via other private transportation,	291	291	215	215	76	.353
Total persons entering via private transportation,	<u>13,404</u>	<u>13,404</u>	<u>12,218</u>	<u>12,218</u>	<u>1,186</u>	<u>.097</u>
<u>OTHER TRANSPORTATION:</u>						
Persons entering via stages ^{Hotel}	534	534	369	369	165	.447
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	<u>534</u>	<u>534</u>	<u>369</u>	<u>369</u>	<u>165</u>	<u>.447</u>
GRAND TOTAL ALL VISITORS,	<u>13,938</u>	<u>13,938</u>	<u>12,587</u>	<u>12,587</u>	<u>1,351</u>	<u>.107</u>

	This Year	Last Year	Increase	
			Number	Percent
Automobiles in public camps during month,				
Campers in public camps during month,				

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10-159
 (May 1931)
 (99566)

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of October, 1936

	This Month				This Month Last Year			
	Appointed		Non-Appointed		Appointed		Non-Appointed	
	Reg.	P.W.	Reg.	P.W.	Reg.	P.W.	Reg.	P.W.
Number of employees beginning of month	21	0	8	0	16	3	1	10
Number of additions.....	0	0	0	0	2	0	0	0
Total.....	21	0	8	0	18	3	1	0
Number of separations.....	0	0	1	0	0	1	0	1
Number of employees close of month.....	21	0	7	0	18	2	1	9
Number of promotions during month.....	0	0	0	0	0	0	0	0
Aggregate amount of annual leave taken	15		0	0	7½	0	0	0
Aggregate amount of sick leave taken....	1		0	0	0	0	0	0
Aggregate amount of leave without pay..	0		0	0	0	0	0	0

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DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of October, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	6.00	25.00
Total,	6.00	25.00
Remitted,	6.00	25.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	173.50
Park revenues received last year to date,	125.00
Increase,	48.50
Per cent of increase,388

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii National Park for the month of October, 1936

6-2542

Description of projects	Percent constructed to date	Percent constructed this month	Percent constructed last month	Probable date of completion
520.1 Haleakala Road, Post Construction (F.A.)	32	5	5	
523 Uwekahuna-Bird Park Road, surfg treatment, 1.75 miles (F.A.)	97	0	2	
524 Residential Area Roads, completion 3/4 mile, clrg, grdg, & surfg (F.A.)	20	10	10	
525 Headquarters Area Roads, Improvement (F.A.)	0	0	0	
FP 633.14 For the erection of one Observation Station and Toilets; one Office and Checking Station, including the purchase of one wood heating stove and miscellaneous furniture, Haleakala	100	0	0	
FP 677.14 Employee's Residence and connecting service lines for newly appointed U. S. Commissioner.	0	0	0	

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10-161
(Sept. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REPORT OF SALES OF PUBLICATIONS

HAWAII NATIONAL PARK

OCTOBER, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	975	155.15
Received during month,	0	0.00
Total,	975	155.15
Sold during month,	16	7.60
On hand at close of month,	959	147.55

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,	
Received during month,	
Total,	
Sold during month,	
On hand at close of month,	

Cash on hand beginning of month,	10.03
Sales during month,	7.60
Total,	17.63
Remitted during month,	7.65
Balance,	9.98

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REPORT OF W. J. STEPHENS, PROJECT SUPERINTENDENT E.O.W. TO THE PARK SUPERINTENDENT, HAWAII NATIONAL PARK FOR THE MONTH ENDING OCTOBER 31, 1936.

During the month a total of 2948 man-days were worked on the following projects:

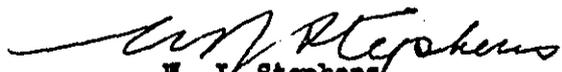
ECW	131	Fencing Park Boundary	1300
"	204	Road & Trail Maintenance	500
"	207	Trails, Horse (Maui)	307
"	1004	Removal of Exotics	<u>841</u>
		Total man-days worked	2948

Work was continued on the park boundary fence and 1280 rods completed. To establish a 30 man side camp it was necessary to do considerable truck trail work and this was done and a serviceable road completed for the passage of trucks. The side camp is in an excellent location and work can be carried on in both directions for the next 2 weeks when it will be necessary to move.

Road and trail maintenance was carried on during the month, and a large area cleared of exotic, primroses, blackberry and Jerusalem cherry giving the native ferns a chance to get re-established.

Senior Foreman Olson reports .4 miles of horse trail completed in the Haleakala Section and conditions on the job and in the camp satisfactory.

Respectfully submitted,


W. J. Stephens,
Project Superintendent, EOW HNP.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
October 30, 1936

The Superintendent,
Thru The Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of October, 1936 is respectfully submitted:

000 General

010 Introduction.

The people of Maui have expressed their appreciation of the fact that caretakers have been provided for the Observation Station and that the building is now available at any time for the use of the public.

020 General Weather Conditions.

Precipitation at White Hill during the month amounted to 2.60 inches. The prevailing wind direction was from the northeast. There were 8 clear days during the month.

100 Administrative.

110 Status of Work.

Frequent patrols and inspections were made. All reports were kept up to date and purchases of supplies for maintenance work were carried on.

120 Park Inspections by

121 Superintendents

Superintendent E. G. Wingate inspected the Haleakala Section October 8 and 9.

123 National Park Service Officers

The Haleakala Section was inspected by Mr. C. L. Gable, Chief Accountant, October 8 and 9.

200 Maintenance, Improvements and New Construction.

210 Maintenance

Usual maintenance work on the road was carried on. Some of the fills were built up with more material.

220

220 Improvements

A small temporary building to house the gasoline and oil supplies was erected this month, near the garage.

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and Guide Service

Park visitors were contacted whenever possible by the ranger in charge and all required information and service given them.

500 Use of Park Facilities by the Public.

510 Increase or Decrease in Travel

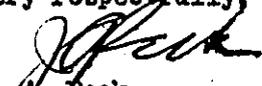
Check of gravel shows 241 cars and 1365 visitors in the Haleakala Section during the month of October, 1936. An increase of 10% over the record for last month.

600 Protection

610 Police Protection

Frequent patrols and inspections were made during the month. No violations of regulations were apparent.

Very respectfully,


J. L. Peck,
District Ranger.

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REPORT OF THE ACTING CAMP DIRECTOR TO THE SUPERINTENDENT, HAWAII NATIONAL PARK FOR THE MONTH OF OCTOBER, 1936.

The enrollee turn over for the month was as follows:

Haleakala Section:

3 discharged to accept permanent employment.

Kilauea Section:

3 discharged to accept permanent employment.

1 discharged on request of family owing to serious illness of father.

The health of the camp was normal during the month and the cerebro-spinal meningitis case reported last month is now convalescent and well on the road to complete recovery.

No lost time accidents occurred.

The weather stayed wet most of the month but was not sufficiently severe to interfere with the progress on projects.

Basket-ball seems still the center of interest and the senior team improving rapidly.

Religious services were held as scheduled.

An addition to the camp staff has been the arrival of Mr. Hyer, as Educational Advisor. He has already gained the respect and confidence of the enrollee personnel and I am sure will be able to interest the boys in any classes he starts.

Respectfully submitted,

Wilkinson J. Stephens
Wilkinson J. Stephens,
Acting Camp Director, ECW HNP.

CLW

November 6, 1936

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

Following is the monthly report of activities of the ranger department for October, 1936.

000 - General

Other than the continuous sliding in Halemaumau, nothing of particular importance occurred in October.

020 - General Weather Conditions

Total rainfall at headquarters was 8.74 inches, at the CCC camp 7.93 inches and at Haleakala 2.6 inches. At headquarters there were four thunderstorms during October, a rather rare occurrence in this locality. It was also a very wet month, there being a total of 2.55 inches of rain on the 30th.

100 - Administration

110 - Status of Work

All work was kept current. The fence gang is progressing very well, also the fence around Bird Park is being made "pig proof." District Ranger Peck reports that at Haleakala all reports were up to date.

120 - Park Inspections by:

Routine park inspections were made of all work in progress including field inspections. District Ranger Peck made frequent inspections of the Haleakala section.

123 - National Park Service Officers

On October 8 and 9, Charles L. Gable, chief of the operators' division, inspected the Haleakala section in company with Superintendent Wingate. Mr. Gable was at the Kilauea section from the 4th to 7th inclusive.

150 - Equipment and Supplies

One traffic counter for the Haleakala Section and a small amount of miscellaneous office equipment were the only things received in October.

egw.

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170 - Plans, Maps and Surveys

The boundary survey work was continued during the month.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Usual maintenance of roads, trails and equipment was carried on in both sections of the park. Some of the fills on the Haleakala road were built up with more material

220 - Improvements

The Mauna Loa telephone line was extended from the horse trail to the end of the truck trail and a phone will be installed there. This line was also connected to the park switchboard.

District Ranger Peck reports that a small temporary building to house the gasoline and oil was erected near the garage at Haleakala this month.

300 - Activities of Other Agencies in the Park

320 - Cooperating Governmental Agencies

Lieutenant Abcock of the US Army Engineers has been spending some time at the Military Camp in connection with the location of the camp buildings, etc., for the revision of the master plan. The commanding officer of the camp has expressed himself willing to cooperate at any time with the park personnel, in matters pertaining to housing and sanitation.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Two lectures were given by ~~Ranger Williams~~ to CCC enrollees, one being on the handling of fire equipment and the other regarding the native Hawaiian birds, *by Ranger Williams*

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in ~~Visitor~~ Travel

Total travel to Kilanea was _____ as compared with 12,587 for October, 1935. On Haleakala travel was 1365, a 10% increase over September.

600 - Protection

610 - Police Protection

Daily patrols and inspections were made during the month.

620 - Fire Protection

A fire drill was held at the CCC camp on the 10th. A copy of the report on this drill was handed to the superintendent.

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630 - Accidents

On October 3, a car driven by a Filipino of Papaikou left the road near the Kau entrance. The driver was badly cut on the head, but his wife, the only other passenger escaped injury. There were no other cars involved, the driver apparently lost control while going father fast and the car tipped over.

650 - Signs

Signs were repaired and repainted wherever necessary.

Very respectfully

Joseph H. Christ
Joseph H. Christ
Chief Ranger

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*6 W.
7 months report*

The Superintendent,
Hawaii National Park,
Hawaii.

Nov. 3, 1936.

Dear Sir:

The following is the report of my time by hours for
the month of Oct. 1936.

Work on cars and trucks		108	hours
Grader-		27	"
Pump water as follows, High tank	19,000 gals.		
	E.C.W. Camp 3,000		
	<u>22,000 Gals.</u>	16	"
Gravelly mower		15	"
Check in gasoline		7	"
Fire alarm to Kaipapala Ranch, repair and dry equipment		7	"
Fill car batteries		4	"
Patch tubes		2	"
Rep. Bitumals pump		3	"
Check and list all tires and tubes		2	"
Rep. Traffic counter		2	"
Check in kerosene		1	"
Transfer motor oil to storage		1	"
Sharpen tools		1	"
Rep. Steel tape line		1	"
Clean lower garage		1	"
Deliver gasoline to Museum		1	"
Repair tools		1	"
Sharpen lawn mower		1	"
Refill fire extinguishers		1	"
		<u>196</u>	Hours.

Report submitted by,

R. F. Fischer
R. F. Fischer,
Mechanic.

Patent

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*See
for monthly report*

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

November 3, 1936

Memorandum to Superintendent Edward G. Wingate

Subject: Monthly Report.

The following is a report of work accomplished under my direction during the month of October, 1936.

1. The greater part of the month was spent on new road Job No. 524. Grading 85% complete, job as a whole 20% complete.
2. Cleared stopped drains, Qtrs. 1 and 15.
3. Hauled garbage from employee's quarters, 8 times.
4. Completed painting, Qtrs. 4 and 5.
5. Cleaned part of roof, Qtrs. No. 15.
6. Repaired shoulders, Bird Park and Pit road.
7. Cut grass all employee's quarters.
8. Cleaned gutters all buildings.
9. Repaired doors to toilets, Uwekahuna.
10. Made three trips to Hilo, official business.
11. Overhauled and repaired power grader.
12. Cut grass shoulders of main roads.
13. Made two inspection trips of all roads.

R R Craik
R. R. Craik
Foreman.

Wingate - EFW

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10-23
(May 1920)
6-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii NATIONAL PARK

FILE NO.

MONTHLY REPORT
SEPTEMBER 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All files should be returned promptly to the File Room. Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

October 9, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows the report of activities of this park for the month of September.

000 - General

Bertram G. Rivenburgh, CCC camp director in Hawaii National Park, submitted his resignation to take effect noon October 10, in order to run for the position of delegate to Congress from the Territory of Hawaii.

020 - General Weather Conditions

At headquarters the total rainfall was 7.78 inches, at the CCC camp 4.81 inches and at Haleakala 4.3 inches.

100 - Administration

110 - Status of Work

The services of Miss Anna E. Searle, who has been serving under temporary appointment as clerk-telephone operator, were terminated at the close of the 24th. All necessary reports have been completed and mailed.

120 - Park Inspections by:

121 - Superintendent

The superintendent inspected the Haleakala section the 9th to 11th, and from Maui went to Honolulu, returning to this island on the 19th.

150 - Equipment and Supplies

The new Ford pick-up which was ordered for the Haleakala section in August was received by the district ranger on September 3. At Kilauea, inventory of all equipment was started by the Board of Survey.

John Blackadar, who relieved Frank Fischer, in the warehouse, was through at the close of the 30th, since Mr. Fischer, who has been ill since July, was able to return to work the next day.

180 - Circulars, Placards, Publicity Bulletins, etc.

Office Orders Nos. 45 and 46, dealing with signing of time slips by per-diem and temporary employees, and hours of duty for permanent personnel were issued, copies of which are attached.

While in Honolulu the superintendent talked before the Lions Club, Honolulu Engineering Association and Hawaii Unlimited. He also talked during an Hawaii Calls program, sponsored by the Tourist Bureau, which is broadcast over a nation-wide hookup of the CBS.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

The usual maintenance of roads, trails, buildings, etc. was carried on during September

230 - New Construction

Work of re-patching the Chain-of-Craters road was 97% complete at the end of the month. Construction by force account, was started on the new residential area road, which was 10% complete at the end of September.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

Five horses were purchased by the Volcano House for the use of the guests.

320 - Cooperating Government Agencies

Major Harry J. Collins, who is to relieve Major Hugh Gilchrist as commanding officer at the Kilauea Military Camp, arrived this month, also Major Floyd V. Kilgore, who replaced Captain James Forsee as camp surgeon.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The services of Gordon Mackenzie, temporary ranger, were terminated close of the 18th.

Three lectures were given to the CCC enrollees on fire fighting by some of the rangers.

420 - Museum Service

Because of the fact that people have used the newly constructed Haleakala observation station as a restcamp, shelter, etc., it has been decided not to open to the public unless the ranger in charge is in the immediate vicinity. A special report regarding this has been submitted your office.

460 - Birds

On September 7 and 8, Mr. George Munro, local ornithologist, working under the joint auspices of the Bishop Museum, Territorial Board of Agriculture and Forestry, Hawaiian Sugar Planters Association, Hui Manu, and others, visited the park. He is conducting a survey of the territory to determine the present status of the native birds in comparison with his findings of 40 years ago. The naturalist and wildlife ranger spent considerable time assisting him in covering the park. He was very well pleased with the numbers and condition of the native birds and very enthusiastic about the park's program of protection and conservation.

480 - Natural Phenomena

Dr. Stanley S. Ballard, assistant professor of physics at the University of Hawaii and Mr. Iwao Miyake, instructor in the same department, made a trip to the summit of Mauna Loa for the purpose of determining the type of gas collecting equipment needed there. A complete report of the activities of the Volcano Observatory is attached.

500 - Use of Park Facilities by the Public510 - Increase or Decrease in Travel

Travel to the Kilauea section was 15,753 as compared with 12,587 for September, 1935. Total travel for the entire travel year was 186,049, a decrease of 21,150 from the 1935 travel year. At Haleakala the district ranger reported 1230 visitors during September.

530 - Visitors

September 2 - Mr. and Mrs. John G. Lonsdale of St. Louis, special friends of the Director. They were taken on a tour of the park by the superintendent

Major General Hugh A. Drum, commanding Hawaiian Department, USA, was a visitor at the military camp from the 19th to 28th.

600 - Protection610 - Police Protection

A ranger was stationed at the headquarters section of the main road during the first part of the month, for the purpose of reprimanding speeding motorists.

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620 - Fire protection

Water tanks were installed at both fire caches and a telephone put in the No. 1 cache.

650 - Signs

Speed limit signs were erected along the section of the main highway running through the park. Caution signs were erected at the pit in the vicinity of the guard rails.

Respectfully submitted

Edward G. Wingate
Superintendent

by:

Joseph H. Christ
Acting Superintendent

CW

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

October 8, 1936

Edward G. Wingate, Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory for September, 1936.

Dear Mr. Wingate:

The staff of the Volcano Observatory remained as before and was augmented by the presence of the two research workers of the University of Hawaii, Dr. Stanley S. Ballard and Mr. Iwao Miyake.

These gentlemen continued their work until September 16, when they returned to Honolulu. Dr. Ballard carried with him numerous samples of gas, collected at Sulphur Banks and elsewhere for spectrographic study in Honolulu.

RESEARCH BY UNIVERSITY OF HAWAII

The following is quoted from a report by me to the President of the University of Hawaii, dated September 28, 1936; - "During the summer A. Okuda, shop assistant and carpenter for the Research Association put in order the shop and built numerous cases for seismograph parts constructed in the shop, and for tools.

In April with the termination of work for the C.C.C. service, S. Sato, a graduate of the University, completed the first stage of a thorough reclassification of the Observatory library, and Okuda constructed many pamphlet cases which Sato labelled.

This is a long and arduous job which is still awaiting completion. The pamphlets and periodicals incessantly arriving as exchanges and purchases, and going back many years, will have their back files transferred for the present to the University building, and in that building also are being classified the rock specimens. Okuda and Yasunaka, Research Association employees, are replacing the specimen cases in that building, and I shall use the upstairs office in that building for my University research work, which I propose to segregate from my routine Park work of correspondence and reports. Okuda is building book shelves for the large upstairs room.

At present I am allowing Mr. Foster of the soil survey and his assistant to work while he is engaged in field work in this district, in the downstairs front rooms, so that the University building is getting into shape for continuous work.

In April and May, Mr. H.H. Waesche, Assistant Geologist of the National Park and seismologist of the Observatory, was granted leave to travel in Japan, Manchuria and China, and profited greatly by his contacts with seismological laboratories in Japan, seeing the latest instruments and policies of the Japanese earthquake investigators, and coming in contact with the work they are doing in studies of tilt, land elevation, and horizontal displacement.

On my return from the West Indies the end of July, I set in motion the work of placing an electric power plant in the shop, moving the larger drill, making some changes in the time service arrangements of the Hilo and Kona seismograph stations, preparing a seismic curve and report on the Montserrat investigation, preparing the face plate and other equipment of the new precision lathe in the smaller instrument shop, setting up a horizontal machine sager and circular saw in the rearranged carpenter shop, preparing the counter-shafts for this equipment, and carrying on the correspondence as well as going to Honolulu for the coming of Messrs. Ballard and Miyake as research workers from the Physics Department of the University. A suitable press notice was prepared for this Volcano School.

Mr. Miyake arrived at Kilauea Volcano August 15, and at once set about classifying the lathe tools, placed at the Sulphur Bank a new pipe-cap over the steam boring, or well, with pump connection for Dr. Ballard's work of collecting gases.

The Park Service carpenters had meanwhile built a hut at the well to house the glassware and stands that would be needed for the spectrograph gases, and Mr. Miyake brought all this material with him, as well as seismograph equipment which he had been modifying in Honolulu for his travel time investigation. The electric power plant at the shop was working August 18. Dr. Ballard arrived August 19.

Now started a month of vigorous attack by the Physicists on the gases and the seismological instrument construction programs. I feel that they made a real advance and set in motion the securing of equipment, books and furniture that will mean much in the future. We have everything in line for securing a field spectrograph through the Research Association, which has already supplied some of Dr. Ballard's apparatus. Also the Park has set in motion the getting of vacuum pump and glass-blowing equipment. Dr. Ballard went over all the literature of volcanic gas collection, went to the gas vents, pumped numerous dry samples and water samples from steam, and both he and Mr. Miyake went to the top of Mauna Loa. Mr. Miyake went over all the machine shop tools, Okuda built more cases for tools and apparatus, all the precision lathe parts were cased and classified, the jeweler's lathe was mounted on a special cabinet, and all the chemical ware and vacuum tubes of past work at

the Observatory was sorted and cased and cleaned. Conferences were held weekly with the Superintendent and the Observatory staff. The Park Naturalist Mr. Lamb has overhauled the Dark Room and obtained through the Park Service a modern camera, and took photographs of the gas collecting and its apparatus, which make serviceable records of the summer's progress. A wheel case for the large lathe to hold tools while the machine is in operation was adapted from an old wheel filing cabinet. Both Ballard and Miyake plan return to the volcano laboratory for special experiments at such times as the Christmas holidays. Mr. Miyake inspected the island volunteer seismograph stations at Kona and Hilo, and carefully cleaned and tested the constants of the Kona instrument. A list of supplementary lathe tools was made out by Miyake and taken to the Iron Works, and the tools ordered.

The Volcano Letter is being issued as an eight-page monthly with illustrations by the Research Association, it is edited by Mr. Norton in Honolulu, and this both increases and systematizes the memberships of the Association, and relieves me of much editorial work that I had no time for last year."

VOLCANIC ACTIVITY OF THE MONTH

The week ending September 6, showed everything quite, with opening of cracks 10.5 mm., 24 local seismic disturbances, and seismic index 7.00. The week ending September 13, showed some slides at Halemauau, 44 local disturbances, one of which was felt, and seismic index 12.50; the crack opening was 35.5 mm. The week ending September 20, showed larger slides with the northeast rim distinctly broken some distance back from Halemauau. It was here that the crack openings were very large, the total being 17.5 mm. With this went increase of local seismic disturbances, 90 in number and seismic index was 24.75. The week ending September 27, showed 77 local seismic disturbances and one distant earthquake, the crack opening amounted to 14.5 mm., seismic index was 20.25 and slides continued. The week ending October 4, showed excessive opening of rim cracks 28.0 mm. Slides continued, they were 95 local disturbances and one distant earthquake, the last apparently in the Moluccas; local seismic index was 27.75, and slides continued.

This record for the month shows a notable breaking of the northeast rim of Halemauau which increased just after the September equinox. The location of the earthquakes have been mostly near Kilauea, but the last week showed some shocks coming from Manna Loa or even more distant points.

SEISMOLOGIST REPORT

Mr. H.H. Woesche, Assistant Geologist ran levels around Halemauau September 3, and 4, which showed slight lowering of northwest edge of Halemauau since September.

- 4 -

Mr. Waesche assisted Dr. Ballard in collecting gas and sublimates September 3, 8, 9, and 18. With Dr. Jaggard, he assisted the Commandant of Kilauea Military Camp, September 9, and 10, in the inspection of ground for location of water tanks that would be safe against earthquakes.

The routine of weather records and seismological records was continued and the measurements of angles across the crater showed closing August 18, to September 11, and opening September 11, to 23.

REPORT OF VOLCANOLOGIST

The usual weekly reports and manuscripts for the Volcano Letter have been prepared. Dr. Jaggard was in Honolulu September 3, - 4, and on excursions around the island to Kohala and to Kona during the month. In Kona he inspected the seismograph and discussed its improvement with Mr. Miyake, having in view more frequent tests of the constants of these outlying instruments.

Numerous photographs have been made of the methods and apparatus of the Observatory, some of which will appear in the Volcano Letter, some are ~~14~~ here appended showing Dr. Ballard's work in collecting gases.

The University of Hawaii building was measured for shelves and specimen cases, the latter were installed there, and the Observatory basement was cleaned by transmitting all specimens to that building. New shelves and cases are being built for the basement, and all chemical apparatus is being made available there.

Attempts to secure a typist and librarian for the Volcano Observatory from WPA were unsuccessful and negotiations have been completed whereby S. Sato, a graduate of the University of Hawaii, shall return to the Observatory October 15, under the joint support of the Hawaiian Volcano Research Association and the University of Hawaii. He will become Dr. Jaggard's secretary. It is hoped that with his assistance to speed up the Volcano Letter and other reports, get them published and bring them up to date. Considerable progress has been made on the Montserrat report to the Royal Society. It is learned that the Chief of the Montserrat Mission, Sir Gerald Lennox-Conyngham was in Montserrat for two weeks in July, and no further earthquake developments had then occurred.

Very respectfully,


T. A. Jaggard, Volcanologist

TAJ:ga

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REPORT OF W. J. STEPHENS., PROJECT SUPERINTENDENT, ECW
TO THE PARK SUPERINTENDENT: HAWAII NATIONAL PARK, FOR
THE MONTH ENDING SEPTEMBER 30th, 1936.

During the month a total of 2738 man days were worked on the following approved projects.

E. C. W.	\$ 131.	Fencing Boundary.	840
	212	Truck Trail	1080
	204	Road Maintenance	120
	207	Trails horse, Maui.	453
	1004	Removal of Exotics.	245
		<u>Total</u>	2738

Work was continued on the boundary fence and 1920 rods completed. This does not finish the estimated distance though this is somewhat counteracted by several miles of right of way clearing and truck trail construction which will facilitate construction on the continuation of the project. Future side camp areas have been cleared and water bases established.

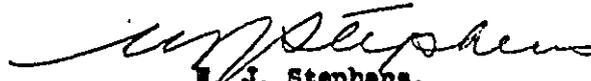
The truck trail on Mauna Loa has been completed, a total distance of 9.8 miles. This trail is loose gravel with sand and dirt filler and it is presumed will ravel considerably until weather and traffic tend to bind it more thoroughly. The proposed project for Road and trail maintenance will take care of any additional repair work which will be considerable during the next period.

Road and trail maintenance absorbed 120 man days and 6 miles of trail were reconditioned.

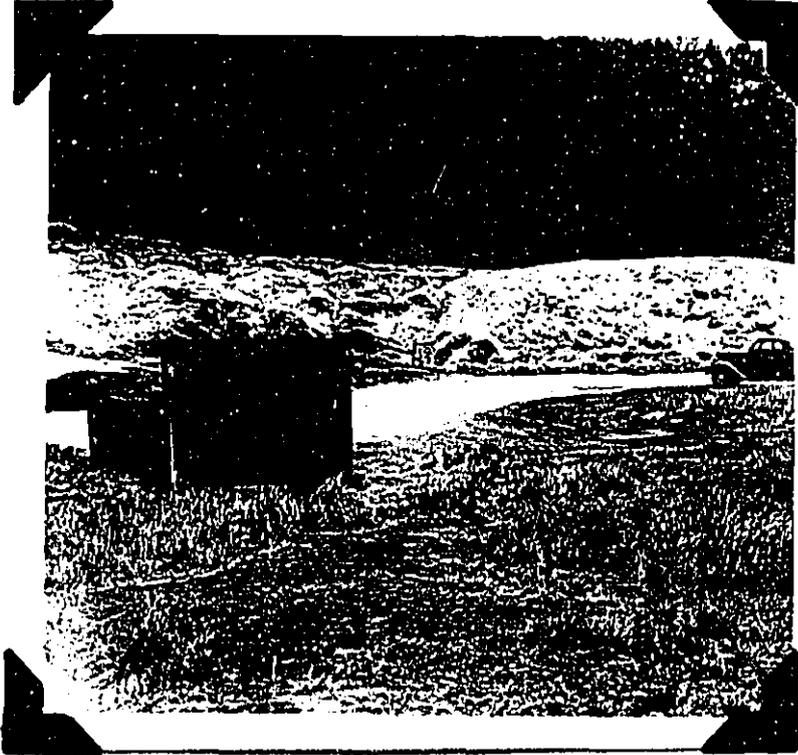
Exotics were removed from 100 acres during the month and this project will be continued over a larger area and pursued more vigorously during the next period.

Senior Foreman Olson reports 1.7 miles of trail completed in the Haleakala section and conditions on the job and in the camp, Satisfactory.

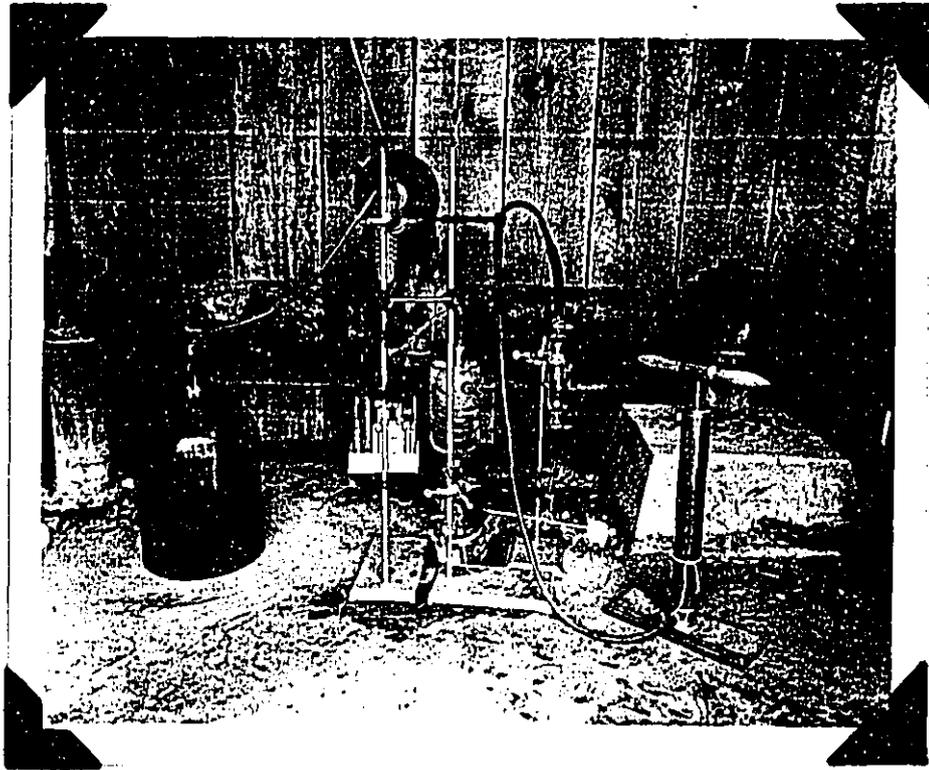
Respectfully submitted,


W. J. Stephens,
Project Supt. ECW.

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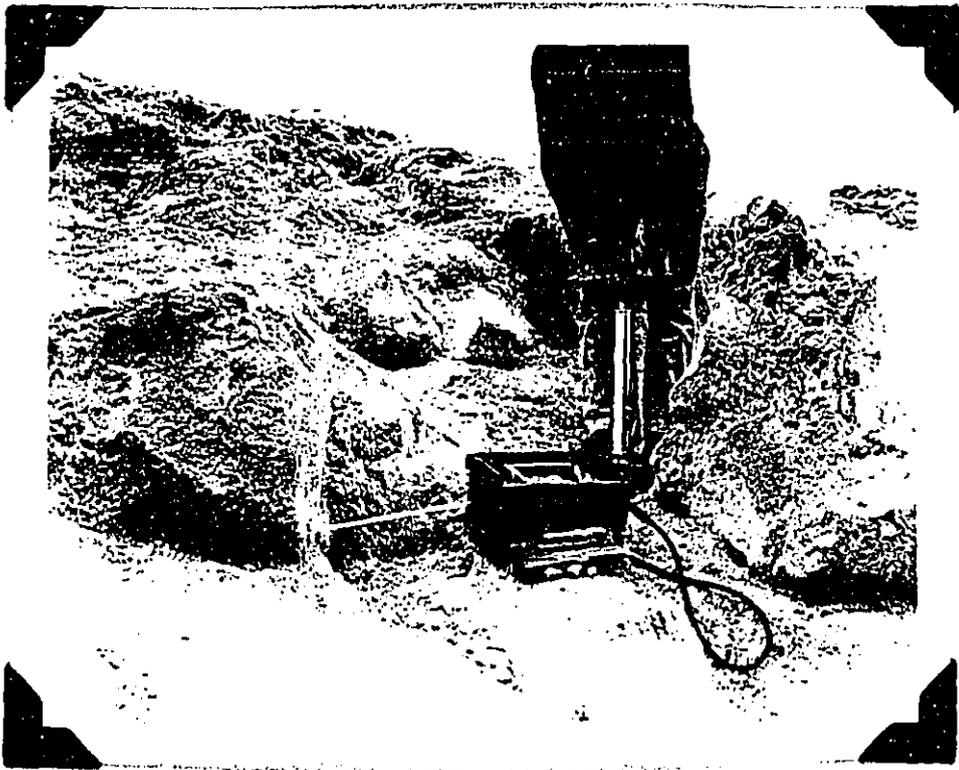
Hut for collecting gases at drilled wells, Sulphur Banks, near Volcano House, Kilauea Crater.



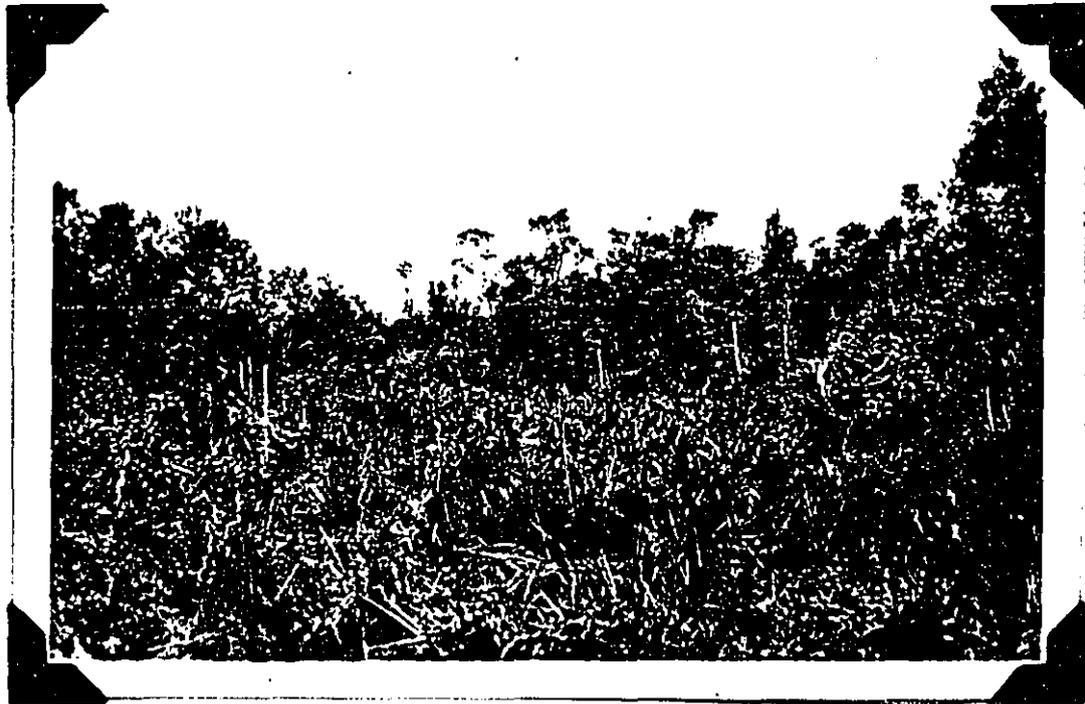
Pump and gas collecting apparatus set-up inside of Well House.



Dr. Ballard with special constructed vacuum tube designed by himself and P. Gow of the Hawaiian Sugar Planters Association Experiment Station.



Using the pump in sucking gases through connecting tube packed in ice, with duplicate tube exhibited.



Before clearing of residential area road--project 524--force account.



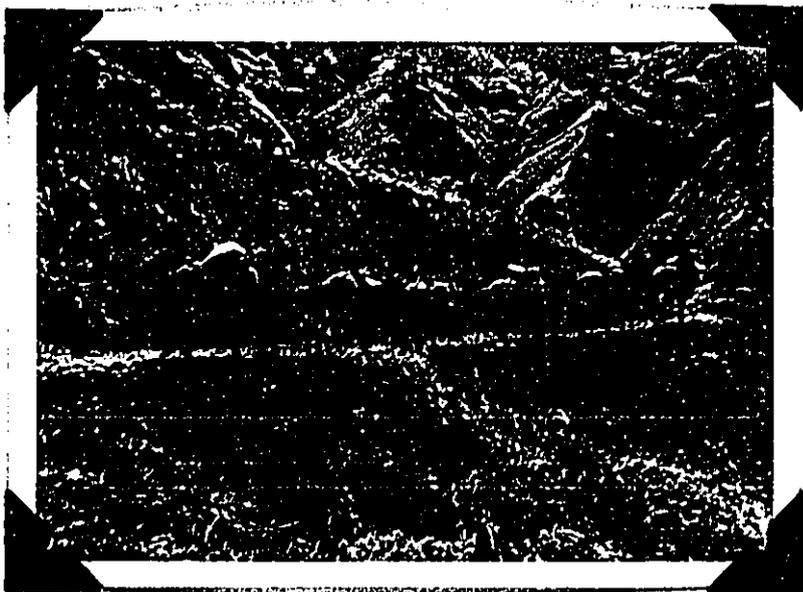
Showing clearing residential area road.

PICTURE NOT IN FILE

AT TIME OF

MICROFILMING

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ECW Paek trail, Halema-u trail, Haleakala crater.

Paradise of Paradise

Portion of newly constructed trail,
Haleakala crater, ECW project.

PICTURE NOT IN FILE

AT TIME OF

MICROFILMING

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Portion of newly constructed trail, Haleakala crater, ECV project.

Paradise of the Pacific



Setting off blast, Halemau-u trail, Haleakala crater, ECW project.



Wild pig. This is a native Hawaiian wild pig, and quite dead.

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Native wild goat, Haleakala crater.

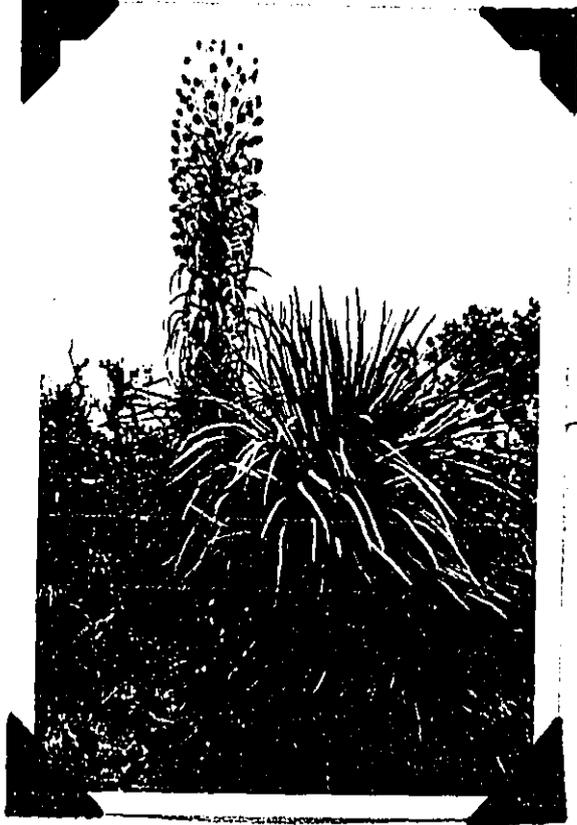


Lava tube $\frac{1}{4}$ mile long, Haleakala crater near
Holua camp, recently opened for public use by the
CCC.

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Native lobelia growing in vicinity
of CCC camp, Paliku, Haleakala crater.



Waterfall at Ainahou near Koolau Gap, Haleakala Crater. Puamakami (*Hillebrandia sandwicensis*) at left center. This shows wealth of vegetation in forest reserve adjoining Hawaii Natl. Park.

Greensword (*A. virescens*) in flow, Koolau Gap, Haleakala Crater.

STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

SEPTEMBER, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
1471000	National Park Service, 1937	\$ 44,500.00	\$ 41,467.55	\$ 3,032.45
146/71000	National Park Service, 1936-'37	338.00	0.00	338.00
14-1010	Roads & Trails, Natl Park Service	22,500.00	766.72	21,733.28
14-1130	Roads & Trails, Nat'l Parks, Emergency Construction	40,870.65	35,862.97	5,007.68
14-44-0629	H.I.R., Int., Nat'l Parks, Roads & Trails Act 6/16/33	495,538.47	495,459.29	79.18
14-1007	Roads & Trails, Nat'l Parks, Emer- gency Construction Act 6/19/34	25,775.00	25,626.10	148.90
14-405/70762	P.W.A., Allotment to Interior, Nat'l Park Service 1935-37:	9,303.00	9,052.30	250.70
14-443/70634	H.I.R., Int., National Park Service, 1933-'37:	21,085.34	21,085.34	0.00
1461000	National Park Service, 1936	45,001.00	44,775.64	225.36
145/61000	National Park Service, 1935-'36	300.00	283.18	16.82
1451000	National Park Service, 1935	36,040.00	34,785.95	1,254.05

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10-157
(Dec. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

TRAVEL REPORT

Hawaii National Park for the month of September, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	14,796	173,763	12,594	197,237	-23,474	.119
Persons entering via other private transportation,	378	4,073	361	2,967	+ 1,106	.373
Total persons entering via private transportation,	15,174	177,836	12,955	200,204	-22,368	.112

OTHER TRANSPORTATION:

Persons entering via stages ^{Hotel} ,	579	8,213	550	7,004	+ 1,209	.173
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	579	8,213	550	7,004	+ 1,209	.173
GRAND TOTAL ALL VISITORS,	15,753	186,049	13,505	207,208	-21,159	.102

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

10-160

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii

September, 1936

National Park for the Month of

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	53.75	50.00
Total,	53.75	50.00
Remitted,	53.75	50.00
On hand close of month,	0.00	0.00

Park revenues received this year to date, 167.50

Park revenues received last year to date, 100.00

Increase, 67.50

Per cent of increase,675

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10-158
December 1934

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii National Park for the month of September, 1936

0-8562

Description of projects	Percent constructed to date	Percent constructed this month	Percent constructed last month	Probable date of completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction New Haleakala Trail (F.A.)	80	0	0	
518 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construction (F.A.)	100	0	0	
520.1 Haleakala Road, Post Construction (F.A.)	27	5	5	
521 Post Construction, Uwekahuna Bird Park Road, (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing 10.643 miles cont. and contg.	100	0	0	
523 Uwekahuna-Bird Park Road, surf treatment, 1.75 miles (F.A.)	97	2	15	
524 Residential Area Roads, completion 3/4 mile, org, grdg, & surf (F.A.)	10	10	0	
525 Headquarters Area Roads, Improvement (F.A.)	0	0	0	
FP 633.14 For the erection of one Observation Station and Toilets; one Office and Checking Station, Haleakala	100	0	0	
FP 677.14 Employee's Residence and connecting service lines for newly appointed U.S. Commissioner	0	0	0	

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10-159
(May 1931)
(99566)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of September, 1936

	This Month				This Month Last Year			
	Appointed		Non-Appointed		Appointed		Non-Appointed	
	REG.	P.W.	REG.	P.W.	REG.	P.W.	REG.	P.W.
Number of employees beginning of month	24	0	8	0	15	3	1	11
Number of additions.....	0	0	0	0	0	0	0	0
Total.....	24	0	8	0	15	3	1	11
Number of separations.....	3	0	0	0	2	0	0	1
Number of employees close of month.....	21	0	8	0	16	3	1	10
Number of promotions during month.....	0	0	0	0	0	0	0	0
Aggregate amount of annual leave taken	29	7/8 0	0	0	19	0	0	0
Aggregate amount of sick leave taken....	8	0	0	0	0	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0	0	0

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DOCUMENT CAPTURED AS RECEIVED

10-161
(Sept. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REPORT OF SALES OF PUBLICATIONS
HAWAII NATIONAL PARK
September, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	982	156.60
Received during month,	0	0.00
Total,	982	156.60
Sold during month,	7	1.45
On hand at close of month,	975	155.15

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,	
Received during month,	
Total,	
Sold during month,	
On hand at close of month,	

Cash on hand beginning of month,	8.58
Sales during month,	1.45
Total,	10.03
Remitted during month,	0.00
Balance,	10.03

U.W.
October 2, 1936

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

Following is the monthly report of the ranger department for September.

000 - General

The usual routine of patrolling, conducting tours, repairing telephone lines, etc., was carried out

020 - General Weather Conditions

At headquarters the total rainfall was 7.78 inches, at the CCC camp ^{H:81} inches, and at Haleakala 4.3 inches

1001 - Administration

110 - Status of Work

All work was current and all necessary reports completed.

120 - Inspections by

121 - Superintendent

^{H 80} The superintendent inspected the Haleakala section the 10th and 11th.

Ranger Williams made an inspection trip to the summit of Mauna Loa, leaving on the 10th and returning at noon on the 12th. He was accompanied by Dr. Stanley S. Ballard, assistant professor of physics at the University of Hawaii and Iwao Miyake. Dr. Ballard plans to install gas collecting equipment at the summit crater, and he and Mr. Miyake made the trip for the purpose of determining just what kind of equipment would be necessary.

150 - Equipment and Supplies

The new Ford pick-up which was ordered for the Haleakala section in August was received by the district ranger on September 3. Miscellaneous office equipment and supplies were also sent to Haleakala during the month. At Kilauea inventory of all equipment was started by the Board of Survey

200 - Maintenance, Improvements and New Construction

230 - New Construction

Work of resurfacing the Chain-of-Craters road was 100% complete at the end of September. Construction was started on the new residential area road and at the end of the month was approximately 50% complete.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

Five horses were purchased by the Volcano House for the use of the guests.

320 - Cooperating Governmental Agencies

Steak fries were given by the personnel of the Military Camp on several Sunday evenings, to which some of the park employees were invited from time to time. These were held at the old prison camp and at Bird Park and were quite popular.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The services of Gordon Mackenzie, temporary ranger, were terminated close of the 18th.

Three lectures were given to the CCC enrollees on fire fighting by some of the rangers.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel to the Kilauea section was as compared with 12,587 for September, 1935. Total travel for the entire travel year was 186,049, a decrease of 21,159 from the 1935 travel year. At Haleakala the district ranger reported 1230 visitors during September, 1936.

530 - Visitors

Major General Hugh A. Drum, commanding Hawaiian Department, was a visitor at the military camp from the 19th to 28th.

600 - Protection

610 - Police Protection

A ranger was stationed at the headquarters section of the main road, during the first part of the month, reprimanding speeding motorists

620 - Fire Protection

All fire extinguishers were filled.

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Water tanks were installed at both fire caches and telephone put in at the No. 1 cache.

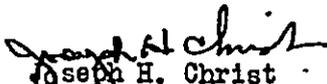
650 - Signs.

Speed limit signs were erected along the section of the main highway running through the park. Caution signs were erected at the pit in the vicinity of the guard rails.

900 - Miscellaneous

The chief ranger went to Honolulu on leave on the 4th and returned on the 9th.

Respectfully submitted


Oseola H. Christ
Chief Ranger

CW



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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

September 19, 1936

GENERAL OFFICE ORDER NO. 45

Following instructions contained in a letter from the Director dated August 31, it is directed that the foreman or other employees having under their supervision temporary or per diem labor prepare form 10-12 which should be signed by the employee certifying as to its correctness before reporting the time to the chief clerk. This procedure will supersede the old system of keeping a note-book record for various employees' time and must be strictly adhered to.

Edward G. Wingate
Edward G. Wingate
Superintendent

Distribution:
Director - 2
Superintendent
Chief Clerk
Chief Ranger
District Ranger
Foreman
Monthly Report - 7
File

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

September 21, 1936

GENERAL OFFICE ORDER NO. 46

Subject: Hours of duty for permanent employees.

The Director's memorandum dated June 27, attaching a copy of regulations prescribed by the Secretary of the Interior, setting forth the daily and weekly hours of duty requires that the officers in charge of field stations prescribe the hours of duty for employees under their supervision. Therefore, the following hours of duty are prescribed for all permanent employees of the park. This includes the office staff, ranger staff, members of the naturalist division and employees engaged on maintenance work. All of these employees will be required to work not less than eight hours per day, or 44 hours per week, except during the summer months of June, July and August, when 48 hours per week will be required.

In view of the fact that members of the naturalist division and members of the Volcano Observatory staff by the very nature of their duties can not conform to a strictly eight-hour day program such employees are authorized to work on such a schedule that the average for a monthly period will amount to 44 hours per week.

Any orders previously issued which are in conflict with this order are hereby revoked.

Edward G. Wingate
Edward G. Wingate
Superintendent

- Distribution:
Director - 2
Superintendent
Chief Clerk
Volcanologist
Asst. Geologist
Asst. Naturalist
Chief Ranger
Each Ranger
District Ranger, Haleakala
Foreman
Mechanic
Warehouseman
Monthly Report - 7
File

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*to C.A.
Monthly Report*

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

October 1, 1936

Memorandum to Superintendent Edward G. Wingate

Re: Work accomplished under my supervision during the month of September, 1936.

1. Replaced broken glass, Uwekahuna Museum
2. Repaired tank, Bird Park.
3. Made stool for Observatory.
4. Painted roof, Qtrs. #2.
5. Cut grass, Employee's Qtrs, twice.
6. Cleaned yard, Qtrs. #3.
7. Chain of Craters Road, repairs to
8. Grading road, Job 524 - 15% complete.
9. Installed tanks and gutters, Fire equipment house.
10. " power plug, Qtrs. #3.
11. Made box for Lantern Slides.
12. Repaired shoulders, Uwekahuna Pit road.
13. Cleaned and refilled Toilet tanks, Uwekahuna and Pit.
14. Hauled garbage, 8 times.
15. " Firewood for Qtrs. No. 1, 3, 7, and 9.
16. Made box for outside telephone.
17. Repaired ceiling of kitchen and painted two bedrooms, Qtrs. #5.

Robert R. Craik

Robert R. Craik
Foreman, HNP

*Wingate
E.G.W.*

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See W. P. [unclear] - [unclear]
In Monthly Report - [unclear]

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
September 29, 1936

The Superintendent,
Thru The Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of September, 1936 is respectfully submitted:

000 General

010 Introduction.

With the ending of the travel year, the records have proven the popularity of Haleakala. It is certain that with a more accurate method of checking, a greater travel record would be shown.

020 General Weather Conditions.

Precipitation at White Hill during the month amounted to 4.30 inches. The prevailing wind direction was from the northeast. There were 8 clear days during the month.

100 Administrative.

110 Status of Work.

Frequent patrols and inspections were made. All reports were kept up to date and purchases of supplies for maintenance work were carried on.

120 Park Inspections by

121 Superintendents

The Haleakala Section was inspected by Superintendent E. G. Wingate, September 10 and 11.

150 Equipment and Supplies.

New Ford coupe-truck #1189 received September 3. A supply of miscellaneous locks received September 8. Miscellaneous office equipment and supplies received September 21.

[Handwritten signature]

200 Maintenance, Improvements and New Construction.

210 Maintenance.

Usual maintenance work on the road was carried on. Some work was done in removing large rocks that were apt to fall into the road.

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and Guide Service.

Park visitors were contacted whenever possible by the ranger in charge and all required information and service given them.

500 Use of Park Facilities by the Public.

510 Increase or Decrease in Travel.

Check of travel shows 246 cars and 1230 visitors in the Haleakala Section during the month of September, 1936. An increase of 27% over the record for last month. Many members of the National Guard, who were in camp on Maui this month, visited Haleakala, which accounts for the increase in travel.

600 Protection.

610 Police Protection.

Frequent patrols and inspections were made during the month. No arrests were made.

Very respectfully,


J. A. Peck,
District Ranger.

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10-23
(May 1929)
6-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii NATIONAL PARK

FILE NO.

MONTHLY REPORT

AUGUST, 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All Files should be returned promptly to the File Room. Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

September 9, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

Following is the report of activities for this park during August, 1936.

000 - General

On August first the 20th anniversary of the creation of this park by act of Congress was celebrated informally by a special dinner and dance at the Volcano House with a program of Hawaiian music and entertainment. The hotel records show that 250 couples made reservations which is by far the largest social gathering ever held there. The festivities commenced at 4:30 in the afternoon and it is understood did not finally subside until the small hours of the morning were growing larger. No official ceremonies nor entertainment were held, though with customary frugality the superintendent and Mrs. Wingate took advantage of the occasion to celebrate also their 10th wedding anniversary, having a number of friends, official and otherwise, up for the evening. The staff and friends of the park were happy to receive the congratulatory messages from Director Cammerer and Secretary Ickes which arrived in time to appear in the Hilo paper on that day, and were also passed around at dinner.

Due to the shortness of the time and the small staff the special edition of the Hilo Tribune-Herald could not be gotten in shape for printing on August 1. It appeared later in the month and was much appreciated as the thought originated with the paper.

020 - General Weather Conditions

Total rainfall at headquarters during August was 10.26 inches, at the CCC camp 8.79 inches and on Haleakala 3.1 inches. On August 4 an unusual Kona storm left a blanket of snow on the summit plateaus of both Mauna Loa and Mauna Kea. During this storm CCC crews working on the Mauna Loa truck trail at the 5500 foot elevation reported that hail about one inch in diameter fell.

100 - Administration

110 - Status of Work

Work was current during August. Effective August 1, James K. Higashida, chief clerk, was advanced to grade 10, salary \$2300 per annum. On August 5, John Blackadar was appointed under emergency field agreement as warehouseman, to take over part of the duties of Frank F. Fischer who suffered a stroke the latter part of July. The dummy for the 1937 edition of the circular of general information was mailed on the 25th.

120 - Park Inspections by:

121 - Superintendent

On the 2nd he inspected the CCC camp and park roads with Field Supervisor E.E. Tillett. On the 10th the Mauna Loa truck trail and side camp were inspected and on the 18th he went to the end of the trail to locate a small turn-around and parking area. Other routine inspections were made in the headquarters area and at Halemauau from time to time.

124 - Other Interior Department Officers

Field Supervisor E.E. Tillett, ECW, arrived on the first and departed on the 6th. He inspected the Territorial ECW camps on this island as well as our camp in the park. On August 7 and 8 he inspected the CCC camp at Haleakala.

130 - Finance and Accounts

Authority was received to make a charge of 75¢ per cubic yard for sand and gravel taken by residents in the immediate vicinity from the park quarry. On August 21 a request was made to your office for approval to use a part of the unexpended balance allotted for the construction of the Haleakala observation station for a stove and other furnishings. A detailed report of the accounts will be found at the back.

140 - Labor Situation

Now that the coffee picking and pineapple canning season is beginning there is a considerable demand for labor. All men on the relief (FERA) rolls in the Kona district on this island are employed picking coffee and on Maui the FERA has had some difficulty in filling CCC enrollee vacancies due to the employment in the pineapple canneries of many of the eligible boys.

150 - Equipment and Supplies

One Dodge canopy truck, which had been at Haleakala was received at Kilauea, and the Graham-Paige sedan was shipped to the district ranger on Haleakala. Two Ford quarter-ton pickups were purchased during August, one for the Kilauea section and the other for Haleakala.

160 - Status of Alienated Lands

By letter dated August 15 recommendation was made to your office that the holders of various private leases in the park be granted an extension of their leases for five years or be permitted to remove any improvements on the property.

On the 25th the superintendent attended a meeting of the Board of Directors of the Hilo Chamber of Commerce and explained the bill which Delegate ^{KING} had introduced in the last session of Congress to add the Kalapana area to the park. After some discussion the directors expressed a favorable opinion on the bill.

180 - Circulars, Placards, Publicity Bulletins, etc.

Office Orders Nos. 43 and 44, dealing with purchasing official supplies and materials, and the sale of sand and gravel respectively, were issued, copies of which are attached. Press releases regarding the change of policy of the University of Hawaii summer school session at the Volcano to research study only was sent out, as well as two shorter ones, one regarding the donation of an oil heater to the Mauna Loa resthouse at the 10,000 foot elevation and the other about the display of maps in the information office.

On August 29 the Hilo Tribune-Herald issued a special edition commemorating the 20th anniversary of the establishment of the park. Copies of this paper were sent to all superintendents as well as your office.

The September issue of the Paradise of the Pacific carried a story on the park written by the superintendent, copies of which were sent your office.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Minor repairs were made to several quarters, trucks, passenger cars and the Chain-of-Craters road

220 - Improvements

Resurfacing on the Bird Park-Uwekahuna road was 95% complete at the end of the month. The old guard rail at the Devils Throat was removed and a new one erected.

At Haleakala District Ranger Peck reports that trails from the observation station to the comfort stations were constructed and surfaced with gravel and bitumuls.

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230 - New Construction

Approval was received to change the allotment of \$25,000 originally allotted for the construction of the Hilina Pali-Manna Iki auto trail to \$11,500 for the completion of the residential area road and \$11,000 for the headquarters area road improvement

300 - Activities of Other Agencies in the Park

350 - Donations, Accessions, etc.

An oil heater was donated by Mrs. Flora N. Sinclair for use at the 10,000 foot redhouse on Manna Loa. This is a welcome gift, since the air becomes very chilly at that altitude as soon as the sun sets.

400 - Flora, Fauna and Natural Phenomena

420 - Museum Service

The museum development outline for this park was submitted to Mr. Hall for approval and action on the 29th.

470 - Animals

On the 15th a drive was undertaken in the Chain-of-Craters area to exterminate some of the surplus wild pigs in that area that were doing considerable damage to the flora. The carcasses of those killed were turned over to the WERA for distribution.

480 - Natural Phenomena

Dr. Stanley S. Ballard, assistant professor of physics at the University of Hawaii and Mr. Iwao Miyake, instructor in the same department, arrived in the park on the 15th. They plan to spend about six weeks here in connection with the research to be carried on in cooperation by the University, the Volcano Research Association and the park. A complete report of the activities of the Volcano Observatory is attached.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel to the Kilauea section amounted to 18,861 as compared with 21,113, for August 1935. On Haleakala the district ranger reports 965 visitors to that section.

530 - Visitors

After arriving in the park on August 5, with the regular Inter-Island tour, Mr. R.A. Kirkpatrick, special representative of the Public Relations Division of the Union Pacific, returned for an overnight stay on the 7th. Mr. Kirkpatrick appeared so impressed with the scenic

attractions of the park and had so much of interest to offer that the superintendent made special arrangements for him to meet with the Hilo Rotary Club and some of the chamber of commerce tourist committee members. Mr. Kirkpatrick's visit was the subject of a letter on August 22 to your office.

August 9 - Approximately 150 guests of the SS Prince David, taken on tour of the park. Also cadets, officers and men of the Japanese Fisheries training vessel, Shintoku Maru.

Listed among the 134 registrants to the 16th annual territorial conference of social workers, held at the Volcano House August 8 to 12 were Senator Elsie Wilcox of Kauai, Dr. Andrew Lind, Professor of Sociology at the University of Hawaii, Dr. David Crawford, President of the University of Hawaii, Mr. Ralph G. Cole, Executive Secretary of the Honolulu YMCA, Hon. Samuel Spencer, Chairman Board of Supervisors, County of Hawaii, Mr. Oren E. Long, Superintendent of Public Instruction for the Territory, Dr. Ray Scott, University of Hawaii and Mr. Arthur Powlison. The superintendent had the pleasure of welcoming this group to the park and attending a few of their gatherings, and Dr. Jaggar was one of the principal speakers.

August 11 - Dr. Arthur I. Mayhew, Executive Secretary of the Educational Committee, Colonial Office, London, addressed the delegates to the social workers' conference. Dr. Mayhew, besides being a speaker possessed of a disarming humor and genuine charm, brought a message of real worth to those fortunate enough to hear him.

Princess Kawanakoa, a member of the Hawaiian Homes Commission, together with Mr. Lang Akana, Executive Secretary, Mr. George Larrison, Department of the Interior representative and Mr. John Lane, former high sheriff, arrived on the 8th to inspect the various Hawaiian Homes projects on this island. Shortly after her arrival the princess suffered a fall in which a small bone in her foot was broken. This, however, did not deter her from attending and making an address to the people in the Keaukaha project nor on the day following from making the long tiresome trip to the north of the island to meet with the people in the Kawaihae project, after which she returned to the Hilo hospital for treatment and rest. She paid a short visit to the park late in the month.

August 15-16 - Seventy officers and cadets of the Hakuyo Maru, Japanese commercial training vessel. They were given special program and tour.

August 12-13 - Mr. and Mrs. Earl Warren of Oakland, California. Mr. Warren is the Grand Master of the Masons in the jurisdiction of California. He was the guest of the superintendent while in the park.

August 18 - Captain D.L. LeBreton, Chief of Staff, 14th Naval District, Pearl Harbor, for the day.

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Delegate Samuel W. King spent the week of August 22-28 on the island of Hawaii. The superintendent attended a dinner given by the chamber of commerce held in his honor in Hilo on the 22nd and later accompanied him to a meeting of the local American Legion chapter. The proposed Kalapana addition was discussed.

August 31 - Territorial Senator Francis H Brown

600 - Protection

610 - Police Protection

District Ranger Peck reported that on the 8th it was necessary to arrest five persons for hunting within the park boundaries. Four of them being minors, were released on account of extenuating circumstances. The case of the fifth, which had been remanded by the US Commissioner to the district court, had not been settled at the end of the month.

900 - Miscellaneous

A meeting of the Hilo Federal Business Association was held at the Seaside Club in Hilo on the 28th, at which Dr. Jagger gave an address on his Montserrat trip.

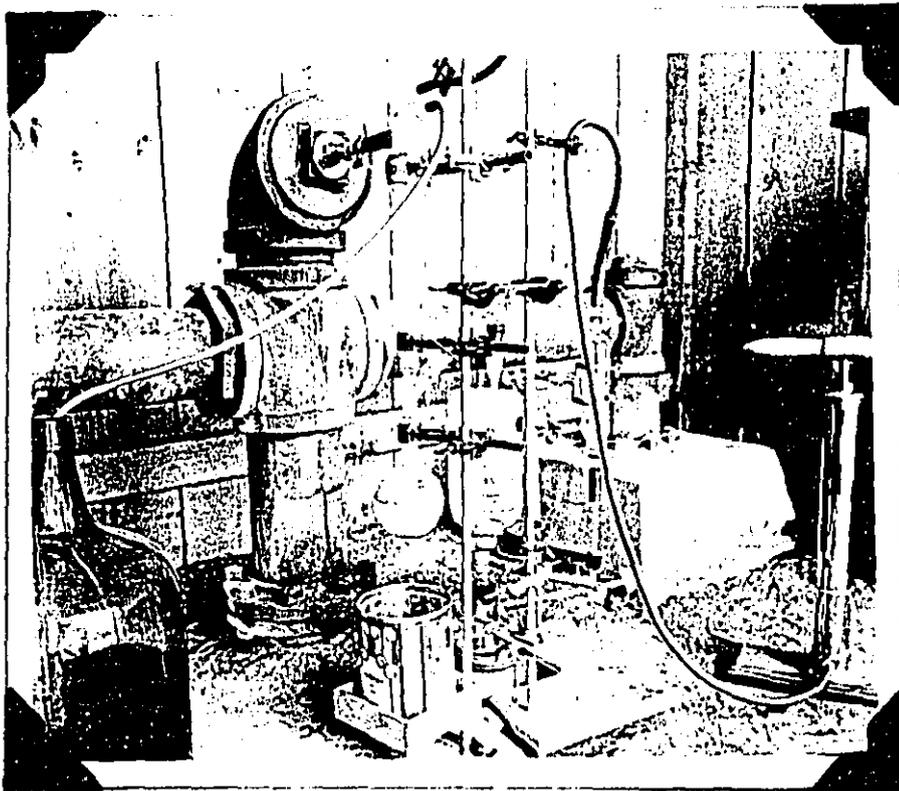
On August 29 estimate of expenses for the 8th enrollment period, ECW, was mailed your office, and on the 30th project application and form WO-1 covering certain new projects for which approval is requested for the 8th period were mailed Regional Officer L.C. Merriam

Respectfully submitted

Edward G. Wingate
Superintendent

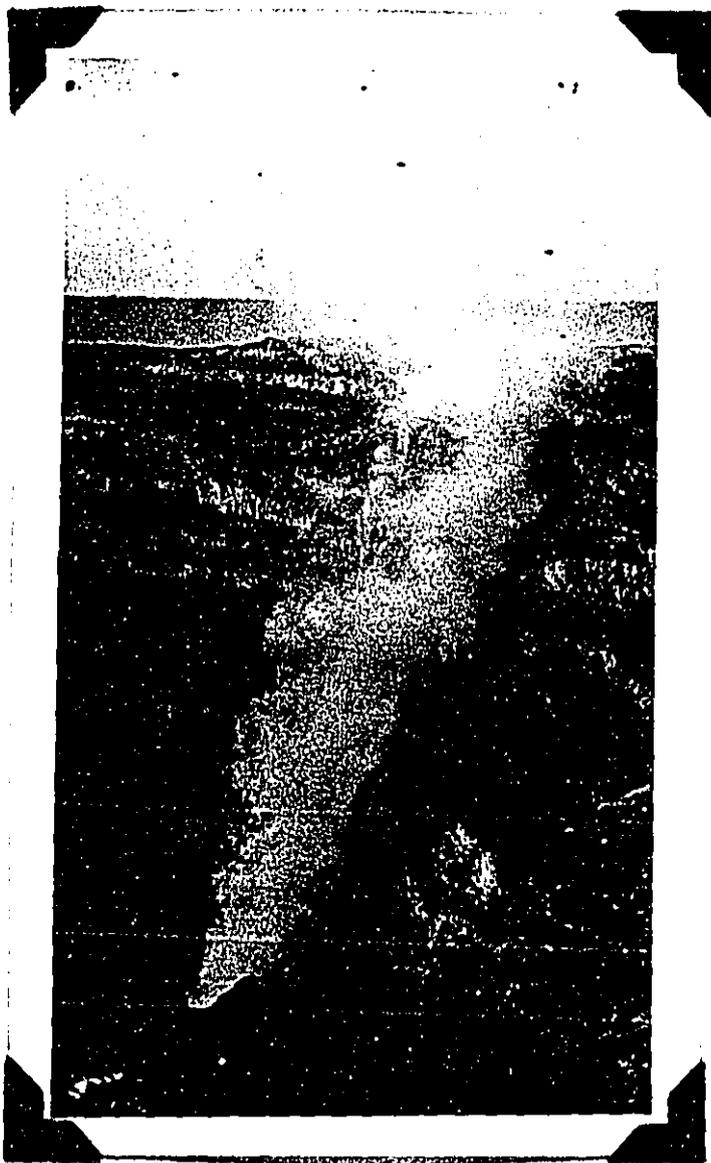
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Equipment installed at the sulphur banks by Dr. Ballard of the University of Hawaii for collecting gas samples for spectroscopic analysis. This work is being done in cooperation with the Volcano Observatory as a part of the newly established graduate school of geophysics which replaced the old University of Hawaii summer school.

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Rock slide from northeast wall of Halemauau. Widening of cracks back from the rim in this vicinity indicate the probability of heavy sliding before long.



Manna Loa Track Trail-CCC project nearing completion. Photo shows type of country at the upper end of the trail. Scattered groves of koa and mamane, pukeawe, aalii and coarse grass growing in thin soil covering old lava flows. Elevation 6500 ft.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

September 5, 1936

Edward G. Wingate, Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory for August, 1936.

Dear Mr. Wingate:

The staff of the Volcano Observatory included T.A. Jaggar, Volcanologist; H.H. Wessche, Assistant Geologist; H. Yasunaka and A. Okuda of the Hawaiian Volcano Research Association, respectively janitor and mechanical assistant. Both of the last were appointed chauffeurs without compensation under the Park Service during the month.

The source vent of 1935 on Mauna Loa is still fuming. Cracks on the rim of Halemauunu in Kilauea crater east-northeast have opened by unusual amounts, have made some avalanches, and have been roped off. The numbers of local seismic disturbances for four weeks beginning August 3, were by weeks 57, 23, 160 and 54. The excessive tremor of the third week went with an aggregate opening of the cracks 14 mm., and numerous slides. The location of earthquakes has mostly centered around Kilauea.

Research by University of Hawaii

As indicated by the attached press bulletin, Dr. T.A. Jaggar, Professor of Volcanology in the Graduate Division of the University, has had working with him in August Assistant Professor Stanley S. Ballard, Spectroscopist, and Instructor Iwao Miyake, Physicist. After shop preparations in Honolulu these investigators arrived at Kilauea in the middle of the month.

The work involves collection of dried gas, at Sulphur Bank particularly, using pump and collecting train of special glassware, so as to take samples to Honolulu for making spectrograms, having in view especially the rare gases. It also involves overhauling of the shops and tools of the Observatory, with a view to improving all the seismographic apparatus and the tilt-meters. Conferences have been held from week to week with the superintendent.

Publication and Writing

The "Military Engineer" of Washington, DC published "The Bombing of Mauna Loa" by T.A. Jaggar in July-August number, 1936, with 8 illustrations.

Dr. Jaggar has worked on his Montserrat report to the Royal Society of London. A fortunate meeting August 11 was with Dr. Arthur Mayhew, in charge of education under the Colonial office of Great Britain. The Montserrat mission of Dr. Jaggar, April to June, was partly under the Colonial office. Dr. Mayhew and Dr. Jaggar made addresses at the Territorial Social Workers Conference at Hawaii National Park, August 8 to 12.

The weekly press reports have been issued as usual on volcanic activities, and the Secretary of the Hawaiian Volcano Research Association has issued the Volcano Letter in its new format, "multilith" printing, each number 8 pages, to April.

Laboratories

Mr. Miyake has made great progress, with the assistance of Okada, the carpenter, in classifying all tools in the shops and building cases of drawers for them. A new electric power plant has been installed by the Hawaiian Volcano Research Association and 220-volt current applied.

The park builders have made a hut at Sulphur Bank over the drilled and capped gas wells for Professor Ballard's gas collections.

Plans are being drawn for a portable spectrograph to use when the lava flows return, and for a vacuum pump, and for a glass-blowing equipment in the shop. The large Honolulu spectrograph of the Hawaiian Sugar Planters' Association has been placed at the service of Dr. Ballard, for which we are very grateful.

Very respectfully

T.A. Jaggar
Volcanologist

TAJ/cw

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STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

AUGUST, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
1471000	National Park Service, 1937	\$44,500.00	\$40,534.98	\$3,965.02
146/71000	National Park Service, 1936-'37	338.00	---	338.00
14-1010	Roads & Trails, N.P.S.	22,500.00	19.40	22,480.60
14-1130	Roads & Trails, Nat'l Parks, Emergency Construction	40,870.65	35,380.07	5,490.58
14-44-0629	H.I.R., Int., Nat'l Parks, Roads & Trails Act 6/16/33	495,538.47	495,459.29	79.18
14-1007	Roads & Trails, Nat'l Parks, Emergency Construction Act 6/19/34	25,775.00	25,626.10	148.90
14-405/70762	P.W.A., Allotment to Interior, National Park Service 1935-'37	9,303.00	9,052.30	250.70
14-443/70634	H.I.R., Int., National Park Service, 1933-'37	21,085.34	21,085.34	0.00
1461000	National Park Service, 1936	45,001.00	44,775.64	225.36
145/61000	National Park Service, 1935-'36	300.00	283.18	16.82
1451000	National Park Service, 1935	36,040.00	34,785.95	1,254.05

10-157
(Dec. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

TRAVEL REPORT

Hawaii National Park for the month of August, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	17,531	158,967	19,556	184,643	-25,676	.139
Persons entering via other private transportation,	418	3,695	557	2,606	+ 1,089	.418
Total persons entering via private transportation,	17,949	162,662	20,113	187,249	-24,587	.131

OTHER TRANSPORTATION:

Persons entering via stages ^{Hotel} stages,	912	7,634	989	6,454	+ 1,180	.183
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	912	7,634	989	6,454	+ 1,180	.183
GRAND TOTAL ALL VISITORS,	18,861	170,296	21,112	193,703	-23,407	.120

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-160

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of August, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	3.75	25.00
Total,	3.75	25.00
Remitted,	3.75	25.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	113.75
Park revenues received last year to date,	50.00
Increase,	63.75
Per cent of increase,	1.275

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

-----Hawaii----- National Park for the month of August, 1936-----

SPS 0-8562

Description of projects	Percent constructed to date	Percent constructed this month	Percent constructed last month	Probable date of completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction New Halemann Trail (F.A.)	80	0	0	
518 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construction (FORCE ACCOUNT)	100	0	0	
520.1 Haleakala Road, Post Construction (F.A.)	22	5	7	
521 Post Construction, Uwekahuna Bird Park Road, (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing 10.643 miles cont. and contg.	100	0	0	
523 Uwekahuna-Bird Park Road, surfg treatment, 1.75 miles (Force Account)	95	15	35	
524 Residential Area Roads, completion 3/4 mile, cgrg, grdg, & surfg (F.A.)	0	0	0	
525 Headquarters Area Roads, Improvement (F.A.)	0	0	0	
FP 633.14 For the erection of one observation Station and Toilets; and one Office and Checking Station, Haleakala	100	0	0	
FP 677.14 Employee's Residence and connecting service lines for newly appointed U.S. Commissioner	0	0	0	

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10-159
 (May 1931)
 (99566)

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of August, 1936

	This Month				This Month Last Year			
	Appointed		Non-Appointed		Appointed		Non-Appointed	
	Reg.	PW	Reg.	PW	Reg.	PW	Reg.	PW
Number of employees beginning of month	23	0	8	0	20	3	1	9
Number of additions.....	1		0	0	0	0	0	3
Total.....	24		8	0	20	3	0	12
Number of separations.....	0		0	0	2	0	0	1
Number of employees close of month.....	24		8	0	18	3	1	11
Number of promotions during month.....	1	0	0	0	0	0	0	0
Aggregate amount of annual leave taken	11- ¹ / ₃₂	0	0	0	18	0	0	0
Aggregate amount of sick leave taken.....	37	0	0	0	0	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0	0	0

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10-161
(Sept. 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REPORT OF SALES OF PUBLICATIONS

Hawaii National Park

August, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	986	157.75
Received during month,	0	0.00
Total,	986	157.75
Sold during month,	4	1.15
On hand at close of month,	982	156.60

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		

Cash on hand beginning of month,	10.72
Sales during month,	1.15
Total,	11.87
Remitted during month,	3.29
Balance,	8.58

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Report of the Camp Director
To The
Superintendent Hawaii National Park
for
August 1936.

The enrollees turn over for the month was as follows:-

Haleakala Camp.

- 3 -- For failure to perform their duties
- 4 -- To accept permanent employment.

Kilauea Camp.

- 1 -- To accept permanent employment
- 1 -- Desertion.
- 1 -- Death.

Total both camps 10.

Joseph Reis who had been in the Hilo Memorial Hospital under Observation for about three weeks developed cerebro spinal meningitis on August 4th and died the morning of August 13th, a post mortem examination showed that the serum treatment had been effective and his brain appeared normal but lobar pneumonia, a complication, had caused his death.

The work on the Mauna Loa truck trail progressed nicely and the side camp which had been maintained at about 6500 ft. elevation was discontinued it being felt that the project could be completed on schedule by working from the main camp.

About six inches of rain fell during one day and night, the first heavy rain experienced on the work this year. It came at a time when we could find the weak spots and place extra culverts, ditches etc before leaving the job and feel reasonably sure that the run-off is properly taken care of for the future.

The long delayed decision regarding the use of monies collected from sale of rations to the Supervisorial personnel came during the month. Effective July 1st. we can spend the collected money. This pleases the Quartermaster as he feels he can subsist the camp without fear of overdrawing our earned ration allowance altho commodity prices are steadily rising.

Our baseball team was active during the month, all games except one being played in the Park. The other was played in Hilo against the Eagles.

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(2)

Permission has been secured to play one game per month in Hilo and use Government transportation. Beginning next month, this Hilo game will be against a team from the Territorial CCC Camp at Waimea.

The interest in Volley ball is increasing and undoubtedly we will have intercamp games during our one Sunday a month in Hilo.

Col. Adna G. Clark U.S.A. retired visited the camp during the month. Col. Clark has been Military instructor at the Kamehameha boys school in Honolulu, also has been in charge of the R.O.T.C. at the University of Hawaii. He is very much interested in boys and was very complimentary on the appearance of both the camps and the boys. He was scheduled to give a talk to the group but a change in plans prevented this and I feel we were the losers.

The usual religious services were held.

The rain mentioned above filled out water storage tanks the first time in several months.

Good weather during next month will enable us to complete all of the work which we set out to do during the Seventh Enrollment Period.

Respectfully.

Bertram G. Rivenburgh
Camp Director. ECW HNP.

DOCUMENT CAPTURED AS RECEIVED

Report of Camp Project Superintendent W. J. Stephens.
To The
Superintendent Hawaii National Park, Hawaii
for the
Month ending August 31. 1936.

During the month 3301 man days were worked on the following approved projects:-

E.C.W.	#	131	Fencing Boundary.	1008
		202	Truck trail	1609
		204	Road & trail maintenance	80
		207	Trails horse (Maui)	499
		1004	Removal of Exotics.	105
				<hr/>
Total.				3301

Work was continued on the boundary fence towards Napau Crater, with two crews and two foremen. All necessary material has been packed in and all but about 1 mile completed. One crew was moved to the Keauhou line on the last day of the month. Steel post will be used on this side and now that the trail compressor will be released from the truck trail early in September more speedy work can be expected.

On the truck trail excavation is practically completed and all but .2 miles of sub grade laid. Owing to the scarcity of adequate binding material close at hand it is necessary to haul volcanic sand a considerable distance and this mixed with dirt and ash it is hoped, will be sufficiently adhesive to hold the gravel firm.

The lack of rain has been a big handicap, the trail surface having had no opportunity to tie into the sub base, even under pressure.

Road maintenance and removal of exotics kept 185 men busy, and next month when the road crews are reduced additional men will be used to advance these projects.

Senior Foreman Olson reports the Halemau trail complete and work started on the Kaupo trail, making a total of 2.8 miles completed.

During the month the entire camp was moved to Paliku to facilitate work on the Kaupo trail.

Conditions on the job and in camp are satisfactory.

Respectfully submitted.

Wilkinson J. Stephens
Wilkinson J. Stephens
Camp Project Superintendent.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

August 22, 1936

MEMORANDUM TO THE PARK NATURALIST:

Subject: Naturalist's Work.

Sometime past in conversation with you I promised to put my views in writing and this memorandum is designed in a general way to cover the subject.

In respect to the Park Naturalist himself I feel that his time should be largely devoted to major research projects, editing of publications, supervision of lecture material, and supervision of any technical material or information made available to the public, either as published material or notes used for various lectures. I feel that a secondary part of the Naturalist's work is public contact. By this I mean that a Naturalist, generally speaking, is a man who has devoted a considerable period of his life to acquiring scientific knowledge. I think that having received this specialized training he should devote the larger portion of his time to applying his knowledge to research problems and as above stated general administrative details, for the benefit of the entire public contact staff and for park preservation. He is qualified by training for this research; the rangers generally are not; but their personalities fit them to meet and handle the public.

My general observation over a number of years at Kilauea is that, generally speaking, the public can be satisfactorily served by men of only moderate scientific training. I believe that a man given the proper personality and possessed of reasonable intelligence can successfully handle the great majority of our visitors. To me all that seems essential is that the information given to visitors be presented in an interesting manner and that it be accurate. Frankly, it seems a very wasteful proceeding to employ the full time of a carefully trained scientist in explaining the natural features of this region to the general public. While it is undoubtedly interested at the time, still, we are not operating a university and the public has not come as students to a school. After all it seems to me vastly more important that our visitors leave us with an increased comprehension of the ideals of the Service, with a fuller appreciation of the beauty and restfulness of our forests and the wide sweeping majesty of Kilauea and Mauna Loa and Haleakala, than with any number of note books filled with the names of the various trees, the different volcanic gases, the various volcanic products, etc. All these can be had in text books and other publications, but the wonder of the region may be only understood alone or with small groups of friends. I am not half so interested in the numbers who attend lectures or guided hikes as I am in the numbers seen walking alone on our trails. I think that we should encourage them to go alone.

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Furthermore as regards public contact work in general I believe that there are many of our visitors who would prefer more or less to be left alone. Certainly, I think that in their approach to the Lava Tube and their approach to Halemauau the ranger or guide should be in the background. They should be given time at these and other points to absorb something of the beauty or majesty of the scene and to speculate a little bit themselves before having a lecturer step into the foreground and commence to explain the whole thing to them.

While this is probably impossible I still think the ideal situation for all our visitors would be to approach the interesting parts of our Park completely alone. Each one in a way then would become a discoverer and I think that a fuller appreciation of the wonder of this region would thereby be obtained. This, ofcourse, cannot be accomplished, but I do think it desirable to obtrude ourselves into the scene as little as possible. Briefly this summarizes my views on the Naturalist's work in respect to public contact activities.

Edward G. Wingate
Superintendent

- Copies to Director-2
- Superintendent
- Chief Clerk
- Chief Ranger
- Each Ranger
- Volcanologist
- Park Naturalist
- ~~Person~~
- ~~Person~~
- Monthly Report-7
- File

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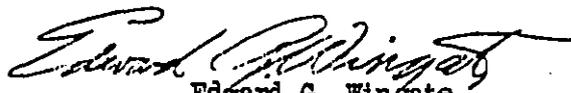
August 7, 1936

GENERAL OFFICE ORDER NO. 43

Subject: Re-official Purchases

Due to the practice of some employees in making purchases without first securing a proper purchase order the Chief Clerk has experienced some difficulty in maintaining accurate cost accounts. It is therefore directed that no purchases of any character chargeable to the park funds are to be made until a purchase order signed by the Superintendent or Chief Clerk has been secured. This order is applicable to all classes of employees—permanent, seasonal, temporary and per diem.

Exception to this order may be made in emergency upon verbal authorization by the Superintendent or Chief Clerk.


Edward G. Wingate
Superintendent

Copy to
Director-2
Monthly report-7
Superintendent
Chief Clerk
Chief Ranger
Asst. Naturalist
Asst. Geologist
Williams
Murray
Doust
Foreman Craik
Mechanic
ECW
Each Laborer
File

Volcanologist

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August 10, 1936

GENERAL OFFICE ORDER NO. 44

Subject: Sale of Sand and Gravel from Park

There is quoted below radiogram dated July 17 from the Director regarding charge for sand and gravel taken from the Park.

".....pursuant to instructions June eighth you are authorized to charge seventy five cents per cubic yard or fractional part thereof for sand or gravel taken by local residents from park quarry."

Accordingly care should be taken to ascertain the exact amount of sand and gravel taken by anyone and notify the chief clerk in order that a proper charge may be made therefore.

Authority to take sand and /or gravel from the park quarry is limited to residents of the "volcano district", which for this purpose is defined as that area, used for permanent and summer homes, adjacent to the Mamalahoa Highway extending from approximately the 27 mile post to the junction of that highway and the Uwekahuna-Bird Park Road. This authority is further limited in that permission to take sand /or gravel may be granted for minor construction or repair projects only and in no case for re-sale or use by any contractor in private construction work.



Edward G. Wingate
Superintendent

Copy to
Director-2
Superintendent
Chief Clerk
Asst. Park Naturalist
Chief Ranger
Ranger Williams
Ranger Murray
Ranger Doust
Ranger English
Ranger Mackenzie
Foreman Craik
Mechanic
ECW
Monthly report-7
File

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1000
5/2/36

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

OFFICE OF THE SUPERINTENDENT

HAWAII

Wailuku, Maui
August 30, 1936

The Superintendent,
Thru The Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of August, 1936, is respectfully submitted:

000 General.

010 Introduction.

With the completion of the new Halemau trail and the Observation Station, two very important improvements are made available for the public.

020 General Weather Conditions.

Precipitation at White Hill during the month amounted to 3.10 inches. The prevailing wind direction was from the northeast. There were 3 clear days during the month.

100 Administrative.

110 Status of Work.

Weekly reports were kept up and purchases of supplies for maintenance work and operation of trucks, were carried on. Frequent inspections and patrols were made.

120 Park Inspections.

125 Other Governmental Officers.

Mr. Tillett of the ECW inspected the Haleakala Section August 7-8

150 Equipment and Supplies.

Dodge canopy truck # 1152 shipped to Park Headquarters. Received Graham-Paige sedan #181 from Park Headquarters.

200 Maintenance, Improvements and New Construction.

210 Maintenance.

Usual maintenance work on the road was carried on.

220 Improvements.

Trails from the Observation Station to the toilets were built and surfaced with gravel and bitumuls.

Very truly yours,
Superintendent

410
1936



400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and Guide Service.

Park visitors were contacted whenever possible by the ranger in charge and all required information and service given them.

500 Use of Park Facilities by the Public.

510 Increase or Decrease in Travel.

Travel check shows 193 cars and 965 visitors in the Haleakala Section during the month of August, 1936. An increase of 6% over the record for last month is shown. This is normal travel.

600 Protection.

610 Police Protection.

On August 8th. five people were arrested for hunting in the park. Four of them were minors and were released on account of extenuating circumstances. The case of the other person has not yet been settled.

Very respectfully,


J. A. Peck,
District Ranger.

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September 2, 1936

Edward G. Wingate, Superintendent
Hawaii National Park

Dear Mr. Wingate:

Following is the report of the activities of the ranger department during August.

000 - General

August was a comparatively quiet month for the ranger department. During the latter part of the month rangers were stationed on the main road through the park checking on speeding motorists. They also assisted the naturalist division, made the usual patrols, painted center traffic lines on all curves, etc.

020 - General Weather Conditions

Total rainfall at headquarters during August was 10.26 inches, at the CCC camp inches, and on Haleakala 3.1 inches.

100 - Administration

110 - Status of Work

Work in both sections was current during the month. At Haleakala weekly reports were kept up and purchases of supplies, and operation of trucks were carried on.

120 - Park Inspections

125 - Other Governmental Officers

Field Supervisor E.E. Tillett, ECW, inspected the Haleakala section August 7 and 8.

150 - Equipment and Supplies

One Dodge canopy truck, which had been at Haleakala was received at Kilauea, and the Graham-Paige sedan was shipped to the district ranger on Haleakala. Two Fords, a half-ton truck for Haleakala, and a quarter-ton pickup for Kilauea were purchased in August.

170 - Plans, Maps and Surveys

Four days were spent on the park boundary survey.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Repairs were made to the worst spots in the Hilina-Pali auto trail.

220 - Improvements

The old guard rail at the Devils Throat was removed and a new one erected.

Work was started on resurfacing the Chain-of-Craters road and by the end of the month was 80% completed.

At Haleakala District Ranger Peck reports that trails from the observation station to the comfort station were constructed and surfaced with gravel and bitumuls.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

Rangers were detailed to supervise both dances at the Volcano House, on the first and 22nd.

400 - ~~Ranger, Naturalist and Guide Service~~ FLORA, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The ranger staff was kept busy conducting hikes, and trips for the social workers and other visitors at the Military Camp and hotel. Due to the great increase in the number of guests at the hotel there were more requests than usual for trips, etc.

470 - Animals

On the 15th a drive was undertaken in the Chain-of-Craters area to exterminate some of the surplus wild pigs in that area. The carcasses of those killed were turned over to charitable organizations for distribution. ✓

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel to the Kilauea section amounted to 18,861 as compared with 21,112, for August, 1935. On Haleakala the district ranger reports 965 visitors to that section.

530 - Visitors

August 9 - Approximately 150 guests of the SS Prince David, taken on tour of the park. Also cadets, officers and men of the Japanese Fisheries training vessel, Shintoku Maru.

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August 8-12 - Approximately 90 members of the Territorial Conference of Social Workers held their annual convention at the Volcano House.

August 18 - Captain D.L. LeBreton, USN, Chief of Staff, 14th Naval District Pearl Harbor, for the day.

600 - Protection

610 - Police Protection

District Ranger Peck reported that on the 8th it was necessary to arrest five persons for hunting within park boundaries. Four of them being minors were released on account of extenuating circumstances. The case of the fifth had not been settled at the end of the month.

900 - Miscellaneous

A meeting of the ranger staff was held in the superintendent's office on the 28th. That same evening the chief ranger attended a meeting of the Federal Business Association in Hilo.

Respectfully submitted

Joseph H. Christ
Joseph H. Christ
Chief Ranger

CW

Aug 28

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l.w.
Monthly Report

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

August 31, 1936

Memorandum to Superintendent Edward G. Wingate.

Re: "Report of work accomplished during the month of August, 1936."

1. Hauled rubbish from Quarter's area, nine times.
2. Resurfacing Bird Park road. This work 95% complete.
3. Alterations, repairs and painting, Quarters No. 2.
4. Minor repairs, Quarters No. 1.
5. Made necessary repairs to trucks and passenger cars.
6. Tore down and salvaged material from old house near entrance to park.
7. Repaired Golf links-Bird Park road.
8. Minor repairs to Chain of Craters road.
9. Laid out new road in Quarter's area.
10. Installed light switches in Quarters No. 8 and 9.
11. Took off material for new employees quarters as far as possible.
12. Filled water tanks at Lava Tube toilets.
13. Inspected and listed materials required for repairs to buildings Quarter's area.
14. Repaired Toilet Quarters No. 5.
15. Cleared stopped drain, Quarters No. 8.
16. Cleaned gutters on buildings supplying reservoir.
17. Cleared dead fern leaves and other vegetable matter around residential and utility area, which was a fire hazard.
18. Cut grass and weeds on road shoulders, Chain of Craters road.
19. Made stool for Engineer's office, Volcano Observatory.

Robert R. Craik

Robert R. Craik
Foreman

EW

10-23
(May 1929)

0-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii NATIONAL PARK

FILE NO.

MONTHLY REPORT

JULY, 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All Files should be returned promptly to the File Room: Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,

Director

U. S. GOVERNMENT PRINTING OFFICE: 1932

0-7410

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

August 10, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

Following is the monthly report of activities of Hawaii National Park during July.

000 - General

There was no event of sufficient importance during the month to be reported under this heading.

020 - General Weather Conditions

Total rainfall at headquarters was 6.7 inches, at the CCC camp 4.68 inches and on Haleakala .9 inch. The seacoast section of Hilina Pali and the Mauna Loa section were very dry.

100 - Administration

110 - Status of Work

All work was kept reasonably current. The annual report for the 1936 fiscal year was mailed your office on the 23rd, and on the 29th a resume of the work of the park during the year was forwarded the Governor of the Territory for inclusion in his report to the Secretary of the Interior. Various annual contracts covering electric service, rental of the Observatory buildings, etc., were transmitted for approval during the month.

120 - Inspections by:

121 - Superintendent

The superintendent spent the entire month at Kilauea headquarters where routine inspections were made of going projects, roads, facilities for the public, and of Halemauuan. Parts of three days were spent in careful examination of the Chain-of-Craters area from the Thurston Lava Tube to Puu Huluhulu for the purpose of checking on reported damage to vegetation by wild pigs.

Following a report of fresh cracking in the Thurston Lava Tube roof a special inspection was made with Ranger Williams on the 9th with the result that Assistant Geologist Woesche, Assistant Naturalist Lamb and Foreman Craik were detailed to study the matter and report. They recommended that until a qualified tunnel engineer can be found to examine the tube a warning sign stating that the public may proceed farther only at their own risk, be placed within the tube where the first cracking was observed. This was done.

He was among several local citizens invited to officially review the July 4 parade in Hilo. As usual it rained.

124 - Other Interior Department Officers

R.A. Kleindienst, Department of the Interior representative of the Division of Territories and Island Possessions and Mr. Richard Black of the Interior Department, accompanied by George K. Larrison of the Hawaii Homes Commission and Supervisor Tom Cunningham, visited the park on July 20. They were conducted through the park by the superintendent before continuing the trip around the island of Hawaii.

125 - Other Governmental Officers

Jack Moskowitz highway engineer for the Bureau of Public Roads in Honolulu, made an inspection of park roads on July 22.

126 - Congressional Committees

On July 4, following the Hilo parade Representatives Sam Hobbs, Alabama; Cleveland Dear and John N. Sandlin, Louisiana; and Samuel L. Collins, California, arrived by Army plane as guests of the Kilauea Military Camp. They were members of a sub-committee in the islands studying Army and Navy matters. They were met at the Volcano House by the superintendent and chief ranger, who, together with the commanding officer of the Kilauea Military Camp, took them on a short tour of the park which was concluded by an informal luncheon at the camp. The superintendent drove Rep. Hobbs back to Hilo where the party took the plane for Honolulu.

130 - Finance and Accounts

A detailed statement will be found at the back of this report.

150 - Equipment and Supplies

An assortment of fire fighting tools was received in July.

170 - Plans, Maps and Surveys

Work was continued on preparing material for the relief map of the island of Hawaii, which the Berkeley office is going to construct.

The survey of trails by Ranger Murray to check with the new trail map was completed. Work was also continued on the boundary survey by the chief ranger.

180 - Placards, Circulars, Publicity Bulletins, etc.

At the request of the editor of the Paradise of the Pacific the superintendent prepared an article for the August issue of that magazine. Office order No. 42, regarding the use of fire equipment was issued, copy of which is attached. The special edition of the Honolulu Advertiser commemorating the 80th anniversary of its founding on July 2, 1856, carried a story, or outline, on the history of the volcano region, written by the superintendent.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

In the Haleakala section District Ranger Peck reports that many large rocks on the banks of the Haleakala road which appeared very dangerous were blasted and removed. Continual freezing and thawing will necessitate more or less constant work of this nature.

220 - Improvements

Considerable additional work was done in the Haleakala section in covering the road banks with soil to promote the growth of vegetation.

230 - New Construction

Work was started on patching chuck-holes in the lower end of the Chain-of-Graters road.

The Halemau-u trail, which has been under construction by CCC labor is now completed.

The re-surfacing of the Bird Park-Uwekahuna road was 80% complete at the end of July.

An additional shelter was constructed at the old prison campsite from salvaged material and one new fireplace built.

Information was received by letter from your office, dated July 7, that \$25,000 had been allocated this park for minor road construction, project Hilina Pali-Mauna Iki. It was requested that this amount be changed to minor projects ES 228R residential area roads, \$12,000 and ES 146R headquarters area roads improvement, \$11,000 in accordance with the latest edition of the master plan and 1938 six-year plan.

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300 - Activities of Other Agencies in the Park

310 - Public Service Operators

Approved plans for a gasoline station, to be constructed by the hotel operator on land leased by the hotel, were received from your office. The operator expects to ^{start} construction in the near future.

By letter of July 2 your office was requested to have a study made as to the adequacy of fire insurance carried by the Volcano House.

313 - Schedules of Rates

A schedule of rates covering resthouse, meals and saddle service furnished by the park operator in the Haleakala section was forwarded your office for approval on July 29.

Approval was received to make a charge of 75¢ per cubic yard for sand and gravel taken from the park quarry by local residents in small quantities.

314 - Complaints

Your office has received copies of correspondence with regard to the complaint made by E.A. Tucker, radioman, USN, who stated he and his party were refused admittance at a dance held at the Volcano House

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

During the absence of the assistant park naturalist, who was on Maui and in Honolulu, Ranger K.J. Williams was detailed to carry on the work of this department.

A moonlight hike, conducted by Mr. Williams, across the crater was enjoyed by approximately 25 hotel guests and people living in the district.

A review of the figures for contacts for this month shows a drop-off from last month's record and a big decrease from July 1935. The assistant naturalist states that this emphasizes the importance of large special groups here in this park. Whereas there were several of these groups served in June, 1936 and during the month of July, 1935, there were none of any consequence, so far as numbers are concerned, during July of this year.

Assistant Naturalist S.H. Lamb left on the 19th for an inspection of the new Haleakala observation station and to make studies and plans for its use in relation to naturalist activities. He then proceeded to Honolulu to help process some panoramic pictures which he took of the Haleakala crater and to discuss several museum projects with E.H. Bryan, Jr., Curator of the Bishop Museum.

During July Edward Y. Hosaka of the Bishop Museum spent several days in the vicinity of the park collecting grasses. Mr. Lamb accompanied him on several grass-collecting trips, thus adding new specimens to the park herbarium.

470 - Animals

Territorial Forester Charles Judd and the chief ranger made a survey of the wild goats at Hilina Pali and Pepeiau. Because of the dry condition in these two localities not many animals were seen.

480 - Natural Phenomena

Dr. T.A. Jaggard, Volcanologist, who has been in the West Indies studying the volcanic conditions on the island of Montserrat, at the request of the Royal Society of London, returned to the park on the 25th. A complete report of the activities of the Volcano Observatory will be found at the back of this report.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel to Kilauea was 21,554 as compared with 24,058 visitors in July, 1935. At Haleakala the district ranger reports 910 visitors.

530 - Visitors

July 2 - George Gruen, President and owner of the Gruen Watch Company of Cincinnati, spent several days in the park.

July 14 - James H. Schwabacher of Schwabacher-Frey Company, San Francisco, visited the park on his way around the island. He was accompanied by Mrs. Schwabacher and their two children.

July 15 - E.J. Walsh, Manager Grand Hotel, Wailuku Maui and who has the resthouse and saddle-horse concession at the Haleakala section, visited the park for several days. He was given every opportunity to observe operations in this section of the park.

Judge Charles C. Haines, Superior Court, San Diego, California, visited the park on the Inter-Island tour. Discussed park projects briefly with the superintendent, urging construction of the Mauna Loa road and addition of Waimea Canyon on the island of Kauai to the park.

July 18 - Charles Judd, Chief Territorial Forester, accompanied by his family, arrived to spend several weeks.

Mrs. Melville Muckelstone, National Commander of the Women's Auxiliary of the American Legion, visited the park as the guest of the local chapter over the week-end. She was accompanied by Mrs. James Mahaffy, of Honolulu, National Chaplain of the Auxiliary. The local chapter gave a dinner in Mrs. Muckelstone's honor at the Volcano House, at which she was welcomed by the superintendent. Ranger and Mrs. Philip Murray conducted the party on a park tour the following day.

July 26 - Buck Jones of moving picture fame visited Haleakala for a few hours.

July 30 - Members of the baseball team of Kwansai University, Japan for one day.

600 - Protection

610 - Police Protection

Approximately 15 patrols were made in the area adjacent to the park in compliance with the request of the Hilo Police Department and property owners of the vicinity.

620 - Fire Protection

Two fire caches were constructed, painted and equipped with tools on the Mauna Loa truck trail.

On July 6 a small forest fire in Kipuka Kulalio was discovered by CCC enrollees who were working in the vicinity. This covered an area of only 1200 square feet and was extinguished by the boys.

630 - Accidents

On July 14 a car owned and driven by some Filipinos went off the road about 2 miles beyond the junction of the Bird Park and main roads. The driver seemed to have lost control of the car while traveling at a high speed. He was the only one injured and after receiving treatment by the physician at the Military Camp, all of the party were taken to their homes in Pahala by Ranger Murray.

900 - Miscellaneous

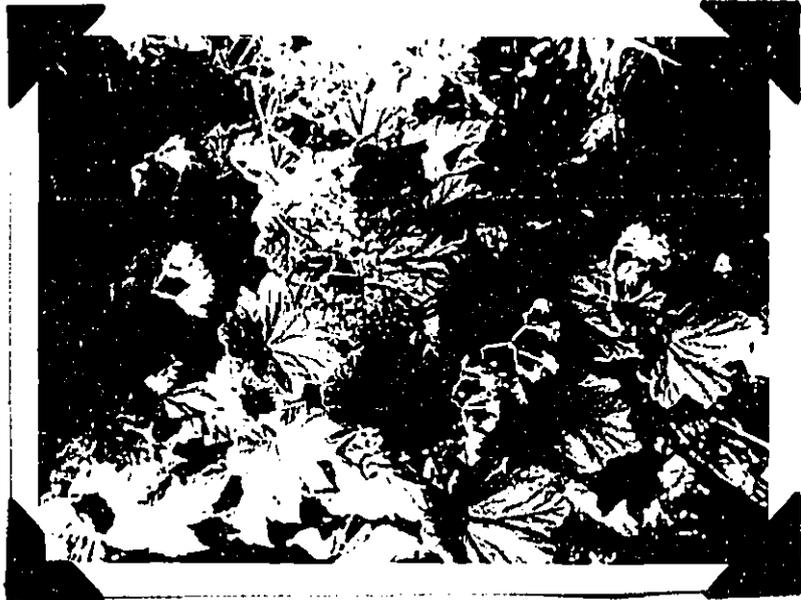
On July 25 Mechanic Fischer was stricken with a heart attack and ordered to bed for at least a month by the doctor. He seems to be improving slowly but steadily.

On July 27, James Palmkoa, a laborer on the Haleakala road, died from an attack of influenza-pneumonia. Palmkoa, a pure Hawaiian, had, previous to his park employment served for many years under the superintendent on topographic mapping in various parts of the Territory. Affectionately known as "Kimo" and "Pohaku" in all his years service he had never merited a reprimand.

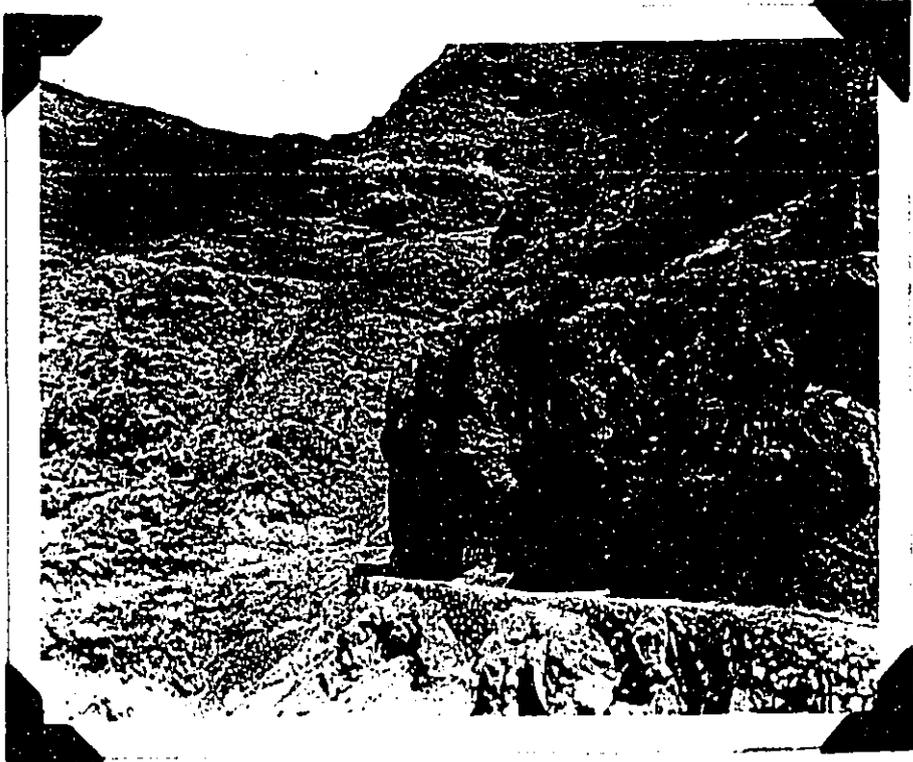
Very respectfully

Edward G. Wingate
Superintendent

CW



No. 1 - Rare, wild Begonias growing in Koolau Gap, Haleakala Crater, just outside National Park Boundary.



No. 2 - New Halemau-u Trail completed by CCC--Haleakala Crater, Maui.



No. 3 - National Commander, Mrs. Melville Mucklestone of the American Legion Auxiliary with Mrs. James R. Mahaffy, National Chaplain of the Auxiliary and Mrs. Philip Murray, wife of Ranger Murray---Fern Forest, Kilauea.

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No. 4 - National Commander of the American Legion, Ray Murphy,
and party at Halemauuan-Kilauea Crater. Park Ranger
Murray with party.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

August 6, 1936

Superintendent E. G. Wingate
Hawaii National Park, Hawaii

Subject - Report of Volcano Observatory for July, 1936.

Dear Mr. Wingate:

The usual routine has been carried on at the Volcano Observatory, including regular records of daily activities about the Crater of Kilauea.

Daily trips have been made to the inner pit Halemauau, to the seismograph stations on Uwekahuna and on the southwest side of Halemauau and on the tilt stations southeast and west. Daily meteorological records have been kept and the weekly and monthly reports sent to the Weather Bureau office in Honolulu.

Care of buildings and grounds by H. Yasunaka and Carpenter, A. Okuda has included marked improvement of the shops, as result of intensive putting in order, and building of furniture during the past three months. All the instruments and seismograph parts under construction in the shop have been painted and classified in appropriate cases. A number of such cases have been built and the materials representing different experimental activities have been enclosed on appropriate shelves. Two cupboards have been enlarged. The large drill which had been broken at its pulley because of improper placement has been moved so that the shaft pulley is properly spaced. The new electric motor for operating the shafting is now in place on a high wall bracket. The old Ford engine power plant was moved to the CCC Camp. As soon as the wiring is done by the Electric Light Company, the shop will be ready for instrument work by the Research Physicists of the University of Hawaii, who are coming in August. This is the new work of the University, entirely research, under the Summer Session Volcano School.

Mauna Loa and Kilauea have been quite, except for the usual solfataric activity, sliding and crack movement in Halemauau, and seismic movements of tilt tremor and earthquake. The sliding from Halemauau walls was at the northeast June 28, to June 30, and southwest July 2. This was followed by ten days of no slides. Then on July 13, and July 18, there were slides at the south, and a series of slides at the north from July 20 to July 24.

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The rim cracks showed moderate opening the first and third weeks, and twice as much the second and fourth weeks. Crack No. 46, about 225 feet back from the rim of the Pit at the ENE has shown excessive opening, and the amount of that opening is increasing so that for the week ending July 26, it accounted for 6 mm of the total 9 mm, the summation for all the cracks.

Local seismic movements for the four weeks ending in July 26, were in number respectively 41, 25, 53 and 49. Local seismicity for each week was 20.75, 8.00, 22.25 and 13.25. Comparing this with the sliding there is a general correspondence, the second week being notably quite in both phenomena. Comparing the opening of cracks there is little agreement, except that the second week showed the maximum opening, as though the crack figures varied inversely with the sliding and earthquakes.

Distant earthquakes were recorded at the Observatory June 30, July 5, and July 13. The first was in the Japan Trough and the third in Chile. It is notable as usual that this spell of large earthquakes follows the June solstice.

Dr. Jagger was informed March 16, by Sir Gerald F. Lener-Conyngham, leading Geodesist of Cambridge England, acting for the Royal Society of London to join a scientific mission of that Society, of which Sir Gerald is the head, in the study of earthquakes on the island of Montserrat. This was permitted by the Secretary of the Interior and Dr. Jagger's itinerary was as follows:-

- Sailed from Honolulu, April 18.
- " " Los Angeles, April 27.
- Arrived St Thomas, Virgin Islands, May 10.
- " Plymouth Montserrat, May 16.
- Remained in Montserrat until May 30.
- Sailed from Montserrat to St Vincent, May 30, to June 2.
- Studied St Vincent volcano, June 2 to June 10.
- Returned to Montserrat, June 10, to June 15.
- Remained at Montserrat, June 15 to June 29.
- Sailed from Montserrat to Boston via Bermuda, June 29 to July 6.
- Visited Washington, July 8 to 10.
- Sailed from Los Angeles to Honolulu, July 18, to 23.
- Arrived at Hawaii National Park, July 25.

The journey to the West Indies involved joining Dr. G.F. Powell and Mr. A.G. MacGregor, respectively, Physicist of Bristol, England and Geologist of Edinburgh, Scotland in investigation of the volcano at the south end on the island of Montserrat. This volcano is much like Mount Pelee in Martinique. It began to emit excessive sulphur gas in 1933, followed by excessive earthquakes every six months 1934 and 1935, which shook down churches and caused other damage, the disasters reaching

maxima in May and November, 1935. Great assistance to the local Government was rendered during these years by Mr. F.A. Ferret, in charge of the Volcano Museum in Martinique. The Royal Society expedition began work in March, 1936. Mr. MacGregor completed his geological survey and returned to England in June. Mr. Powell, the Physicist set-up Jaggar shock recorders made in the shops of Kew Observatory England, in six localities in Montserrat.

These instruments were performing satisfactorily in showing the relative intensity of the local earthquakes still numerous in the spring of 1936. A notable flurry of earthquakes occurred the first week in May. As a whole, the earthquakes diminished in 1936, but on the basis of the seismicity curves of 1933, 1934 and 1935, there are likely to be recurrences in August and December.

This data were all listed and plotted in interim and final reports made by Dr. Jaggar to the Royal Society. Sir Gerald P. Lenox-Conyngham planned to join Dr. Powell in Montserrat the first week of July and to remain about one month. The future plans of the expedition were not decided when Dr. Jaggar left on June 29. His recommendation was that the mission was to be continued for ten years with seismologic and other studies in both St. Vincent and Montserrat, as these islands are volcanically all connected together.

It is believed that this contact between the Capitol Research Service of the National Park and the Royal Society of London will be beneficial in reopening scientific contacts between Mr. Jaggar and Mr. Ferret, and in starting systematic seismometric research in the British West Indies. The local Government, agriculturists and business men have much at issue in the danger of these volcanoes. The recognition of the need for continuous measurement is based on the fact that the earthquakes, eruptions, tidal waves, dangerous gas emissions, etc., migrate from island to island, and the only way to understand them and protect the populace is to record everything continuously. The French Government and Mr. Ferret are at work on Martinique, midway between the two British islands, St. Vincent and Montserrat. The representative of the local Government on Montserrat found it necessary to telegraph repeatedly asking for information from the other island. The agricultural interest are large, the steamship and tourist businesses are extensive and are increasing and the islands are much more prosperous than they were when Mr. Jaggar last saw them in 1902.

I believe that the contacts made this spring between Mr. Waesche, Mr. Sager and the National Park Service of Japan and between Mr. Jaggar and the authorities in the West Indies will prove valuable for international cooperation in volcanology, and in education^{work} of national

- 4 -

parks. Mr. Waesche is a skilled amateur radio operator and he has been experimenting in making contacts with other volcanic lands by inexpensive radio conversation. One of the great difficulties of our Pacific Volcano work has been lack of contact with earthquakes and volcanic events in other places immediately when outbreaks occur. I have discovered that the West Indian events have a cycle about eleven years long, like our own. The renewed contacts with Japan and the West Indies promise important developments, in intercourse between scientists along a great arc of the earth's crust where there are volcanoes greatly different from each other. Our Observatory will keep up these contacts, which promise much, for the third object for which the Hawaiian Observatory was originally founded, namely, the establishment of, and intercourse with, other Volcano Observatories.

The Volcano Letter for March has been issued, and the later numbers it is planned to produce as rapidly as possible so as to bring the publication up to date.

Park Naturalist Lamb has done excellent work during the last three months in operating and putting in order the Observatory photographic dark room. Mr. S. Sate, now in the University of Hawaii who finished his service in the Observatory in May, greatly improved the Observatory's library with the aid of Okuda by reclassifying all the pamphlets and books and labelling them adequately.

Very respectfully,

T. A. Jaggar
Volcanologist.

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REPORT OF THE CAMP DIRECTOR
TO THE
SUPERINTENDENT HAWAII NATIONAL PARK.
MONTH OF JULY, 1936.

The enrollee turn over for the month was as follows:-

Haleakala Camp.

1 -- Desertion.

Kilauea Camp.

2 -- Desertion.

5 -- To accept outside employment.

1 -- Discharge on account of Court action in Assault & Battery Case.

The replacements of the above were furnished promptly by the F.E.R.A. offices at Wailuku Maui and Hilo Hawaii.

We have maintained a side camp along the Mauna Loa trail project at approximately the 9½ mile point at an elevation of about 6500 ft. during the month. This camp consisted of one foreman one cook and about thirty enrollees. The men were worked in two shifts of six hours each all the time devoted to drilling and blasting. As a result we found much better progress could be made as the drillers were far enough ahead of the construction gangs so that a minimum of time was lost while blasting, the gangs not being obliged to leave their work to hunt cover. The blasting done during the late afternoon was after the other gangs had returned to the main camp.

Subsistence was a little higher during the month attributable to maintaining the side camp where the costs per man were a little higher than if they had been subsisted in the main camp and the steadily rising cost of food stuffs as shown on our monthly bids.

During the month the boys in camp organized a "Sons of Roosevelt Club", and at last meeting had about one hundred members. The object of the club is to promote musical groups, athletic teams, debating teams and anything which would bring the boys together in freindly rivalry, to promote good feeling within the camp and lay the foundation for becoming the "good neighbor" when they go out of camp.

About 130 boys took advantage of Independence day leave and visited their homes.

The usual religious services were held during the month.

The Baseball teams played Sunday games againts teams representing the Kilauea Military Camp. Beside these activities, Volley Ball, Basket Ball, horseshoes etc. were played in camp.

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The weather was good during the month and occasional rains kept our water supply around one hundred thousand gallons.

Respectfully submitted,

Bertram G. Rivenburgh.
Camp Director. ECW HNP

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REPORT OF CAMP PROJECT SUPERINTENDENT W. J. STEPHENS.
TO THE
SUPERINTENDENT HAWAII NATIONAL PARK, HAWAII.
FOR THE MONTH ENDING JULY 31, 1936.

During the month 3645 man days were worked on the following approved projects:-

E. O. V. #	131	Fencing Boundary.	1150
	212	Truck trail.	1667
	204	Road Maintenance	92
	207	Trails horse (Maui)	621
	1004	Removal of Exotics	115
		Total. .	3645

Work was continued on the Boundary fence between the Ainalou Road and Napau Crater. The posts set and wire packed in. Wire was attached for one mile and four miles is ready for stringing. The line runs through hard country that has presented every obstacle from solid rock to swamps, and progress has been slow.

A small amount of the truck trail was surfaced and 1 mile partially completed. On the 1st. of July the compressor was put on to two shifts which has been a great help in the preliminary excavation. As the men are camped close to the work this has been no hardship on the boys or the cocks. It is contemplated that the Rock Crusher will be put on the same basis as considerable fine rock will be needed for the final surfacing.

A few men were kept on Road Maintenance and Removal of Exotics.

Senior Foreman Olson reports 1 mile of the Halenau trail completed during the month with 621 man days worked and conditions on the work and in camp satisfactory.

Respectfully submitted,



W. J. Stephens.
Camp Project Supt.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
July 31, 1936

The Superintendent,
Thru The Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of July, 1936, is respectfully submitted:

000 General.

010 Introduction.

The new Halemauu trail being practically completed, will now open up one of the most scenic trips of the entire National Park System. A trail that should soon become very popular among visitors who have time for such trips.

020 General Weather Conditions.

Precipitation at White Hill during the month, amounted to .90 inches. The prevailing wind direction was from the northeast. There were 2 clear days during the month.

100 Administrative.

110 Status of Work.

Weekly reports were kept up and purchases of supplies for maintenance work in the park area and operation of trucks, were carried on. Frequent inspections and patrols were made.

120 Park Inspections.

123 National Park Service Officers.

The Haleakala Section was inspected by Assistant Park Naturalist S. H. Lamb on July 21 to 26 inclusive.

150 Equipment and Supplies.

Canteens and an assortment of hand tools for fire fighting equipment, received.

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200 Maintenance, Improvements and New Construction.

210 Maintenance.

In addition to the usual maintenance work on the road, many large rocks that were apt to fall into the road, were blasted and removed from the upper banks.

220 Improvements.

Considerable more work was done during the month in covering the road banks with soil to promote the growth of vegetation.

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and Guide Service.

Park visitors were contacted whenever possible by the ranger in charge, and all required information and service given them.

500 Use of Park Facilities by the Public.

510 Increase or Decrease in Travel.

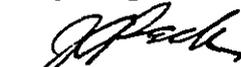
Week end travel check shows 182 cars and 910 visitors in the Haleakala Section during the month of July, 1936. A decrease of 45% under the record for last month is shown. This is a return to nearer normal travel, after the visit of various organizations last month.

600 Protection.

610 Police Protection.

Frequent patrols and inspections were made during the month. No arrests were made.

Very respectfully,


J. A. Peck,
District Ranger.



STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

July, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
1471000	National Park Service, 1937	\$44,500.00	\$37,510.83	\$ 6,989.17
146/71000	National Park Service, 1936-'37	338.00	---	338.00
14-1010	Roads & Trails, N.P.S.	22,500.00	---	22,500.00
14-1130	Roads & Trails, Nat'l Parks, Emergency Construction	40,870.65	33,762.76	7,107.89
14-44-0629	N.I.R., Int., Nat'l Parks, Roads & Trails Act 6/16/33	495,538.47	495,459.29	79.18
14-1007	Roads & Trails, Nat'l Parks, Emergency Construction Act 6/19/34	25,775.00	25,626.10	148.90
14-405/70762	P.W.A., Allotment to Interior, National Park Service 1935-'37	9,303.00	9,052.30	250.70
14-443/70634	N.I.R., Int., National Park Service, 1933-'37	21,085.34	21,085.34	0.00
1461000	National Park Service, 1936	45,001.00	44,786.64	214.36
145/61000	National Park Service, 1935-'36	300.00	283.18	16.82
1451000	National Park Service, 1935	36,040.00	34,785.95	1,254.05

10-157
(Dec., 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS, AND RESERVATIONS

TRAVEL REPORT

Hawaii National Park for the month of July, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						

Persons entering via motor vehicles,	20,002	141,436	22,735	165,087	-23,651	.143
Persons entering via other private transportation,	465	3,277	472	2,039	+ 1,238	.607
Total persons entering via private transportation,	20,467	144,713	23,207	167,126	-22,413	.134

OTHER TRANSPORTATION:

Persons entering via ^{Hotel} stages ,	1,087	6,722	851	5,465	+ 1,257	.23
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	1,087	6,722	851	5,465	+ 1,257	.23
GRAND TOTAL ALL VISITORS,	21,554	151,435	24,058	172,591	-21,156	.123

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of July, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	110.00	25.00
Total,	110.00	25.00
Remitted,	110.00	25.00
On hand close of month,	0.00	0.00

Park revenues received this year to date, 110.00

Park revenues received last year to date, 25.00

Increase, 85.00

Per cent of increase, 3.4

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS AND RESERVATIONS

REPORT OF SALES OF PUBLICATIONS

HAWAII NATIONAL PARK

July, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	1,002	160.25
Received during month,	0	0.00
Total,	1,002	160.25
Sold during month,	16	2.50
On hand at close of month,	986	157.75
<u>NON-GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		
Cash on hand beginning of month,		8.22
Sales during month,		2.50
Total,		10.72
Remitted during month,		0.00
Balance,		10.72

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of July, 1936

	This Month				This Month Last Year			
	Appointed		Non-Appointed		Appointed		Non-Appointed	
	Reg.	P.W.	Reg.	P.W.	Reg.	P.W.	Reg.	P.W.
Number of employees beginning of month	24	0	8	0	18	3	1	10
Number of additions.....	0	0	0	0	2	0	6	6
Total.....	24	0	8	0	20	3	7	16
Number of separations.....	1	0	0	0	0	0	6	7
Number of employees close of month.....	23	0	8	0	20	3	1	9
Number of promotions during month.....	0	0	0	0	1	0	0	0
Aggregate amount of annual leave taken	7 3/4	0	0	0	1 3/4	0	0	0
Aggregate amount of sick leave taken....	4 1/2	0	0	0	0	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0	0	0

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UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS.
BUILDINGS AND RESERVATIONS

STATUS OF AUTHORIZED PROJECTS

Hawaii National Park for the Month of July, 1936

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction New Halemaum Trail (F.A.)	80	0	0	
518 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construction (F.A.)	100	0	0	
520.1 Haleakala Road, Post Construction (F.A.)	17	7	7	
521 Post Construction, Uwekahuna Bird Park Road (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing 10.643 miles cont. and contg.	100	0	0	
523 Uwekahuna Bird Park Road, surfacing treatment, 1.75 miles (F.A.)	80	35	40	
524 Hilina Pali-Mauna Iki Auto trail	0	0	0	
FP 633.14 For the erection of one Observation Station and Toilets; and one Office and Checking Station, Haleakala	100	0	15	
FP 677.14 Employee's Residence and connecting service lines for newly appointed U.S. Commissioner	0	0	0	

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Monthly Report*

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

July 31, 1936

MEMORANDUM TO SUPERINTENDENT WINGATE:

The following is a report of work accomplished under my direction during the month of July, 1936.

1. Resurfaced Bird Park road. This job is 80 o/o complete.
2. Hauled garbage from Quarters' area eight times.
3. Cut grass on shoulders main road, rim road and part of Chain-of-Craters road.
4. Built shelter at old prison sight from scrap lumber.
5. Moved toilet near old prison sight.
6. Pumped water to Quarters 1, 3, 7.
7. Inspected and condemned unserviceable tools and equipment E.C.W.
8. Minor repairs to Chain-of-Craters road.
9. Repaired washing machine at Quarter #1.
10. Cleaned gutters all buildings at Quarters and utility area.
11. Sharpened twelve pick mattocks.

Respectfully submitted,

R.R. Craik
R. R. Craik
Foreman

W

July 2, 1936

GENERAL OFFICE ORDER NO. 42

Subject: Fire Equipment

My attention has been called to the fact that some items of fire equipment have been removed from their proper places and used for purposes other than fire fighting or fire drills. It is hereby directed that under no circumstances, without the approval of the fire chief, Chief Ranger Christ, is any item of fire equipment to be removed from its proper place except for the express purpose of fighting fire or fire drills.

Edward G. Wingate

Edward G. Wingate
Superintendent

Copy to
Director -2
Supt.
Chief Clerk
Chief Ranger
Asst. Naturalist
Asst. Geologist
Williams
Murray
Doust
Foreman Craik
Mechanic
ECW
Each Laborer
File

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

PRESS BULLETIN
FOR IMMEDIATE RELEASE

THOMAS A. JAGGAR,
VOLCANOLOGIST

The Summer Session of the University of Hawaii this year changes its Volcano School to a program of research only. This is in charge of Dr. Thomas A. Jaggar, Professor of Volcanology in the Graduate Division. As volcanologist in the national park Dr. Jaggar has developed a number of experimental problems during the last twenty-five years. One is the location underground of earthquake centers, produced by some kind of impact or jolt. Another is the possible gradual change, or sudden change, from time to time, in such gases as those at the Volcano House sulphur bank. Both of these things, if measured and interpreted promptly, and more accurately, may indicate the coming of eruptions. The fore-telling of eruptions is one important result of volcano study.

Accordingly in August, during the coming weeks, two investigators from the Physics Department of the university will start using new instruments at Kilauea. The shops of the Volcano Observatory have been renovated for their use. A University Laboratory has been arranged in a special building. The workers are Assistant Professor Stanley S. Ballard, specialist in spectroscopic work, and Instructor Iwao Miyake, skilled in electrical instruments.

Dr. Ballard will collect the Sulphur Bank gases, and also the gaseous products in Kilauea Crater at certain localities. The collection will be with pumps and tubes specially designed to exclude outside air, which tends to be sucked in when steam condenses in ordinary vacuum tubes. The object is to design field apparatus which will be effective in retaining pure volcanic gas, after collecting such gas not only at solfataras, but even at flame vents in

PRESS BULLETIN - 2 -

lava where gas is burning. There is no such lava available now, but many experiments may be made in preparation for such active periods as last December. The tubes of gas will be carried back to Honolulu laboratories. There the gas will be carefully subdivided into numerous samples for use in discharge tubes, in partial vacuum, illumined by an electric discharge. These will be photographed for the spectrum of rare gases. This work is done with a large quartz prism spectrograph.

It is planned to make negatives of numerous gases, and if results are satisfactory, to establish a new routine at the Observatory. This will consist in collecting the gases at regular intervals and sending them to Honolulu to see if there is any change. It is also hoped to obtain for the Observatory a small model spectrograph which may perhaps be used in the field for direct recording of gases. The object of all the work is to start a movement for more precise use of the spectroscope in volcanology.

The work of Mr. Miyake is based on experiments started more than a year ago under the direction of Assistant Professor Willard H. Eller at the University of Hawaii. His experiments were designed to record the exact time in fractions of a second of blasting explosions at Moihili quarry. Then an electrically equipped seismograph was set up at the Physics Laboratory some distance away recording the exact time that the earthquake shock from the explosion reached the University. According to the difference in times of the quarry measurement and the university measurement, the rate of travel of the earth wave could be discovered. Mr. Miyake has been improving the apparatus for doing this kind of exact work electrically.

It is now proposed that he bring his apparatus to the Volcano Observatory where thirty or forty actual seismic disturbances occur every week. The

PRESS BULLETIN - 3 -

seismologic work of the earthquake investigators at the Observatory has taught how to locate earthquake centers approximately. We need to know exactly how fast and in what direction the earth waves travel for a Mauna Loa earthquake, a Kilauea earthquake and others. It may be possible with simple apparatus buried in the ground to compel an earthquake wave passing a place five miles away to send a wireless message to the Observatory and record its time on an Observatory chronograph. If the same earthquake when it reaches the Observatory makes another record on the same chronograph, the time of travel for the five miles will be known. It is hoped by electrical work of high precision to discover the travel times of different kinds of earthquake waves. The Volcano Observatory is a natural laboratory for this work, because it has many movements of tilting and trembling all the time.

These investigations will continue until the end of September, and Dr. Jaggard and Mr. Wnesche will bring to bear the resources of the Observatory records on the two kinds of work. The University of Hawaii has recently published four papers from the Volcano Observatory by Wilson, Jones, Powers and Wentworth on ground movement, seismology, soils and geography of Hawaii. The appointment of Professor Jaggard brings the resources of the Kilauea laboratories and their large accumulation of unstudied records within the orbit of a research university graduate school. This contact of National Park and University to make available the natural resources of the nation to scholarship and education, is along the lines of what other national parks are doing.

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10-23
(May 1929)

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii NATIONAL PARK

FILE NO.

MONTHLY REPORT

JUNE, 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge.

All Files should be returned promptly to the File Room: Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

July 10, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

Following is the report of activities for this park for June, 1936.

000 - General

There was no event of particular importance immediately affecting the park during the month though the island-wide three-day celebration of the 200th and 100th anniversaries of the births of Kings Kamehameha and Kalakaua respectively was especially well planned and carried out.

The park participated by combining with the Kau district in the preparation of a float characteristic of the volcano region depicting the volcano in action and by arranging for the participation of the CCC enrollees from the park as a marching unit. The volcano float was awarded first prize and was particularly effective and the CCC enrollees made a fine impression.

The Hilo parade was, if anything, more colorful and well conceived than that given two years ago for President Roosevelt's visit. In Honolulu the grand celebration there drew delegations from all the outside islands and the Haleakala section of the park was represented through a silversword plant carried by the Maui delegation in the parade and presented to Princess Kapiolani (daughter of Princess Kawananakoa and namesake of Kalakaua's queen). Note: The plant used was one that had already blossomed and its seeds matured. Park participation was at the request of the Order of Kamehameha which arranged for the celebration.

020 - General Weather Conditions

Total rainfall at headquarters was 3.32 inches, at the CCC camp 2.42 inches and on Haleakala .5 inch. As a result of the slight rainfall at Kipuka Puanu it was necessary to haul water for the horses in the park corral adjoining. Snow was still visible in patches on both Mauna Loa and Mauna Kea until June 20.

100 - Administration

110 - Status of Work

Final estimates for 1938 were mailed on June 5. Miss Anna E. Searle of Hilo entered on duty June 25 as temporary assistant clerk-telephone operator. General office work was kept fairly up to date during June.

120 - Inspections By

121 - Superintendent

The superintendent left for Maui on the 14th and returned on the 20th. While on Maui final inspection was made of the Haleakala observation station and other buildings completed by contractor E.J. Walsh (Project 663.14). Payment in full was recommended. Inspection was also made of trail work in progress under the CCC. The remainder of the month was spent at Kilauea headquarters with the exception of an overnight trip to Kona with Mr. Lorrin P. Thurston in connection with Hawaii Tourist Bureau business.

122 - Special Field Representatives of the National Park Service

Merel S. Sager, Associate Landscape Architect, who has been assigned to this park for the past 2½ years, left for the mainland on June 4, where he is to be stationed permanently.

124 - Other Interior Department Officers

Special Agents Rollins and VandenHeuvel, who had been inspecting the accounts of this office and of the Volcano House, left on June 4.

130 - Finance and Accounts

A financial report of the park will be found attached.

150 - Equipment and Supplies

A large supply of fire fighting equipment, consisting of hand tools, shovels, a telephone test set, etc., was received. Platform scales, two desk telephones and an electric drill were also received in June.

170 - Plans, Maps and Surveys

With the approval of the Field Division of Education in Berkeley, data is now being prepared for a relief map of the island of Hawaii, to be constructed in that office.

180 - Circulars, Placards, Publicity Bulletins, etc.

At the request of the editor of the Honolulu Advertiser, the superintendent prepared an article on the history of this section, for a special edition of the paper commemorating its 80th anniversary.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

With the assistance of four CCC enrollees the bridle paths and telephone line rights-of-way were cleared. The usual maintenance of roads, buildings, etc., was carried on. In the Haleakala section District Ranger Peck reports that in addition to the usual maintenance on the highway, considerable work was done by adding more material to several of the fills.

220 - Improvements

Assistant Naturalist Lamb and Chief Ranger Christ labeled plants in the vicinity of the park office and on the Kipuka Puaulu trail to assist visitors in identifying the different shrubs, etc.

230 - New Construction

Work was started in June on repairing the surface of the Bird Park-Uwekahuna road, which at the end of the month was 45% complete. This is being done under force account.

On June 14 the superintendent made final inspection of the observation station, checking station and comfort stations constructed by Mr. E.J. Walsh in the Haleakala section, and recommendation has been submitted for acceptance by the Service.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

Approval was given by the Department to the request of the Volcano House for special summer rates of \$25 per week and \$4.00 a day for groups of 20 or more.

400 - Flora, Fauna, and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Eldon English entered on duty June 1 as temporary ranger and Gordon Mackenzie on the 19th

In view of the several complaints listed in the Summary of Complaints received from the Director concerning roads and trails information signs the ranger staff was directed to make a study of the road and trail information sign system and report thereon.

420 - Museum Service

Although the number of persons contacted by the naturalist division on its regular schedule of activities was not very large, the fact that several large special groups spent considerable time in the area built up the number of contacts made to almost a thousand over May.

470 - Animals

About 300 goats were seen in the area surrounding the Mauna Loa section of the boundary fence. If a drive should be made it is thought that about 100 men could conduct such a drive in one day. Three places were found in the newly constructed fence where goats could crawl through; these have since been repaired.

500 - Use of Park Facilities by the Public510 - Increase or Decrease in Travel

Travel to the Kilauea section was 12,177 as compared with 19,359 for June, 1935. In the Haleakala section travel check showed 331 cars and 1655 visitors, an increase of 89% over the record for last month. This was due mainly to visits of members of the Hawaiian Evangelical Association, cadets from the Japanese training ship Nippon Maru, Girl and Boy Scouts.

530 - Visitors

June 4 - Lorrin P. Thurston, President Honolulu Advertiser, for 3 days.

June 6 - Forty three Naval Reserve officers from all the islands. They were given a short lecture and shown the motion picture of the Mauna Loa eruption.

June 19 - National Commander Murphy of the American Legion and party of 11, for one day.

June 24 - Robert H. Davis, World Correspondent of the New York Sun visited the Haleakala section. He was particularly interested in the silverswords.

June 27 and 28 - Admiral Neal and approximately 500 officers, NROTC cadets from the University of Washington and University of California, and men from the USS New York, USS Sicard and USS Broome. The naturalist gave a short lecture on board the New York the evening of the 27th.

600 - Protection610 - Police Protection

It was necessary to reprimand motorists at five different times for speeding through the park.

620 - Fire Protection

Because of the dryness of the weather during June it has been necessary to place "no smoking" signs at the entrances to Kipuka Puauu.

On June 21 there was a small grass fire on the golf course: cause, cigarette.

900 - Miscellaneous

While on Maui the superintendent was guest speaker at the regular meeting of the Maui Lions Club. Also he represented the park on the reviewing stand at the Kamehameha Day parade in Hilo, at the Chamber of Commerce luncheon for Admiral Neal and was a luncheon guest of the Naval Reserve Officers at the Volcano House and one of the speakers at the annual Hilo High School Alumni dinner.

The Hawaii Tourist Bureau on June 24 put on a special Hawaii Calls program from the Grand Hotel at Wailuku, Maui. Mr. Robert Davis, colorful news writer of the New York Sun, spoke over the nationwide hook-up and apparently was genuinely impressed by the beauty of Haleakala. His talk was most effective.

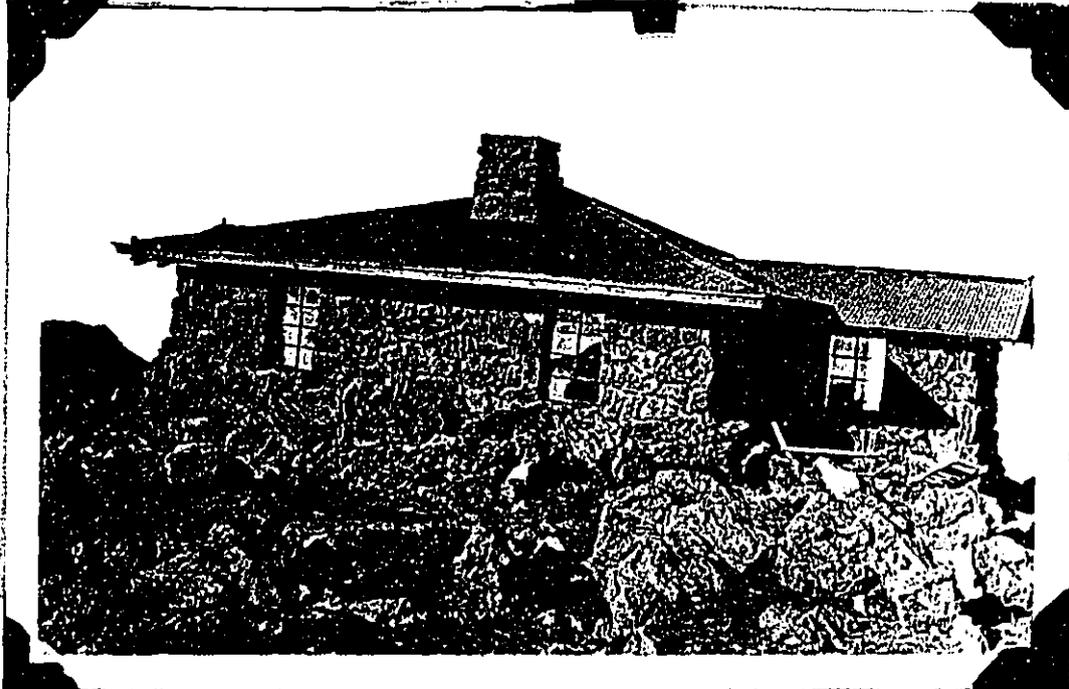
Very respectfully

Edward G. Wingate
Superintendent

ew

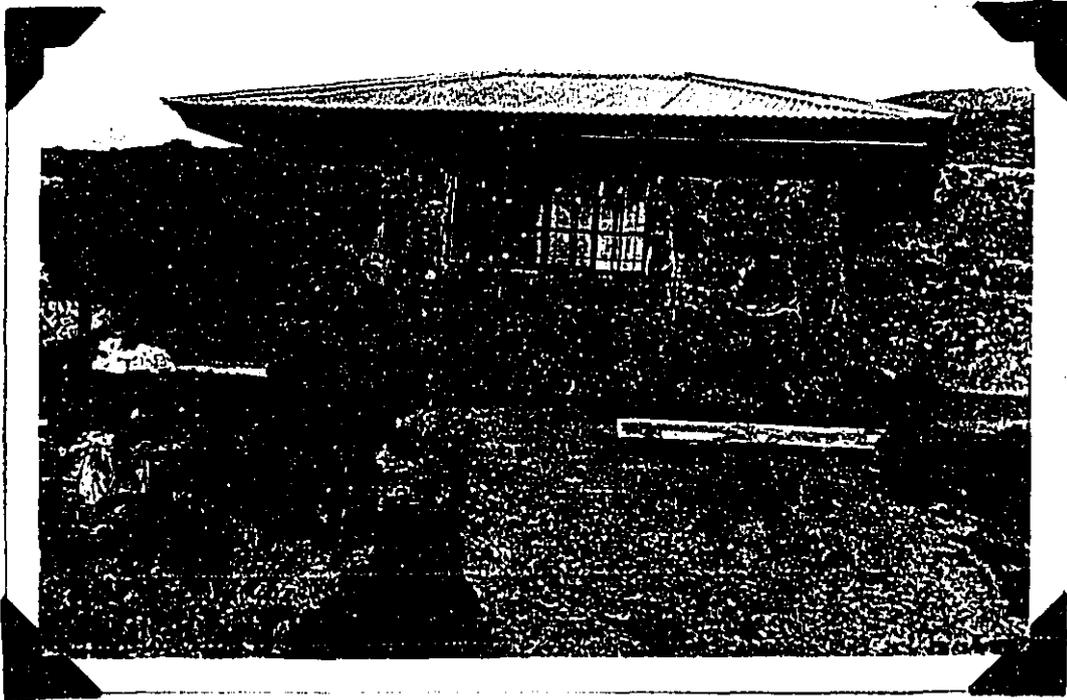


Corner of completed observation station, Haleakala, showing detail of stone masonry

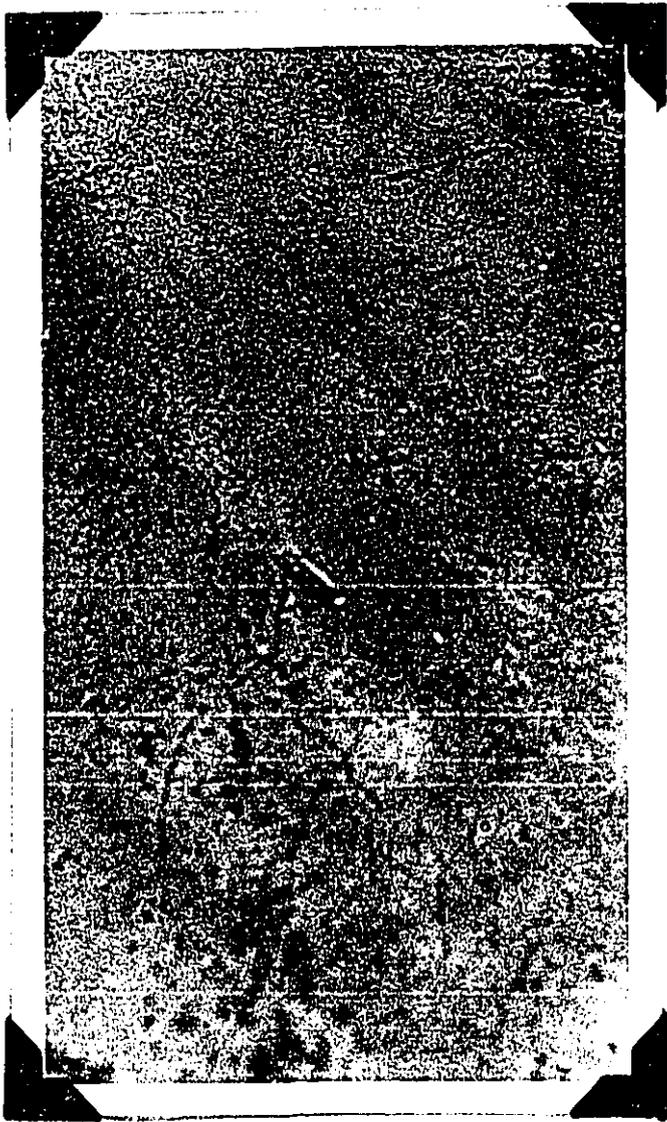


Completed observation station, note how stone work melts into surroundings

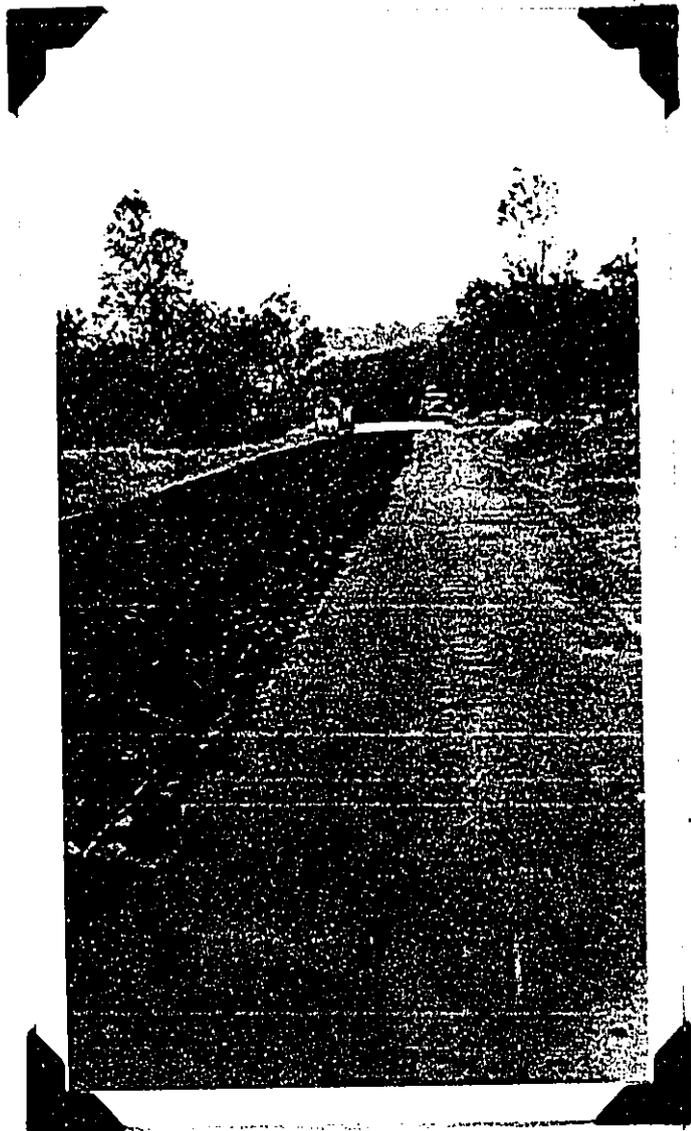
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Office and checking station, completed, Haleakala



Showing condition of surface of Uwekahuna-Bird Park road which necessitated immediate repairs. Surface riddled with cracks allowing moisture to seep through and chack-holes to develop



Portion of road after scarifying to depth of 2".



Blading surface of road after scarifying. Work carried forward only in dry weather and old material allowed to dry thoroughly



Applying bitumuls after working over old road material and adding layer of one-quarter inch crushed rock

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Spreading fines after application of bitumuls

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Associate Architect Mr. S. Sager, who has been transferred back to the Mainland. It is not believed the bottle he is carrying is milk.

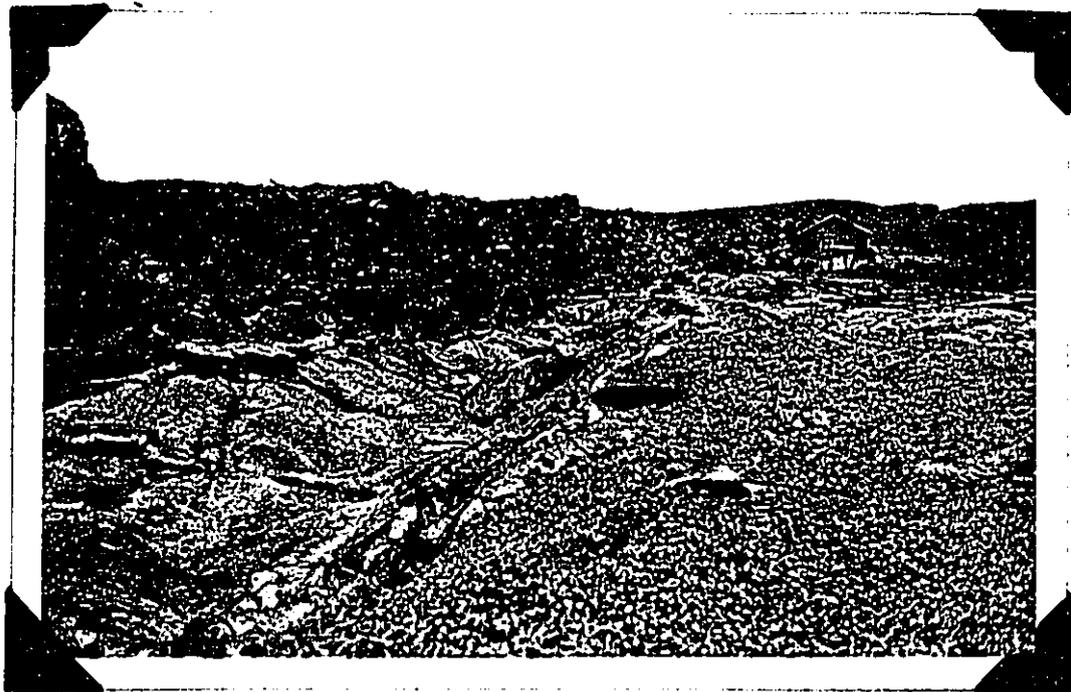
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Special Agents Vanden Henvel and Rollins and their wives on their departure from the Park. Left to right: Mr. Vanden Henvel, Mr. Rollins, Chief Clerk Higashida, Mrs. Rollins, Nick Lycurgus, Ass't. Mgr. Volcano House, Mrs. Vanden Henvel, Supt. Wingate.



Looking eastward along N.E. rift of Mauna Loa from a point near the summit. Note shelly pahoehoe lava of 1935 eruption. This flow covered over about $\frac{1}{2}$ mile of the trail to the summit.



Hua-o-Pele resthouse at summit of Mauna Loa narrowly escaped damage by 1935 lava flow: The smooth pahoehoe lava at the base of the rocky escarpment came within a few feet of the resthouse.

July 8, 1936

The Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory for June, 1936.

Dear Mr. Wingate:

The normal schedule of routine activities has been carried on at the Volcano Observatory during the month. This includes care of buildings and grounds by H. Yasunaka and Carpenter, A. Okuda. Regular records have been kept of daily activities and of observations of Mauna Loa and Kilauea. The usual daily trips to the seismograph stations and tilt stations for observations has been made. Daily meteorological records have been kept.

The Volcanologist Dr. Jaggard is still absent on a scientific expedition studying conditions at Montserrat for the Royal Society in London. In his absence H. Waasche, assistant Geologist has been writing weekly press reports and articles for the Volcano Letter.

H. Yasunaka and A. Okuda have thoroughly cleaned the grounds around the Observatory and the trail leading to Dr. Jaggard's residence. Okuda has built two ohia wood gateways segregating Dr. Jaggard's residence grounds from those of the Observatory. The grounds around the Geology laboratory have been cleaned up by cutting grass and cleaning away shrubby growth.

Mauna Loa and Kilauea have been quiet throughout the month. June 14, ended a week of exceptional quiet at Kilauea during which no rock slides from the walls of Halemauumanu were reported. This is the first time that such has been the case for over a year. Active sliding was again resumed the week of June 28. A party accompanied by Ranger Murray made a trip to the summit of Mauna Loa June 13 to 16. They report that there had been considerable activity in the N.E. section of Mokuaweoweo, the summit crater, during the November 1935 eruption. The trail, one half mile below the crater, was covered by a new lava flow. Fuming, though greatly diminished, was continuing at the source cones at the 1200 foot elevation and deposits of sulfur were reported large around their base. All trails and markers in the N.E. portion of Mokuaweoweo have been obliterated. The summit rest house was unharmed.

Seismic activity has been moderate and fairly consistent as shown by the numbers of disturbances for the successive weeks of 33, 32, 21 and 32. Of these one was a feeble quake on June 4, 26 very feeble shocks and the remainder was made up of tremors. Three minutes of continuous tremor began at 11:26 P.M. June 2. On the morning of June 30 at 3:59 twenty-eight minutes of continuous tremors began recording. Most of the disturbances are of Kilauea origin.

Crack measurements around Halemauau for the month showed very little change except number 46, located on the N.E. rim, which has consistently opened at an abnormal rate of 4.5 millimeters per week.

The Volcano Letter for February has been released and the Volcano Letter for March is now being edited. Material for the April number is in preparation.

Mr. F. Chase of the Department of Geology, Harvard University, visited the Park on June 1917. He spent considerable time studying at the Observatory and made a trip to the summit of Mauna Loa. He had been two years in Australian Gold Mining work and was returning to Cambridge to resume his duties there.

Pictures of areas around Halemauau, showing extent of recent sliding activities, were taken with the help of Park Naturalist Lamb, June 23.

Respectfully submitted,

Hugh H. Wassche
Assistant Geologist.

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STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

June, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	\$45,001.00	\$45,147.34	RE 146.34
45/6406	Forest Prot. & Fire Prev., 1935-'36	300.00	282.25	17.75
4X436.1	Roads & Trails, Nat'l Parks, Emer- gency Construction	40,870.65	32,045.20	8,825.45
4X391	Roads & Trails, Nat'l Parks, Emergency Construction Act 6/19/34	25,775.00	25,626.10	148.90
4-0X640.8	National Ind. Recovery, Int., Nat'l Parks, Roads & Trails Act 6/16/33	495,538.47	495,459.29	79.18
4-03/7640.14	Nat'l Ind. Recovery, Interior, Nat'l Park Service, 1933-'37	21,085.34	21,085.34	0.00
4-05/7678.14	Public Works Administration Allotment to Interior, Nat'l Park Service 1935-'37	9,303.00	9,050.46	252.54
45415	Hawaii National Park, 1935	36,040.00	34,785.95	1,254.05

10-157
(Dec., 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS, AND RESERVATIONS

TRAVEL REPORT

Hawaii

National Park for the month of

June,
~~May~~, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	11,262	121,434	18,372	142,352	-20,918	.147
Persons entering via other private transportation,	281	2,812	169	1,567	1,245	.794
Total persons entering via private transportation,	11,543	124,246	18,541	143,919	-19,673	.137

OTHER TRANSPORTATION:

Persons entering via ^{Hotel} stages,	634	5,635	818	4,614	1,021	.221
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	634	5,635	818	4,614	1,021	.221
GRAND TOTAL ALL VISITORS,	12,177	129,881	19,359	148,533	-18,652	.126

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii : National Park for the Month of June, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	0.00	0.00
Total,	0.00	0.00
Remitted,	0.00	0.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	450.00
Park revenues received last year to date,	475.00
INCREASE Decrease	25.00
Per cent of increase Decrease053

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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii

June, 1936

National Park for the Month of

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction New Halemauna Trail (F.A.)	80	0	0	
518 MK 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construction (F.A.)	100	0	8	
520.1 Haleakala Road, Post Construction (F.A.)	17 10	7 7	7 3	
521 Post Construction, Uwekahuna Bird Park Road (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing 10.643 miles cont. and contg.	100	0	0	
523 Uwekahuna Bird Park Road, surfacing treatment, 1.75 miles (F.A.)	80 45	35 40	40 5	
FP 633.14 For the erection of one Observation Station and Toilets; and one Office and Checking Station, Haleakala	100	0 5	0 45	
FP 677.14 Employee's Residence and connecting service lines for newly appointed U.S. Commissioner	0	0	0	

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii

June, 1936

..... National Park for the Month of

	This Month				This Month Last Year			
	Appointed		Non-Appointed		Appointed		Non-Appointed	
	Reg.	P.W.	Reg.	P.W.	Reg.	P.W.	Reg.	P.W.
Number of employees beginning of month	19	2	1	0	12	3	0	7
Number of additions.....	5	0	7	0	6	0	1	3
Total.....	24	2	8	0	18	3	1	10
Number of separations.....	0	2	0	0	0	0	0	0
Number of employees close of month.....	24	0	8	0	18	3	1	10
Number of promotions during month.....	0	0	0	0	0	0	0	0
Aggregate amount of annual leave taken	25	0	0	0	4	0	0	0
Aggregate amount of sick leave taken....	0	0	0	0	1	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0	0	0

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS AND RESERVATIONS

REPORT OF SALES OF PUBLICATIONS
HAWAII NATIONAL PARK

June, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	1,008	162.25
Received during month,	0	0.00
Total,	1,008	162.25
Sold during month,	6	2.00
On hand at close of month,	1,002	160.25

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,	
Received during month,	
Total,	
Sold during month,	
On hand at close of month,	

Cash on hand beginning of month,	9.42
Sales during month,	2.00
Total,	11.42
Remitted during month,	3.20
Balance,	8.22

REPORT OF THE CAMP DIRECTOR
TO THE
SUPERINTENDENT OF HAWAII NATIONAL PARK
FOR MONTH OF
JUNE 1936.

There were five boys discharged during the month for the following reasons,

- One for reasons of health
- Two to attend school
- Two to accept permanent Employment.

Replacements were furnished by the FERA office in Hilo for the Kilauea Camp and the same agency at Wailuki Maui, furnished replacements for the Haleakala Camp.

On June eleventh there was celebrated throughout the territory the One hundredth anniversary of the birth of Kalakaua and the One hundred fiftieth anniversary of the birth of Kamehameha I and both former Kings of Hawaii.

Our camp was invited by the committee to take part in the parade in Hilo celebrating the event. The group was instructed in the rudiments of marching by their leaders for about thirty days prior to the day and had learned sufficiently which foot was which so that in the line they elicited, Very favorable comments from the onlookers. They presented a very neat, healthy, snappy appearance and in the opinion of those on the reviewing stand out did the National Guard of Hawaii also in line.

The painting of the camp buildings, excepting the garage and wood shed, was completed during the month and our camp now presents a very neat appearance. The painting was done by three enrollees. The color scheme follows all park buildings. Green roof, brown side walls, light buff trim. The buildings now blend into the landscape and are inconspicuous when viewed from the Headquarters and Hotel area.

The typhoid patient who had been confined in the Hilo Memorial Hospital for over three months was returned to camp, June 4th where he will pass a convalescent period before returning to work. By the end of the month he had gained 35 lbs. and began to look more like himself.

Besides the regular, Catholic and Protestant religious services the camp had the pleasure of listening to a Sunday morning talk by Chaplain Capt. Jaeger U.S.A. who was visiting the Kilauea Military Camp. The Chaplains experience and work amongst the soldiers flavored his talk in a real he-man way and was much appreciated by the enrollees.

Volley Ball and Horseshoes are the most popular recreational activities in camp daily. On Sundays Base ball is indulged in at this season and while only a few actually play almost the entire camp follows the team and makes a lively rooting section.

The weather was good during the month. It was a little too dry on the slopes of Mauna Loa where the truck trail Construction is going on.

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All projects are progressing satisfactorily and unless something unforeseen happens we will finish what we set out to do during this period.

Respectfully Submitted

Bertram G. Rivenburgh.
Camp Director, ECW HMP.

REPORT OF PROJECT SUPERINTENDENT W. J. STEPHENS,
ECW HNP TO THE SUPERINTENDENT HAWAII NATIONAL
PARK, FOR THE MONTH ENDING JUNE 30, 1936.

During the month, 3557 man days were worked on the following approved projects.

ECW#7	#	131	Fencing boundary	780	man days
	#	202	Truck trail	1600	man days
	#	1004	Eradicating of exotics	160	man days
	#	207	Trails, horse (Maui)	617	man days
	#	204	Roads & trail maintenance	400	man days
			Total	3557	

The section of the boundary fence to the end of the proposed truck trail was completed and Foreman Simeona tied into the line from Six Tanks being constructed under the supervision of Foreman Haina. Both crews will be moved back to the main camp on July 1st. The line from Ainahou Ranch road to Napau will then be started. The clearing and right of way being already completed. This will leave the spur camp at 6000 feet vacant and it is proposed to move in a crew of 30 enrollees, 1 Foreman, 1 leader and cook to work on the truck trail. It will then be possible to work the one compressor on a two shift basis, using all the daylight time possible.

One mile of truck trail was completed during the month and .3 miles partially completed, in so far as the excavation is concerned. The latter through pahoehoe, all of which necessitated drilling and blasting.

10 miles of trail were cleaned of brush, holes filled and fills dressed up. A small crew was kept on the removal of exotics.

The Maui camp completed .4 miles of horse trail this month and Senior Foreman Olson reports everything in camp and on the work satisfactory.

Respectfully, submitted,



W. J. Stephens,
Camp Project Superintendent.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
June 29, 1936

The Superintendent,
Thru The Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

Check of travel shows 331 cars and 1655 visitors in the Haleakala Section during the month of June. An increase of 89% over the record for last month is shown. This increase is due mainly to visits of members of the Hawaiian Evangelical Association, cadets from the Japanese training ship Nippon Maru, Girl Scouts and Boy Scouts.

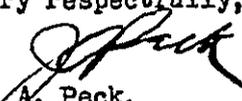
The observatory, toilets and checking station are all practically completed.

The Halemau trail, under construction by the ECW is approximately 80% completed.

The narrative report, Rangers monthly report and the weather report for this month are enclosed. Clipping from the Maui News also enclosed.

One roll of exposed film will follow by next mail.

Very respectfully,


J. A. Peck,
District Ranger.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
June 29, 1936

The Superintendent,
Thru The Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of June, 1936, is respectfully submitted:

000 General.

010 Introduction.

The visit to the island of Maui of the Hawaiian Evangelical Association, the Japanese training ship Nippon Maru, Boy Scouts and Girl Scouts, during this month, greatly increased our travel record, as a large percentage of these people visited Haleakala while they were here.

020 General Weather Conditions.

Precipitation at White Hill during the month, amounted to .50 inches. The prevailing wind direction was from the northeast. There were 5 clear days during the month.

100 Administrative.

110 Status of Work.

Weekly reports were kept up and purchases of supplies for maintenance in the park area and operation of trucks, were carried on. Frequent patrols and inspections were made.

120 Park Inspections by

121 Superintendent.

The Haleakala Section was inspected by Superintendent E. G. Wingate
June 15 - 18.

123 National Park Service Officers.

The Haleakala Section was inspected by Chief Clerk James Higashida
June 11 - 12.

150 Equipment and Supplies.

Orders of miscellaneous hand tools were received this month.

200 Maintenance, Improvement and New Construction.

210 Maintenance.

In addition to the usual maintenance work on the road, including lining of drainways to prevent erosion; considerable work was done in adding more material to several of the fills.

220 Improvements.

Several hundred feet more of the road banks have been covered with soil to promote the growth of vegetation for erosion control.

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and Guide Service.

Park visitors were contacted whenever possible by the ranger in charge, and all required information and service given them.

500 Use of Park Facilities by the Public.

510 Increase or Decrease in Travel.

Travel check shows 331 cars and 1655 visitors were in the Haleakala Section during the month of June. An increase of 89% over the record for last month is shown. This increase is due mainly to visits of members of the Hawaiian Evangelical Association, cadets from the Japanese training ship Nippon Maru, Girl Scouts and Boy Scouts.

530 Visitors.

Mr. Ray Murphy, National Commander of the American Legion, visited the Haleakala Section June 20. His particular interest- the crater and the silver-swords.

Mr. Robert H. Davis, World Correspondent of the New York Sun, visited this section of the park, June 24. His particular interest- the silver-swords.

600 Protection.

610 Police Protection.

Frequent patrols and inspections were made during the month. No arrests were made.

Very respectfully,


J. A. Peck,
District Ranger.

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005
11

*Robert
G.W.*

July 6, 1936

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

The following is the report of the activities of the ranger department during the month of June.

000 - General

The ranger department activities were the same as heretofore, including assisting the naturalist division, maintenance of telephone lines, patrols, painting center traffic lines on roads, etc.

020 - General Weather Conditions

Total rainfall at headquarters was 3.32 inches at the CCC camp 2.42 inches and on Haleakala .5 inch. As a result of the slight rainfall at Bird Park it was necessary to haul water for the horses corraled there.

100 - Administration

110 - Status of Work

All work was current during the month, both at Kilauea and Haleakala. In the Haleakala section weekly reports were kept and purchases of supplies for maintenance in the park area and operation of trucks were made. Frequent patrols and inspections were made.

120 - Park Inspections

Regular inspections were made of work in progress by the chief ranger here and by District Ranger Peck at Haleakala. At Kilauea the chief ranger made trips to Hiline Pali, Napau Crater and the Mauna Loa truck trail. Two trips were made with Assistant Naturalist Lamb to survey forest conditions.

121 - Superintendent

The Haleakala section was inspected by the chief clerk and superintendent.

170 - Plans, Maps and Surveys

Nothing has been done on the boundary survey during June.

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Work was started in gathering material for a relief map for the island of Hawaii, to be prepared in Ansel Hall's office.

A survey of trails is being made by Ranger Murray to comply with the new trail map.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

With the assistance of four CCC enrollees the bridle paths and telephone line rights-of-way were cleared. The usual maintenance of roads, buildings etc., was carried on. In the Haleakala section District Ranger Peck reports that in addition to the usual maintenance on the highway, considerable work was done by adding more material to several of the fills.

220 - Improvements

Assistant Naturalist Lamb and the chief ranger labeled plants in the vicinity of the park office and on the Bird Park trail to assist visitors in identifying the different plants, shrubs, etc.

230 - New Construction

Work was started in June on resurfacing the Bird Park-Uwekahuna road. This is being done under force account.

The observatory, checking station and toilets in the Haleakala section were practically completed by the end of June.

The Halemau-u trail, is approximately 80% completed

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Eldon English entered on duty June 1 as temporary ranger and Gordon Mackenzie on the 19th.

On Haleakala District Ranger contacted a great percentage of the visitors to that section and all required information and service ^{was} given.

470 - Animals

About 300 goats were seen in the area surrounding the Mauna Loa section of the boundary fence. If a drive should be made I think the best place for the corral would be at Six Tanks, since that is the narrowest place. It is estimated 100 men could ~~construct a corral in a day~~. Three places were found in the fence where goats could get through. These have been repaired.

Conduct the drive in one day.

500 - Use of Park Facilities by the Public510 - Increase or Decrease in Travel

Travel to Kilauea was 19,359 as compared with 19,359 for June, 1935. In the Haleakala section travel check showed 331 cars and 1655 visitors, an increase of 89% over the record for last month. This increase was due mainly to visits of members of the Hawaiian Evangelical Association, cadets from the Japanese training ship, Girl and Boy Scouts.

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June 4 - Lorrin P. Thurston, President Honolulu Advertiser for three days.

June 19 - National Commander Murphy of the American Legion, for one day.

June 27 and 28, - Approximately 500 officers, NROTC and men from the USS New York, USS Sicard and USS Broome

600 - Protection610 - Police Protection

It was necessary to reprimand motorists at three different times for speeding through the park. + 2 by Royal

620 - Fire Protection

Because of the dryness of the weather during June it has been necessary to place a "no smoking" sign in the Bird Park.

On June 21 there was a small grass fire on the golf course. Cause: cigarette.

900 - Miscellaneous

Ranger Williams was on leave for the greater part of the month.

Very respectfully

Joseph H. Christ
Joseph H. Christ
Chief Ranger

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*cc
for Mr. [unclear]*

July 2, 1936

The Superintendent,
Hawaii National Park,
Hawaii

Dear Sir:

I hereby submit report of the regular check
of hand size fire extinguishers of the chlorine type.

Of the twenty five extinguishers distributed
throughout the Park buildings, one was found three quarters
empty and four were found one quarter empty.

Of the fourteen extinguishers located in the
cars and trucks, one was empty, one was one half full and two
were one quarter empty.

The one quart hand extinguishers are checked
and filled every three months, every six months they are operated
to check if they are in good working condition.

The two and one half gal. soda and acid type
of extinguishers are recharged once a year, Jan. of each year.

Report submitted by,
F. F. Fischer,

F. F. Fischer
Mechanic.

Robert [unclear]

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*cc
Wingate*

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

July 2, 1936

Memorandum to Superintendent Edward G. Wingate.

The following is a report of work accomplished under my direction during the month of June, 1936.

1. Most of the month was spent in hauling material and supplies and reconstructing Bird Park road. This job is now 45% complete.
2. Hauled garbage from Quarters area, eight times.
3. Cleaned gutters of all houses.
4. Repaired plumbing, Quarters No. 15 and 9.
5. Built two small houses for fire tools.
6. Repaired small holes on main road.
7. Pumped water from reservoir to house tanks, Quarters No. 1, 10, 11 and 12.

R. R. Craik
R. R. Craik
Foreman

Wingate

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CW
Monthly Report

July 1, 1936.

The Superintendent,
Hawaii National Park,
Hawaii.

Dear Sir:

The following is the report of my time by
hours, for the month of June 1936.

Work on cars and trucks		105 Hours
Pump water as follows,		
High tank	21,000 Gal.	
Park res. # I	6,500 "	
Corral	3,600 "	
Res. # II	2,500 "	
E. C. W. fence camp I	200 "	
Total	34,800 Gal.	II "
Repair traffic counter		9 "
Fill car batteries		6 "
Repair telephones		6 "
Check in gasoline		5 "
Transfer gasoline to storage		5 "
Check fire extinguishers		4 "
Solder kerosene and gasoline cans		3 "
Transfer kerosene to storage tank		3 "
Repair lawn mower		2 "
Repair road grader		2 "
Clean gasoline tank (Ser. sta.)		2 "
Repair steel chair (Office)		2 "
Repair Bitumuls pump		2 "
Check pulleys for Observatory machine shop		2 "
Repair radiant heater Res. # I		2 "
Assemble platform scales (Warehouse)		2 "
Check in kerosene		I "
Install work table (Warehouse)		I "
Repair $\frac{3}{4}$ in. water hose		I "
Clean lower garage		I "
Return Delco light plant to Mil. Camp		I "
Repair drain pipes Res. # I		I "
Repair Elec. wiring in warehouse		I "
Repair clothes line Res. # 6		I "
Repair road roller (Bird park)		I "
Fire hose		I "
Repair can for spreading bitumuls		I "
Total		164 Hours.

Submitted by,
F. F. Fischer
F. F. Fischer
Mechanic.

Walter Egan

10-23
(May 1929)
0-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii NATIONAL PARK

FILE NO.

MONTHLY REPORT

MAY, 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge.
All Files should be returned promptly to the File Room:
Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

June 6, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows the monthly report of activities of this park for the month of May, 1936

000 - General

At Kilauea headquarters precipitation totaled 4.73 inches, at the CCC camp 2.96 inches and at Haleakala .2 inch. Snow was still visible in patches above the 12,000 foot level on both Mauna Loa and Mauna Kea.

100 - Administration

110 - Status of Work

May was an unusually busy month, most of the time being occupied with road and six-year programs, final estimates, etc. The major and minor road program was mailed on the 3rd, the six-year program on the 6th and the fire prevention and forest protection estimates for 1938 on the 9th. The bibliography of the park is now being assembled and typed.

120 - Inspections By:

121 - Superintendent

On May 9, in company with Special Agent Vanden Heuvel, an inspection was made of the CCC camp and the Mauna Loa truck trail: On May 11, the Volcano House buildings, etc. On May 14, in company with Special Agent Rollins, Chief Clerk Higashida and Mesdames Rollins and Vanden Heuvel, a part of the proposed Kalapana addition was visited. Several trips to Hilo were made in connection with an appraisal of the Volcano House property by a special board. Frequent inspections of the fire pit in Kilauea Crater were made. On May 20 the chief ranger was requested to have a thorough study made of the park's road and trail information sign system.

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122 - Special Field Representatives of the National Park Service

Meryl S. Sager, Associate Landscape Architect, returned from a two months' trip to the Orient on the 23rd, and on the 28th and 29th inspected the Haleakala observation and checking stations.

124 - Other Interior Department Officers

Dunbar Burdick, FWA special agent, with headquarters in Honolulu, arrived on the 26th and departed on the 28th. During his stay here he assisted special agents Vanden Heuvel and Rollins in inspecting the books, etc., of the Volcano House, also some of the park accounts.

130 - Finance and Accounts

An itemized statement will be found at the back of this report

150 - Equipment and Supplies

One riding horse for the Kilauea section and one precise level were received during the month.

170 - Plans, Maps and Surveys

The revised master plan for Hawaii, in accordance with the six-year program for 1938-43, was mailed on the 16th.

Three relief models of the Haleakala section were received on the 30th. One is to be used by the Tourist Bureau in their office in Honolulu, one is for the Haleakala observation station and one for this office.

180 - Circulars, Placards, Publicity, etc.

During the period the search for the soldier was being made the park indirectly received some publicity. All the island newspapers carried stories regarding this hunt, as well as the radio stations making announcements. It is understood that coast radio stations also made reference to the search, in their news announcements, that it was being undertaken by the Kilauea Military Camp staff, CCC enrollees and park rangers.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

The usual maintenance of roads, trails and buildings was carried on during May. The Kilauea Iki, Sandalwood and Byron Ledge trails were cleared of overgrowing vegetation and resurfaced with gravel. In the Haleakala section District Ranger Peck reports that considerable work was done in spreading soil on the road banks to promote growth of grass.

220 - Improvements

Word was received on May 20 that an allotment of \$7500 had been set up for repairing the surface on the Bird Park-Uwekahuna road.

230 - New Construction

The observation station, checking station and toilets being constructed by Mr. E.J. Walsh at Haleakala, were 95% complete at the end of May.

The job of completing the widening of the new Halemau-u trail by the Haleakala CCC was approximately 65% complete.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

George Lycargus, Manager of the Volcano House, returned from a six months' trip to his native Greece, also Washington and San Francisco, on the 23rd.

Since the special agents now in the park had been directed to have an appraisal made of the hotel property the superintendent appointed an appraisal board for the purpose and was able to secure the cooperation of the local tax office, which donated the service of its employees. The work was nearly complete at the end of the month.

320 - Cooperating Governmental Agencies

On May 23 we were called on by the commanding officer of the Kilauea Military Camp to assist in a search for one of the visiting soldiers who became lost while hiking in the vicinity of Bird Park. This search lasted until the evening of the 27th. On the morning of the 28th we received word that he had been located by Territorial Forester L.W. Bryan, who was led to the spot in response to a dream, and a CCC trail crew on the Kaumana-Puu Oo trail! During the week the soldier was lost, every available man from the military camp, as well as park rangers and laborers, joined in the search and for one day all the CCC enrollees of the park were employed combing the forest north of the volcano.

360 - Donations, Accessions, etc.

Assistant Geologist Waesche donated several lava specimens from Japanese volcanoes, which he had collected while on his trip to the Orient. These include specimens from the 1914 flow on the western slope of Sakurajima, pumice of the 1914 eruption of Sakurajima, lava picked up near the active crater of Mt. Aso in Aso National Park, a small relief model of Mt. Aso and a bomb from the summit of Mt. Fuji. This bomb is a sister rock obtained at the same time from the same place as the one which was given by the Japanese National Park Association to Mt. Rainier National Park as a part of an exchange of rocks in recognition of friendly relations between the United States and Japan. This exhibit will be especially appropriate since a large percent of the people visiting the museum are Japanese.

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400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Some progress was made on the Natural History Bulletin by the assistant park naturalist, but it is being held up pending word from the Director's office concerning the charge, if any, to be made for it.

420 - Museum Service

Even though the number of contacts made during the month is considerably below those made in April, it constitutes the third time this year that a new high record for the month has been made. The drop-off from April's high number was due to the absence of outside lectures.

490 - Phenomena

A report of the activities of the Volcano Observatory will be found at the back.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel to Kilauea amounted to 14,227, one more person than for May, 1935, namely 14,226. District Ranger Peck reports the estimated travel to Haleakala as 875, which is an increase of 22% over last month.

530 - Visitors

Two world cruise boats, the USS Reliance, with 246 guests and SS Franconia, with 300 guests, visited Hilo on the 3rd and 8th respectively. Their passengers and crews were brought to the park for the day, having luncheon at the Volcano House.

On the 17th, the superintendent took 25 members of the Society of American Citizens of Japanese Ancestry on an all-day trip through the park.

600 - Protection

610 - Police Protection

On the 26th approval was received from the Secretary of the appointments of Chief Ranger Christ and Rangers Doust, Murray and Williams as deputy sheriffs for the Kau and Puna districts, to serve without compensation.

620 - Fire Protection

On the 11th a fire drill was held with satisfactory results.

640 - Destruction of Predatory Animals

Four pigs, which had been creating widespread damage in Bird Park, were destroyed by Ranger Williams. Mr. A.M. Brown, of the Keaouhou Ranch, had been warned repeatedly that if he had any pigs in that area to remove them, as all pigs found there in the future would be destroyed. After these pigs had been shot Mr. Brown informed us they were his. However, the one pig which charged at Williams and another man, certainly didn't behave in a very domesticated manner.

900 - Miscellaneous

On the 11th the entire Territory was shocked to learn of the sudden death of Secretary Arthur E. Greene.

In order to get a cross section of opinion on the matter of tourist travel to this island and the national park, and to assist the special agents in their study of the local hotel set-up, the superintendent arranged a meeting with the chamber of commerce, tourists and national park committees. Agent Vanden Heuvel attended and his questions evoked considerable frank discussion.

On the 14th the Federal Business Association held its regular meeting at the Volcano House. The superintendent was again elected president to fill the vacancy left by the withdrawal from federal service of former president Frank Cody. Miss Constance Whitney, park clerk-stenographer, was elected secretary.

On May 18 the superintendent entertained as his guests for the day the officers and directors of the Society of American Citizens of Japanese Ancestry and its Women's Auxiliary. About 25 members were present for the park trip, special museum lecture and at luncheon, at which the manager of the Volcano House was co-host.

Very respectfully

Edward G. Wingate
Superintendent

CW

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HAWAII NATIONAL PARK
REPORT OF THE VOLCANO OBSERVATORY FOR MAY, 1935

Routine work at the Volcano Observatory was ably carried on during the month by H. Yasunaka, who at times was assisted by Asao Okuda, carpenter and mechanic, both Volcano Research Association employees. This work consisted of caring for seismographs, changing of records, recording meteorological data, recording tilt at clinoscope stations and caring for the Observatory grounds, buildings and equipment.

In the absence of both Volcanologist T.A. Jaggar and Assistant Geologist Waesche, weekly reports were written by Superintendent Wingate. Dr. Jaggar is on an expedition to the island of Montserrat in the West Indies by invitation of the Royal Society of London. He is studying a volcano on that island which has given indications of a possible eruption at an early date. H.H. Waesche was absent on annual leave from the park on a trip to the Orient, but returned to resume his regular duties at the Observatory May 23.

M.S. Sager, Associate Landscape Architect of the National Park Service accompanied Mr. Waesche on the trip to the Orient. An inspection of Japanese national parks was made including visits to the volcanic parks of Aso, Unsen and Fuji. Other parks visited were Inland Sea and Nikko. A visit was made to the national park headquarters in the Home Office Building in Tokyo where members of the administrative staff were met. Dr. Tamura of the Japanese National Parks presented Mr. Waesche with a bomb from the summit of Mt. Fuji. This is a "sister rock" to the one presented to Ambassador Drew, in ceremonies in Tokyo, as a present from the Japanese national parks to those of the United States. The Mt. Rainier rock was part of the exchange of courtesies of this nature between Mt. Rainier Natl. Park and the Japanese National Parks. Sakurajima Volcano was visited. Inspection was made of the seismological institute of Tokyo Imperial University as well as the seismological research department of the same institution. In addition, to Japan, China, Manchukuo and Korea were visited.

Kilauea and Mauna Loa have both been quiet throughout the month. As late as May 16 fume was reported seen at the rift cones of the 1935 eruption of Mauna Loa. Sulphur deposits around the cones were said to be increasing. No fume has been noticed the latter part of the month. Fuming at the sulphur spots in Halemauuan continues about the same. Slides have been few and small.

Seismic activity has been comparatively moderate. There were feeble earthquakes May 2, 7 and 26, none of which were reported felt. All other disturbances were classed as very feeble or as tremors. Spells of continuous tremor of 5 minutes duration were reported for May and 9. Most of the disturbances for the month originated in the Kilauea area.

Crack measurements showed abnormal opening of #45 on the NE rim of Halemauuan near the point where a large section of the rim disappeared into the pit in March.

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Addition was made to the Observatory equipment of a Leitz precise level.

The Volcano Letters for January and February have gone to press and the March issue is in preparation.

Respectfully submitted

Hugh H. Woesche
Assistant Geologist

HW/ov



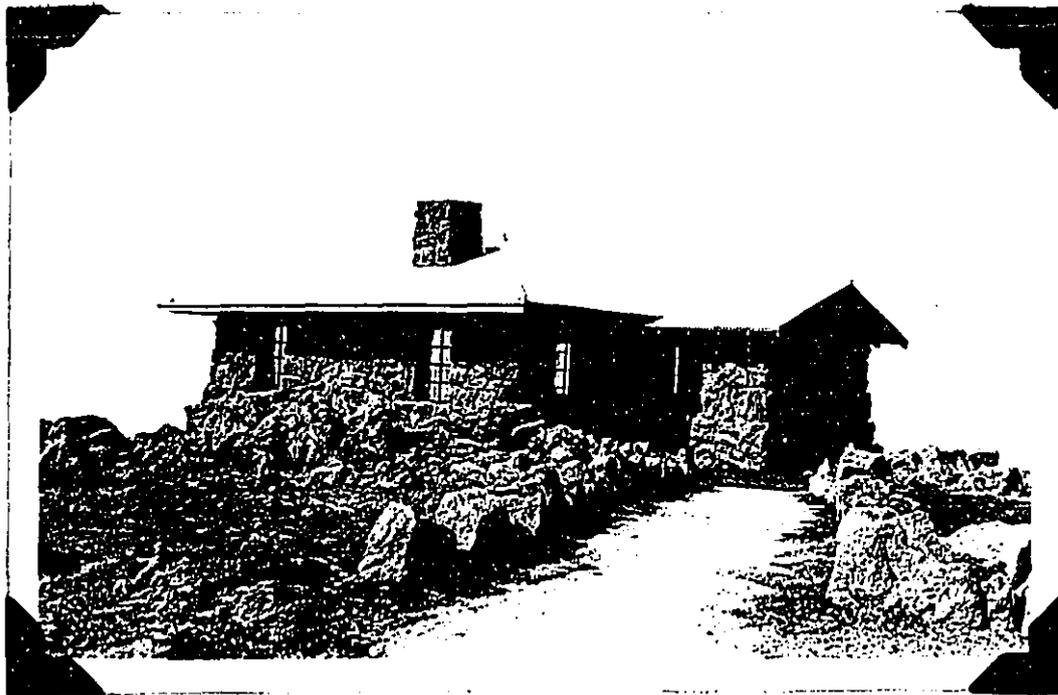
Officers and Directors Society of American Citizens of Japanese Ancestry, guests of Superintendent and Volcano House for a day in the park. Special Agents Rollins and Vanden Heuvel and their wives posed with the group.



Perhaps this is why Special Agents Rollins and Vanden Heuvel remained longer than they expected to in the park. Agent Rollins at Kalapana.

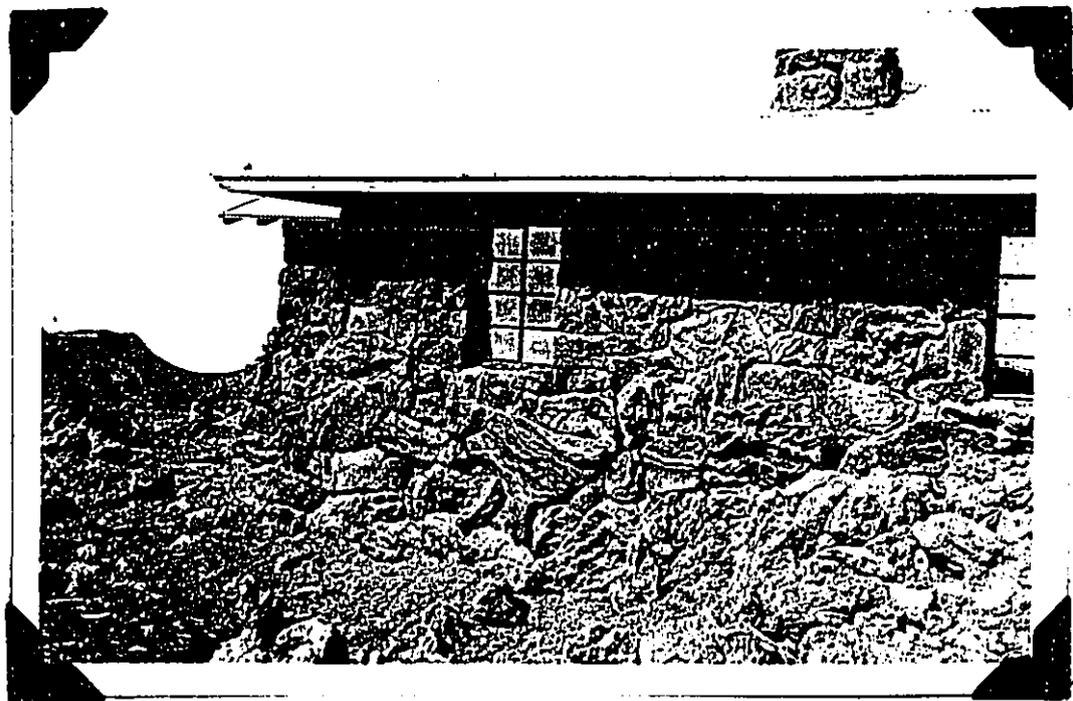


Haleakala Observation Station nearing completion. View toward side fronting on crater.



Haleakala Observation Station - exterior completed except for steel doors and painting.

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Detail of pleasing stone work on Haleakala Observation Station.

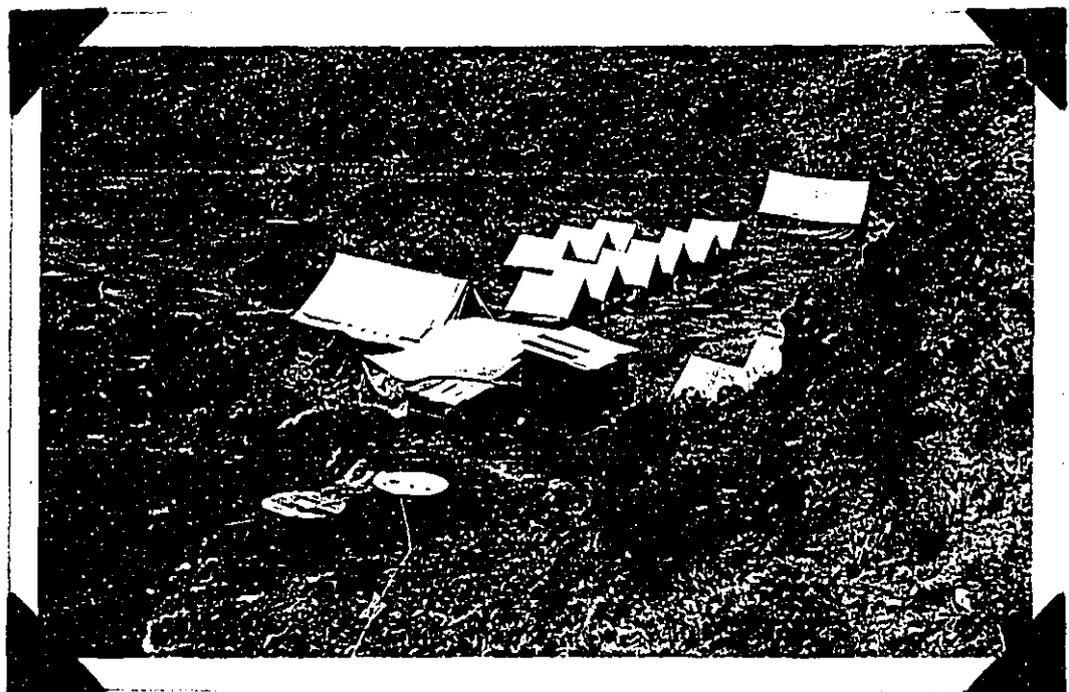


Comfort Stations Haleakala

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Office and Checking Station, Haleakala Section nearing completion.



CCC Camp Haleakala - Holua Spring

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June 9, 1936

REPORT OF THE CAMP DIRECTOR, E.C.W. TO THE SUPERINTENDENT, HAWAII NATIONAL PARK, FOR
THE MONTH OF MAY, 1936.

During the month, 15 boys were discharged as follows - Nine from the Kilauea
Camp.

- 1 - For reasons of health.
- 4 - To accept permanent employment.
- 1 - Desertion.
- 2 - Repeated violation of Camp rules.
- 1 - To return to school.

Six boys were discharged from the Haleakala Section Camp, all to accept permanent employment. Replacements were furnished both camps by the F.E.R.A. and we closed the month with a full quota.

Satisfactory progress was made on all work projects and work was begun on painting the camp buildings.

During the month a private in the U. S. Army, who was visiting at the Kilauea Military Camp, became lost on the slopes of Mauna Loa. About seventy enrollees who are normally employed on the Mauna Loa Truck Trail Project, assisted the Officers and men of the Kilauea Military Camp and the National Park Rangers on two different days in searching for the missing man.

Herman Rose, the enrollee who has been suffering with typhoid for the past ten or more weeks is progressing satisfactorily and we expect he will be returned to the camp early in June where he will pass his convalescence before returning to work. The boy, tho' very weak, seems in good spirits and is anticipating being once more in camp with his fellow enrollees. He is deeply appreciative of all that the Government has done for him as well as Camp Physician, Dr. Phillips. He considers he owes his life to him and those enrollees who volunteered blood for the eleven transfusions which it was necessary to give him.

The usual recreational activities were indulged in during the month. Volley Ball, Basket Ball, Horse Shoes, etc. Base-ball on Sundays, and talkies once a week on Friday nights.

The usual Catholic services were held on the Second Sunday and Protestant on the fourth Sunday in the month.

Respectfully submitted,

Bertram G. Rivenburgh,
Camp Director, ECW HMP.

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June 9, 1936

REPORT OF PROJECT SUPT., W. J. STEPHENS, TO THE SUPERINTENDENT, HAWAII NATIONAL PARK,
FOR THE MONTH ENDING MAY 31, 1936.

During the month, 3391 man days were worked on the following projects.

E.C.W. 7 #131	Fencing Boundary	800
202	Truck Trail	1751
1004	Eradication of exotics, etc.	105
207	Trails, Horse (Maui)	630
Emergency . . . 1002	Search for missing person, Kilauea Section	105

The boundary fence project was considerably advanced during the latter part of the month. Foreman Simeona, with cook and 25 enrollees, established camp on May 18th, about 2 miles below the Kepuka Kulalio Shelter, within easy access of the truck trail. This crew is in addition to Foreman Eaina's crew of 22 men who are still working towards the shelter on the Keauhou Ranch side. 1250 rods were completed and right of way cleared and posts set on 950 rods. Foreman Simeona is working under extreme difficulty across aa and has made excellent progress.

On the truck trail (Mauna Loa) .8 miles were completed and one mile of preliminary excavation also accomplished.

It was necessary to do some patching on the work previously reported completed, as the long spell of dry weather and the heavy traffic had started the gravel surface to unravelling. Addition of some fine material and two days of damp weather has made quite an improvement and the surface gravel is now binding in.

105 man days were used on the removal of blackberry, primrose and a red sorrel, that had started a vigorous growth, but which appears to be now under control. The Bird Park clean up was completed and surprisingly little morning glory was found.

Senior Foreman Olson, reports .6 miles of horse trail completed to date and conditions on the job and in camp satisfactory.

The search for Pvt. Dishl of the Kilauea Military Camp, took 105 man days, though our part was thorough but unsuccessful.

The weather was generally fine, and no time was lost on that account.

Respectfully submitted,


W. J. Stephens,
Project Superintendent,
ECW. HNP.

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STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

May, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	\$45,001.00	\$44,406.40	\$594.60
45/6406	Forest Prot. & Fire Prev., 1935-'36	300.00	49.81	250.19
4X436.1	Roads & Trails, Nat'l Parks, Emergency Construction	40,870.65	30,790.16	10,080.49
4X391	Roads & Trails, Nat'l Parks, Emergency Construction Act 6/19/34	25,775.00	25,570.82	204.18
4-0X640.8	National Ind. Recovery, Int., Nat'l Parks, Roads & Trails Act 6/16/33	495,538.47	495,459.29	79.18
4-03/7640.14	Nat'l Ind. Recovery, Interior, Nat'l Park Service, 1933-37	21,085.34	21,085.34	0.00
4-05/7678.14	Public Works Administration Allotment to Interior, Nat'l Park Service 1935-'37	9,303.00	8,993.90	309.10
45415	Hawaii National Park, 1935	36,040.00	34,785.95	1,254.05

10-157
(Dec., 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS, AND RESERVATIONS

TRAVEL REPORT

Hawaii

May, 1936

..... National Park for the month of

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	12,913	110,172	13,530	123,980	-13,808	.111
Persons entering via other private transportation,	347	2,531	244	1,398	1,133	.810
Total persons entering via private transportation,	13,260	112,703	13,774	125,378	-12,675	.101

OTHER TRANSPORTATION:

Persons entering via ^{Hotel} Stages ,	967	5,001	652	3,796	1,205	.317
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	967	5,001	652	3,796	1,205	.317
GRAND TOTAL ALL VISITORS,	14,227	117,704	14,426	129,174	-11,470	.089

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of May, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	100.00	125.00
Total,	100.00	125.00
Remitted,	100.00	125.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	450.00
Park revenues received last year to date,	475.00
Increase Decrease,	25.00
Per cent of increase decrease,053

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of May, 1936

	This Month				This Month Last Year			
	Appointed		Non-Appointed		Appointed		Non-Appointed	
	REG	PW	REG	PW	REG	PW	REG	PW
Number of employees beginning of month	17	4	1	0	12	2	0	7
Number of additions.....	2	0	0	0	0	1	0	1
Total.....	19	4	1	0	12	3	0	8
Number of separations.....	0	2	0	0	0	0	0	1
Number of employees close of month.....	19	2	1	0	12	3	0	7
Number of promotions during month.....	0	0	0	0	0	0	0	0
Aggregate amount of annual leave taken	32 1/2	0	0	0	5 1/2	0	0	0
Aggregate amount of sick leave taken....	6 1/2	0	0	0	1 7/8	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0	0	0

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS AND RESERVATIONS

REPORT OF SALES OF PUBLICATIONS

HAWAII NATIONAL PARK

MAY, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	1,014	164.35
Received during month,	0	0.00
Total,	1,014	164.35
Sold during month,	6	2.10
On hand at close of month,	1,008	162.25

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		

Cash on hand beginning of month,	8.32
Sales during month,	2.10
Total,	10.42
Remitted during month,	1.00
Balance,	9.42

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii

National Park for the Month of May, 1936

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction New Halemaun Trail (F.A.)	80	0	0	
518 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construction (F.A.)	100	8	5	
520.1 Haleakala Road, Post Construction (F.A.)	3	3	0	
521 Post Construction, Uwekahuna Bird Park Road (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing 10.643 miles max cont. and contg.	100	0	0	
523 Uwekahuna Bird Park Road, surfacing treatment, 1.75 miles (Force Account)	5	5	0	
FP 633.14 For the erection of one Observation Station and Toilets; and one Office and Checking Station, Haleakala	95	45	25	
FP 677.14 Employee's Residence and connecting service lines for newly appointed U.S. Commissioner	0	0	0	

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Handwritten:
H.W.
Monthly Report

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

June 1, 1936

Memorandum to Superintendent E.G. Wingate

The following is a report of work accomplished under my direction during the month of May, 1936.

1. Hauled rubbish from Quarters area, 9 times.
2. Cut lawns, Employee's Quarters, twice.
3. Cleaned and repaired trails.
4. Hauled 130 cu. yds crushed rock and sand from Glenwood to Bird Park road.
5. Cleaned gutters of all buildings, Utility area.
6. Hauled relief map from wharf Hilo to Administration bldg.
7. Sharpened sixteen spikes for Power grader.
8. Lowered hot water heater, Quarters No. 9.
9. Repaired broken drain, Quarters No. 1.
10. Replaced broken glass basement, Quarters No. 6.
11. Draged and repaired golf link-bird park road.
12. " " " cut off road.
13. Repaired lock, office building.
14. " and painted flagpole, headquarters.

Respectfully submitted,

Handwritten signature: R.R. Craik

R. R. Craik
Foreman.

Handwritten mark: W

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llw
Monthly Report

June 1, 1936.

The Superintendent,
Hawaii Natl. Park
Hawaii.

Dear Sir:

The following is the report of my time by
hours for the month of May 1936.

Work on cars and trucks		76 Hours
Pumping water as follows, High tank	23,000 Gals.	
Res. # 3	1,000 "	
Total	24,000 Gals.	8 "
Repair tool handles		10 "
Check in Gasoline		8 "
Dressing and sharpen tools		7 "
Warehouse		6 "
Reclaim lead from old batteries		6 "
Repair lawn mower		5 "
Transfer kerosene to storage tank		4 "
Check equipment in warehouse for Inspector		4 "
Repair fire hydrants		3 "
Dress and sharpen grader teeth		3 "
Repair pack saddles		3 "
Transfer gasoline to storage tank		2 "
Repair road drag		2 "
Repair 1 qt. fire extinguishers		2 "
Repair blacksmith forge		2 "
Check fire hydrants at Hotel		2 "
Dry fire hose		2 "
Repair sink drain Res. # I		2 "
Fill all car batteries		2 "
Repair room heater Res. # 16		2 "
Repair Lava tube torches		2 "
Repair riding saddle		2 "
Check in kerosene		1 "
Repair telephones		1 "
Patch tubes		1 "
Clean battery terminals		1 "
Connect up new washer Res. # I		1 "
Repair old storage battery		1 "
Repair flashlight Museum		1 "
Repair grass sickles		1 "
Repair rifle		1 "
Repair kerosene range		1 "
Repair grass shears		1 "
Repair old shock absorbers		1 "
Reclaim hardened putty, for metal sash		1 "
Solder kerosene can		1 "
Repair car for park visitor		1 "
Repair surveyors chain		1 "
Repair telephone exchange		1 "
Make creeper for painting road spots		1 "
Arrange camping equipment for survey gang, Hilina Pali		1 "
Total		184 Hours

F. F. Fischer
F. F. Fischer
Mechanic.

6/1/36
[Signature]

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lew

June 4, 1936

W. T. ...

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

There follows a report of the activities of the ranger department during May.

000 - General

In addition to the regular duties of the department, we were called on by the commanding officer of the Kilauea Military Camp to assist in a search for one of the visiting soldiers who became lost while hiking in the vicinity of the base of Mauna Loa. This search lasted from May 22 until the evening of the 27th. On the morning of the 28th we received word that he had been located by a CCC trail crew on the Kaumana-Puu OO trail. During the week the soldier was lost, every available man from the Military Camp, as well as rangers and park laborers joined in the hunt.

020 - General Weather Conditions

At Kilauea headquarters precipitation totaled 4.73 inches, at the CCC camp 2.96 inches and at Haleakala .2 inches - *Snow was still visible in patches above the 12000 ft level on both Mauna Loa & Mauna Kea*

100 - Administration

110 - Status of Work

All work was current during the month in this section as well as at Haleakala.

120 - Park Inspections

Regular inspections were made of all work including ECW Projects and camp facilities. Four days were spent on forest inspection in different areas of the park.

122 - Special Field Representatives of the Park Service

Associate Landscape Architect M. S. Sager inspected the Haleakala section May 28th and 29th. He returned from his trip to the Orient on the 23rd.

124 - Other Interior Department Officers

Dunbar Burdick, investigator of the Interior Department, with headquarters in Honolulu arrived on the 26th to assist Messrs. Rollins and Vanden Heuvel in the auditing of the books of the Volcano House. He returned to Honolulu on the 28th.

170 - Plans, Maps and Surveys

Nothing was done on the boundary survey this month. I would like to finish during June so that the instrument which was borrowed from the BPR may be returned. The relief map of the Haleakala section was received.

200 - Maintenance, Improvements, and New Construction

210 - Maintenance

The usual maintenance of roads, trails and buildings was carried on during May. The Kilauea Iki, Sandalwood and Byron Ledge trails were cleared of over growing vegetation and surfaced. In the Haleakala section District Ranger Peck states that considerable work was done in spreading soil on the road banks to promote growth of grass. Also center lines for guidance of traffic have been placed on all curves of the Haleakala road.

230 - New Construction

The observation station, checking ^{station} and toilets being constructed by Mr. E.J. Walsh at Haleakala were 95% complete at the end of May.

The Halemsu-u trail, under construction by the CCC, was approximately 65% complete.

300 - Activities of Other Agencies in the Park

310 - Public Service Operators

George Lycurgus, Manager of the Volcano House, returned from a six months trip to his native Greece, and also San Francisco and Washington, on the 23rd.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger Naturalist and Guide Service

The rangers assisted the assistant park naturalist on park tours and conducting visitors from the world cruise boats through the park.

600
On the 26th approval was received from the Secretary of the appointments of Chief Ranger Christ and Rangers Doust, Murray and Williams as deputy sheriffs for the Kau and Puna districts, to serve without compensation.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel to Kilauea amounted to 14,426 in people as compared with May, 1935. District Ranger Peck reports the estimated travel to Haleakala as 875 persons, which is an increase of 22% over last month.

530 - Visitors

Two world cruise boats, the SS Reliance and SS Franconia visited Hilo on the 3rd and 8th respectively. Their passengers and crews were brought to the park and had luncheon at the Volcano House.

On the 17th the superintendent took the Association of American Citizens of Japanese Ancestry on a tour through the park.

600 - Protection

620 - Fire Protection

On the 11th a fire drill was held with satisfactory results. District Ranger Peck reports that frequent patrols were made of the Haleakala section, with no apparent violations.

640 - Destruction of Predatory Animals

Four pigs, which had been creating widespread damage in Bird Park, were destroyed by Ranger Williams. Mr. A.M. Brown had been warned repeatedly that if he had any pigs in that area to remove them, as all pigs found there in the future would be destroyed. After the pigs were shot Mr. Brown informed us they were his. However, the one pig which charged at Ranger Williams and another man certainly didn't behave in a very domesticated manner.

Respectfully submitted

Joseph H. Christ
Chief Ranger

CW

10-23
(May 1929)
0-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii NATIONAL PARK

FILE NO.

MONTHLY REPORT

APRIL, 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All Files should be returned promptly to the File Room: Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

May 10, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows a report of the activities of this park during April, 1936.

000 - General

Two events of importance occurred during the month. The first was the receipt, by Dr. T.A. Jagger, of an invitation from the Royal Society of London to assist and advise a scientific expedition which was being sent to the island of Montserrat in the West Indies. A spasm of earthquakes on this island has created a crisis which it is thought may end in a volcanic eruption. See report of Volcano Observatory and 480 - Natural Phenomena.

The second was the introduction in Congress on April 15, by Delegate King, of a bill to add the Kalapana and Footprint areas to the park. The total area designed to be added by this bill is 55,070 acres and includes many points of historic, scientific and scenic importance.

020 - General Weather Conditions

Rainfall at headquarters totaled 3.69 inches, at the CCC camp 2.64 inches and at Haleakala 1.6 inches. During the month there were only four entirely clear days, the balance being either cloudy or drizzling.

100 - Administration

110 - Status of Work

All correspondence and reports were kept current during the month. Clerk-Stenographer Whitney completed revision of the ECW correspondence file. Instructions concerning the preparation of the six-year plan, 1938-43, were received on the 17th and with the exception of typing was practically complete by the last of the month.

Proposed announcements of a junior park warden and park ranger examination were received early in the month and after review were forwarded to the Director on April 12 with suggested changes, etc.

The preliminary estimate for 1938 was mailed on April 4. It had previously been forwarded from headquarters to the superintendent, who was on Maui for signature, but due to certain changes final transmittal had to be delayed a few days.

120 - Park Inspections

121 - Superintendent

The superintendent was on Maui until April 4 assisting in establishing the Haleakala CCC side camp and routine inspection of the Haleakala section. He was at Kilaua headquarters throughout the remainder of the month. Following the departure of Dr. Jaggard, Volcanologist, inspections of Halemauau had to be made more frequently.

In company with Field Supervisor E.E. Tillett, Project Superintendent Stephens and Camp Director B.G. Rivenburgh, the CCC camp, Mauna Loa truck trail and boundary fencing project were inspected on the 18th and on the 19th the Hylina Pali section was visited with Mr. Tillett and Chief Ranger Christ.

Routine inspections of the facilities and roads covered on the general park tour were made.

122 - Special Field Representatives of the Service

E.E. Tillett, Field Supervisor, ECW, of Honolulu, arrived on the 18th to inspect park and Territory ECW projects on this island. He returned to Honolulu on the 22nd.

124 - Other Interior Department Officers

J.A. Vandenhoevel and C.H. Rollins, Special Agents of the Interior Department, and their wives, arrived on the 24th to inspect the park and operator's accounts. They were met in Hilo by the superintendent and Ranger Williams.

130 - Finance and Accounts

A detailed statement will be found at the back of this report.

160 - Status of Alienated Lands

An additional study of the park boundary in the vicinity of the Thurston Lava Tube was made by the Territorial Land Commissioner's office and the revised courses were forwarded by radio and letter on April 21.

170 - Plans, Maps and Surveys

Preliminary plans for project FP 677, employees' residence, were received from the Branch of Plans & Design on April 29. On April 16 a plan for suggested alteration of the west foundation and walls of the administration building was forwarded to the Branch of Plans & Design for consideration. The suggested alteration is designed to prevent steam from adjacent earth cracks entering this part of the building and causing rapid decay of woodwork.

CCC enrollee L. Braz has practically completed drafting on the master plan, revision of which has required much more time than was anticipated.

On April 4 a radiogram was received from Delegate King regarding certain changes in the boundaries of the proposed Kalapana addition to the park. The Territorial Land Commissioner was requested to make the necessary corrections in the boundary, revise the area accordingly and transmit the new description directly to Delegate King. The proposed changes eliminated entirely the lands contained in the Hawaiian village of Kalapana.

Nothing was done on the boundary survey this month, most of April being occupied with the preliminary survey of an auto trail to the sea-coast in the vicinity of Kalape-Kalue. This was completed.

180 - Publicity, Flacards, etc.

A press release reviewing the CCC during the past enrollment period was sent out on the first. This press release was the subject of editorials in the Honolulu Advertiser and was copied by all of the newspapers.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

On the Haleakala road it was necessary to blast many heavy rocks and remove them from the upper banks, as they had become undermined by the weather. At Kilanea minor repairs were completed on the Chain-of-Craters road and broken asphalt was repaired on other park roads. The Steaming Bluff trail was cleared of overgrown vegetation and generally cleaned up.

Request for an allotment of \$7500 was made on April 6 for the purpose of treating the surface of 1 $\frac{1}{2}$ miles of the Uwekahuna-Bird Park road. The estimate was prepared following recommendations of Bureau of Public Roads Engineer Jack Moskowitz. Approval of this request was received on April 22.

220 - Improvements

On April 30 recommendation was forwarded to your office providing for the razing of three shacks belonging to the park, which are unfit for human habitation.

230 - New Construction

Bids were again opened for construction of the Haleakala observation station, toilets, office and checking station, with Mr. E.J. Walsh, as was expected, the low bidder. The completed contract was forwarded on April 18. District Ranger Peck reports that work on the observation station and comfort stations was approximately 70% complete at the end of the month. Work had not been commenced on the office and checking stations.

260 - Landscape Work

Some work was done on the Haleakala road in putting soil on the fills in order to get grass started.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

315 - New Contracts

Approved permit covering the operation of the Haleakala rest-house and saddle horse concession by E.J. Walsh were received from Washington and forwarded to Mr. Walsh.

Contract No. I-6p-95 covering telephone service on Haleakala was forwarded your office for approval on the 12th.

317 - Status of Authorized Projects

Project No. PF663.14, observation and comfort stations, office and checking station, Haleakala, under contract with E.J. Walsh was approximately 70% complete at the end of the month.

320 - Cooperating Governmental Agencies

With the granting by the Secretary of the Interior of a 20-year extension of the lease to the Kilauea Military Camp, the Army is preparing to construct a new water supply system.

350 - Donations, Accessions, etc.

Through purchase from funds of the Hawaii Natural History Association, the following equipment has been acquired by the naturalist department: a 4 x 5 Graflex camera, K-1, X-1, and F filters in B glass with holder, film pack adapter, tripod and tilting tripod top, professional focusing cloth, lens cleaning paper, Eastman printer and timer and miscellaneous odd small pieces of equipment. This entire purchase cost \$264.50.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

On April 22 Sheriff R.K. Martin of Hawaii County, was requested to appoint Chief Ranger Christ, Rangers Williams, Doust and Murray as deputy sheriffs subject to confirmation of the appointment by the Secretary of the Interior as provided for in Executive Order #7333, signed on April 3, 1935.

420 - Museum Service

The program of educational and recreational activities has been the subject of considerable experimentation during the past few months. It was felt that the old program was too cumbersome. Copies of the program are posted in the hotel, Military Camp, museum and administration building. Each guest who registers at the Volcano House for a stay of several days receives a copy. This plan seems to be working out satisfactorily so far.

The lecture which Dr. Jaggard gave before the Volcano Research Association on March 31, regarding the Bombing of Mauna Loa, proved to be so popular that he was asked to repeat it twice, and each time there was a capacity audience.

430 - Natural Phenomena

A detailed report of the activities of the Observatory will be found at the back.

On April 29 the entire Territory was aroused over the reported eruption of Mauna Loa. This news was even broadcasted from coast radio stations. Apparently the rumor was started when people around Hilo saw a glow in the sky that looked like reflection from an eruption, but which was apparently only from a cane fire. Without even waiting for confirmation, the Honolulu Advertiser carried large headlines the next morning stating that Mauna Loa had erupted again in approximately the same location as the November outbreak.

During the early part of April Dr. Jaggard received an invitation from the Royal Society of London to accompany a mission to the island

of Montserrat in the British West Indies, in connection with the present crisis of earthquakes in that locality. When foreign governments request the services of one of the members of the Service it is indeed something to be proud of. Dr. Jaggard sailed on the 18th for San Francisco, where he caught a steamer direct to the West Indies. He expects to be gone approximately two and a half months.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Due to continual fogs travel to Haleakala amounted to only 715 persons, a decrease of 27% under last month. At Kilauea the travel amounted to 13,356 as compared with 13,411 for April, 1935.

530 - Visitors

During Easter week the ranger force was kept busy conducting groups of Girl and Boy Scouts, Girl Reserves, Future Farmers and Homemakers thru the park. There were also several Navy boats in during April, whose personnel was conducted on park tours by the rangers.

On the 25th the Empress of Britain docked at Hilo for one day and the passengers were brought to the park, having lunch at the Volcano House. There were 455 persons on this world cruise.

600 - Protection

620 - Fire Protection

Quarterly fire hazard inspection was made of all government buildings during April. Two back pumps have been issued to the ECW road crew for use in case of grass fire.

630 - Accidents

On the 23rd an ECW truck and one belonging to the Kilauea Military Camp collided. As this accident was considered unavoidable, by mutual agreement each truck was repaired by its own agency.

900 - Miscellaneous

ECW - On April 1 the Haleakala CCC camp was re-opened, with a group of 35 boys and under the supervision of Gunder E. Olsen, who was transferred from the Territorial ECW to the Park Service. A report of the activities of the CCC during April is attached.

On April 7, Frank Arthur Lamb was born to Assistant Park Naturalist and Mrs. Samuel H. Lamb, and on the 16th District Ranger and Mrs. J.A. Peck announced the birth of Maile Jo Ann. Considering the size of this park and the number on the force we're almost on a par with Yellowstone.

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The superintendent was particularly pleased to receive a copy of Delegate King's bill to add the Footprint and Kalapana areas to the park and to note that the bill included several provisions which should, if the bill eventually passes, be of real benefit to some of the native Hawaiians. He wishes at this time to express his appreciation to the Director and his staff for their fine cooperation in this matter.

Two talks on National Park Ideals were given by the superintendent to the Hilo Rotary Club on the 24th and Lions Club on the 28th. It was rather a pleasant coincidence to have Albert W. Atwood's fine article "Can the National Parks be Kept Unspoiled?", appear a few days later in the Saturday Evening Post.

Very respectfully

Edward G. Wingate
Superintendent

EW

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HAWAII NATIONAL PARK

REPORT OF VOLCANO OBSERVATORY FOR APRIL, 1936

Early in the month Dr. T.A. Jaggar, Volcanologist, received a signal honor in the form of an invitation from the Royal Society of London to assist a scientific party which it was sending to the island of Montserrat in the West Indies to study a volcano there which is apparently threatening to erupt. The invitation included payment of actual expenses and upon the approval of the Secretary of the Interior, Dr. Jaggar left immediately sailing from Hilo on April 11 and from Honolulu a week later. He expects to be away for at least two months.

While in Honolulu Dr. Jaggar delivered two lectures to capacity audiences on the recent Mauna Loa flow and the experimental bombing.

With Assistant Geologist Wassche absent on annual leave on a trip to the Orient, Dr. Jaggar's departure reduced the Observatory ^{staff} to two laborers, employed by the Volcano Research Association. The routine care of the seismographs, measurement of rim cracks and meteorological observations was capably handled by H. Yasunaka as much of this work normally falls to him due to lack of sufficient government staff. The weekly reports, reading of the seismograms, compilation of other data and correspondence was handled by the superintendent.

CCC enrollee S. Sato, who had been assigned to assist the Observatory as clerk and librarian, was released at his request to return to school. No replacement has been made due to lack of a sufficiently educated enrollee.

Asao Okuda, carpenter and mechanic on the Research Association payroll, was employed in repairing and boxing seismograph parts for shipment to Lassen National Park and the University of Hawaii and in miscellaneous small jobs.

Both Kilauea and Mauna Loa volcanoes remained quiet throughout the month. In favorable light blue fume was plainly visible rising from the source region of the recent eruption. Toward the latter part of the month the smoke was reported by several persons as being very dense. A navy aviator reported the source cones brilliant with sulphur deposits and smoking profusely. On the night of April 28 there were many unconfirmed reports of activity at these source cones, which were probably caused by the reflected glow from a brush or cane fire, on a overhanging blanket of cloud. The seismograph records showed no indication of activity at this time.

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There was, however, an increase in seismic activity during the week ending April 26. This was composed largely of tremors, of which several were noticeable for their duration. Three spells occurring on April 20, were of 12, 18 and 25 minutes duration.

On April 15 at 8:28 a.m. a slight to moderate earthquake was reported, felt more or less strongly by many persons in the Kilauea section, several at Oloa village and several at Hockema in South Kona on the west side of the island. It was sufficiently strong to dismantle the east-west component of the Bosh-Omori seismograph. It did no damage. Review of the seismograms from the Hilo, Kona and Kilauea stations indicated the epicentre to be east of the summit crater of Mauna Loa and south of the recent eruption source and about 16 miles from the park headquarters. All the other earthquakes were classed as very feeble or feeble.

The Volcano Letter for November, in its new format, was printed and distributed by the Volcano Research Association in Honolulu. It is a vast improvement over the old letter and has evoked much favorable comment.

Edward G. Wingate
Superintendent

EGW/cw

May 8, 1936

REPORT OF CAMP DIRECTOR E.C.W. TO THE SUPERINTENDENT H.N.P. FOR APRIL, 1936

At the end of the sixth period thirty-eight enrollees asked for discharge and early in April, two boys were offered permanent employment so our number of enrollees was reduced to one hundred and fifty-six.

We enrolled nine boys, two of whom had served a previous enrollment, thus bringing our enrollment to 165 which is to be the size of our camp in the Kilauea Section.

The Haleakala Section camp is to be thirty-five when recruited to full strength which will account for our approved two hundred man camp for Hawaii National Park Seventh Period.

During April, thirty-two boys were enrolled for Haleakala Camp and two were discharged so that on April 30th, we had thirty enrollees. Most of these boys were put through a conditioning period, inoculation, vaccination, etc., so that beginning May 1st, we should get some real work done on our project.

To take care of the work and camp in Haleakala Section, Mr. Gunder E. Olson was appointed Senior Foreman and placed in charge. Mr. Olson has previously served as Project Superintendent on Oahu for the Territorial E.C.W. Unit. Fred Waltjen, a foreman from Kilauea Section, was transferred to Maui to assist. To make the changes above, it was necessary to release one foreman from Kilauea and as Manuel P. Silva was the last one employed, he was released March 31st.

Our enrollee suffering from typhoid fever in Hilo Hospital improved somewhat during the month. He had eight blood transfusions. Blood being furnished by volunteer enrollees. As the month closed, Dr. Phillips was quite hopeful of his recovery.

Three boys were operated upon for appendicitis during the month.

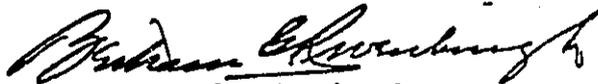
As April was Easter month, most of the enrollees left Camp and attended Easter Services in their home district. The Mormon Church convention in Hilo, Sunday April 5th, attracted a number of boys who are members of that church. There were no religious services in the camp during April.

Recreation was as usual. The boys are preparing a musical program with some vaudeville skits which they hope to give at Pahala in the near future. The purpose is to raise money to purchase trophies to be played for by various baseball teams which are being organized amongst the boys.

It seems that the school and playground influence that these boys have been subjected to during their school years has made it necessary to have something to play for rather than playing for pure sport.

Weather was fairly good during the month and the attached report of the Project Superintendent shows good progress on our work.

Respectfully submitted,



Bertram G. Rivenburgh,
Camp Director, ECW HNP.

Report of Project Superintendent, W. J. Stephens, to the Superintendent Hawaii National Park, for the month ending April 30th, 1936.

During the month, 2818 man-days were worked on the following approved projects:

E.C.W. 7 #131	Fencing Boundary	716
#202	Truck Trail	1970
#1004	Eradication of Exotic Plants	132

The work on the fence was continued. Wire was attached to the posts already set and gate post erected for 12 gates on the southwest boundary. Owing to the fact that the distance from the source of supply made it uneconomical to continue further work on this side until the Mauna Loa truck trail is more advanced. The fence crew was shifted to the six tanks area and approximately 2 miles has been completed on this side. The truck trail will be far enough ahead to permit the starting of another crew on the southwest side by May 17th, when a side camp can be erected where it is easily accessible by truck.

The truck trail work progressed satisfactorily, inspite of the fact that only .8 miles were reported complete. The major portion of the man-days were expended on the completion of two eleven foot cuts, totaling 210 feet, mostly thru hard pahoe and a fill varying from 8 to 14 feet and 180 feet long. This fill was made by hand and wheelbarrow, owing to the impossibility of detouring trucks over or around the aa and excavation work was done ahead, for about a mile with hand drills and wheelbarrow. The cuts and fills were finished and opened by the end of the month and trucks are now in use on that side and a good showing will be made during May.

The weather during the month was extremely dry and it was deemed advisable to take additional precautions against fire. Two bak pumps were requested and received from the acting fire chief HNP, and a supply of sacks close to a tank of water kept on hand within easy access at the danger zone. Rain would help reduce this hazard and is also needed to assist in binding the surface material on the road.

Six men were employed daily on the removal of exotics, especially prim-roses. The main road and the Bird Park area has been cleaned of blackberry and other pests.

The Maui camp was established and some preliminary work done during the period mandatory for the conditioning and hardening of the enrollees accepted.

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The average daily turn out was:

To Project Superintendent	128
To Camp Duties	21
To Conditioning - Maui	15
Sick, AWOL, Leave, etc.	<u>14</u>
Total average daily	178

Respectfully submitted



W. J. Stephens
Project Superintendent, ECW HMP.



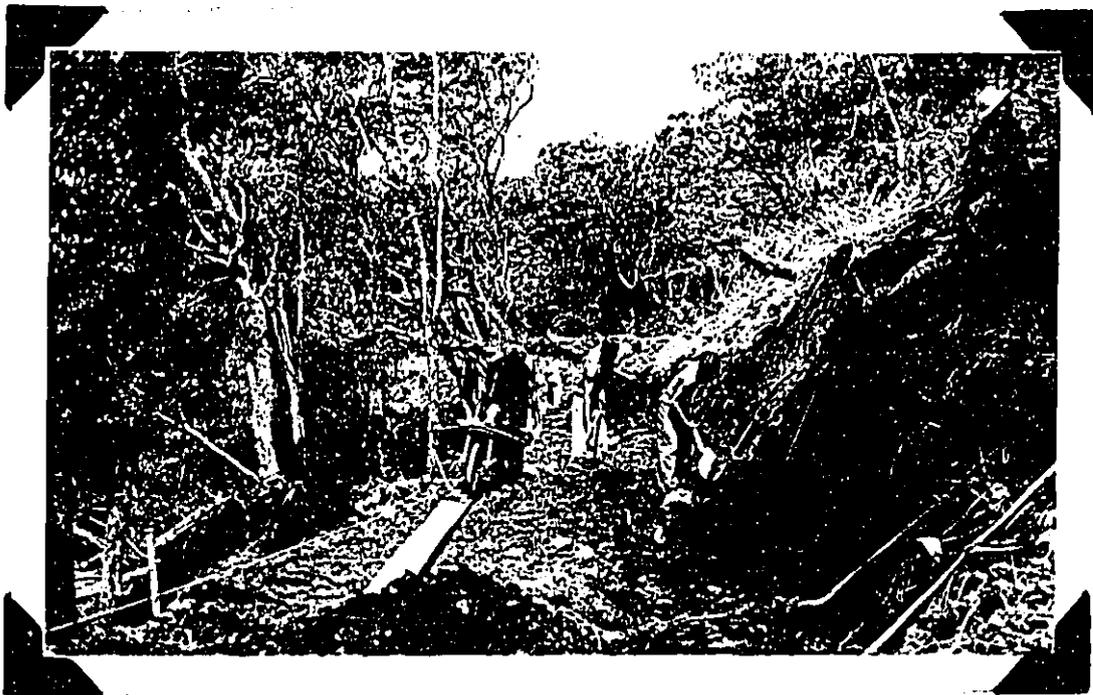
Picture No. 1 - Area of seacoast south of Kilauea planned for development. Grassy spot where horses are grazing is to be planted with coconuts and puhala. The bay offers excellent fishing. This is the terminus of the proposed Hilina Pali - Halape auto trail.



Picture No. 2 - Newly discovered petroglyphs near seacoast on route of proposed Hilina Pali - Halape auto trail. The seacoast section south of the volcano now desolate was not long ago dotted with Hawaiian villages. The tidal wave of 1868 completed the ravages of civilized disease, etc.



Picture No. 3 - CCC Project - Mauna Loa truck trail. Fill across lava channel in old Aa flow. Work was done almost entirely by hand labor.

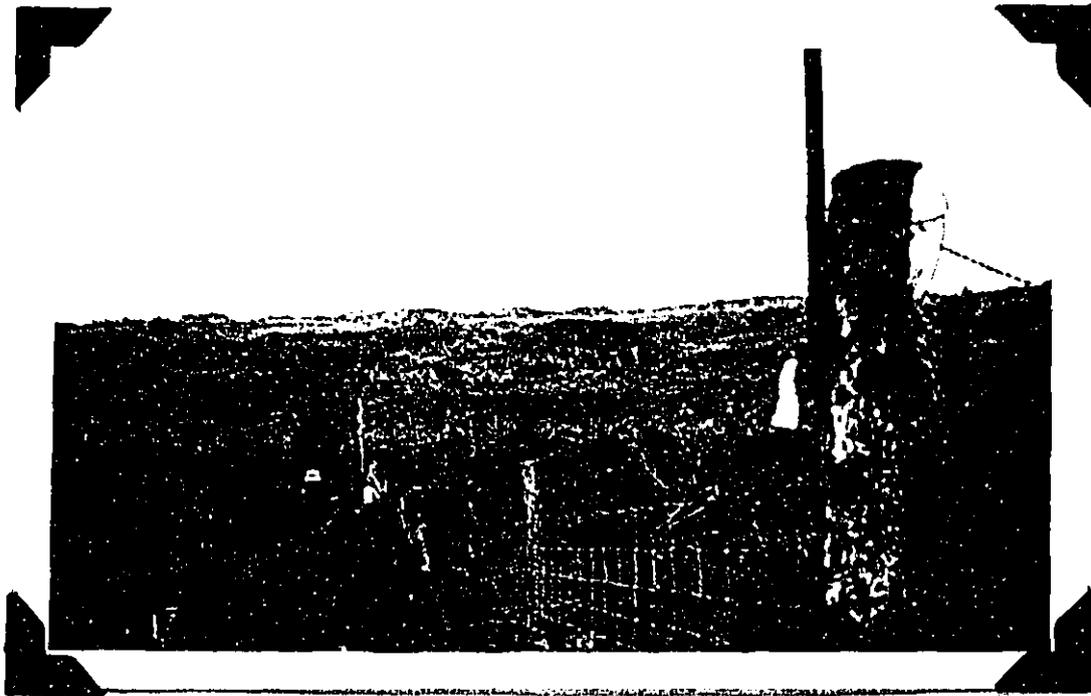


Picture No. 4 - Mauna Loa truck trail - Rough grading in Kipuka Kulalio. This kipuka is entered a few hundred feet beyond fill shown in Picture No. 3. Some of the trees in the left foreground are the finest specimens of Aalii in the park.

Right:
Picture No. 5 - Mauna Loa Truck Trail -
CCC enrollees moving compressor across
old An flow.



Left: Picture No. 6 - Mauna Loa track
trail - Kipuka Kulalio. Note long
grass which in dry weather presents
a serious fire hazard to the fine
stand of Mamani, Aalii and Koa in
this Kipuka.



Picture No. 7 - CCC crew at work on project of fencing park boundary - Mauna Loa section Kapapala lands.



Picture No. 8 - Haleakala Observation Station nearing completion. The stonework on this building as constructed by Contractor E.J. Walsh is particularly pleasing.

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Picture No. 9 - Comfort Station Haleakala in progress of construction.

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STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

APRIL, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	\$ 44,551.00	\$ 44,265.26	\$ 285.74
45/6406	Forest Prot. & Fire Prev., 1935-'36	300.00	49.81	250.19
4X436.1	Roads & Trails, Nat'l Parks, Emer- gency Construction	33,370.65	27,370.65	6,000.00
4X391	Roads & Trails, Nat'l Parks, Emer- gency Construction Act 6/19/34	25,775.00	25,630.91	144.09
4-0X640.8	National Ind. Recovery, Int., Nat'l Parks, Roads & Trails Act 6/16/33	495,538.47	495,457.22	81.25
4-03/7640.14	Nat'l Ind. Recovery, Interior, Nat'l Park Service, 1933-37	21,085.34	21,085.34	0.00
4-05/7678.14	Public Works Administration Allotment to Interior, Nat'l Park Service 1935-'37	9,303.00	8,993.14	309.86
45415	Hawaii National Park, 1935	36,040.00	34,799.49	1,240.51

10-157
(Dec., 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS, AND RESERVATIONS

TRAVEL REPORT

Hawaii National Park for the month of April, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	12,200	97,259	12,428	110,450	- 13,191	.119
Persons entering via other private transportation,	357	2,184	169	1,154	+ 1,030	.892
Total persons entering via private transportation,	12,557	99,443	12,597	111,604	- 12,161	.035

OTHER TRANSPORTATION:

Persons entering via stages ^{Hotel}	799	4,034	814	3,144	+ 890	.283
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	799	4,034	814	3,144	+ 890	.283
GRAND TOTAL ALL VISITORS,	13,356	103,477	13,411	114,748	- 11,271	.098

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-158

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii

April, 1936

National Park for the Month of

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction New Halemann Trail (F.A.)	80	0	0	
518 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construc- tion (F.A.)	92	5	3	
520.1 Haleakala Road, Post Cons- truction (F.A.)	0	0	0	
521 Post Construction, Uwakahuna- Bird Park Road (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing 10.643 miles cont. and contg.	100	0	0	
FP 633.14 For the erection of one observation station and toilets; and one office and checking station, Haleakala	50	25	25	
FP 677.14 Employee's residence and connecting service lines for newly appointed U.S. Com- missioner	0	0	0	

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

.....Hawaii..... National Park for the Month of April, 1936.....

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	Reg.	P.W.	Reg.	P.W.		
Number of employees beginning of month	17	4	1	0	16	3
Number of additions.....	0	0	0	0	2	5
Total.....	17	4	1	0	18	8
Number of separations.....(<u>*Furlough</u>)	0	0	0	0	* 4	1
Number of employees close of month.....	17	4	1	0	14	7
Number of promotions during month.....	0	0	0	0	0	0
Aggregate amount of annual leave taken	33	0	0	0	2	0
Aggregate amount of sick leave taken....	14	0	0	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0

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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of April, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	0.00	0.00
Total,	0.00	0.00
Remitted,	0.00	0.00
On hand close of month,	0.00	0.00

Park revenues received this year to date, 350.00

Park revenues received last year to date, 350.00

Increase, 0.00

Per cent of increase, None

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS AND RESERVATIONS

REPORT OF SALES OF PUBLICATIONS

Hawaii National Park

April, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	1,015	165.35
Received during month,	0	0.00
Total,	1,015	165.35
Sold during month,	1	1.00
On hand at close of month,	1,014	164.35

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,	
Received during month,	
Total,	
Sold during month,	
On hand at close of month,	
Cash on hand beginning of month,	14.80
Sales during month,	1.00
Total,	15.80
Remitted during month,	7.48
Balance,	8.32

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UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Hawaii National Park

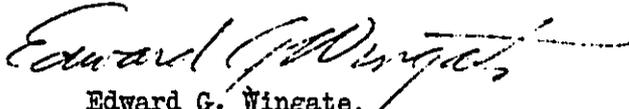
April 7, 1936

GENERAL OFFICE ORDER NO. 37 - Amendments to

SUBJECT: Use of Uniforms

The following excerpt from a letter from Director Cammerer in reply to an inquiry by this office is quoted for the benefit of the uniformed personnel of this park and such portions of Office Order No. 37 dated August 9, 1935 as are in conflict with this statement of policy are hereby repealed.

"The uniform is an emblem of authority, and is worn when on official duty status in contact with the public. Drinking in public while on a duty status cannot, of course, be tolerated, and the uniform should not be worn when not on duty status. There are occasions, of course, where owing to peculiar circumstances the wearing of a uniform in a home or at social functions where a social drink is offered cannot be avoided, and these must always constitute exceptions to the general rule."


Edward G. Wingate,
Superintendent.

Distribution:
Director - 2
Superintendent - 1
Chief Clerk - 1
Chief Ranger - 1
Each Ranger - 1
Volcanologist - 1
Park Naturalist - 1
Monthly Report - 7

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

PRESS BULLETIN
FOR IMMEDIATE RELEASE

EDWARD G. WINGATE,
SUPERINTENDENT.

On April 1, 1936, the Civilian Conservation Corps throughout the nation celebrates the third anniversary of its existence. The benefits of this nation wide organization were extended to Hawaii National Park with the approval of Director Fechner of the Emergency Conservation Work on December 23, 1933.

The first 16 enrollees for the camp in the National Park^{were} accepted on January 24, 1934, to assist in the construction of buildings to house the first 200 boys. By the end of March sufficient housing facilities were completed. The camp was then enrolled to full strength. In order to secure these first 200 enrollees 229 boys were examined physically. This is an interesting sidelight on the general physical fitness of the young men of this island as a whole. These boys were recruited from every district and every race was represented. More than 450 boys have served one or more six month enrollment terms in the camp since its inception.

The work these boys have accomplished might be shown by statistics though figures are wearisome to study. To review briefly:

The most important project during the first period was the sloping and rounding of road shoulders and the obliteration of unsightly, disused roads and trails. The sloping of the shoulders greatly improved the appearance of all the park roads and considerable satisfactory comment was heard and written. All the old scars and cuts left by contractors were broken up, smoothed to a slightly rounded slope and covered with soil. Now, after two years, the grass has covered the banks leaving little evidence of six months

PRESS BULLETIN - 2 -

work other than the satisfaction of driving over 36 miles of road with nothing to distract the attention from the natural beauty of the typical Hawaiian forest.

During the two years many other interesting and useful projects have been undertaken and accomplished. Communication between the Park Headquarters and the Mauna Loa summit rest house has been put on a more permanent basis. The telephone line which had been hurriedly laid on the ground to the rest house at 10,000 feet was replaced by galvanized posts and copper wire. The trail to the summit was repaired. One party spent five weeks at the rest house at an altitude of 13,000 ft. and built seven miles of trail around the crater of Hokuaweoweo, connecting with the Kona and Ainapo trails. This makes the summit rest house accessible from all sides of the mountain. In spite of the fact that the boys in this crew were born and raised in close proximity to sea level, no case of mountain sickness occurred. The boys actually gained weight during the period.

Other trails built during the two years include a very interesting one through the forest from the Thurston Lava Tube to the bottom of Kilauea Iki. A scenic bridle path about 14 miles long was also built starting at Uwēkahuna Museum and circling Kilauea crater by way of Keanakakoi, then through the forest to the old Kēāhou trail, thence paralleling the park entrance road to the rear of the Volcano House down to the Sulphur Banks, across the steam flats to its beginning.

Two trails were built across the Kau Desert, one being a continuation of the Mauna Iki trail to the Pit Craters where it branches to one side, going east the Yellow Cone to Kipuka Pepeiau joining the trail to Hilina Pali shelter. The other parallels the ancient Hawaiian trail from Kau to

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PRESS BULLETIN - 3 -

Kona and joins the Hilina Pali road.

Approximately a thousand acres of burnt over and dead forest has been cleared and the fire menace it presented reduced to a minimum. The park has been practically cleared as far as the main roads and trails are concerned, of exotic plants and noxious weeds and pests.

The past six months have been taken up with the building of a truck trail to eventually reach the shelter at 7,000 feet. Six miles will have been completed and about two miles partially completed by March 31, 1936. Sixty miles of fence on the park boundary is contemplated, nine miles of which will be finished by the end of March.

In a survey of the benefits derived by any community from the presence of a CCC camp within its midst, figures tell only a part of the story and that part the least important. What of the hundreds of families benefitted, the ailing parents, the aged, the little brothers and sisters saved from undernourishment by those monthly allotments; the consequences of which in later life would be impossible to show by figures? What of the beneficial and lasting effects to the boys themselves? The physical development brought on by outdoor labor which will help them all their lives to cast off diseases to which they would otherwise have been a prey? What of the dispelling of aversion to honest toil which was entertained by many at first? What of the exchange of views on many subjects by boys from far and near which in itself has been a liberal education to all? The majority of these boys would otherwise have been sentenced by circumstances to the limited viewpoint of their own narrow circle. What of the teaching of discipline and consideration for neighbors and associates? What of the immeasurable advantages to every boy suffering from that terrific handicap,

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PRESS BULLETIN - 4 -

an inferiority complex, of mixing with his fellow workers and overcoming that deficiency? What of the friendships made with boys from other districts and other walks of life?

It would require much space to enumerate all the benefits which the organization of the CCC has made important to the community. To mention a very concrete one, the approximate expenditures in the last two years made by Hawaii National Park for its CCC camp have been more than \$360,000, nearly all of which has been expended on this island. Directly or indirectly, every district on this island has benefitted financially.

That the community has appreciated the opportunities given by the CCC to build up the morale of the young men and boys of this island is shown by the fine cooperation given by many individuals who have freely given of their time to come up to the park and meet with and speak to the boys on the special subjects in their field of work.

Mr. Harold V. Lucas of the YMCA, Mr. B.D. Chilson, Mr. J. Cacores, Dr. Jaggar, Father Gregory, Father Everest, Judge S.L. Desha, Ranger K.J. Williams, Rev. Yadao, Dr. Peterson, Rev. H.H. Corey, Mr. Ernest Lilley, Mr. Raymond Squire, Mr. Leslie E. Branch, Mr. H. Hanaoka, Dr. Clyde Crawford, Dr. Clyde L. Phillips, Mr. John E. Doerr, Jr., Mr. A. Haley, Mr. Ralph Cole, Army Band, Capt. Jack Shaw and Mr. S.H. Lamb.

May 6, 1936

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

There follows the report of activities of the ranger department for the month of April.

000 - General

The activities of the department were largely routine, consisting of maintenance of telephone lines, assisting the park naturalist during the visits of the two cruise boats, etc.

020 - General Weather Conditions

Rainfall at headquarters totaled 3.69 inches, at the CCC camp 2.64 inches and at Haleakala 1.6 inches. April was a very cloudy month, with only four clear days, during the balance of the time it was either cloudy or drizzling.

100 - Administration

110 - Status of Work

All work was current during the month.

120 - Park Inspections

Regular inspections were made of all work including ECW projects and camp facilities.

The Haleakala section was inspected by the superintendent on April 1 to 3.

122 - Special Field Representatives of the Service

E.E. Tillett, Field Supervisor, ECW, of Honolulu arrived on the 18th to inspect park ECW projects and also those of the Territory on this island. He returned to Honolulu on the 22nd.

124 - Other Interior Department Officers

J.A. Vandenneuvel and C.H. Rollins, Special Agents of the Interior Department, arrived on the 24th

170 - Plans, Maps and Surveys

Nothing was done on the boundary survey this month, most of April being occupied with the preliminary survey of an auto trail the seacoast in the vicinity of Halape. This was completed during April.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

On the Haleakala road, it was necessary to blast many heavy rocks and remove them from the upper banks, as they had become undermined by the weather. At Kilauea minor repairs were completed on the Chain-of-Craters road, and broken asphalt was repaired on other park roads. The Steaming Bluff was cleared of overgrown vegetation and generally repaired.

230 - New Construction

District Ranger Peck reports that the observatory and comfort stations being constructed under contract at Haleakala are approximately 70% complete. Work has not commenced on the office and checking-station.

260 - Landscape Work

Some work was done on the Haleakala road in putting soil on the fills in order to get grass started.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

The usual dance was held at the Volcano House on the 18th.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The rangers assisted the assistant park naturalist on park tours and conducting visitors from the world cruise boats through the park.

480 - Natural Phenomena

Dr. Jaggar left on the 18th for the West Indies, at the request of the Royal Society of London, to inspect the island of Montserrat, this island having had a series of large earthquakes for several months.

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500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Due to continual fogs travel to Haleakala amounted to 715 persons only, a 27% decrease under last month. At Kilauea the travel amounted to 13,356 as compared with 13,411 for April, 1935.

530 - Visitors

During Easter week the ranger force was kept busy conducting groups of Girl and Boy Scouts, Girl Reserves, Future Farmers and Future Homemakers through the park. There were also several Navy boats in during April, whose personnel was conducted on the park tours by the rangers.

On the 25th the Empress of Britain docked at Hilo for one day and the passengers were brought to the park, having lunch at the Volcano House. There were 455 persons on this world cruise.

600 - Protection

620- Fire Protection

Quarterly fire hazard inspection was made of all government buildings during April. Two back pumps have been issued to the ECW road crew for use in case of grass fire.

630 - Accidents

On the 23rd an ECW truck and one belonging to the Kilauea Military Camp collided. As this accident was considered unavoidable, by mutual agreement each truck was repaired by its own agency.

900 - Miscellaneous

On April 7, Frank Arthur Lamb, was born to Assistant Park Naturalist and Mrs. Samuel H. Lamb, and on the 16th District Ranger and Mrs. J.A. Peck announced the birth of Maile Jo Ann. Not bad for a park this size.

Respectfully submitted

Joseph H. Christ
Joseph H. Christ
Chief Ranger

CW

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*L.W.
For Monthly Report*

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

May 1, 1936

MEMORANDUM TO SUPERINTENDENT E. G. WINGATE.

The following is a report of work under my direction during the month of April, 1936.

1. Wrecked and salvaged old building back of Office, Qtrs #12. *- Do not include in report*
2. Cut grass on lawns residential area, 3 times.
3. Completed repairs to Chain of Craters road.
4. Repaired broken asphalt on other roads in park.
5. Completed repairs to Steaming Bluff trail.
6. Repaired and cleaned trail to Lava Tube.
7. Hauled and stored fire wood to all houses in residential area.
8. Cleaned gutters all buildings.
" " Uwekahuna-Bird Park road.
9. Filled water tank at Lava Tube.
10. Filled water tank Quarters #1, twice.
11. Completed repairs, Qtrs #13.
12. Replaced broken glass at Observatory building.
13. Made estimate of material needed to repair Bird Park road.
14. Hauled garbage Residential area, 9 times.
15. Draged and repaired cut off road.
16. Repaired and painted turtle back on Cars No. 1158, 1164.

R. R. Craik
R. R. Craik
Foreman HNP

[Signature]

May 1, 1936

The Superintendent,
Hawaii Natl. Park,
Hawaii.

Dear Sir:

The following is the report of my time by hours
for the month of April, 1936.

Work on cars and trucks		102 hours
Repairing road drag		10 "
Pumping water as follows, High tank	29,000 gal.	
Res. # I	7,000 "	
Lava Tube	900 "	
Total	36,900 Gal.	9 "
Repair traffic counter pad		8 "
Check in gasoline		5 "
Check fill and repair fire extinguishers		5 "
Repairing tools		4 "
Repair telephones and switch board		4 "
Fill all car batteries		4 "
Transfer kerosene to storage tanks		3 "
Repair fire pump		3 "
Transfer motor oil to storage tank		2 "
Make torches for lava tube		2 "
Repair bitumuls pump		2 "
Repair camera for naturalist dept.		2 "
Check rations, fire fighting equip.		2 "
Check C.C.C. motorized equip.		2 "
Check in kerosene		1 "
Repair wheelbarrows		1 "
Repair water hose		1 "
Make measuring rod for measuring gasoline tank		1 "
Dry and repair fire hose		1 "
Repair Museum light plant		1 "
Repair knapsack		1 "
Clean battery terminals		1 "
Replace pump leathers in gasoline lanterns		1 "
Repair lawn mower		1 "
Clean five gal. paint buckets for watering horses		1 "
Make tow ropes for cars		1 "
Repair surveyors chain		1 "
Start bus on highway		1 "
Survey buildings # 10, 12, 14		1 "
Repair back pumps for C.C.C. to use along new road		1 "
Check in new rock crusher parts		1 "
Check tools loaned to Volcano Hotel		1 "
Check and clean siren switch		1 "
		<u>Total 192 Hours.</u>

Submitted by,
F. F. Fischer.

F. F. Fischer
Mechanic.

*Robert
Apr.*

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10-23
(May 1929)
G-7410

File

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK

FILE NO.

MONTHLY REPORT
MARCH, 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All Files should be returned promptly to the File Room. Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

April 9, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows the report of activities for this park during March.

000 - General

020 - Weather Conditions

Rainfall at headquarters totaled 9.65 inches, at the CCC camp 8.32 inches and 3.8 inches at Haleakala. March was a very stormy month, with only two or three clear days. Fresh snow fell on both Mauna Kea and Mauna Loa on the 28th. At headquarters hail, the size of marbles fell for approximately 45 minutes on the 27th.

100 - Administration

110 - Status of Work

The filing of all back correspondence was completed during March. Other office work was current.

On March 4 the ECW work project program for the 7th enrollment period was submitted for approval. Estimated expenditures total \$91,000 which is about \$10,000 less than for previous six-month periods. Preliminary estimates for 1938 were prepared and were ready for submission at the end of the month. Work was continued on the bibliography of Hawaii National Park.

120 - Park Inspections by:

121 - Superintendent

On March 5 the superintendent went to Hilo to meet Governor Poindexter and Territorial Highway Engineer Louis Cain.

On the 29th the superintendent went to Maui to inspect the progress of the Haleakala observation station and confer with Senior Foreman Olsen regarding the establishment of the CCC camp in the Haleakala section. While on Maui contacts were made with members of the chamber of commerce national park committee, Mr. E.J. Walsh, contractor for the ob-

ervation station, Mr. Harold Rice, Chairman Board of Supervisors for Maui, Mr. A.L. Burdick, County Engineer and Mr. Harry Holt, Territorial Senator for Maui. Arrangements were made with the Telephone Company to install permanent telephone service at the new office and checking station; various doctors were consulted relative to providing medical attention for the enrollees in the Haleakala camp; went over the line of proposed trail projects with Senior Foreman G.E. Olsen and inspected work previously done in the crater, inspected work on the observation station which was in excellent condition and showing good progress.

122 - Special Field Representatives of the Park Service

Associate Architect M.S. Sager left on the 22nd for a two months' tour of the Orient. Before he left he inspected the Haleakala section on the 5th, 6th, 16th and 23rd of the month.

125 - Other Governmental Officers

Frank H. Locey, Territorial Relief Administrator, accompanied by Mr. and Mrs. Robert H. Hinckley and Mr. and Mrs. Walter Dufresne, were overnight guests in the park on the 13th. Mr. Hinckley is an assistant of Federal Relief Administrator Hopkins.

Jack Moskowitz, Principal Highway Engineer, Bureau of Public Roads, Honolulu, conferred with the superintendent and park foreman on park road problems on the 25th.

130 - Finance and Accounts

A detailed statement will be found at the back of this report.

150 - Equipment and Supplies

One 5,000-gallon redwood water tank, with cover, lumber for foundation and 10 bags of cement was received for the Haleakala section.

170 - Plans, Maps and Surveys

Boundary survey is 80% complete, the location of the circular trail of the Volcano House area is complete, as is also the location of the Mauna Loa truck trail.

180 - Circulars, Placards, Publicity Bulletins, etc.

One memorandum for park employees, with regard to the Saturday half-holiday, was issued and a copy is attached.

On March 21 the Honolulu Star-Bulletin carried a full page story, with pictures, covering the work of the CCC camps in the Territory of Hawaii

On the 31st Dr. Jagger delivered a lecture on the recent Mauna Loa lava flow entitled Bombarding the Lava Flow, at Farrington Hall, Univ-

ersity of Hawaii. Public interest in this lecture was so great that hundreds of persons were turned away and the Directors of the Volcano Research Association have requested Dr. Jaggard to deliver the lecture again some time in April.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Due to heavy rains this month the road crew spent three days repairing the Hilina Pali road. Removal of much fallen material was necessary on the Haleakala road.

230 - New Construction

At the end of March the observation and checking stations on Haleakala, which are being erected by E.J. Walsh, under contract, were 35% completed. The water tank in the utility area on Haleakala was erected.

On March 10 a radiogram was received from your office stating that the contract entered into for the construction of the Haleakala observation station would have to be cancelled and the work re-advertised. The contractor was notified and invitations to bid were again issued on the 28th. However, since the contractor already had completed about 35% of the work he elected to continue since all materials had been purchased. Bids are to be again opened on April 8.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

Annual financial reports of the Volcano House and Volcano Photo Studio were submitted on March 15 and 5th respectively.

320 - Cooperating Governmental Agencies

The FERA concluded its work at the Volcano House about the middle of the month, though the tennis court still remains unfinished.

On March 11 US District Attorney I.M. Stainback filed charges of illegal use of federal relief funds against former FERA Administrator F.J. Cody of this island and three other FERA employees.

On the 13th Captain Joe Harrel, medical officer at the Kilauea Military Camp was relieved by Captain James H. Forsee. Due to a suspected case of spinal meningitis the military camp was under quarantine from the 6th through the 11th.

On the 27th local papers carried an official statement by General Hugh Drum, Commanding the Hawaiian Department, that the Secretary of the Interior had agreed to extend in the form of a permit, the lease to the Kilauea Military Camp. On the 28th the Hilo paper ran an editorial expressing disappointment that the Interior Department had not agreed to

turn over this land to the Army. To date this office has not received any information concerning the proposed extension of the lease.

350 - Donations, Accessions, etc.

On March 4 Territorial Forester Charles Judd donated five negatives for the park files of pictures taken during the ceremonies attending the dedication of this park in 1921.

The first part of a shipment of camera equipment, purchased from Natural History Association funds, for the use of the park, was received on the 12th.

400 - Flora, Fauna and Natural Phenomena

420 - Museum Service

A complete new set of topographic maps of the island of Hawaii was obtained and assembled to replace the old one which had become worn out.

470 - Animals

While on survey work in the Keahou area, the chief ranger and his party saw about 5,000 wild goats. Ranger Williams reported being chased by a wild pig in the Bird Park area and District Ranger Peck reports the wild goats are becoming quite numerous in all remote parts of the Haleakala section.

480 - Natural Phenomena

A detailed report of the activities of the Volcano Observatory is attached

490 - Miscellaneous

During the month the manuscript "Trees of Hawaii National Park" was mailed to your office. This is a 9,000 word paper giving a general description of the trees, including distinguishing characters, location and importance and uses made of it by the early Hawaiians.

On the 21st a special report on the last eruption of Mauna Loa was completed and mailed. This, along with the movie history of the eruption previously mailed to the Chief of the Division of Motion Pictures, constitutes the naturalist's report on this very interesting eruption.

On the 13th Chief Ranger Christ reported that the vegetation in the vicinity of Mauna Iki had increased amazingly, there being new ohia, alii, amau and pukeawe.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Week-end check of travel for March amounted to 985 visitors on Haleakala, a decrease of 77% under last month, due to a drop to nearer normal after the great increase caused by the interest in the snow on Haleakala. At Kilauea the travel amounted to 14,816 as compared with 14,722 for March, 1935.

530 - Visitors

Various groups of Girl and Boy Scouts and YMCA and YWCA members were taken on tours through the park during March, also children from the Kapapala school.

March 3 - Group of tourists from RMS Atlantis

March 4 - Stanley Kennedy, General Manager of Inter-Island Airways and party of 12.

March 15 - Samuel Spencer, Chairman Board of Supervisors, County of Hawaii, A.J. Williamson, FERA Administrator, Island of Hawaii and E.L. Wung, County Engineer, County of Hawaii.

March 18 - Dr. Daniel Poling, President International Christian Endeavor Society.

Dr. and Mrs. R.M. Shand of South Africa spent one week in the park, from March 18 to 25. Dr. Shand is a professor of geology in a university near Capetown. He was given special attention by Dr. Jagger, Assistant Geologist Waasche and Assistant Naturalist Lamb.

March 22 - J.P. McEvoy, feature writer for the Saturday Evening Post. Taken on park tour by Ranger Murray. He expressed a desire to return at an early date for an extended stay on Hawaii.

600 Protection

620 - Fire Protection

The maps and memoranda in connection with the fire atlas for this park were mailed on the 26th.

900 Miscellaneous

HCW Camp Director B.G. Rivenburgh returned to duty on the 9th.

Early in March the governor accepted the resignation of C.T. Bailey, Commissioner of Public Lands in the Territory of Hawaii for the past

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17 odd years. Mr. Bailey was a former officer of the US Geological Survey.

Very respectfully

Edward G. Wingate
Superintendent

GW

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

April 10, 1936

The Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory for March, 1936

Dear Mr. Whgate:

The work of the Volcano Observatory has continued as before, with A. Okuda added to the staff as laboratory assistant. Kilauea Volcano has remained quiet as ^{shown} in the weekly press reports.

Numbers of local seismic disturbances for successive weeks were 20, 29, 53 and 4. The significance of the increase of earthquakes the third week and the excessive quiet of the fourth week is probably a sinking of the deep lava under Kilauea as reaction from similar sinking under Mauna Loa. This was accompanied by an extraordinary closing together of the walls of the measured cracks around Halemauau pit suggesting subsidence underneath. There were three felt earthquakes located under Kilauea. There was marked avalanching of the NE wall greatly enlarging the talus below.

All of this came to an end the fourth week and during this month the smoking of the 1935 rift cone on Mauna Loa appears to have ceased. We still see occasional jets of vapor there when meteorological conditions are right.

Mauna Loa Observations

Dr. Jaggard and Mr. Waesche camped on Mauna Loa March 1 to 5 and explored the upper part of the lava heaps at the 8,000 foot source, north side of Mauna Loa 1935 eruption. Some depressions, filled with lava from below, were found and believed to be bomb craters of the airplane bombardment. Mr. Waesche has sent in a journal of this trip.

Observatory Notes

Okuda has boxed the instruments belonging to the US Geological Survey, which have to be sent back. Sato has been steadily at work on the library, rearranging all pamphlets, books and Observatory publications. Okuda has assisted in making pamphlet cases.

On March 10 the Volcano Letter issues, from July to October, 1935 were mailed to the subscribers by Sato. The November Volcano Letter was prepared by Mr. Jaggar and printed in Honolulu by the multilith process, and issued by the Hawaiian Volcano Research Association March 31.

Much time was given by the volcanologist to preparation of a lecture given March 31 in Honolulu in the large auditorium of the University of Hawaii, with lantern slides and motion pictures. The subject was "The Bombing of Mauna Loa." About 700 persons were present, about 1,000 were turned away. The lecture will be repeated April 15.

Other work of the month was revision of the announcement, Research School of Physical Geology, University of Hawaii, summer of 1936, at Hawaii National Park; also preparation of an article for "The Military Engineer" on "The Bombing of Mauna Loa."

Notable evidence of increase of interest in volcano research by the business firms and individuals is everywhere apparent in the Territory of Hawaii. The donors of Hawaiian Volcano Research Association have increased their subscriptions 25% or more. The Board of Directors has added the president of the university to their number. The Association increased the Volcano Letter of November, dealing with the Mauna Loa outbreak, to eight pages with nine illustrations. At the annual meeting of the Association, March 31, it was voted to increase the classes of membership to four; regular members, sustaining members, patrons, and donors. The number of directors was increased from seven to nine. The editorial and membership work and all sending out of publications, has been transferred from Mr. Jaggar's office to Honolulu, thus relieving the Observatory of a burden.

An important visitor to the Observatory March 24 - 26 was Professor S.J. Shand, a distinguished British petrologist from Stellenbosch, South Africa.

Appreciation should be expressed to the US Geological Survey for permission to transfer extremely valuable apparatus to the Volcano Observatory. The only instruments sent back are those belonging to the Topographic and Geologic Branches. Everything which was paid for from volcanology appropriations is being transferred. On March 26 the petrographic microscope and table and lamp were shipped back to the Observatory, from the Water Resources Branch of the Survey, on Mani.

H.H. Waesche was given leave, for a journey to Japan, March 22

Very respectfully

T.A. Jaggar
Volcanologist

DOCUMENT CAPTURED AS RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
March 31, 1936

The Superintendent,
Thru the Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section for the month of March 1936, is respectfully submitted:

000 General.

010 Introduction.

The observatory now under construction at White Hill is the cause of much interest to the residents of Maui and to park visitors generally.

020 General Weather Conditions.

Precipitation during the month of March amounted to 3.80 inches. The prevailing wind direction was from the northeast. There were 3 clear days during the month.

100 Administration

110 Status of Work.

Weekly reports were kept up to date. Purchases of supplies for road maintenance and operation of trucks were kept up. Regular patrols and inspections were carried on.

120 Park Inspections.

The Haleakala Section was inspected by Associate Architect M. S. Sager on the 5, 6, 16 and 23 of the month, and by Superintendent Edward G. Wingate on the 30 and 31.

150 Equipment and Supplies.

A 5000 gallon water tank with cover, lumber for foundation and 10 bags of cement for same, was received.

200 Maintenance, Improvement and New Construction.

210 Maintenance.

Usual Maintenance of the road was carried on. Removal of ^{the} much

fallen material was necessary.

220 Improvement.

Several more sections of the road were painted with center lines for traffic guidance. Nearly all of the metal signs are now mounted and in place.

230 New Construction.

The Observatory at White Hill is now under construction. A new 5000 gallon water tank has been erected at the utility area.

260 Landscape Work.

Some work was done this month on the grounds at the utility area, in filling depressions and filling with soil for grass planting.

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and guide service.

The Ranger in charge contacted park visitors, represented the Park Service and patrolled the road whenever possible.

470 Animals.

Wild goats are becoming quite numerous in all the remote parts of the Haleakala Section.

500 Use of park Facilities by the Public.

510 Increase or Decrease in Travel.

Week-end check of travel for the month amounts to 985 visitors, a decrease of 77% under the record for last month. This decrease is due to a drop to nearer normal travel after the great increase caused by the people's interest in the snow that fell on Haleakala last month.

600 Protection.

610 Police Protection.

Frequent patrols in various parts of the park area were made during the month. No violations of Park Service regulations were apparent.

630 Accidents.

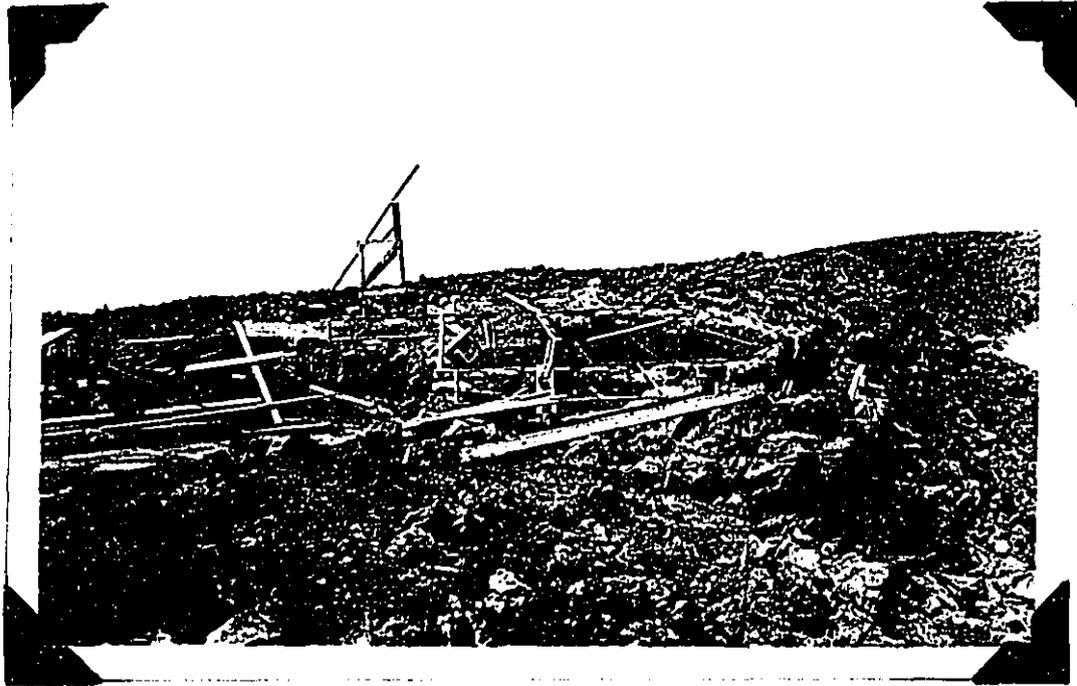
There were no accidents in the Haleakala Section during the month.

Very respectfully,

(Sgd) J.A. Peck

J. A. Peck,
District Ranger

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Showing progress of Construction Haleakala Observation Station
F.P. Project 663.14

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Showing progress of Construction Haleakala Observation Station
F.P. Project 663.14

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Emergency Conservation Work,
Hawaii National Park, Hawaii.

April 11, 1936.

To: Edward G. Wingate, Superintendent, Hawaii National Park.

E.C.W. Narrative Report for March, 1936.

The final month of the sixth enrollment period was a busy one. The prospect of a camp in the Haleakala Section of the park of thirty-five men for the next enrollment period necessitated calling for bids during the month for tents, tools, clothing and various supplies so that shipments would be on hand on Maui and the camp could be started promptly after April 1st.

Although the camp in the Kilauea section is to be one hundred sixty-five men for the seventh period, we will have to enroll a few new boys. Thirty-two boys asked for discharges at the terms end and six boys were dropped, their work and camp conduct did not warrant carrying them further.

One of the boys who visited his home in Kona during the latter part of February developed typhoid fever early in the month. He was removed to the hospital and as the month closes he is in a serious condition. He was given four blood transfusion during the month, several enrollees volunteering the necessary blood.

Although the above case developed from an outside contact, everyone camp was re-inoculated and the latrines, etc., given a thorough disinfecting as a precautionary measure.

Besides the typhoid case, two operations for appendicitis were performed and one hernia case operated upon.

There was considerable rain during the month but, as you will see from the project superintendent's report, good progress was made on our two major projects--viz the Kauna Loa truck trail and the Park Boundary fence.

On the seventh of the month about one hundred and forty boys were taken to South Point, where they stayed all night and enjoyed fishing from the rocks and collecting ophis. Horseshoes, volley ball, basket ball and the soft ball league were the principal other recreational activities.

Father Gregory had his usual Catholic Service. The Protestant service was postponed till April.

Respectfully submitted,

Bartram C. Rivenburgh,
Camp Director, ECW HNP.

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REPORT OF PROJECT SUPERINTENDENT, W. J. STEPHENS, TO THE SUPERINTENDENT,
HAWAII NATIONAL PARK, FOR THE MONTH ENDING MARCH 31, 1936.

During the month, 3459 man days were worked on the following approved projects:

E.C.W. 7. #202	Truck trail	2129
	131 Fencing Boundary	990
	702 Landscaping Road Slopes, Etc.	<u>340</u>

Total man-days 3459

The work on the truck trail continued with fair weather conditions and approximately one mile was completed and 1 mile partially completed. Good surface of gravel and well was found after the 6 mile station, which will need little finishing work.

Two deep cuts were started on the Aa flow in the vicinity of the 7 mile station, giving material for a high fill. The cuts are mostly going thru large Aa. Though some pahoehoe has shown requiring a good deal of powder work. This work has been greatly helped by the new electric detonator, firing up to 50 shots.

Now that the wire and steel posts have arrived, I am able to report completed 2880 rods. There is still 1300 rods with posts set and ready to receive the wire.

The usual crew was kept on Landscape Maintenance.

The average daily turnout was:

To Project Superintendent	157
To Camp Duties	21
To sick, leave, AWOL, etc.	<u>19</u>

Total Average Daily 197

Respectfully submitted,

W. J. Stephens,
Camp Project Superintendent,
ECW HNP.

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STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS
MARCH, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	\$ 44,551.00	\$ 44,218.00	\$ 333.00
45/6406	Forest Prot. & Fire Prev., 1935-'36	300.00	49.81	250.19
4X436.1	Roads & Trails, Nat'l Parks, Emer. Const.	42,040.00	27,390.65	14,649.35
4X391	Roads & Trails, Nat'l Parks, Emergency Construction Act June 19, 1934	25,775.00	25,630.91	144.09
4-0X640.8	Nat'l Ind. Recovery, Interior, Nat'l Parks, Roads & Trails Act 6/16/33	495,538.47	494,963.22	575.25
4-03/7640.14	Nat'l Ind. Recovery, Interior, Nat'l Park Service, 1933-'37:	10,000.00	10,000.00	0.00
4-05/7678.14	Public Works Administration, Allotment to Interior, Nat'l Park Service 1935-'37:	9,303.00	13.08	9,289.92
45415	Hawaii National Park, 1935	36,040.00	34,799.49	1,240.51

10-157
(Dec., 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS, AND RESERVATIONS

TRAVEL REPORT

Hawaii National Park for the month of March, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,							
Cars reentry,							
Motorcycles,							
Total motor vehicles,							
Persons entering via motor vehicles,	14,067	85,059	14,127	98,022	-12,963	.132	
Persons entering via other private transportation,	219	1,827	179	985	+ 842	.855	
Total persons entering via private transportation,	14,286	86,886	14,306	99,007	-12,121	.122	

OTHER TRANSPORTATION:

Persons entering via ^{Hotel} Steamer ,	530	3,235	416	2,330	+ 905	.388	
Persons entering via trains,							
Persons entering otherwise,							
Total other transportation,	530	3,235	416	2,330	+ 905	.388	
GRAND TOTAL ALL VISITORS,	14,816	90,121	14,722	101,337	-11,216	.11	

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii

National Park for the Month of March, 1936

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction New Halemau Trail (F.A.)	80	0	2	
518 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construction (F.A.)	87	3	3	
520.1 Haleakala Road, Post Construction (F.A.)	0	0	0	
521 Post Construction, Uwekahuna-Bird Park Road (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing 10.643 miles cont. and contg.	100	0	0	
FP633.14 For the erection of one observation station and toilets; and one office and Checking station, Haleakala	25	25	0	
FP677.14 Employee's residence and connecting service lines for newly appointed U.S. Commissioner.	0	0	0	

XXXX

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

.....Hawaii..... National Park for the Month of March, 1936.....

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	REG.	P.W.	REG.	P.W.		
Number of employees beginning of month	17	4	1	0	16	42
Number of additions.....	0	0	0	0	0	3
Total.....	17	4	1	0	16	45
Number of separations.....	0	0	0	0	0	42
Number of employees close of month.....	17	4	1	0	16	3
Number of promotions during month.....	0	0	0	0	0	0
Aggregate amount of annual leave taken	27	0	0	0	0	0
Aggregate amount of sick leave taken....	4	0	0	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0

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10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of March, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	25.00	25.00
Total,	25.00	25.00
Remitted,	25.00	25.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	350.00
Park revenues received last year to date,	350.00
Increase,	0.00
Per cent of increase,	None

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR

OFFICE OF NATIONAL PARKS,
BUILDINGS AND RESERVATIONS
HAWAII NATIONAL PARK

HAWAII

REPORT OF SALES OF PUBLICATIONS

MAR 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	820	149.15
Received during month,	260	26.00
Total,	1,080	175.15
(Spoiled USGS Topo Maps)	50	5.00
Sold during month,	15	4.80
On hand at close of month,	1,015	165.35

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,	
Received during month,	
Total,	
Sold during month,	
On hand at close of month,	

Cash on hand beginning of month,	10.00
Sales during month,	4.80
Total,	14.80
Remitted during month,	0.00
Balance,	14.80

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April 4, 1936

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

There follows the report of activities of the ranger department during March, 1936.

000 - General

The activities of the ranger department were purely routine during March, consisting of maintenance of telephone lines, park patrol, etc.

020 - General Weather Conditions

Rainfall at headquarters totaled 9.65 inches, at the CCC camp 8.32 inches and 3.8 inches at Haleakala. March was a very stormy month with only two or three clear days. Fresh snow fell on both Mauna Kea and Mauna Loa on the 28th. At headquarters, hail, the size of marbles fell for approximately 45 minutes on the 27th.

100 - Administration

110 - Status of Work

All work was current during March. Ranger Murray, who had been on annual leave returned on the 10th.

120 - Park Inspections

Regular inspections were made of all work, also trips were made to Hilina Pali, Halape, Mauna Iki, Bird Park and Napau areas.

Haleakala section was inspected by Associate Architect Sagar on the 5th, 6th, 16th and 23rd of the month, and by the superintendent on the 30th and 31st.

150 - Equipment and Supplies

A 5,000 gallon redwood water tank, with cover, lumber for foundation and 10 bags of cement for same was received for the Haleakala section.

170 - Plans, Maps and Surveys

Boundary survey is 80% complete; location of Mauna Loa truck trail entirely finished; and the location of the circular trail of the Volcano House area is also complete.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Due to heavy rains this month the road crew spent three days repairing the Hilina Pali road. Removal of much fallen materials was necessary on the Haleakala road.

220 - Improvements

Several more sections of the Haleakala road were painted with center lines

230 - New Construction

At the end of March the observation station on Haleakala was approximately 35% completed. The water tank at the utility area on Haleakala was erected.

260 - Landscape Work

The small ECW landscape crew continued work around the headquarters and residential areas. Associate Architect Merel S. Sager left on the 22nd for the Orient. He plans to be gone approximately two months.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

The usual dance was held at the Volcano House on the 21st, at which, in spite of the heavy rain, there was a large attendance.

320 - Cooperating Governmental Agencies

The FERA ^{concluded} finished its work at the Volcano House about the middle of March, though the tennis court still remains unfinished.

On the 13th Captain Joe Harrel, medical officer at the Kilauea Military Camp was relieved by Capt. James H. Forsee.

Due to a suspected case of spinal meningitis the military camp was under quarantine from the 6th through the 11th.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The ranger department continued to assist the park naturalist on general park tours and in the museum.

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470 - Animals

While on survey work for two days in the Keauhou area, we saw about 5,000 wild goats. Ranger Williams reported being chased by a wild pig in the Bird park area. District Ranger Peck reports the wild goats are becoming quite numerous in all remote parts of the Haleakala section.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Week-end check of travel for March amounted to 985 visitors on Haleakala, a decrease of 77% under last month, due to a drop to nearer normal travel, after the great increase caused by the interest in the snow on Haleakala. At Kilauea the travel amounted to _____ as compared with 14,722 for March, 1935.

530 - Visitors

Various groups of Girl and Boy Scouts, and YMCA and YWCA members were taken on tours through the park during March.

March 22 - J.P. McEvoy, feature writer for the Saturday Evening Post. Taken on park tour by Ranger Murray.

March 11 - Editor of Harper's Magazine for one day.

600 - Protection

610 - Police Protection

Regular patrols were made of the park every day.

Very respectfully

Joseph H. Christie
Joseph H. Christie
Chief Ranger

CW

CW
F. F. Fischer

April 1, 1936

The Superintendent,
Hawaii National Park,
Hawaii.

Dear Sir:

The following is a report of my time by
hours for the month of Mar. 1936.

Repairs on cars and trucks		91	Hours
Distill battery water		12	"
Repair museum light plant		11	"
Repair washing machine		10	"
Repair gasoline pump Ser. Sta.		9	"
Check in gasoline		8	"
Pump water as follows, High tank	16,500 gal.		
C.C.C. Picnic sth. point	300 "		
Total	16,800 Gal.	6	"
Fill all batteries in cars		6	"
Sharpen and repair lawn mower		6	"
Dress rock tools		3	"
Repair tools in warehouse		3	"
Repair telephones		3	"
Repair kerosene cook stoves (Perfection)		3	"
Repair kerosene torches for lava tube		3	"
Solder kerosene cans		3	"
Transfer gasoline to storage tank		2	"
" " kerosene " " "		2	"
Mark equipment in warehouse		2	"
Dress pick s		2	"
Make wrench for gasoline drums		2	"
Repair fire exts. (1 qt. size)		2	"
Repair gasoline blow torch		2	"
Check Park tools at C.C.C. Camp		2	"
Transfer motdr oil to storage tank		1	"
Repair traffic counter		1	"
Repair tape line		1	"
Repair HUI O PELE box at Museum		1	"
Make trash barrel to police park		1	"
Repair blacksmith forge		1	"
Repair tool for removing spring shackle studs		1	"
Change oil in fire pump		1	"
Repair gasoline lanterns for lava tube		1	"
Repair oil gun for oiling springs		1	"
Clean lower garage		1	"
Check measuring rod for gasoline storage tank		1	"
Clean battery terminals		1	"
Repair case for surveyors instrument		1	"
Make new numbers for garage spaces		1	"

Submitted by,
F. F. Fischer

F. F. Fischer
Mechanic.

[Signature]

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CW
Monthly Report
4/1/36

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

April 1, 1936

MEMORANDUM TO SUPERINTENDENT EDWARD G WINGATE:

The following is a report of work accomplished under my direction during the month of March, 1936.

1. Replaced rotten telephone pole near Bird Park.
2. Cut brush and repaired Halemaunau and Sandalwood trail.
3. Continued repairs to Chain of Craters Road.
4. Screened Comfort Stations at Uwekahuna.
5. Hauled garbage, Quarters area.
6. Cleaned and painted interior, Quarters No. 9
7. Repaired and cleaned cook-stove and water heater Quarters No. 9.
8. Lowered clothes line, Quarters No. 5.
9. Cut lawns of Employee's Homes, twice.
10. Made inspection of Mauna Loa Trail.
11. Removed fallen tree on Lava Tube trail.
12. Repaired Hilina Pali Road.
13. Cleaned gutters of Residential area, twice.

R R Craik
R. R. Craik
Foreman, HNP

W

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

March 28, 1936

Memorandum to all park employees:

In accordance with Memorandum to all Field Officers dated November 29, 1935, from the Director of the National Park Service, attaching copy of Department Order No. 1002, dated November 22, 1935, amending Department Order of June 16, 1931, No. 517, to bring within the Saturday four-hour provision all employees of the National Park Service with the exception of those specified in the following items of the new order:

"Department Order No. 517, dated June 16, 1931, is hereby amended to provide that four hours, exclusive of time of luncheon, shall constitute a day's work on Saturdays throughout the year for all employees in the National Park Service except the following:

1. All per diem, seasonal and temporary employees not appointed by the Secretary.
2. Park policemen at the Hot Springs National Park and U. S. Park Police in the National Capital Parks, Washington, D. C.
3. Permanent and seasonal park rangers, park ranger-historians, park ranger-naturalists, and guards in the national parks, national military parks, national historical parks, national battlefield sites, national cemeteries, and national monuments during the months of June, July and August. During the balance of the year the four-hour provision will apply to these employees."

However, as it is necessary to work throughout the year on Saturday afternoons, Sundays, and legal holidays because of work and travel such overtime services as may be required will be expected from the ranger and naturalist divisions as far as practicable. The persons in charge of these activities will arrange to schedule alternating Saturday afternoon duty. Others will be granted this holiday at some other time during the week. Except as provided in Order No. 517 during June, July and August when eight-hours duty is required.

It is not the intention to utilize this Saturday half holiday when it interferes with park operations to a considerable extent, and all regular jobs must be kept up.


Edward G. Wingate,
Superintendent.

10-23
(May 1929)
G-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

_____ NATIONAL PARK

FILE NO.

MONTHLY REPORT

FEBRUARY, 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All Files should be returned promptly to the File Room: Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

March 9, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

There follows a report on the activities of this park during the month of February.

000 - General

The month passed without any event of special significance occurring, though the four day rain, wind and snow storm at the first of the month, due to the heavy fall of snow on the four highest of Hawaii's mountains, was given considerable front page publicity in island papers. This storm provided the opportunity for the first skiing ever indulged in in Hawaii. Two parties enjoyed the sport on the slopes of Mauna Kea. Incidentally though belatedly, it fulfilled the dream of the late Lorrin A. Thurston, who coined the phrase, "From surfing to skiing in 24 hours."

020 - General Weather Conditions

Rainfall at headquarters totaled 3.61 inches, at the CCC camp 2.7 inches and at Haleakala 3 inches. Ranger Peck reports a total snowfall of 15.5 inches at the summit of Haleakala, which caused a great influx of visitors, many of whom had never seen snow. The following is quoted from a special report submitted by Mr. Peck:

"February 1. I found snow at the 8,000' level and a genuine blizzard going. At White Hill there was about 4" of snow on the ground and every rock and bush was encased in 3 or 4 inches of ice and the temperature was at 30°.....men whom I had formerly known as calm and dignified businessmen, were yelling like Tarzan of the Apes and heaving chunks of ice and snow at each other.....I spent the remainder of the day digging and pulling out cars stalled or stuck in the snow which had drifted quite deep against the banks. There were 117 cars up during the day, at the end of which my clothes had gotten soaking wet and then frozen stiff and it was only with great difficulty that I was able to bend myself enough to get into the car and drive home.

"February 2. About 7" more snow had fallen during the night and the blizzard still raged and with increased fury, with sleet and hail flying like shot. Temperature stayed at 30° all day. I counted 128 cars and put in another miserable day getting cars out of all sorts of trouble, managing to get everyone out without injury to themselves, but some of the cars were put out of commission and had to be taken out by tow-cars."

This storm continued through the 4th, with Mr. Peck and four road maintenance men kept busy hauling out cars. By noon on this date Mr. Peck states he managed to get everyone out of the upper section of the road and closed it from the Halemau-u trail. He further states that the people went wild over the sight of snow, and seemed to lose all sense of reason, being almost impossible to handle. "There was real suffering, especially among those in open cars, but they would have stayed on in the blizzard and probably some would have died."

While this is nothing unusual for the majority of the mainland parks, still in what is supposed to be a semi-tropical climate such weather is something to become excited over.

The storm was general throughout the islands, wind doing considerable damage to trees, telephone and electric wires, etc. The snowfall on Mauna Kea and Mauna Loa was the heaviest since the winter of 1921-22 and probably reached to a lower elevation on Mauna Kea where it was several inches deep at the Humuula sheep station, elevation 6700 feet. It also fell on Hualalai for the first time in years. Hualalai is the fourth highest Hawaiian mountain, located in the Kona district on the island of Hawaii, elevation, 8251 feet.

100 - Administration

110 - Status of Work

All work was kept current during February. Clerk-stenographer Whitney was on annual leave from the 14th through the 26th.

On February 15 application was made for one CCC camp for the 7th enrollment period

120 - Park Inspections by:

121 - Superintendent

The superintendent returned from Honolulu on February 3, and with the exception of a trip to the Kohala district in company with Associate Architect Sager on February 17, spent the month at Kilauea headquarters. Routine inspections were made of such projects as were in progress, particularly the Mauna Loa truck trail and the CCC camp premises.

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130 - Finance and Accounts

A detailed financial statement will be found at the back of this report.

140 - Labor Situation

The recent longshoremen's strike appeared to be settled during the month. At least there have been no further disturbances.

150 - Equipment and Supplies

A new Buick, 8 cylinder, 1936 sedan was received on the 17th. A blacksmith vise and 9 truck canopies for use by the ECW were also received.

160 - Status of Alienated Lands

As previously requested by your office, a report covering appraisal of 2097 acres of privately owned land within the boundaries of this park, was transmitted on February 28. Of this total 18.8 acres has been acquired by the Territorial government, and is ready for transfer to the Interior Department. Condemnation proceedings have been again instituted to acquire the remaining 1.9 acres.

170 - Plans, Maps and Surveys

In preparation for the fencing of part of the park boundaries by the OCG, the chief ranger spent the better part of the month surveying the boundaries. Considerable difficulty has been experienced in trying to recover supposedly marked corners. The road survey is 50% completed.

180 - Circulars, Placards, Publicity bulletins, etc.

A very favorable editorial regarding the activities and administration of the park during the 1935 calendar year appeared in the February 8 issue of the Hilo Tribune-Herald

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Routine maintenance was carried on. Much extra work was necessitated on the Haleakala road because of the storm of the first four days of the month. Some patching is being done on the Chain-of-Craters road by the road crew.

Due to high winds the first part of February additional maintenance of telephone lines was necessary.

230 - New Construction

Location of the EOW powder magazine was made. This will be constructed approximately two miles up the Mauna Loa truck trail.

At the end of the month the Mauna Loa truck trail was approximately 45% complete.

Funds were exhausted for work on the Halemau-u trail with the project only 80% completed. If additional funds cannot be secured it is expected that the Haleakala CCC camp can finish the job during the next six months' period.

Plans for additional employees residence were forwarded the office of the Branch of Plans and Design on the 22nd.

260 - Landscape Work

The EOW crew continued general landscaping and planting around the headquarters area.

On the 17th Associate Architect Sager delivered a talk on landscape architecture before the Masonic club of Kohala.

Word was also received to the effect that Mr. Sager is to be transferred back to the mainland the early part of the summer.

300 - Activities of Other Agencies in the Park310 - Public Service Contractors313 - Schedules of Rates

The 1936 schedules of rates for the Volcano House and Volcano Studio were submitted for approval on the 8th.

315 - New Contracts

Special use permit covering the operation of the Haleakala rest-house and a saddle horse concession on Haleakala by Mr. E.J. Walsh, Manager of the Grand Hotel, Wailuku, Maui, was submitted for approval.

320 - Cooperating Governmental Agencies

The above title is something of a misnomer at times. On February 9 a copy of House Bill 9664 introduced by Rep. Dingell of Michigan, designed to establish the Kilauea Military Reservation was received from Delegate King. The bill would withdraw from the park 49 acres of land on the main road one mile from the park headquarters and hotel development and place this land under the jurisdiction of the War Department.

Further, on February 11 local papers carried a Washington news dispatch assertedly quoting from testimony given by General Drum Commanding Hawaiian Department, before the House Appropriations Committee last December. Certain statements contained in this purported testimony advocating the Dingell Bill were so far removed from facts and of such an unethical nature that it appeared necessary to immediately call the testimony to your attention.

During the latter part of February Honolulu and local newspapers carried articles to the effect that Frank Cody, head of the FERA on this island had been discharged "for cause." Engineer A.J. Williamson has been designated as acting supervisor.

330 - Cooperating Non-governmental Agencies

The protracted matter of recovering from former Ad Club President P.L. Murphy \$310 misappropriated funds of the Hui-O-Pele was settled on February 17 when US District Attorney I.M. Stainback forwarded to this office a certified check for the indebtedness. The check was turned over to the Outdoor Circle which organization now sponsors the Hui-O-Pele.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

February was a very busy month for the naturalist with an increase in contacts due largely to the increase in the number of visitors making the two-day trip from Honolulu by steamer, with other special groups helping to swell the number of contacts.

A cooperative plan has been worked out with the military camp whereby the film "Kakatoa" will be shown twice a month at the camp theater, which is equipped for the projection of sound pictures. This film is a favorite with all classes of tourists and the first program met with great success.

The additions and corrections to the manuscript on the trees of Hawaii National Park have been made and the material will be forwarded to your office as soon as possible.

A list of some 200 titles for inclusion in the bibliography of the park was turned over to the superintendent by the naturalist. It is expected that 300 to 500 new titles will be added before completion. Literature on the region is so voluminous and scattered that anything approaching a complete bibliography would require considerable time on the part of one employee engaged in this special research.

Copy of District Ranger Peck's report for the month of February is attached.

480 - Natural Phenomena

A detailed report of the activities of the Volcano Observatory is attached.

500 - Use of Park Facilities by the Public510 - Increase or Decrease in Travel

Total travel to the Kilauea section during February was 13,619, as compared with 12,419 for the same period in 1935. Due to the unusual amount of snow on Haleakala the travel for that section of the park increased to 4335 visitors.

530 - Visitors

- February 2 - 22 YWCA girls, taken on park tour
- " 17 - Mr. Fred Hansen, Executive Secretary of the YMCA for the Pacific coast and Hawaii, with Mr. Harold Lucas, local secretary, and the superintendent, were guests of Dr. T.A. Jagger at luncheon
- " 22 - 19 YWCA girls, taken on park tour
- " 24 - 140 tourists from RMS Atlantis
- " 29 - Group of boys from the Hilo Boarding School.

600 - Protection610 - Police Protection

At 7:30 p.m. on the 24th the Hilo chief of police called, stating that a Puerto Rican boy had murdered a Japanese taxi driver at Waiakea camp (sugar plantation located near Hilo) and was reported headed toward the park. Accordingly rangers were stationed continuously at the park entrance checking on passing cars. However, at 7:45 a.m. on the 26th the police called again stating the man had been caught in a canefield near Oloa. This boy was a former GCC enrollee in our camp, who had been dishonorably discharged for theft in 1934.

900 - Miscellaneous

The entire staff of the park was greatly shocked to hear of the tragic deaths of Mr. Roger W. Toll, Superintendent of the Yellowstone and George Wright, Chief of the Wildlife Division.

District Ranger J.A. Peck, in charge of the Haleakala section became one of the charter members of the Maui Lions Club at the installation of the club on February 24.

Respectfully submitted

Edward G. Wingate
Superintendent

CW

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Emergency Conservation Work,
Hawaii National Park, Hawaii,
Station 9502.

March 3, 1936.

Subject: E. C. W. Narrative Report. February.
To : Mr. Edward G. Wingate, Superintendent,
Hawaii National Park, Hawaii.

In order to break the monotony of Camp routine, a special trip was arranged on Sunday, February 2nd. All enrollees who had not been guilty of infraction of any of the Camp rules and regulations for thirty days or more were conducted to Punaluu for the day. One hundred and sixty-eight attended this picnic. Several of the strongest swimmers were selected as life-guards and were kept on duty during the swimming. The Camp Quartermaster, with part of his kitchen staff, served lunch on the beach at the conclusion of the swimming. Three of the Foremen who were off duty attended the picnic with their families. The day seems to have been greatly enjoyed by all concerned.

There were two enrollments during the month. Three enrollees were discharged: To accept employment, (2). Failure to abide by Camp rules and regulations, (1)

A very much needed powder house was constructed during the month at a cost of \$163.17. It was erected in a disused Aa pit mauka of Kipuka Puuulu, and well out of sight of the road. The spur truck trail to this pit was improved and a place levelled near the powder house for a turn-around.

The rotting floor of a small house behind the Camp kitchen which is being used for garbage cans, was replaced with a cement floor, drained to a covered pit and the house moved forward to a place more accessible to the trucks. The inside walls were made more sanitary by being covered with sheet iron. All apertures were screened.

A physical training course with 58 volunteers signed up, is being carried on under the guidance of a selected enrollee. This training which begins at 5:30 A.M. is being done out of working hours. Any enthusiasm displayed at that time of the morning towards anything must be real.

New baseball equipment received has revived interest in the sport. A 4-team league has been formed and a few preliminary games played. Two sets of horseshoes received have hardly been permitted to rest since the courts have been laid out. Keen interest is being displayed in games which continue every evening until dark.

A wave of influenza, fortunately of a mild nature, has reached the camp, interfering materially with our turn-out for work. Five cases of appendicitis were operated on in February. One case of Hernia accrued for which an operation was performed.

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Principal equipment received:

Blasting machine	\$ 36.25
Test telephone and case	48.60
Bows and Canvas for 9 trucks.	288.00
Rock wedge, 1 doz.	24.75
Sport equipment.	89.44
Heavy road rakes, 1 doz.	22.50
Copper Platen roller	8.00
Machinists' vise.	33.15
Blankets, saddle, 1 doz.	17.50

The Project Superintendent's report is attached herewith.

Kenneth J. Williams,
Acting Camp Director.
ECW HNP.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
February 28, 1936

The Superintendent,
Thru the Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report for the Haleakala Section, for the month of February, 1936, is respectfully submitted:

000 General

010 Introduction

The Kona storm that came the first part of this month was the cause of much work for the cantoneers and myself, in keeping the road clear of snow and rubble and caring for visitors.

020 General Weather Conditions.

Precipitation during February amounted to 3 inches. There was 15.50 inches of snowfall. The prevailing wind direction was from the northeast. There were 2 clear days during the month.

100 Administration.

110 Status of Work.

Weekly reports were kept up to date. Purchases of supplies for road maintenance, trail construction and operation of trucks, were kept up. Regular patrols and inspections were carried on.

200 Maintenance, Improvement and New Construction.

210 Maintenance.

It was necessary to clear the road of snow from approximately one mile below the summit on up, to make it passable for cars. Much extra work was caused by the unusual amount of rubble that fell into the road after the storm. No serious damage was done.

220 Improvement.

Several more sections of the road were painted with center lines for traffic guidance.

230 New Construction.

Work on the Halemanu trail project has consisted in widening the pioneer trail to safe width for saddle and pack stock. No serious damage was done by the storm.

- 2 -

400 Flora, Fauna and Natural Phenomena.

410 Ranger, Naturalist and guide service.

The ranger in charge contacted park visitors, represented the Park Service and patrolled the road whenever possible.

500 Use of Park Facilities by the Public.

510 Increase or Decrease in Travel.

Check of travel for the month amounts to 4335 visitors, an increase of 561½ over the record for last month. The increase is due to the peoples interest in the snow that fell on the summit of Haleakala during the first few days of this month, some of which still remains.

530

A number of members of the Lions Club visited the park Feb. 23.

600 Protection.

610 Police Protection.

Frequent patrols in various parts of the park area were made during the month, including several trips over the Halemauua trail and to the rest-house. No arrests were made.

630 Accidents.

Only minor accidents occurred in the Haleakala Section this month.

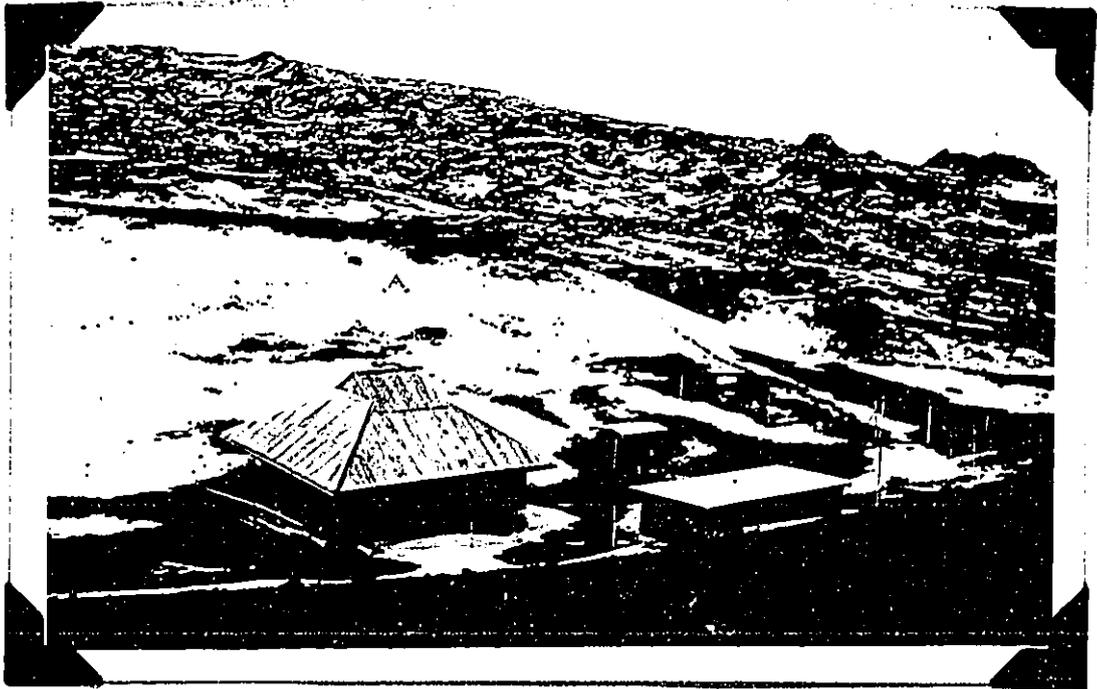
900 Miscellaneous.

On February 15, Mr. Tarleton, an old resident in the Territory, accompanied me on a visit to "Adu Cave" on Haleakala, an interesting archaeological feature which should be preserved.

Vary respectfully,

(Sgd) J. A. Peck,
District Ranger.

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Puu Ulaula rest house - 10,000 ft. Mauna Loa. Feb. 4
Photo Higashida.



Source cone of Nov.-Dec. Mauna Loa lava flow. Elevation 12,000 ft. Photo Waesche Feb. 18. Considerable smoke continues to rise from the source region. Base and sides of cone are being stained a bright yellow by accumulating deposits of sulphur.



Nov.-Dec. lava flow near 12,000 ft. source. Two months ago this snow filled channel was a river of molten rock. Mauna Kea, 13,780 ft. in left background. Photo Waesche, Feb. 18.



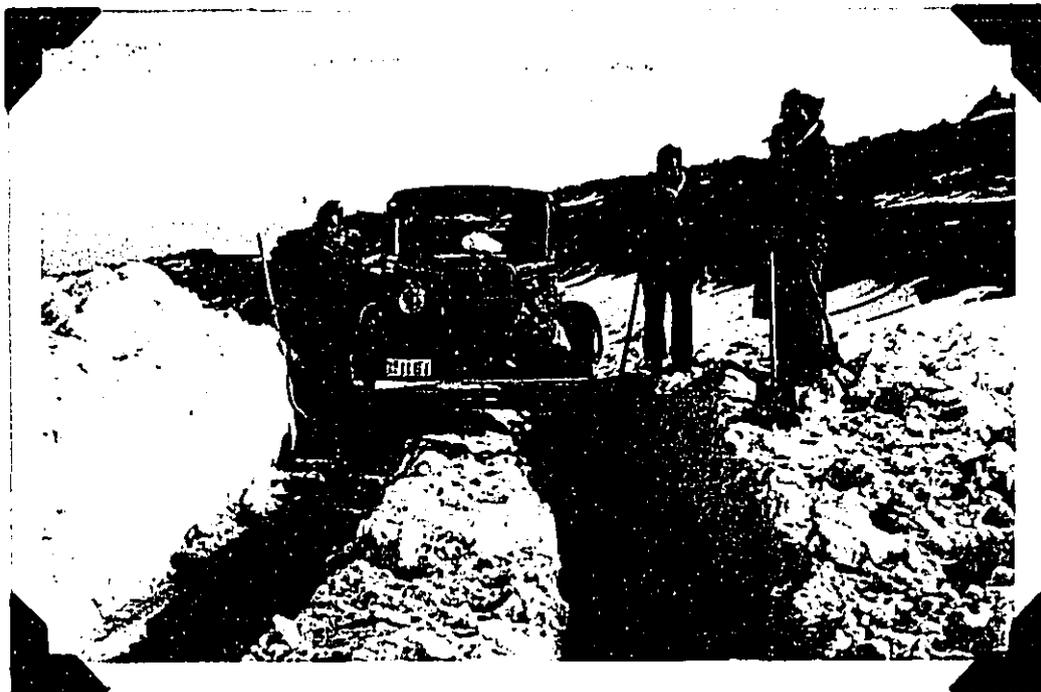
Above - Nov.-Dec. lava flow - Near view of source cone. Note size of man for scale - Photo Waesche, Feb. 18.



Right - Nov.-Dec. lava flow - typical source crack - showing how mountain split open. Photo Waesche, Feb. 18.

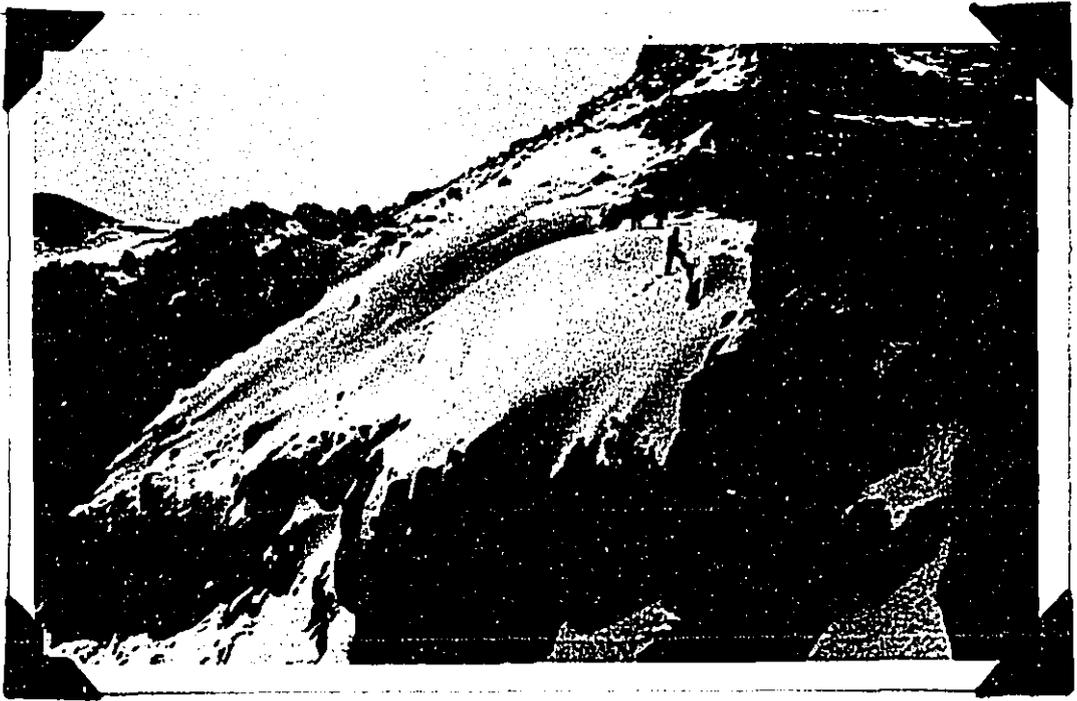


Southwest rim Haleakala Crater after storm of Jan. 31 - Feb. 4. Mauna Kea and Mauna Loa on the Island of Hawaii can be dimly seen in distance. Photo Peck, Feb. 5.



This is Hawaii - clearing snow from Haleakala road after storm. However this is not a preliminary justification for the purchase of rotary plow. Photo Peck, Feb. 5.

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West rim Haleakala after snow storm.

STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

FEBRUARY, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	\$44,551.00	\$43,507.88	\$1,043.12
45/6406	Forest Prot. & Fire Prev., 1935-'36	300.00	43.81	256.19
4X436.1	Roads & Trails, National Parks, Emergency Construction	42,040.00	27,390.65	14,649.35
4X391	Roads & Trails, National Parks, Emergency Construction Act June 19, 1934	25,775.00	25,637.66	137.34
4-0X640.8	National Ind. Recovery, Interior, National Parks, Roads & Trails Act June 16, 1933	495,538.47	494,963.22	575.25
4-03/7640.14	Nat'l Ind. Recovery Interior, Nat'l Park Service, 1933-'37	10,000.00	10,000.00	0.00
4-05/7678.14	Public Works Administration Allotment to Interior, National Park Service 1935-'37: 9,303.00	9,303.00	8,212.00	1,091.00
45415	Hawaii National Park, 1935	36,040.00	34,801.66	1,238.34

10-157
(Dec., 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS, AND RESERVATIONS

TRAVEL REPORT

Hawaii National Park for the month of February, 1936

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	12,747	70,992	11,691	83,895	-12,903	.154
Persons entering via other private transportation,	238	1,608	149	806	+ 802	.995
Total persons entering via private transportation,	12,985	72,600	11,840	84,701	-12,101	.143

OTHER TRANSPORTATION:

Persons entering via ^{Hotel} stages ,	634	2,705	579	1,914	+ 791	.413
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	634	2,705	579	1,914	+ 791	.413
GRAND TOTAL ALL VISITORS,	13,619	75,305	12,419	86,615	-11,310	.131

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of February, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	50.00	0.00
Total,	50.00	0.00
Remitted,	50.00	0.00
On hand close of month,	0.00	0.00

Park revenues received this year to date, 325.00

Park revenues received last year to date, 325.00

Increase, 0.00

Per cent of increase, None

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS,
BUILDINGS AND RESERVATIONS

REPORT OF SALES OF PUBLICATIONS

HAWAII NATIONAL PARK
February, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	820	149.15
Received during month,	0	0.00
Total,	820	149.15
Sold during month,	0	0.00
On hand at close of month,	820	149.15

NON-GOVERNMENT PUBLICATIONS:

On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		

Cash on hand beginning of month,	10.00
Sales during month,	0.00
Total,	10.00
Remitted during month,	0.00
Balance,	10.00

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

.....Hawaii..... National Park for the Month of February, 1936.....

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	REG	PW	REG	PW		
Number of employees beginning of month	17	4	1	5	16	33
Number of additions.....	0	0	0	1	1	16
Total.....	17	4	1	6	17	49
Number of separations.....	0	0	0	6	1	7
Number of employees close of month.....	17	4	1	0	16	42
Number of promotions during month.....	2	0	0	0	0	0
Aggregate amount of annual leave taken	13	0	0	0	0	0
Aggregate amount of sick leave taken....	2	0	0	0	0	0
Aggregate amount of leave without pay..	0	0	0	0	0	0

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10-158

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii

National Park for the Month of February, 1936

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction new Halemau Trail (F.A.)	80	2	3	
518 7 Haleakala Road, Landscaping (F.A.)	100	0	0	
520 Haleakala Road, Post Construction (F.A.)	84	3	3	
521 Post Construction, Uwekahuna-Bird Park Road (F.A.)	100	0	0	
522 7 Haleakala Road, bituminous surfacing 10.643 miles cont. & contg.	100	0	0	
FP633 For the erection of one observation station & toilet; and one office & checking station, Haleakala	0	0	0	
FP677 Employee's residence and connecting service lines for newly appointed U.S. Commissioner	0	0	0	

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

March 11, 1936

The Superintendent
Hawaii National Park

Subject: Report of Volcano Observatory
for February, 1936

Dear Mr. Wingate:

The staff of the Volcano Observatory included T.A. Jaggar, Volcanologist, H.H. Waesche, Assistant Geologist of the National Park Service; H. Yasunaka of the Hawaiian Volcano Research Association and S. Sato of the CCC camp.

Kilauea Volcano has remained very quiet, Mauna Loa Volcano has continued to eject diminishing fume at the upper vent; this was investigated by a visit to the rift cone by H.H. Waesche February 18 and local seismic index has been very low.

The work of the month has included preparation and printing of the Volcano Letter for 1935, revising the mailing lists of the Volcano Letter and the membership lists of the Hawaiian Volcano Research Association, preparing materials for publication and illustration of the Mauna Loa eruption, and attendance by the volcanologist at a meeting of the Board of Directors of the Association in Honolulu February 18.

Observations of Mauna Loa

Mr. Waesche reported February 25 on a trip to the smoking cone of Mauna Loa made February 17-18 in company with D. McClellan. The cone northeast was found to be 750 feet long, 150 feet wide and 75 feet high at the locality of the fountain of November 24 and this cone was not fuming. The southwestern cone which has been the smoke-hole of the eruption for many weeks was found to be 500 feet long, 250 feet wide and 80 or more feet high and to be emitting bluish-white fume, smelling of sulphur dioxide from many places without noise. The outside was coated with sulphur, sulphates, and with selenium in many places. There was considerable snowdrifts. It may be remarked that snow fell to unusual low levels on Mauna Kea and Mauna Loa during this month, so that skiing was done by several persons on Mauna Kea. No puffing or rumbling was reported at the sulphurous cone on Mauna Loa. There was still heat in the cinders and in the vents of both cones. The largest sulphur deposit was at the southwest end of the southwestern cone.

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Observations of Kilauea

There is nothing remarkable to report for Kilauea Crater. There was a shock February 6, feebly felt at Kilauea and Hilo, but otherwise the seismic motion has been confined to very feeble earthquakes and tremors. For the week ending February 23, the local seismic index was only 3.50. The slides in Halemsunau pit have been few and the opening of cracks has been slight.

Observatory Notes

The meeting of the Board of Directors of the Hawaiian Volcano Research Association was attended by President D.L. Crawford of the University of Hawaii. The board approved a budget appeal to the subscribers of the association, asking for \$8,600. for the calendar year 1936. Copies of the budget appeal are enclosed herewith. The response to this appeal promises to be favorable, in the opinion of the business men who are members of the board. The board voted to supply an additional laboratory assistant to the Director of the Observatory, beginning March 1. This assistant will be Asao Okuda, a carpenter who has been employed by the Park Service, and who has worked for the Observatory on various mechanical jobs in the past. This additional worker will enable the Volcanologist to build shelves, pamphlet cases, library fixtures, specimen cases, and laboratory improvements, such as are greatly needed for the research work planned by the University for the summer season of 1936 at Hawaii National Park.

With reference to this University work, the Volcanologist, on February 22, prepared a comprehensive plan for President Crawford, outlining the method whereby a few specialists from the University, and from the park staff should engage in definite summer researches. A few graduate students will be enrolled. These will act as assistants and the only teaching will be by direct contact and occasional seminars. This plan was approved by President Crawford on a small scale for 1936.

A visit from Dr. Arthur Compton of the University of Chicago, specialist in cosmic rays, was a pleasant incident of the four days, February 23-26. Dr. Compton gave an interesting lecture in Hilo. We showed him Kilauea and he visited the Mauna Loa flow at Hamuula.

Publications

Reprints have been received of the following three publications of research by workers of the Hawaiian Volcano Observatory.

Some Volcanoes of Southern Chile, by J.B. Stone and Earl Ingerson, American Journal of Science Vol. XXVIII, Oct. 1934, pages 269 to 287.

Earthquakes Associated with the 1934 Eruption of Kilauea, Hawaii, by Austin E. Jones, Journal of the Washington Academy of Sciences, Vol. XXV, No. 10, Oct. 15, 1935, pp 429 to 435.

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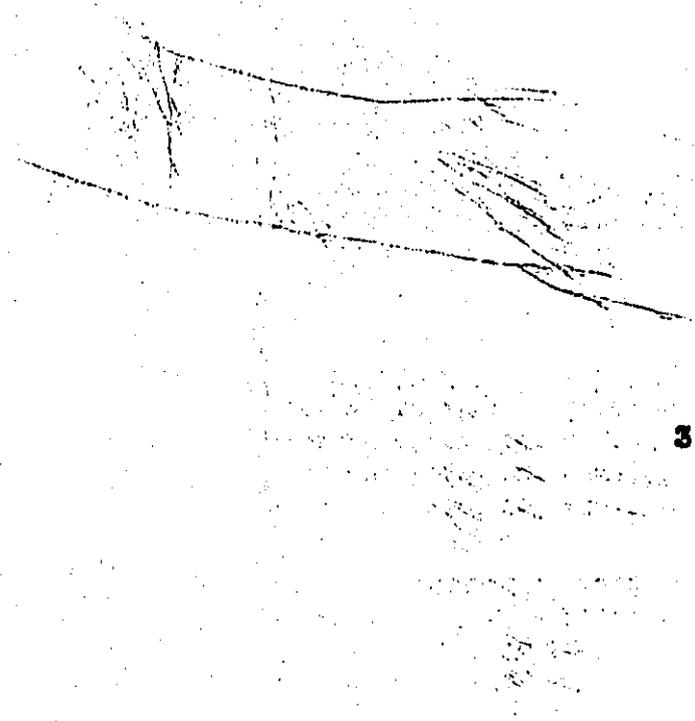
Shipboard Plane Table and Azimuth Camera: An Experiment in Navigation by T.A. Jagger, Proceedings Hawaiian Academy of Science, Special Publication No. 26, B.P. Bishop Museum, 1935, pp. 13 and 14.

Two copies of each of these publications are appended to this report.

A biography of Professor B. Koto was finished and sent to the Geological Society of America, February 14. A visitor to the park February 20 was Mr. Fred Hansen of the Young Men's Christian Association. Another visitor February 23 was Dr. Oliver Emerson, formerly a research Fellow of the Observatory. Numerous inquiries have come to the Observatory from rating bureaus and insurance companies dealing with volcano and earthquake insurance in the Hawaiian Islands.

Very respectfully

T.A. Jagger
Volcanologist



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[FROM AMERICAN JOURNAL OF SCIENCE, VOL. XXVIII, OCTOBER, 1934.]

SOME VOLCANOES OF SOUTHERN CHILE.

J. B. STONE AND EARL INGERSON



SOME VOLCANOES OF SOUTHERN CHILE.

J. B. STONE AND EARL INGERSON.

INTRODUCTION.

During three months in 1929 and 1930 the senior author of this paper, under appointment as a Research Fellow of the Hawaiian Volcano Research Association, was engaged in a reconnaissance of the Chilean volcanoes between the latitudes of $35^{\circ} 30'$ and $41^{\circ} 30'$ south. The object of this investigation was to discover what volcano in this part of Chile would be the most suitable as a location for a volcanological observatory. A detailed report on the reconnaissance has been presented to the Association, but because of delay in its publication some of the results are summarized here. Since the preparation of that report the junior author of this paper has made a petrographic study of the specimens collected, and his results form the second part of the paper.

PART I—DESCRIPTION OF THE VOLCANOES.

Knowledge of the Chilean volcanoes.—Little detailed work has been done on the Chilean volcanoes, and in some cases even accurate reconnaissance notes are lacking. Much of the existing literature was written by German residents of Chile or by visitors from Germany and has appeared in the publications of local scientific societies and of the University of Chile, as well as in a number of German periodicals. The general works of Sapper and von Wolff include data compiled from various sources. The most important works are given below.

Brueggen, J., *Bibliografía minera i jeológica de Chile*: Soc. Nac. de Minería Bol., 1919.

Idem., *Bibliografía minera y geológica de Chile (continuación)*: Publ. del Cuerpo de Ing. de Minas, Folleto 16, 1927.

These publications include a fairly complete bibliography of Chilean volcanism. A more complete list is included in the forthcoming report of the present senior author.

Martin, C., *Landeskunde von Chile*, 2nd ed., L. Friederichsen & Co., Hamburg, 1933.

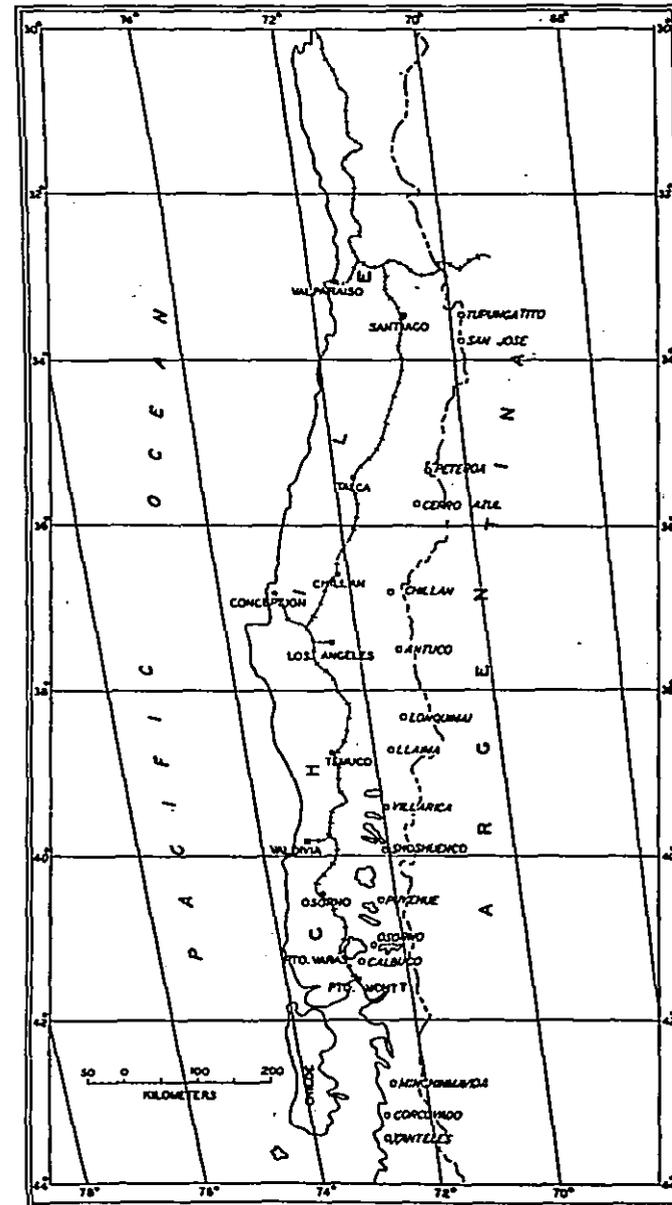
This work by a long-time resident of Chile gives an excellent description of the country, with many notes on volcanoes that have been freely used by later writers.

Sapper, G., *Vulkankunde*, Stuttgart, 1927.

Pp. 353-354 give a list of Chilean volcanoes in the region discussed in this paper with abbreviated notes on activity, mostly without reference to the source of information. An earlier work by Sapper (*Katalog der geschichtlichen Vulkanausbrueche*, Strasburg, 1917) gives references to the literature.

Some Volcanoes of Southern Chile.

271



Index map showing the principal volcanoes of Southern Chile. The group including Descabezado Grande and Quizapu adjoins Cerro Azul.

Servicio Sismologico de la Universidad de Chile. The annual bulletins of this organization include brief notes on volcanic activity and occasional longer articles on important eruptions.

von Wolff, F., *Der Vulkanismus*, Stuttgart, 1929.

Pp. 334-342 give notes on the volcanoes discussed here, agreeing generally with Sapper but in slightly more detail. Pp. 400-401 contain two analyses of rocks from this region. Pp. 420-422 give a short bibliography.

Distribution of the volcanoes.—The south-central part of Chile, though nowhere more than 140 miles wide, is divided topographically into three still narrower strips: the low coast range, the longitudinal valley, and the western slope of the Andes. The volcanoes considered in this paper lie along the western flank of the Andes between the cities of Talca and Puerto Montt, or between $35^{\circ} 30'$ and $41^{\circ} 30'$ south latitude. All of southern Chile slopes toward the south, so that the Andes in this region are not as high as in the latitude of Santiago, where Aconcagua reaches a height of 23,000 feet. Moreover, the volcanoes, instead of being near the crest of the cordillera as they are farther north, stand out in front of the main range and are more easily accessible.

The following list gives all volcanoes between the latitudes of $35^{\circ} 30'$ and $41^{\circ} 30'$ S. that are shown on the map of Chile (scale 1:500,000) issued by the Ministerio de Fomento (Departamento de Tierras y Colonizacion) in 1928. The positions and heights are taken from the same source and do not agree entirely with those given by Sapper and von Wolff. The records of activity are taken mostly from Martin with the addition of some well-substantiated outbreaks. Additional dates are given by Sapper and von Wolff.

Descabezado Chico 3250 m., lat. 35-31 S., long. 70-39 W. Extinct.

Descabezado Grande 3830 m., lat. 35-35 S., long. 70-47 W. Extinct.

Cerro Azul 3810 m., lat. 35-39 S., long. 70-46 W. Extinct.

Quizapu (Cerro del Medio)—between Descabezado Grande and Cerro Azul. Active in 1847, 1912, 1921, 1922, 1923, 1927-1929, 1932.

Las Tegas or San Pedro 3500 m., lat. 35-39 S., long. 70-52 W. No activity recorded.

Chillan 3000 m., lat. 36-50 S., long. 71-30 W. Active in 1750, 1861-1865, and 1906.

(Sapper and von Wolff list the volcano Tromen or Pomahuida. According to von Wolff it is in the Argentine Republic.)

Antuco 2990 m., lat. 37-25 S., long. 71-20 W. Active in 1752 and early 19th century. Last eruption 1863 (von Wolff).

Copahue 3010 m., lat. 37-50 S., long. 71-11 W. No activity recorded.

- Callaquen or Callaqui 3090 m., lat. 37-56 S., long. 71-27 W. Smoking in middle of 18th century.
- Trolguaca 2780 m., lat. 38-18 S., long. 71-39 W. Extinct.
- Lonquimai 2890 m., lat. 38-23 S., long. 71-35 W. Active in 1853, 1887, and 1889.
- Llaima 3060 m., lat. 38-42 S., long. 71-44 W. Active in 1852, 1862-66, 1892, 1903, 1912, 1917, 1927, and 1930.
- Villarica 2840 m., lat. 39-25 S., long. 71-56 W. Active in 1640, 1876, 1906-1908, and 1920.
- Quetrupillan 2360 m., lat. 39-31 S., long. 71-43 W. Extinct.
- Lamin 3740 m., lat. 39-39 S., long. 71-30 W. Long extinct and partly dissected.
- Shoshuenco 2360 m., lat. 39-55 S., long. 72-02 W.
- El Mochó 2432 m., lat. 39-56 S., long. 72-01 W. Shoshuenco and El Mochó are sometimes known together as the volcano "Riñihue." Reported active in 1907.
- (Sapper lists Riñinahue lat. 40-18 S., long. 72-06 W., as active in 1907. This outbreak may be the same as listed here under Riñihue.)
- (Sapper and von Wolff mention an explosive eruption followed by a lava flow in 1921 at Los Azufres, lat. 40-28 S., long. 71-53 W.)
- Puyehue 2240 m., lat. 40-35 S., long. 72-07 W. (about). Crater near Cerro Cañe was active in 1905 and 1922.
- Puntagudo 2490 m., lat. 40-58 S., long. 72-16 W. Long extinct and deeply dissected. Reported active in 1930 (Boletín Serv. Sism., 1930). Probably an error.
- Osorno 2680 m., lat. 41-07 S., long. 72-29 W. Active in 1834-35 and probably later until about 1850.
- Calbuco 2015 m., lat. 41-20 S., long. 72-39 W. Active in 1893, 1906 (steaming), 1917, and 1929.

Including Riñinahue and Los Azufres, this list shows 23 volcanoes, of which nine (possibly only eight in case of duplication) have been active since 1900 and of which ten (eleven including Callaquen) have had no recorded outbreaks. The others (Antuco, Lonquimai, and Osorno) were active in the 19th century.

The following paragraphs describe the important volcanoes in slightly more detail. All except Quizapu were visited by the senior author.

Quizapu.—The volcano now called "Quizapu" came into existence on Nov. 27, 1847, by an explosive eruption lasting three days. At the end of that eruption a new cone had been formed where formerly there had been a pass between the extinct volcanoes Descabezado Grande and Cerro Azul. Solfataric emanations were noted from the time of the eruption until 1870, when they ceased, and the cone was not again active until 1912. Since 1912 it has been intermittently active, especially from 1927 to 1929, although the activity ceased completely from a few days before the Talca earthquake of Dec. 1, 1928, until 24 hours afterwards.

On April 10, 1932, after some preliminary signs of activity Quizapu began a violently explosive eruption that lasted two days but had entirely died away by April 21. The column of smoke from the volcano is reported to have reached a height of about 15,000 meters, and ash from the eruption reached Buenos Aires, 1,200 kilometers away, early on April 11. Investigations since the eruption show that much coarse pumice was ejected, and a lava flow probably occurred.¹

Chillan.—Chillan is reported to have been smoking in 1750 and was in eruption from 1861 to 1865, commencing a few months after a disastrous earthquake near Mendoza in the Argentine Republic and the simultaneous extinguishing of the volcano Antuco (Martin, p. 85). It became active again on Aug. 6, 1906, and remained active for about four months. During this eruption the volcano ejected ash and glowing stones, but there were no lava flows. On Aug. 16, 1906, occurred the terrible earthquake that destroyed most of Valparaíso. In Nov., 1929, two small plumes of steam were seen issuing from the cone built in 1906.

The volcano of Chillan consists of two small cones half a mile apart, standing on a deeply dissected and glaciated platform of ancient (Tertiary?) lavas. There are said to be five or six old craters in the immediate vicinity. The Volcan Nuevo, from which came the eruption of 1906, is a low, broad, black cone. The Volcan Viejo is a similar but less perfect cone farther southeast. Hot-springs, the well-known Termas de Chillan, issue from the older lavas in a little gully. The springs most used give very hot waters, some heavily charged with iron and others smelling and tasting strongly of sulphur. Higher up is a group of small furiously boiling fumaroles issuing from yellowed lavas containing disseminated pyrite. Post-glacial lava flows are seen in the valley below the Termas.

Antuco.—According to Martin, Antuco erupted some time in the early 19th century, and both Sapper and von Wolff list an eruption in 1752 and several others up to 1863. In the "Voyage of the Beagle" Darwin mentions the superstitious belief in Talcahuano that the great earthquake of 1835 which

¹ Serv. Sismol. Univ. Chile, Bol. 19, p. 21, 1927, and Bol. 22, pp. 29-39, 1930. The Boletín for 1930 (published in 1932) contains a most interesting preliminary account of the eruption of 1932. Press dispatches at that time erroneously attributed the eruption to various inactive volcanoes in the vicinity.

destroyed both Talcahuano and Concepcion was the result of the stopping-up of the volcano Antuco by an Indian witch two years previously. The present inhabitants of the region know of no eruption of Antuco. The volcano was steaming slightly in Nov., 1929, and some bluish vapor was seen in the north part of the summit crater. There are hot spots around the rim of the crater, and Martin points out that the cone in spite of its height has little or no permanent snow.

The region around Antuco shows a long and complex history of volcanism. A basement of granitic and metamorphic rocks is seen between the village of Antuco and the volcano. Above this basement comes the great pile of interbedded lava flows and pyroclastic rocks cut by a few dikes that forms the Sierra Velluda. This range is deeply eroded and glaciated, so that it no longer presents the outward shape of a volcano. Much younger than these oldest volcanics but apparently older than the cone of Antuco is the great accumulation of ejecta in the valley of the Rio de la Laja. Explosive craters probably existed in the northwest slope of the Antuco mass, and a segment of an old rim can be seen northeast of the present cone.

The cone of Antuco is largely covered (as far as could be seen with much snow on the ground) by aa flows, many of which originated near the summit crater. The crater is now occupied by rough aa, which overflowed through a break in the east rim. A horse-shoe shaped cone low down on the west slope was the source of the freshest flow seen. All of the flows and fragments examined in the field were basalts, mostly containing olivine. A common type is a vesicular basalt with abundant plagioclase phenocrysts and a few olivine phenocrysts. The old flows of the Sierra Velluda were not seen close at hand except as they are represented by fragments in the later pyroclastics.

Llaima.—According to Martin, Llaima was active from 1862 to 1866 and emitted high smoke clouds in 1864. Other eruptions took place in 1852 and 1892,² and other dates are given by Sapper and von Wolff. On May 12, 1903, another eruption occurred in which lava flows were poured out that could be seen from Temuco. This eruption lasted two days and changed the shape of the volcano (Martin). Llaima was active also in 1912 and 1917.

² Serv. Sismol., Univ. Chile, Bol. 22, p. 16, 1930.

In 1927 Llaima was active from Oct. 5 to 8, and again from Nov. 27 to Dec. 5.³ According to local residents the southeast crater was the more active, although the northwest cone smoked. The eruptions built up the southeast cone noticeably. At night fountains of fire and incandescent rocks were thrown into the air, and a "river of fire" ran down the south slope. The senior author could find no sign of a recent lava flow under the snow on the southern foot of the summit cone, but there may have been a flow farther around to the east. Two or three inches of fresh black scoriae lay on the glacial ice on the south slope. It may have come from the summit crater or from a fountain at the source of a flow. During the eruption of 1927 ash and lapilli up to about 2 cm. in diameter fell on the north side of the volcano, three to five miles from the summit. Earthquakes were felt at the same place.

In December, 1929, Llaima was emitting dense white smoke from both summit craters. An eruption of "lava" and ash occurred in July and August, 1930.⁴ No plutonic or metamorphic rocks were seen near Llaima. The double cone of the volcano stands on a wide platform composed largely of aa flows. One large cinder cone at the west edge of this platform consists of black or locally red basaltic scoriae and many broken bombs. A line of large old cones extends off to the northeast, and other cones were seen to the southeast. Where the surface of the volcanic platform is not covered by aa flows, it has a covering of ejected blocks, pieces of bombs, ash, and black scoriaceous pumice. The glaciers that now cap the volcano formerly extended lower down and have left polished flows on the northwest slope and moraines on the southwest to mark their former position. All lavas seen or collected on Llaima are basalts. Those with recognizable phenocrysts generally show feldspar and olivine.

Villarica.—Villarica erupted lava in 1640, and in 1876 its glow could be seen far over the land and even from the ocean (Martin). It was active from 1906 to 1908, during which time there were several explosive eruptions. On Oct. 31, 1908, a strong ash eruption melted the snow and glacial ice on the

³ Serv. Sismol., Univ. Chile, Bol. 19, pp. 27, 29, 32, 1927.

⁴ Serv. Sismol., Univ. Chile, Bol. 22, pp. 16, 18, 1930. The word "lava" is popularly used in Chile for fragmental as well as fluid volcanic products. Unless flows are specifically mentioned in press dispatches, their occurrence should not be assumed from the word "lava."

east side of the cone and caused an avalanche or flood that reached Lake Villarica at Pucon (von Wolff and local residents).

In 1915 and until 1918 a glow could be seen over the crater at night, and after the glow disappeared there was white "smoke" or steam. In 1918 the volcano had a deep, open summit crater. On Dec. 9, 1920, a sharp earthquake was felt at ranches on the north slope of the cone. Other shocks followed, and on the next day the volcano began a series of explosions that lasted about 36 hours. Little or no material was thrown from the crater. In 1921 the summit crater was nearly all filled with broken rock. In 1929, when seen by the senior author, there was again an open crater 200 or 250 feet across and at least 150 feet deep, from which rose a thin cloud of fume containing sulphur dioxide. The outer rim of the crater consisted of reddened or bleached slaggy lava.

Lake Villarica, like most of the big lakes of southern Chile, was formed by glaciers rising in the cordillera to the east. The west shore of the lake and the surrounding country is of moraine and outwash material. The east shore and the little island in the middle of the lake are of ice-polished volcanic rocks. Some wooded hills south and southeast of Pucon are also composed of volcanic rocks, probably of the same pre-glacial series.

The route up the volcano from the north follows a steep-sided valley floored by fairly recent flows and volcanic sands. The shape of this valley strongly suggests a radial fault trough. Most of the surface of the cone between timber line and snow line is covered by aa flows, but there are a few rough pahoehoe flows. Basalts with abundant and conspicuous feldspar phenocrysts are common, and some unusual glassy flows were seen.

Osorno.—In the "Voyage of the Beagle" under the date of Nov. 26, 1834, Darwin notes that Osorno "was spouting out volumes of smoke," and on the night of Jan. 19, 1835, he observed an eruption. Since about 1850, however, no activity is known, and for many years the great ice mass filling the summit crater has been much the same.

Very few lava flows are seen on the surface of Osorno, but instead it is covered by harsh pumice and angular gravels, partly thrown out by explosive eruptions and partly formed by erosion. At the west foot of the volcano on the lake shore

just north of Ensenada there is an area of fairly fresh aa flows of different ages, as is shown by the size of the trees growing on them. These flows represent one of the last phases of activity and come from the lower part of a radial rift zone on the southwest slope, the rift being marked up to the edge of the ice cap by many large cinder and spatter cones. Not all these cones were the sources of flows, but most are covered only by basaltic cinders and a few bombs. A few other inconspicuous cones are scattered over the whole mountain but scarcely mar its symmetry.

The top third of Osorno is completely covered by a cap of ice, except in two places where a small bit of the crater's rim is exposed. The rim is of black slaggy lava. The width of the crater is between 250 and 300 meters. A small remnant of heat in the crater keeps the two outcrops bare and keeps open caves extending steeply down under the edges of the great heap of ice in the crater.

Calbuco.—Darwin noted that Calbuco was emitting little jets of steam in 1834, and the volcano is reported to have been active in the first half of the 19th century. For forty years or more before 1893, the volcano was so quiet that snow filled its crater, and a glacier lay on the south slope. In 1893, however, there were ash eruptions from January to November. The renewed volcanic activity accompanied by heavy rains melted the snow and ice, and caused great floods and landslides. Forests were set on fire by "masses of glowing lava" (Martin). In 1906 steam clouds still rose at times from the crater. In 1911 Calbuco had a circular, steep-walled crater one kilometer across with a cone in the middle (von Wolff). In April, 1917, there was a brief ash eruption.

On Jan. 6, 1929, there was another brief explosive eruption. After preliminary rumblings a great flame shot from the summit crater and was followed by an immense cloud of ash accompanied by much lightning. A light earthquake was felt at about the same time. The ash drifted far to the east into the Argentine Republic. On the north slope of the volcano brush and small trees were killed and slightly charred by a downward blast of ash. As in 1893 floods were caused by the melting of snow and ice.

In January, 1930, the senior author found that the eruption of the previous year had left a funnel-shaped pit at the east

end of a larger and older summit crater. Thick white fume was escaping from several places in the talus slopes of the pit.

The later history of Calbuco has been dominantly one of explosive eruptions. Few flows are seen anywhere and no long ones on the surface of the volcano. Instead, the deep cut-bank ravines show accumulations of unconsolidated, angular volcanic gravels many feet thick. The few flows exposed are thick, columnar-jointed masses. A short flow near the crater, doubtfully attributed to the eruption of 1917, is broken semi-aa.

An explosive history older than the present cone of Calbuco is recorded in the inward-facing cliff bounding the volcano on the east. This cliff is made up almost entirely of bedded pyroclastics and is probably due to a fault like those that formed the bounding cliffs on the south of the volcano.

The crater of 1929 is a deep pit with steep rock walls capped by angular gravel. In 1930 it had an estimated diameter of 250 to 300 meters and a depth of at least 100 meters (distances of this kind are hard to estimate correctly). There is evidence that both explosion and subsidence took part in its formation.

The lavas of Calbuco were classified in the field as basalts, although some specimens are quite light-colored. Many of the pieces from flows are characterized by the presence of many small, apparently broken crystals.

General features of the volcanoes.—The volcanoes of southern Chile belong to a type that combines explosive eruptions with lava flows, although explosive activity predominates. In size they cannot compare with some of the giant volcanoes of the world, but Osorno rises 8,560 feet above Lake Llanquihue, and both Llaima and Villarica are about as high. Their shape, due to a predominance of explosive eruptions from a central vent, tends to be steeply conical with concave slopes. Villarica, Osorno, and Antuco, especially when viewed from certain directions, are beautifully symmetrical.

The Chilean volcanoes seem to be approaching extinction. Many are long dead and already partly destroyed by erosion, others show only by their undissected form and emission of steam that they are still potentially active, and only a few have been active in the last century. For one of these volcanoes to have been active more than once or twice in twenty years is

most unusual, and in the area under consideration only Quizapu and Llaima have been so active since 1900. On the other hand, the geological record, which is especially well exposed at Antuco and Calbuco, shows that during an earlier epoch eruptions of much greater violence took place. The extent and thickness of the older volcanic deposits point not only to much greater eruptions but also to more frequent ones.

The modern eruptions for which there are any data have mostly been short and quite mild. They have at times been accompanied by earthquakes but only feeble and very local ones, although an apparent connection has several times been noticed between the outbreak of a volcano and one of the destructive earthquakes which occur so frequently a little farther north. The most dangerous feature of the eruptions is the possibility of sudden floods caused by the melting of the cover of ice and snow which caps most of the volcanoes. Little damage to human beings has been done by ash falls, and none, so far as known, by lava flows.

Lava flows have not been common during modern eruptions, but lava has commonly been present in the craters, as is shown by the mention of the glow and "columns of fire" in the accounts of the eruptions. Bombs and fragments of bombs are abundant on the slopes of Llaima and Osorno, and basaltic scoriae were produced at Llaima in 1927 and at Puyehue in 1922. Much pumice was erupted by Quizapu in 1932. No bombs were found among the ejecta of the eruption of Calbuco in 1929, and the ash of that eruption contains very little fresh glass. The craters of Antuco, Villarica, Osorno, and Calbuco are partly surrounded by rims of spattered slaggy lava. The eruptions appear to be of magmatic origin.

The rocks of the southern Chilean volcanoes were all classified in the field as olivine-poor basalts. Quartz was not found in a single specimen, including not only those collected but also many more examined in the field. Biotite was also completely absent, as was hornblende with the doubtful exception of one fragment from the older tuffs of Antuco. Feldspar phenocrysts occur in all specimens, except in a few almost wholly glassy lavas, and olivine was found with the hand lens in nearly all. Some of the lavas contain hypersthene. The textures range from glassy to almost wholly crystalline. The presence of a remarkable proportion of large plagioclase phenocrysts in some flows is notable. Von Wolff includes the vol-

canoes discussed here in an outer row of volcanoes extending from Patagonia to the vicinity of Quizapu. These volcanoes, he says, have basic andesite lavas approaching basalts. They contrast with an inner row of volcanoes farther north that have rhyolite lavas.⁵

The lavas occur as flows, as fragmental products derived from older flows, and to a smaller extent as scoriae and bombs. By far the most common variety of flow is typical aa. Not a single typical pahoehoe flow was seen, although a very rough variety of pahoehoe was noted in one flow on the north side of Villarica. Some old flows of Osorno and Calbuco now appear as columnar lavas and may originally have had pahoehoe tops. Consideration of the southern Chilean volcanoes as a group and also of the local geology of individual volcanoes shows that activity has declined greatly from a maximum, probably in the Tertiary, and that the present-day activity is but the dying flicker of this epoch of volcanism in the Chilean Andes. Further points of interest in this connection are the predominance of explosive eruptions at these basaltic volcanoes, the presence of many large feldspar phenocrysts in some flows, and the almost universal development of aa lava.

Whether or not the character of the eruptions has changed since the period of greatest activity could not be determined by the reconnaissance studies made by the senior author. Lava flows are interbedded with the oldest tuffs, but they are also found on the surface of most of the modern cones, although few have been erupted in historic time. Likewise ejected blocks and ashes are found in the deposits of all ages. If any change can be recognized on the basis of this reconnaissance, it is in the direction of a greater proportion of explosion to lava production. The infrequent and rather insignificant recent eruptions suggest that the volcanoes of southern Chile are connected only with small magma reservoirs. In these small residual reservoirs the magma has been cooling for a long period and may be expected to be in a partially crystalline state. This crystallinity is shown by the large proportion of intratelluric crystals appearing as phenocrysts in some of the recent flows. Advancing crystallinity may have so increased the viscosity of the magmas and the resulting lavas that the eruptions are increasingly explosive. The explosive nature of vol-

⁵ Der Vulkanismus, p. 340, 1929.

canoes having stiff siliceous lavas is often remarked, but it seems possible that through advancing crystallization basaltic lavas may reach a similar stage of viscosity and so favor explosive eruptions.

When poured out on the surface, the partly crystalline magmas produce aa flows. It has been shown that if crystallization be promoted, lavas tend to assume the aa structure.⁶ In the case of the Chilean volcanoes crystallization has been able to proceed under conditions of long cooling in a magma reservoir. In the case of the long flows of Mauna Loa, in Hawaii, that issued as pahoehoe, crystallization proceeded on the surface so that at a distance from its source the lava turned to aa. Intra-telluric crystallization is not suggested as a universal explanation of aa structure; it is only one of the ways in which crystallization may become so advanced that a lava on eruption will take the aa form.

Earthquakes.—Severe earthquakes are not as common in the part of Chile between Talca and Puerto Montt as they are farther north near Santiago or still farther north near Copiapo, but they are by no means unknown in the northern portion. Talca was largely destroyed and suffered the loss of many lives in December, 1928, and other disastrous quakes are recorded. In the southern portion, however, severe quakes are rarer although there have been several on the island of Chiloe. Feeble tremors have accompanied some of the volcanic eruptions.

PART II—PETROGRAPHY OF THE LAVAS.

Practically all of the fifty specimens examined and described below are fresh lavas from the volcanoes of southern Chile. Most are from recent flows, but some specimens are from ejected fragments. Only half of the rocks were examined microscopically, as it is evident from the hand specimens that many of them are practically identical types. Microscopic and megascopic descriptions are combined below in an attempt to give a brief picture of the character of the rocks of the volcanoes from which specimens were collected.

The lavas are predominantly olivine-bearing basalts ranging

⁶ Emerson, O. H., The formation of aa and pahoehoe: this Journal, vol. 12, pp. 109-114, 1926.

from glassy and aphanitic specimens to moderately vesicular lavas with vesicles up to 1 cm. in diameter and phenocrysts of feldspar up to 5 mm. in diameter. The lavas of Calbuco constitute a notable exception to this generalized picture in that they all contain hypersthene, and olivine is practically absent from them.

Chillan.—No thin sections of the rocks from Chillan were studied. The hand specimens are olivine-poor basalts which range from aphanitic and glassy-vesicular to porphyritic. The porphyritic specimens are slightly vesicular, and the phenocrysts of feldspar range up to 3 or 4 mm. in diameter. The porphyritic rocks have been considerably altered.

Antuco.—The rocks from Antuco are fresh basaltic lavas from recent aa flows and range in color from dark gray to black. They vary somewhat in vesicularity and texture, ranging from aphanitic, slightly vesicular lavas to varieties that are moderately vesicular with glassy groundmass. These variations are probably due to local variations of conditions attendant upon extrusion.

Two specimens were studied microscopically. Both are olivine basalts with abundant phenocrysts of labradorite and a few of olivine. The lighter-colored of the two specimens has a pilotaxitic groundmass in which the microlites of feldspar show a decided fluxion arrangement. There are smaller amounts of augite, magnetite, and glass. The groundmass of the darker lava is composed almost wholly of a brown basaltic glass which is rendered almost opaque by fine inclusions, probably of oxides of iron.

The phenocrysts of these rocks are almost certainly of intratelluric origin; at least they had formed before actual extrusion from the vent took place. However, the fluxion arrangement of the feldspar microlites of the one and the large amount of glass in the groundmass of the other indicate that the magma was still moderately fluid as extrusion took place.

Llaima.—The rocks from Llaima are very much like those from Antuco. They may be characterized in general as dark-gray, fine-grained, slightly vesicular olivine-bearing basalts. They range in color from light gray to almost black and in structure from aphanitic rocks in which the vesicles are barely visible to moderately vesicular lavas in which the vesicles aver-

age some 2 mm. in diameter and reach a maximum size of about 1 cm. The vesicularity ranges up to about 10 per cent.

Four thin sections of the Llaima lavas from flows and ejected fragments were studied and showed about the same variations as did the specimens from Antuco. The textures vary from intersertal to seriate porphyritic with a hyalopilitic groundmass. These textural differences are doubtless due to different conditions of extrusion and solidification, as the mineral compositions of the various specimens indicate that they are very similar chemically.

Phenocrysts are practically absent from one of the specimens and reach a maximum of 20 per cent in another one. The maximum size of the phenocrysts ranges from less than 1 mm. to about 4 mm. In the few specimens studied there seems to be no definite relation between the size of the phenocrysts and their abundance or the degree of vesicularity.

The phenocrysts consist predominantly of labradorite; olivine makes up 20 per cent of the phenocrysts of one specimen, but is almost entirely absent in some of the others. The groundmass is composed of 30 to 50 per cent labradorite, 5 to 20 per cent augite, and minor amounts of magnetite and olivine in a glassy basis.

Villarica.—The basalts from Villarica are practically identical with those from Llaima. They show the same variations in color, texture, and structure, but are perhaps somewhat lower in olivine.

In addition to the basalts there are three glassy flow rocks from Villarica. Only one of these seemed to have enough phenocrysts to make a microscopic examination worth while. This specimen is a distinctly and evenly banded rock: red-brown bands alternate with black vitreous ones. The individual bands range up to 6 mm. in thickness. A few small crystals of feldspar are visible. The vesicles, which are drawn out into lens-shaped holes, are partly filled with a clear glassy mineral.

Under the microscope the feldspar crystals are seen to be aligned perfectly with the banding. They are andesine and make up about 5 per cent of the rock. The vesicles make up another 5 per cent and are mostly filled with a clear isotropic mineral whose index as determined from crushed material from the hand specimen is 1.48. It appears to be cristobalite.

Most of the rock is composed of glass in which are embedded innumerable hair-like crystals which are probably feldspar and pyroxene. The rock is a banded andesitic vitrophyre. These flow rocks probably represent extrusions of a different age from the basalts, as they differ from them not only in texture, but also in composition. (Both vitrophyre and basalt specimens came from surface flows on the north side of the volcanic cone. J. B. S.)

Puyehue.—Only one specimen was collected near Puyehue. It is an older rock from a quarry near the Termas de Puyehue. It is dark green and aphanitic and shows no exceptional features. The microscope shows this rock to be composed largely of microlites of labradorite which have a subdued fluxional arrangement. The interspaces are filled with augite, iron ore, and glass. There are a few remnants of olivine, which in some places have been altered to serpentine and in others to serpentine, opal, and chalcedony. This rock would be classified as an altered olivine-bearing basalt.

Osorno.—The lavas from Osorno merit no detailed description as they are ordinary olivine-bearing basalts and are very much like those from Villarica and Llaima. They range from medium gray to black and from slightly to moderately vesicular. The microscope showed all of the specimens of which thin sections were available to be fresh olivine-bearing basalts having the same textures as those of the lavas from Llaima.

Von Wolff lists an analysis of a specimen from Osorno by H. Bruhns that he classes as augite andesite. It contains 54.58 per cent silica.⁷

Calbuco.—The lavas from Calbuco do not differ radically in general appearance from those from the other volcanoes. They range in color from light-gray to almost black and in texture from aphanitic to slightly vesicular-porphyrific. The chief difference between the Calbuco lavas and the others studied is that hypersthene is the dominant ferromagnesian mineral in the Calbuco suite. The hypersthene ranges up to 5 per cent and there are smaller amounts of augite and magnetite; most of the specimens contain a very little olivine in addition. Feldspar and glass complete the list of components,

⁷Der Vulkanismus, pp. 400-401, 1929.

and the feldspar usually composes more than half of the entire rock.

The lighter-colored lavas have a decided andesitic appearance, but in view of the fact that the plagioclase is labradorite and that they contain some olivine, they must be called olivine-bearing hypersthene basalts. The lighter-colored ones can be called leuco-basalts. Von Wolff states that the lava of Calbuco is a rough trachytic hypersthene andesite with 54.07 per cent silica, composed of labradorite-bytownite, olivine, hypersthene, augite, and magnetite.⁸

In addition to the lavas some specimens from ejected blocks on the rim of the crater of Calbuco were studied. These rocks are light gray and when examined casually they look very much like the leuco-basalts. However, when examined under the microscope, they are found to be composed largely of crystals which seem to have been crowded together with such force as to shatter one another. There was probably a "crystal mush" in the throat of the volcano and an explosion perhaps literally pushed the material up onto the rim of the crater.

These specimens contain practically the same components as do the associated basalts, the chief difference being the lower content of oxides of iron and glass in the former. The amount of glass varies from almost nil in the more massive and less porous specimens to one-third of the rock in the more "pumiceous" ones. Labradorite and glass together make up, on the average, 90 per cent of these rocks. In those in which the glass is very low, the labradorite makes up practically the entire 90 per cent. Hypersthene averages 5 per cent and augite and magnetite complete the list. No olivine could be found in these rocks.

Pumice is defined as a "highly vesicular glass." These blocks are by no means entirely glassy, but their structure is decidedly like that of pumice. They were probably produced by the same process that produces pumice, but from a magma that had already largely crystallized rather than from an entirely liquid magma. Perhaps the term "crystal pumice" is an appropriate one to apply to them. The very high content of labradorite in some of these rocks suggests that extreme crystal sorting may have taken place locally in the throat of the volcano.

⁸Op. cit., p. 337.

Some of the ash that was expelled during the 1929 eruption of Calbuco was studied with the microscope. It was found to be composed largely of fragments of crystals of labradorite and fragments of material rendered almost opaque by included oxides of iron. This material probably represents fragments of pre-existing rocks, or material that had solidified in the throat of the volcano before the eruption. A very little of a clear light-yellow glass of index 1.51 plus was discerned. This clear glass was probably formed at the time of the eruption and indicates that there was perhaps some fluid material in the crater at that time. The ash also contains numerous fragments and some well-formed crystals of hypersthene, as well as smaller amounts of crystals and fragments of augite and magnetite. No olivine crystals were observed in the ash.

An analysis by A. Beutell of ash from the eruption of Calbuco in 1893 is listed by von Wolff as hypersthene andesite. It shows 58.58 per cent silica.⁹

A study of the conditions that give rise to hypersthene at Calbuco in preference to the more common ferromagnesian minerals at the other volcanoes should be among the most interesting problems for a volcanological observatory.

Intrusive rock.—One specimen was examined from an intrusive mass in the older complex on which the lavas of Calbuco and Osorno rest. It was collected from a road cut on the south side of Lake Llanquihue. The hand specimen is moderately coarsely crystalline, the grains averaging 2 mm. in diameter. It is composed largely of quartz and feldspar, but there is enough dark mineral present to give it a light-gray color as seen from a distance.

Under the microscope the rock is seen to have about the following composition:

Plagioclase	40%
Quartz	30%
Potassium feldspar	15%
Biotite and hornblende	9%
Magnetite, apatite, and secondary minerals	6%

Much of the plagioclase is zoned, but it has an average composition of andesine. The rock is a granodiorite according to the Johannsen classification. The ferromagnesian minerals have been chloritized with the development of a little

⁹Op. cit., pp. 400-401.

secondary magnetite. The feldspars have been slightly kaolinized and a little secondary carbonate has been developed. The quartz shows no trace of strain shadows.

Summary.—The lavas that were collected from the Chilean volcanoes may be characterized as olivine-bearing basalts. They show the common features of such lava flows and are of a fairly uniform character. They range in color from light-gray to black and in texture from almost wholly vitreous to porphyritic vesicular with microcrystalline groundmass. The lavas of Calbuco are exceptional in that hypersthene is the chief ferromagnesian constituent and olivine is almost entirely absent.

PUEBLO, COLO.,
AND
NEW HAVEN, CONN.

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SHIPBOARD PLANE-TABLE AND AZIMUTH CAMERA: AN EXPERIMENT
IN NAVIGATION

By

THOMAS A. JAGGAR

The zenith star locates a place in latitude and longitude, if accurate time is read at the instant of observation. The zenith point on a star map may be found by three-pointing other stars, by the method of the topographer. A timed observation, by eye, of the zenith point among the stars may locate a practised observer within 30 nautical miles. All navigation schools should train students to recognize declination belts and meridian belts among the stars. A student so trained, flying an airplane, could tell, by merely looking up at night, the half-degree belts of latitude between 19 degrees and 22 degrees North, from the south end of Hawaii island to the middle of Kauai island.

The experiment with an F. 1.9 camera directed to the zenith, one minute exposure, super-sensitive film, photographed numerous stars, each 1 mm long on a $3\frac{1}{4} \times 4\frac{1}{4}$ inch film. One minute of time is 15 miles of longitude. For finding the zenith point among the stars, the camera was rotated in azimuth 180 degrees, and exposed for a second time on the same stars, the epoch of the observation being the instant of rotation between the two exposures. Joining identical stars across the print for this instant with ruled lines, the intersection point was the zenith. This was matched to a star map for that instant of sidereal time Greenwich. The declination is the latitude. The difference of the right ascension, from Greenwich, is the longitude.

At sea the essentials of the method are: 1, a basic azimuth for the time of observation; 2, simultaneous azimuth for three or more stars; 3, corrected

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Greenwich time reading for the epoch; and 4, a strictly equiangular or photographic star projection map, wherein azimuth lines are of first importance. Possibly the stereoscopic projection is the best.

A shipboard plane-table was exhibited as a first experimental attempt to use a mirror, and rule star azimuths with a hard pencil. The instrument is a rebuilt theodolite hung in gimbals. The telescope, converted to a sighting tube, is hung with a mercury cup floating a star mirror, and straight edges mark the star azimuths on a ring card. The ring card, with stretched silk threads on the azimuths, is set over the star map. A voyage to Kauai was used for tests. The gimbals hold the star image in the sights in a seaway, and a compass card checks the steersman's holding of the base azimuth. Preliminary trials gave errors of from 6 to 15 miles, and tests of technique are in progress. These involve reversals and repetitions for averaging out error, improvements in lighting, sighting and clamping for securing simultaneous record, and calibration of the mirror leveling, for holding the zenith. It is believed that a simpler instrument will result, accurate within about 10 miles on an airplane and possibly 5 miles on a steamship. Incidentally the star map gives local time and total compass correction directly. (Illustrated with instruments and charts.)

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Vol. 25, No. 10, October 15, 1935

SEISMOLOGY.—*Earthquakes associated with the 1934 eruption of Kilauea, Hawaii.*¹ AUSTIN E. JONES, U. S. Geological Survey.
(Communicated by T. A. JAGGAR.)

This paper is essentially a continuation of a previous paper entitled *Earthquakes associated with the 1933 eruption of Mauna Loa, Hawaii,*² although a sharp line cannot be drawn between the aftershocks associated with the 1933 eruption of Mauna Loa and the foreshocks of the 1934 eruption of Kilauea. However, because the eruptions of Mauna Loa and Kilauea were the only known eruptions in Hawaii in 1933 and 1934, respectively, the earthquakes for these years are described as being associated in 1933 with the Mauna Loa eruption and in 1934 with the Kilauea eruption.

The same seismograph stations (Table 1) were maintained in 1934 as in 1933 for as long a period as finances permitted.

TABLE 1.—SEISMOGRAPH STATIONS IN HAWAII IN 1934

Name	Symbol	Name	Symbol
Hawaiian Volcano Observatory	V	Hilo ^a	H
Uwekahuna	U	Kealahou ^a	K
Halemaumau (Pit)	P	Waiki ^b	W

^a Stations run by volunteers.
^b Station discontinued October 1934.

These stations were maintained by the U. S. Geological Survey and the Hawaiian Volcano Research Association. The work done by the writer was undertaken as a cooperative project between the U. S. Geological Survey and the University of Hawaii.

The locations of the earthquakes shown in Table 2 and on Figures 1 and 2 were made by the graphical method of Isikawa,³ using the S-P curves developed in previous studies of the Hawaiian volcanic earthquakes.⁴ These previous studies indicate that the following

¹ Published by permission of the Director, U.S. Geological Survey. Received June 19, 1935.
² JONES, AUSTIN E. *Earthquakes associated with the 1933 eruption of Mauna Loa.* This JOURNAL 24: 413-418. 1934.
³ BYERLY, PERRY. Bull. N. R. C. *Physics of the Earth, 6, Seismology*, p. 162.
⁴ JONES, AUSTIN E. Hawaiian Travel Times. Bull. S. S. A. 24: no. 1; *A Seismological Study of the Kilauea Eruption 1931-1932.* Univ. of Hawaii research paper no. 9.

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TABLE 2.—EARTHQUAKES PRECEDING AND FOLLOWING THE 1934 ERUPTION OF KILAUEA

Map No.	Date	No. of Phases	Lat. N	Long. W	Recording stations	Depth	Intensity	Remarks
1	Jan. 2	27	19 50	155 27	VHW	5	v.f.	Felt in Honoumuli, Waikiki, Kilauea
2	Jan. 6	1	19 30	155 38	P	7	v.f.	Felt in Mokuaweoweo
3	Jan. 7	2	19 23	155 16	VPU	5	v.f.	Not felt; in Kilauea
4	Jan. 7	1	19 23	155 18	VPU	4	v.f.	Not felt; in Kilauea
5	Jan. 9	3	19 09	155 41	VKHW	7	slight	Felt generally, phases confusing
6	Jan. 13	1	19 10	155 10	VKHW	19	slight	Felt generally in Hawaii
7	Jan. 16	1	19 23	155 17	VPU	0	tr.	Not felt, near Kilauea
8	Jan. 19	3	19 13	155 27	VHK	7	feeble	Not felt
8A	Jan. 25	1	19 18	155 22	VPU	10	v.f.	
9	Jan. 30	3	19 30	155 33	VHKW	13	feeble	
10	Feb. 1	3	19 23	155 40	VKHW	0	v.f.	
11	Feb. 9	3	19 18	155 33	VHKW	19	slight	Felt generally, stronger at Kapapala
12	Feb. 10	2	19 26	155 14	VHK	5	slight	Located and felt near Kilauea crater
13	Feb. 24	2	19 40	155 40	KHW	20	feeble	Felt in NE Hawaii
14	Mar. 1	4	19 31	155 31	KHV	14-24	slight	Felt generally, may be shallower
15	Mar. 10	2	19 32	154 48	VH	7	v.f.	Not felt
16	Mar. 10	2	19 20	155 10	VUH	8	v.f.	Not felt
17	Mar. 11	2	19 24	155 03	VP	7	tr.	Very doubtful location
18	Mar. 13	2	19 26	155 14	VPU	7	v.f.	Doubtful location
19	Mar. 18	2	19 24	155 15	VPU	1	v.f.	
20	Mar. 24	2	19 21	155 11	VP	7	v.f.	Located on a line, c at no. 10
21	Mar. 29	3	18 58	155 59	VKH	14	v.f.	On Mauna Loa SW rift
22	Mar. 30	2	19 22	155 11	VP	7	v.f.	
23	Apr. 3	4	19 44	154 38	VH	7	v.f.	Probably shallow. East of Hawaii
24	Apr. 6	2	19 30	155 16	VUH	1	v.f.	
25	Apr. 9	3	20 04	155 51	VKH	7	v.f.	Felt in Kohala
26	Apr. 9	4	20 11	155 28	VKH?	7	feeble	Felt in Kohala
27	Apr. 11	3	19 20	154 50	VH	7	v.f.	Not felt
28	Apr. 12	1	19 24	155 16	VPU	2	v.f.	Not felt in Kilauea
29	Apr. 13	3	19 37	155 37	VKH	0-5?	feeble	Not felt
30	Apr. 14	5	19 37	154 47	VKH	7	slight	Felt in Hilo and Olaa
31	Apr. 15	1	19 24	155 11	VPU	7	v.f.	Felt near Kilauea
31A	Apr. 17	3	19 21	155 03	VH	7	v.f.	Not felt
32	Apr. 24	2	19 14	155 46	VK	7	v.f.	Not felt
33	Apr. 30	1	19 44	154 30	VH	7	tr.	Probably deep
34	May 9	1	19 27	155 30	KHP	42	v.f.	
35	May 10	2	19 39	155 23	VHK	22	moderate	Felt generally; with alarm in Hakalau; slight damage in Hilo
36	May 10	3	19 38	155 24	VKH	447	v.f.	Felt on the island of Maui 180 km. distant
37	May 10	3	19 18	155 20	VKH	18	feeble	Aftershock felt in Hakalau, may be shallower
38	May 13	3	19 29	155 29	VKH	9	slight	Felt at Kilauea and in Hilo
39	May 13	2	19 18	155 27	VKH	5	feeble	Felt; location agrees with angle from V
40	May 16	1	19 10	155 30	VK	7	v.f.	Felt; location agrees with V. and K. angles
40A	May 22	1	19 24	155 16	VPU	0	v.f.	Focus deep?
41	May 30	3	19 47	153 10	VK	7	tr.	In Kilauea crater
42	June 5	3	19 38	155 12	VKH	11	v.f.	Larger record at Hilo anomalous (S-P)
43	June 15	3	19 31	155 23	VKH	7	v.f.	
44	June 25	3	19 34	155 13	VKH	10	v.f.	
45	June 28	2	19 15	155 07	VKH	24	moderate	Felt generally
46	June 27	2	20 00	155 15	VH	7	v.f.	Felt in Honokaa
47	July 5	2	19 21	155 37	VHK	24	v.f.	Tremor at W
48	July 5	1	19 33	155 23	VKH	3	v.f.	
49	July 20	2	19 24	155 16	VKHPU	1	slight	Felt strongly near Pit
50	July 25	5	19 17	155 25	VHK	34	v.f.	Felt at Kapapala. First location at no. 64 may be better, 7 km. deep
51	July 30	3	19 40	155 50	VK	7	v.f.	Not felt in Kona
52	July 30	2	19 21	155 12	VPU	7	v.f.	At no. 16
53	July 30	1	19 23	155 17	VPU	3	v.f.	
54	July 31	1	19 25	155 16	VHPU	9	v.f.	
55	Aug. 7	3	19 32	155 31	VKH	7	v.f.	Distance circles fail to intersect
56	Aug. 11	2	19 32	155 32	VKH	30	v.f.	Felt in Hilo
57	Aug. 16	1	19 32	155 16	VKH	5	slight	Felt in Hilo and Honoumuli
58	Aug. 25	1	19 25	155 16	VPU	2	v.f.	Kilauea crater
59	Aug. 28	2	19 25	155 16	VP	7	v.f.	Felt and located near or in Kilauea crater
60	Sept. 6	2	19 25	155 17	VPU	0	slight	Awakened residents near Kilauea crater
61	Sept. 6	17	19 24	155 17	VPU	0	feeble	Outbreak of lava in Pit
62	Sept. 17	2	19 08	155 16	VHK	20	feeble	Felt in Hilo and Honoumuli
63	Sept. 22	2	19 15	155 20	VHK	11	feeble	Two of seven felt at Kapapala

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TABLE 2. (Continued)

Map No.	Date	No. of Phases	Lat. N	Long. W	Recording stations	Depth	Intensity ^d	Remarks
64	Sept. 23	1	19 15	155 27	VKH	24	v.f.	
65	Oct. 3	2	19 19	155 27	VKH	31	v.f.	At no. 39
65A	Oct. 12	1	20 10	155 30	VPK7H	120?	tr.	
65B	Oct. 12	—	20 00	155 30	no	?	tr.†	Felt in Honokaa
66	Oct. 13	2	19 23	155 28	VKH	60	moderate	Felt generally
67	Oct. 18	1	19 31	155 30	VKH	58	feeble	Felt generally
68	Oct. 18	1	19 31	155 30	VHK	?	v.f.	Aftershock at no. 67
69	Oct. 27	1	19 33	155 32	VKH	45	feeble	Felt near Kilauea
70	Nov. 12	2	19 12	155 22	VH	?	v.f.	

^a An earthquake recorded on two stations only can be located indefinitely on a line, unless directions are used. Distances from three stations may define a point.
^d Increasing intensity on the Hawaiian volcanic scale, starting with the least and comparing with the Rossi-Forel scale in Roman numerals, is, tremor, I; very feeble, I; feeble, I; slight, II; moderate, III; and strong IV.

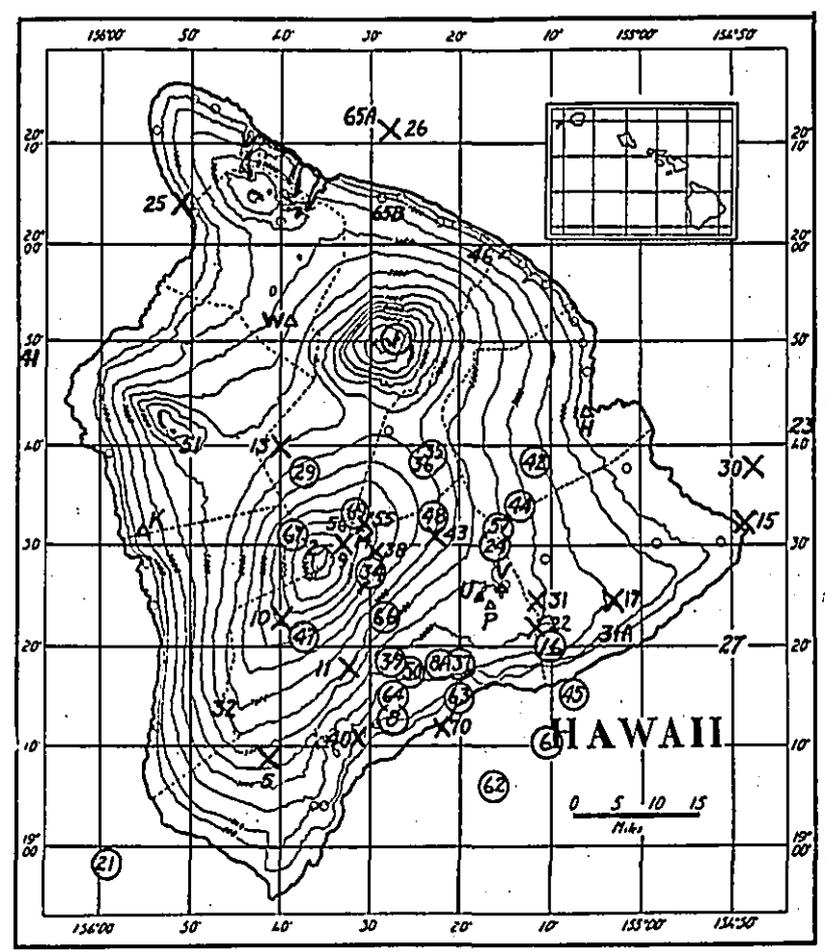


Fig. 1.—Earthquake epicenters in Hawaii.

equations, although not perfect, for very near and high focus earthquakes are better.

$$\begin{aligned} S_1-P_1 &:: t_1 :: 0.333\Delta \\ S_2-P_2 &:: t_2 :: 0.125-0.245\Delta \\ S_3-P_3 &:: t_3 :: 0.20-0.217\Delta \end{aligned}$$

These curves supersede the t_s equation used in the 1933 study. The t^* and t_s curves are still considered applicable. Because these curves were derived from the study of earthquakes that probably occurred within eight kilometers of the surface, it is doubtful if they give more than approximate data when used for finding the deeper foci, although the figures obtained should be roughly proportional.

The preliminary seismographic results for 1934 were published in the monthly issues of the *Volcano Letter*.⁵ Approximately 40,000 minutes of harmonic tremor were recorded as resulting from the eruption in Halemaumau, and 1,400 *spasmodic tremors*, or minutely recorded earthquakes, were recorded from unknown areas. Of the 168 stronger shocks recorded about 25 percent were felt, and about 40 percent of those recorded are located by this study.

The seismicity index, referred to in the *Volcano Letter*, is formed from earthquakes and tremors recorded at the Observatory. These phenomena are weighted in terms of the Rossi-Forel scale. This index is the basis of a continuous curve, that, in the opinion of the workers at the Observatory, is representative of the local volcanic activity. Study of the seismicity for 1933-1934 suggests that the activity of Mauna Loa was dying away for some months following the eruption. A peak seismic index, caused by a sequent swarm of earthquakes, was reached on February 5, 1934. It was followed by a lower peak on February 26. The lowest seismicity of the year was reached May 21-23. It was followed by a peak on June 10-17. This latter peak was possibly the unrecognized premonitory swarm preceding the Kilauea eruption of September 1934. There is some doubt of this, however, for another swarm of small earthquakes that centered less than 16 kilometers away from Kilauea crater, were recorded in July 1933. Premonitory swarms have been mentioned in the previous paper. Sequent swarms appear to follow the typical Hawaiian eruption after periods of from one to six months. A premonitory swarm came two months before the eruption of Kilauea in 1931-1932 and a sequent swarm came three months after.⁶ Sequent swarms occurred seven

⁵ Published by the Hawaiian Volcano Observatory, Hawaii National Park, T. H. JONES, A. E. *A Seismologic Study*. Op. cit.

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weeks after the 1933 eruption and 11 weeks after the 1934 eruption.

The map (Fig. 1) shows the location of epicenters. Although there is considerable doubt as to the accuracy of the locations, it is thought that the true epicenters may lie inside the circles shown on the map. The larger scale map of Kilauea crater (Fig. 2) shows more accurately the locations near the crater.

Table 2 contains the map number, the date of occurrence, the number of P and S phases recognized in the Observatory record, the latitude and longitude, the initials of the stations used in locating the epicenter and focus, the apparent depth of focus in kilometers, the

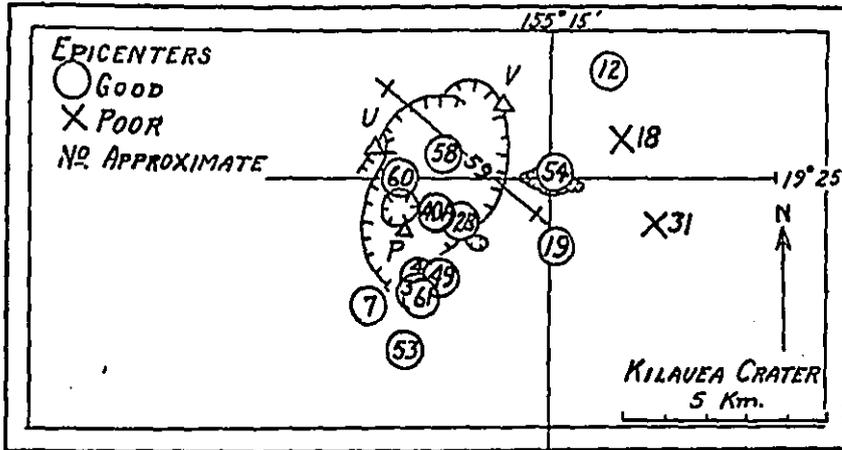


Fig. 2.—Earthquake epicenters at Kilauea Crater.

intensity of the shock on the Hawaiian volcanic scale, and remarks mostly on macroseismic data.

Approximately one-seventh of the foci are under the sea, usually under the submarine slopes of the island. Less than a tenth fall under the quiescent volcanoes of Mauna Kea, Kohala and Hualalai. The remainder cluster primarily about Kilauea crater and secondarily about Mokuaweoweo crater on Mauna Loa.

The eruption in Mokuaweoweo crater apparently ended December 18, 1933. The previous paper gave the locations of nine earthquakes between that date and January 1, 1934.⁷ The statement that "after the eruption the known seismic activity migrated away from the volcanic center" was violated three times in the three months immediately following the cessation of outflow (see epicenters 2, 9, and 14). During the next three months, earthquakes 29, 34, and 38

⁷ JONES, AUSTIN E. Op. cit.

occurred. Although they are not close to the crater of Mokuaweoweo, they, with 10, are definitely Mauna Loa shocks. It is believed that they are due to subsidence of the mountain, caused by withdrawal of the lava within.

The seismicity peak of June 10-17 was composed of a swarm of 102 spasmodic tremors. This seismicity peak later appeared to be premonitory in character, though it was not recognized as such at the time. Spasmodic tremors are very infrequently located, but by a process of elimination it appears that they often occur in the Kilauea area. The located earthquakes of about this time were occurring about 20 kilometers from Kilauea near the Mauna Loa northeast rift. More than half of the located shocks during July and August were near or in Kilauea crater. Earthquake number 49 was felt by several standing near Halemaumau Pit and in the vicinity of the southwest crater rim. It appeared less strong at the northeast end of the crater.

The eruption came as a surprise early on the morning of September 6. The premonitory swarm in June was not intense enough to attract much attention. A swarm that did attract attention occurred in July 1933 but it is doubtful if the eruption pended for 14 months; although in September 1934 the earthquake activity indicated that the lava was immediately below the earth's surface ready to break out. The fact that part of the lava spurted out of a fresh rift high up on the walls of the Pit would imply that the conduit had been well sealed.

Study of the tilt as measured by the seismographs at the Observatory and at Halemaumau Pit gave some qualifying facts. The observatory records also show that the tilt was to the northeast, or away from the crater, for some time prior to the outbreak. This is not significant for at that time of year the change in the annual tilt is usually to the northeast. It was noticed that the year's accumulated tilt, compared with the same period in 1933, was to the northeast.⁸

Study of the Halemaumau seismogram showed that there was considerable southwest tilt about 12 hours before the outbreak, that is, away from the crater at that point. Two and a half hours before the outbreak the first small shock was recorded. It was followed by several others, none of them being over two kilometers distant. They were accompanied by a stronger west tilt that soon had the E-W seismograph pen in its limiting position. At 2:21 A.M., 20 minutes before the outbreak of lava the slight earthquake, located at 60, awakened most of the people living on the rim of Kilauea crater.

⁸ Volcano Letter, August, 1934.

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A few more unlocated and very feeble shocks were recorded before the final shock occurred at 2:44 A.M. So far as known this last shock, located at 61, was coincident with the flowing of the lava. In less than a minute the earthquake coda had faded into harmonic tremor that continued to record for a month. The maximum ground amplitudes at the Halemaumau seismograph were approximately 80 to 100 microns during the first two hours whereas at the Observatory they were about 50 microns; the period remained at 0.6 second. The illustrations of the seismograms made during an eruption of Vesuvius⁹ shows a harmonic tremor that is similar to that recorded during an eruption of Kilauea.

During the eruption the four located earthquakes were south and southwest of Kilauea crater and deeper than the average. After the eruption the located shocks were more scattered and even deeper. As after the Mauna Loa eruption, the known seismic activity was for a time at some distance from the volcanic center. Few earthquakes were recorded during November and December 1934. The peak of the sequent swarm did not occur until January 4, 1935.

⁹ SIGNORE, FRANCESCO. Bulletin Volcanologique 19-22: 48. 1929.

Honolulu, T. H.,
February 1st, 1936.

To Patrons and Members:
Hawaiian Volcano Research Association.

Your Board of Directors submits its report upon the work of the Association for the year 1935, and its Budget for 1936.

Our Scientific Director, Dr. Jaggard, was transferred to the National Park Service. Mr. Finch, of the Mount Lassen Station and Mr. Jones of the Kilauea Station were dropped by the Government, for reasons of economy, a serious drawback to the work of your Association, both of these men having been trained at Kilauea and being thoroughly familiar with our methods and objects. Mr. Waesche of the National Park Service, has become seismologic assistant at the Kilauea Station.

Publication of results has included articles by Dr. Jaggard on "The Outbreak of Mauna Loa, 1933"; on "Niuafouu - A Tonga Island", and on new navigation instruments; articles by Mr. Jones on "Earthquake Travel Times"; on "Earthquakes Accompanying Kilauea Eruption, 1934"; and on "Earthquakes Under Kilauea in 1931-32 Eruption"; an article by R. M. Wilson on "Ground Surface Movements at Kilauea"; an article by Mr. Finch on "Akutan Volcano in Alaska", and on "The Mechanics of Nubes Ardentes"; two articles by J. B. Stone on "Volcanoes of Central Chile" - (the second with Earl Ingerson). Two of the above are substantial papers published by the University of Hawaii, two were published in Italy; one in the Bulletin of the Seismological Society of America; one in the American Journal of Science; two in the Washington Academy of Sciences; one in the Hawaiian Academy abstracts printed by the Bishop Museum; one in the National Geographic Magazine; one in the Journal of Geology and an additional article "Los Grandes Volcanes de Hawaii", by L. W. de Vis Norton, in Spanish, in Revista Geografica Americana. The Press reports each week and the monthly "Volcano Letter", have been continued.

MAUNA LOA ERUPTION.

In accordance with forecasts published in 1933, strong earthquakes continued in Hilo: Mauna Loa erupted heavily from its north rift, two years after the summit outbreak of 1933, and a great lava flow threatened Hilo. The organization of public agencies effected by the Volcanologist in 1931, did valiant services, army bombers were called upon to bomb the lava flow at selected points and the possible disaster was forestalled. The eruption still continues near the summit.

The National Park Service - (whose local personnel did most valuable work), and the Secretary of War have expressed gratification at this application of volcano research. The Secretary visited Mauna Loa by airplane during the eruption.

Superintendent Wingate and his staff rendered assistance in recording this complicated eruption, and much scientific data, from observatory records of both Kilauea and Mauna Loa proved of immense value during the crisis with its three culminations at different levels. These records are still housed in small pine buildings, always subject to destruction by fire. The Park Service is building a road up Mauna Loa, but no increase has been made in the Government appropriation for 1937 fiscal year.

OTHER ACTIVITIES.

Although seriously hampered by shortage of staff, the routine work of the Kilauea Station - and its field researches have, by unremitting toil, been maintained without impairment. Dr. Jaggar again taught in the Summer Session in Honolulu in 1935. There has been organized, under the University of Hawaii, a Graduate School of Physical Geology, to make headquarters in the Research Association's Engineering Building at Kilauea. Dr. Jaggar has been appointed Professor, without stipend, and the first session is planned for the summer of 1936, with research men from the University and from the coast as teachers and students. The National Park Service will cooperate.

It will be seen from the foregoing that, by grim tenacity of purpose, your Association has weathered the most critical period in its history, and we call your attention, with most profound gratitude to those who have so loyally supported us, to the dawn of a brighter day for volcano research. We are now no longer so apprehensive of Government withdrawal. Mauna Loa will have more eruptions on the Hilo side, and the Director of the Volcano Observatory should have every assistance from this Hawaiian community in this peculiarly Hawaiian undertaking for the welfare of humanity. He needs a fire-proof observatory at Kilauea; a station on Mauna Loa, and a free hand on Mauna Loa lands above the tree-line to establish trails, water stations and camps. He needs more men and more seismograph stations. We are increasing the scope of our Honolulu office to relieve him of publications and this will make it possible immediately to revivify, enlarge and illustrate the "Volcano Letter."

We feel sure our Patrons and Members will respond liberally to a call for increased support. The Park Service has asked for Government increase and it is possible that Congress may, even yet, provide a suitable building. We are no longer asked to pay Government bills. Our Director is again on full salary as National Park Volcanologist, but he has no sufficient staff and we greatly desire to give him a laboratory assistant.

Our year-end balance showed a satisfactory increase over 1934 - and our monthly expenditure was held down to an absolute minimum. Last year, we estimated our minimum budget at \$6,620.00; we received \$6,269.02. Dr. Jaggar contributed his summer Univer-

sity salary to our funds, and much of the cost of petroleum was refunded by purchases of observatory stock by observatory workers.

The proposed budget for 1936 only slightly exceeds the estimate for last year. It provides for a laboratory assistant at Kilauea; an increase in the Honolulu office; an increase in publication expense; an exchanged car for the Director, and a contingent fund as before.

The University of Hawaii and the Park Superintendent are aiding us in every way possible, but we earnestly hope that our Patrons and Members will do all that lies in their power to assist:- Patrons by increasing their support, and Members by securing other Members who would be interested in our work and its humane objectives.

As has already been stated, our receipts last year were \$6,269.02 to which was added \$841.35 carried forward from 1934, a total of \$7,110.37. We estimate, for the year 1936, a budget total of \$8,600.00 segregated as follows:

<u>Salaries.</u>	Observatory Staff, Seismological Observers, Honolulu Office, etc.	\$ 4,260.00
<u>General Expense</u>	of Kilauea Station, with automobile, petroleum supplies, office, shop, laboratory, library and contingent fund	2,340.00
<u>Seismological Stations</u>		400.00
<u>Publications</u>		1,600.00
		<u>\$ 8,600.00</u>

The number of Patrons and Members at the close of 1935 was 152. Membership dues are \$5.00 per annum. Patrons make larger donations.

Your Board of Directors during the past year was composed as follows: Dr. Arthur L. Dean, President; Mr. F. C. Atherton, 1st Vice-President; Mr. Walter F. Dillingham, 2nd Vice-President; Hon. W. F. Frear, Mr. Richard A. Cooke, Hon. Wade Warren Thayer, and Mr. L. T. Peck, Treasurer.

Mr. L. W. de Vis Norton is Secretary and Assistant Treasurer, and almost all of these have served for very many years.

Respectfully submitted,

THE BOARD OF DIRECTORS,

By Arthur L. Dean, President.

March 5, 1936

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

There follows a report of the activities of the ranger department during February, 1936.

000 - General

Ranger department activities were the same as heretofore, including assisting the naturalist division, maintenance of telephone lines, park patrols, etc.

020 - Weather Conditions

There was a total of 3.61 inches of precipitation at headquarters, 2.7 inches at the CCC camp and Ranger Peck reports 3 inches at Haleakala. He also reports a snowfall of 15.5 inches at the summit of Haleakala, which caused a great increase in travel. There was also snow on Mauna Loa and Mauna Kea down to the 10,000 elevation on both mountains.

100 - Administration

110 - Status of Work

All work was kept current during the month. Ranger Murray left on the 25th on annual, to be gone the balance of the month.

120 - Park Inspections

Regular inspections were made of work in progress here and by District Ranger Peck on Haleakala. Associate Architect Sager made several inspection trips of the Mauna Loa truck trail.

150 - Equipment and Supplies

A new Buick sedan was received on the 17th.

170 - Plans, Maps and Surveys

Boundary survey is 60% complete and the road survey 50% complete.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Routine maintenance was carried on. Ranger Peck reports that on Haleakala it was necessary to do extra maintenance work on the road to keep it clear of rubble and snow.

Due to high winds the first part of February additional maintenance of the telephone lines was necessary.

220 - Improvements

Several more sections of the road were painted with center traffic lines. ^{Haleakala}

Chain-of-Craters road is being repaired by the road crew.

230 - New Construction

Some work was done in widening the pioneer trail of the Halemau-u trail project, to safe width for saddle and pack stock.

Location for the ECW powder magazine was made.

260 - Landscape Work

ECW crew continued general landscaping and plating around the headquarters area.

300 - Activities of Other Agencies in the Park

313 - Schedules of Rates

The 1936 schedules of rates for the Volcano House and Volcano Studio were submitted for approval.

320 - Cooperating Governmental Agencies

The FERA continued work at the Volcano House. During the latter part of the month word was received to the effect that Frank Cody, head of the FERA on this island, had been discharged for misusing funds. Engineer A.J. Williamson, has been designated as acting supervisor.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The rangers assisted the naturalist in conducting park tours.

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500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Total travel to the Kilauea section during February was as compared with 12,419 for the same period in 1935. Due to the unusual amount of snow on Haleakala the travel for that section of the park increased to 4335 visitors

530 - Visitors

- February 2 - 22 YWCA girls, taken on park tour
- " 22 19 ditto
- " 24 -90 tourists from RMS Atlantis
- " 29 -Group of boys from Hilo Boarding School

600 - Protection

610 - Police Protection

At 7:30 p.m. on the 25th the chief of police, Hilo, called, stating that a Puerto Rican boy had murdered a Japanese taxi driver at Waiakea camp and was reported headed toward the park. Accordingly a man was stationed at the park entrance all night to check on passing cars. However, at 7:45 a.m. on the 26th the police called again stating the man had been caught in a canefield near Olaa. This boy was a former CCC enrollee in our camp.

Respectfully submitted

Joseph H. Christ
Joseph H. Christ
Chief Ranger

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ll.w.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

February 29, 1936

Memorandum to Superintendent Edward G. Wingate

The following is a report of work accomplished under my direction during the month of February, 1936.

1. Hauled Garbage from Employees quarters, 8 times.
2. Painted Comfort station, Bird Park.
3. Scraped and painted roof, Quarters No. 9.
4. Repaired door locks, Quarters No. 8.
5. Made stand for projecting machine, Museum.
6. Cleaned and filled chemical toilets at Pit and Lava Tube.
7. Cleaned road and ditches, Uwekahuna and Pit road.
8. Installed telephone, Quarters No. 13.
9. Pumped water from reservoir to Quarters No. 1, No. 2, No. 3, No. 8 and No. 9.
10. Cut grass, Quarters area, twice.
11. Repaired holes in Chain of Craters road.
12. Made two inspection trips, Mauna Loa Truck trail.
13. Installed base plug, Quarters No. 1.
14. Built and installed concrete box, traffic counter, Hilo entrance.
15. Cleaned Picnic grounds at old Prison Camp site.

Respectfully submitted,

R R Craik

R. R. Craik
Foreman, HNP

Wingate
2/27/36

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660

March 2, 1936.

The Superintendent,
Hawaii National Park,
Hawaii.

Dear Sir:

The following is a report of my time by
hours, for the month of Feb. 1936.

Repairs on cars and trucks			114 Hours
Pump water as follows,	High tank	21,500	
	Supts.res.	11,000	
	Higashida	3,000	
	Fischer	2,000	
	Lava tube	1,200	
	C.C.C. fence gang	900	
	C.C.C. black smith	300	
	Water plants	300	
	Total	40,200 Gal.	15 "

Check in gasoline	8 "
Repair gravelly mower	7 "
Repair tools	6 "
Repair traffic counters	5 "
Repair wheelbarrows	4 "
Solder and repair gasoline and kerosene containers	4 "
Fill all batteries twice during the month	4 "
Repair surveyors equipment	3 "
Repair gasoline lanterns	3 "
Drying hose	2 "
Check telephone batteries	2 "
Repair air hose at service sta.	2 "
Marking equipment in warehouse	2 "
Repair lawn mower	2 "
Transfer motor oil to storage tank	1 "
" Gasoline " " "	1 "
" Kerosene " " "	1 "
Change pipe in service sta.	1 "
Repair telephones	1 "
Install new vise in warehouse	1 "
Clean battery terminals	1 "
Check and clean siren automatic switch	1 "
Repair extra ford shock absorber	1 "
Total	192 Hours.

Submitted by
F. F. Fischer
F. F. Fischer
Mechanic.

W. H. [unclear]
3/29/36

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10-23
(May 1923)
6-7410

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii NATIONAL PARK

FILE NO.

MONTHLY REPORT

January 1936

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All Files should be returned promptly to the File Room. Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

February 10, 1936

The Director
National Park Service
Washington, DC

Dear Mr. Director:

Following is the monthly report of activities for this park during January, 1936.

000 - General

The lava flow from Manna Loa volcano which for some six weeks had been the center of interest in Hawaii and occupied the time of most of the staff during that period ceased all forward movement on January 3 - 4 at which time visible glow from molten lava entirely disappeared. Such forward movement as took place in January was merely a spilling over of remnant material left in the intricate network of tubes throughout the lower flow region.

On January 4 a meeting of the Emergency Advisory Committee was held in Hilo and after considerable discussion voted to disband though a resolution was passed requesting the Territorial Surveyor to complete surveys on the proposed Hilo-Hammula-Kona road which, when built, would be of some use in the event of future volcanic activity threatening Hilo.

The superintendent has never urged nor even thought desirable the construction of this road which would involve the expenditure of a considerable sum of money. It would not open up to agriculture or homesteading any sizeable area and appears to be sponsored more as a vote-getting proposition by some local politicians than anything else. However, he does favor a low standard road from Kilauea to Hammula more or less along the forest reserve boundary. Such a road would be of real service in the event of future lava flows toward Hilo which may be expected to occur within the near future.

Though no glow has been visible a considerable volume of smoke continues to pour out from the eruption source cone at the 12,000 elevation where rumbling noises are audible. This continued smoking and the absence of earthquakes seems to indicate that the top of the lava column which fed the flow is still close to the surface. Dr. Jagger believes that the activity has not yet ended.

020 - General Weather Conditions

Total rainfall at headquarters was 4.85 inches, at the CCC camp 3.55 inches and on Haleakala 1.2 inches. There were also 1.25 inches of snow on Haleakala. On the morning of the 31st both Mauna Loa and Mauna Kea were covered with snow.

100 - Administration

110 - Status of Work

With the cessation of the lava flow it was possible once more to settle down to regular routine duties and by the end of January current work was fairly up to date. A special report covering the calendar year 1935 was prepared and submitted to the Park Advisory Board and the Maui and Hilo Chambers of Commerce.

Corrected utility sheets for this park were transmitted to the chief engineer's office on January 16.

A statement concerning the general economic value of this park to the surrounding community was prepared and submitted to your office on January 21.

120 - Park Inspections By:

121 - Superintendent

On January 8, in company with the entire staff the superintendent made a complete inspection of the park, suggesting changes and minor improvements at different locations. On January 21 he left by airplane for the island of Maui to inspect the Haleakala section, departing on January 27 for Honolulu to make several necessary and important contacts. Several inspections were made of work in progress on the Mauna Loa truck trail ECW project and of the CCC camp.

122 - Special Field Representatives of the National Park Service

E.E. Tillett, Field Supervisor for the ECW in Honolulu, arrived on the 4th and departed on the 12th. The purpose of his visit was to investigate reported irregularities in the local CCC camp. Part of this time was spent in inspecting CCC camps and work projects under the Territory of Hawaii on this island. Mr. Tillett was accompanied by Mrs. Tillett and Everett Jr.

125 - Other Governmental Officers

Jack Moskowitz, Principal Highway Engineer, of the Bureau of Public Roads on the Islands, passed through the park on the 4th, on his way around the island to inspect various Public Works projects.

140 - Labor Situation

At various times during January Matson freighters and other boats were tied up at island docks because of strike conditions. However, by the end of the month an agreement was reached and Matson ships are once more running on schedule, though more serious disturbances are rumored for the near future.

150 - Equipment and Supplies

One three-jaw chuck for lathes was received.

The Board of Survey met during the month to pass on the disposition of worn-out equipment and supplies at the CCC camp. A separate report on its findings has been submitted.

170 - Plans, Maps and Surveys

Associate Architect M.S. Sager was occupied a greater part of the month revising the master plan of this park and bringing it up to date.

180 - Circulars, Placards, Publicity Bulletins, etc.

General Office Order #41, with regard to the handling of official correspondence was issued, and a copy is attached.

Miss Whitney of this office was requested by the Hilo Tribune Herald to represent this paper as local correspondent. Authority has been asked of your office for her to act in this capacity. The Honolulu Advertiser gave fine publicity to the superintendent's report on park activities to the Park Advisory Board.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

District Ranger Peck reports from Haleakala that continuous thawing and freezing weather has made it necessary for the cantoneers to spend most of their time in clearing the road of rubble.

220 - Improvements

Two new fireplaces were set up in the picnic ground at Kipuka Puanu (Bird Park)

230 - New Construction

One additional comfort station has been constructed at Bird Park. This is a temporary structure needed to care for the overcrowded condition of the picnic ground until a decent permanent structure can be erected.

The Mauna Loa truck trail is progressing as rapidly as weather conditions will permit, one mile being completed during the month and an additional mile rough graded.

The Halemau-u trail is approximately 78% complete. Much unforeseen hand drilling, blasting and construction of stone retaining walls has been necessary which has seriously retarded the work.

On January 31 word was received to the effect that the Public Works administrator had approved the transfer of \$3000 to the appropriation for the construction of the Haleakala observation and checking stations, etc. Mr. E.J. Walsh of Wailuku, the successful bidder, was notified and it is expected that work will commence shortly. The superintendent greatly appreciates the efforts of the Washington office in securing the additional funds for these sorely needed structures.

300 - Activities of Other Agencies in the Park

320 - Cooperating Governmental Agencies

On January 4 local papers carried news stories stating that Representative J.D. Dingell of Michigan had introduced a bill in Congress designed to create a permanent military post within the boundaries of this park. The bill proposed to transfer to the jurisdiction of the War Department 49 acres of park land in close proximity to the park administration area and hotel development. The superintendent conferred with Mr. E.E. Tillett upon several occasions and the matter was made the subject of special correspondence to your office. Later in the month the local chamber of commerce, of course, indorsed the bill, though some opposition was voiced.

350 - Donations

Mrs. Linda Doty of the Theo H. Davies Company, Honolulu, donated a new coffee pot for use at the 10,000 foot resthouse on Mauna Loa. This was indeed a most welcome and much needed gift.

One copy of "Annotated Bibliography and Index of Geology and Water Supply of the Island of Oahu" by Norah D. Stearns, was donated to the park library by the author, who is the wife of Dr. Harold T. Stearns, geologist in charge of the ground water division of the USGS on the Island of Maui.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Ranger Kenneth J. Williams was appointed acting camp superintendent at the Kilanea CCC camp during the period of Camp Superintendent Rivenburgh's suspension from duty.

District Ranger J.A. Peck was ordered to this island to assist in case of emergency in connection with the Mauna Loa flow, arriving on January 4. However, as all danger had passed he returned to Maui on the 8th. A copy of his detailed report for the Haleakala section of the park is attached.

Effective January 1, Rangers Lamb and Waesche were transferred to the positions of assistant naturalist and assistant geologist respectively.

During the month Assistant Naturalist Lamb spent considerable time working up the material on the trees of the park. The second draft has been typed and is in the hands of readers for additional suggestions and criticism. This project has required a great amount of research work, much of which was done last year.

420 - Museum Service

Cleaning and rearranging of the museum exhibits, begun in December, was carried on throughout January.

480 - Natural Phenomena

A detailed report of the activities of the Volcano Observatory will be found attached.

490 - Miscellaneous

The final progress report on the 1935 silversword insect infestation project was completed and forwarded early in the month. This completes the project, with the exception of one additional trip to Maui by the naturalist to study the results of the work.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel for January to this section was 14,596 as compared with 18,056 for the month of January, 1935. On Haleakala travel amounted to 131 cars and 655 people, a decrease of 38% over December, which no doubt was due to very unfavorable weather conditions. While these figures for Kilauea indicate a decrease in general park visitors, the hotel operator's report shows an increase of 104% for lodgings furnished and an increase of 90% in gross revenues.

530 - Special Visitors

Territorial Senator and Mrs. Yarrington, who arrived on December 18, returned to Honolulu on January 8.

January 4 and 5, 150 cadets from the Japanese Merchant Marine Training Ship, Taiwo Maru were escorted through the park and museum.

January 15 - Mrs. and Mr. Frank C. Atherton of Honolulu. Mr. Atherton has just retired as president of Castle & Cooke, Ltd. They spent approximately 10 days in the park.

Mr. and Mrs. S.L. Austin were also visitors during January. Mr. Austin is manager of the Wailuku Sugar Company, Maui, and former president Maui Chamber of Commerce.

600 - Protection

620 - Fire Protection

The usual quarterly fire inspection of buildings was made by Ranger Murray

On the 31st a fire drill was held in the utility area. Water was on the "burning" building in 2½ minutes.

900 - Miscellaneous

On the 30th a President's Birthday dance was held at the Volcano House, for which a large number of tickets were. One Hundred and sixty five CCC enrollees from this camp, who had purchased tickets, were allowed to attend the dance at the Hilo armory.

During the early part of the month four fatal cases of spinal meningitis were reported in Hilo and other localities near the park. A memorandum to the staff, cautioning them against appearing in public places was issued. However, no new additional cases were reported after a period of approximately 10 days.

There is attached a photograph of the permanent uniformed personnel of the park, including Dr. Jaggard. This picture is submitted, neither because of the great degree of pulchritude exhibited, nor because of any lack of misplaced eyebrows (see late Service bulletins) but because the superintendent is glad to pose with a group that works as willingly and cheerfully as this. They can work hard and play hard and know the time for each. Someone might be catty enough to remark that a third "qualification" had been perhaps intentionally omitted. However, the superintendent submits that Harry Doust can do more with a glass of cracked ice and water than any person he has ever met. In any event, the superintendent is happy to look forward to spending 1936 with this group.

Respectfully submitted

Edward G. Wingate
Superintendent

CW

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Mauna Loa truck trail, ECV project. Rough grading through Kapapala grass lands above six tanks. The trees are Koa (ocacia koa). It is this long grass which in dry weather creates a considerable fire hazard.



Ghost forest along route of Mauna Loa truck trail. This forest was left by a fire starting in the long grass about 1930.



Young coconuts growing at Halepe beach development. Additional nuts were planted by the CCC.

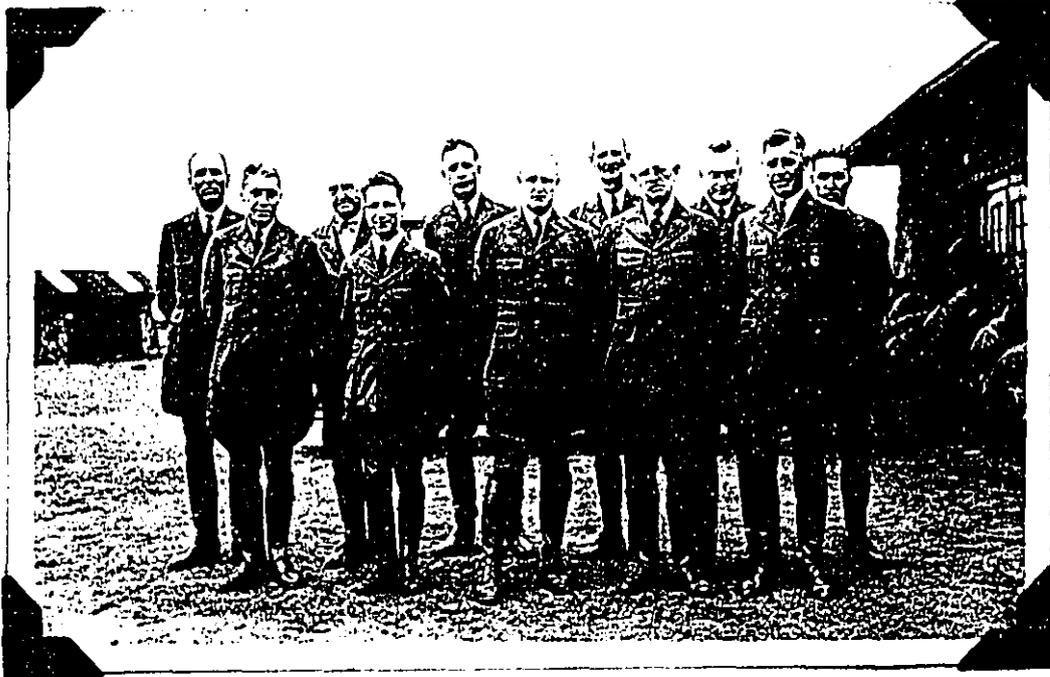


Young Puhala (pandanus) growing in enclosure at Halape. Fence constructed by CCC. The leaves of this tree are used by the Hawaiians in making mats, hats, etc.



Maua Ioa truck trail, ECW project. Kapapala grass lands.

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Permanent uniformed personnel Hawaii National Park including Dr. Jaggard. Front Row, Left to Right - Superintendent Wingate, Assistant Geologist Waesche, Park Ranger Doust, Foreman Craik, Park Ranger Murray; back row, left to right Park Ranger Williams, Volcanologist Jaggard, District Ranger Haleakala Peck, Chief Ranger Christ, Assistant Park Naturalist Lamb and Chief Clerk Higashida.

Jan. 1936

STATISTICAL REPORT NO. 8

FINANCE AND ACCOUNTS

JANUARY, 1936

<u>SYMBOL</u>	<u>APPROPRIATION</u>	<u>ALLOTTED</u>	<u>EXPENDED & OBLIGATED</u>	<u>BALANCE</u>
46415	Hawaii National Park, 1936	\$44,950.00	\$43,091.88	\$1,858.12
45/6406	Forest Prot. & Fire Prev., 1935-'36	300.00	43.81	256.19
4X436.1	Roads & Trails, National Parks, Emergency Construction	42,040.00	27,407.65	14,632.35
4X391	Roads & Trails, National Parks, Emergency Construction Act June 19, 1934	25,775.00	25,637.66	137.34
4-0X640.8	National Ind. Recovery, Interior, National Parks, Roads & Trails Act June 16, 1933	495,538.47	494,967.57	570.90
4-03/7640.14	Nat'l Ind. Recovery Interior, Nat'l Park Service, 1933-'37	10,000.00	10,000.00	0.00
4-05/7678.14	Public Works Administration Allotment to Interior, National Park Service 1935-'37:	6,300.00	6,300.00	0.00
45415	Hawaii National Park, 1935	36,040.00	34,789.78	1,250.22

10-157
(July, 1929)

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

TRAVEL REPORT

Hawaii National Park for the Month of January, 1936

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	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent
PRIVATE TRANSPORTATION:						
Cars first entry,						
Cars reentry,						
Motorcycles,						
Total motor vehicles,						
Persons entering via motor vehicles,	13,779	58,245	17,615	72,204	-13,959	.193
Persons entering via other private transportation,	305	1,370	139	657	713	1.085
Total persons entering via private transportation,	14,084	59,615	17,754	72,861	-13,246	.182
OTHER TRANSPORTATION:						
Persons entering via stages ^{Hotel} stages,	512	2,071	302	1,335	736	.551
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,	512	2,071	302	1,335	736	.551
GRAND TOTAL ALL VISITORS,	14,596	61,686	18,056	74,196	-12,510	.169

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,
Campers in public camps during month,

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10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Hawaii National Park for the Month of January, 1936

	This Year	Last Year
Park revenue on hand beginning of month,	0.00	0.00
Received,	25.00	75.00
Total,	25.00	75.00
Remitted,	25.00	75.00
On hand close of month,	0.00	0.00

Park revenues received this year to date,	275.00
Park revenues received last year to date,	325.00
Increase,	75.00
Per cent of increase,23

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10-161
(Sept. 1933)

DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS.
BUILDINGS AND RESERVATIONS
HAWAII NATIONAL PARK

REPORT OF SALES OF PUBLICATIONS

JANUARY, 1936

	Number	Value
<u>GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,	790	113.90
Received during month,	30	35.25
Total,	820	149.15
Sold during month,		
On hand at close of month,		
<u>NON-GOVERNMENT PUBLICATIONS:</u>		
On hand beginning of month,		
Received during month,		
Total,		
Sold during month,		
On hand at close of month,		
Cash on hand beginning of month,		14.85
Sales during month,		0.00
Total,		14.85
Remitted during month,		4.85
Balance,		10.00

10-159
(May, 1931)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Hawaii National Park for the Month of January, 1936

	This Month				This Month Last Year	
	Appointed		Non-Appointed		Appointed	Non-Appointed
	REG	PW	REG	PW		
Number of employees beginning of month	17	3	1	7	17	4
Number of additions	0	1	0	0	0	30
Total	17	4	1	7	17	34
Number of separations	0	0	0	2	1	1
Number of employees close of month	17	4	1	5	16	33
Number of promotions during month	2	0	0	0	0	0
Aggregate amount of annual leave taken	24	0	0	0	15	0
Aggregate amount of sick leave taken	5	0	0	0	0	0
Aggregate amount of leave without pay	0	0	0	0	0	0

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10-158

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

Hawaii

National Park for the Month of January, 1936

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date of Completion
516 Utility Area, Paving (F.A.)	100	0	0	
517 Location Survey & Construction, New Halemaun Trail (FA)	78	3	5	
518 7 Haleakala Road, Landscaping (FA)	100	0	0	
520 Haleakala Road, Post Construction (FA)	81	3	3	
521 Post Construction, Uwekahuna-Bird Park Road (FA)	100	0	0	
522 7 Haleakala Road, bituminous surfacing, 10.643 miles cont. & contg.	100	0	0	
FP633 For the erection of one observation station and toilet; and one office and checking station, Haleakala	0	0	0	
FP677 Employee's residence and connecting service lines for newly appointed U.S. Commissioner	0	0	0	

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Hawaii National Park

January 16, 1936

GENERAL OFFICE ORDER #41

Subject: Official Correspondence Regular and E.C.W.

Effective upon receipt of this order the following routine pertaining to the handling of correspondence is to be followed:

All incoming mail will be sorted into two stacks one containing all regular mail and the other E.C.W. mail. This mail is then to be given to the Chief Clerks of the Park and E.C.W. for opening and dating. Each Chief Clerk will then separately go over his mail with the Superintendent at which time it will be divided into two classes of correspondence, (1) that to which reply can be made within three days (2) that to which reply must be delayed. The respective Chief Clerks are then directed to acknowledge receipt of the second class and see to it that all replies to the first class are made.

Briefly, incoming mail must be acknowledged or replied to within three days after receipt. Any previous orders in conflict with this order are hereby rescinded.



Edward G. Wingate
Superintendent

Distribution:
Director 2
Superintendent 1
Chief Clerk 1
Chief Clerk E.C.W. 1
Chief Ranger 1
Assistant Park Naturalist 1
Monthly report 7
File 1

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REPORT OF THE CAMP DIRECTOR
FOR THE MONTH OF JANUARY, 1936

TO Edward G. Wingate, Supt.,
Hawaii National Park.

Dear Sir:-

On January 11th, I was appointed Acting Camp Director, vice Bertram G. Rivenburgh suspended, with instructions to take up residence at the Camp. Most of my time for the rest of the month was devoted to the study of regulations affecting the Camp and its interior economy, with the view of effecting such reforms as may appear advisable.

Accident to ECW truck:

A special report on accident to USDI #1151 was submitted at the time of its occurrence with recommendations. Cost of repairs amounted to \$9.41.

Personnel Changes:

Enrollments: There were 14 new enrollments and 2 re-enrollments during the month to fill existing vacancies.

Discharges: There were 14 enrollees discharged during the month. To return to school, 1; to accept outside employment, 7; for desertion, 5; for disciplinary reasons, 1.

Health:

About the middle of the month, four fatal cases of meningitis were reported on this Island from widely scattered places. Immediate steps were taken to prevent members of the Camp personnel from attending any gathering such as theaters, dances, etc., until medical authorities declared the danger at an end, about ten days later. Several cases of appendicitis developed during the month, four of whom have been operated on. Through lifting of heavy posts on the boundary fence project, another case of hernia developed and is being attended to. The Project Superintendent has been instructed to caution the foremen against permitting the boys to lift too great a weight.

Recreation and Education:

This important phase of C.C.C. work does not appear to have received sufficient attention at this Camp. Recreational equipment has been permitted to deteriorate almost to the vanishing point. The so-called recreation room was entirely devoid of furniture until a few days ago, when a handy enrollee succeeded in putting a few chairs and tables together from odd pieces collected here and there. The Sunday talks by various volunteer individuals, while not always entrancing, are frequently instructive and should be continued. However, much more should be done. A liberal program embodying more varied types of recreation is being considered for adoption. Books and more important still, newspapers should be procured. The Volcano House management has very kindly promised to keep their day-old newspapers for the boys which will help some. The enrollees have lacked the opportunity

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to keep up with passing events. I intend to look into the possibility of procuring a travelling library in which case a man will be detailed to look after the books, sporting equipment, mail and such other duties as may be considered proper.

Field Work:

A total of 3327 man days were distributed on projects as under:
E.C.W. 7 #202 Mauna Loa Truck Trail ----- 2207
131 Fencing Park Boundary ----- 900
702 Landscaping, Road Slopes, Maintenance ----- 220

One mile of the truck trail was completed and another mile excavated and graded ready for rock. A roller we borrowed from the Olaa Sugar Company has been of great assistance.

On the fence line 380 rods were made ready for the sire, making a total of 1340 rods. A camp was opened on the 27th near this fence line with Foreman Silva, a Junior Cook and 25 enrollees.

Landscaping maintenance, road slope clean-up, etc., was continued. No time was lost on account of weather.

Equipment:

The following major items of equipment were received:

3 Fire extinguishers -----	\$ 26.25
12 Wheelbarrows -----	77.40
12 Canteens -----	19.65
6 Hammers, stone -----	10.50
12 Crowbars -----	26.40

Respectfully submitted,

Kenneth J. Williams,
Acting Camp Director,
ECW HRP.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

Wailuku, Maui
January 31, 1936.

The Superintendent,
Through the Chief Ranger,
Hawaii National Park, Hawaii

Dear Sir:

The following report of the Haleakala Section, for the month of January, 1936, is respectfully submitted:

000 General.

010 Introduction.

At last the sharpest curves of a good portion of the Haleakala road are painted with center lines for traffic guidance, which should be quite a safety factor for motorists.

020 General Weather Conditions.

Precipitation during January amounted to 1.20 inches. There was 1.25 inches snowfall. The prevailing wind direction was from the northeast. There were no clear days during the month.

100 Administration.

110 Status of Work.

Weekly reports were kept up to date. Purchases of supplies for cantoneer work, trail construction and operation of trucks were kept up. Regular patrols and inspections were carried on.

120 Park Inspections.

The Haleakala Section was inspected by the Park Superintendent on the 23 and 25 of this month.

150 Equipment and Supplies.

Eight gallons of yellow paint for traffic lines were purchased also lumber and bolts for mounting enamel signs.

200 Maintenance, Improvement and New Construction;

210 Maintenance.

Usual maintenance work on the road was carried on during the month. Much freezing and thawing weather has made it necessary for the cantoneers to spend a large portion of their time in clearing the road of falling rubble.

- 2 -

220 Improvements.

The slope of some of the road fills was reduced by the addition of new material and several more drainways were lined with stone. Center lines were painted on the worst curves of the upper portion of the road for traffic guidance.

230 New Construction.

Construction work on the Halemaun trail project during the month, has consisted in widening the pioneer trail to standard width. Much hand drilling and blasting and building of stone retaining walls has been necessary.

400 Flora, Fauna and Natural Phenomena.**410 Ranger, Naturalist and guide service.**

The Ranger in charge contacted park visitors, represented the Park Service and patrolled the road whenever possible.

500 Use of park Facilities by the Public.**510 Increase or Decrease in Travel.**

Check of travel for the month amounts to 655 visitors, a decrease of 38% under the record for last month. The decrease was caused mainly by much unfavorable weather.

600 Protection.**610 Police Protection.**

Frequent patrols in various parts of the park area were made during the month, including several trips over the Halemaun trail and to the Rest House.

620 Accidents.

There were no accidents in the Haleakala Section during the month.

650 Signs.

All of the enamel signs have been mounted and prepared for putting in place early next month.

Yours respectfully,

(Sgd) J.A. Peck
District Ranger.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

February 5, 1936

Mr. Edward C. Wingate, Superintendent
Hawaii National Park.

Subject: Report of Volcano Observatory for January, 1936

Dear Mr. Wingate:

The staff of the Volcano Observatory included as before, T.A. Jagger, H. H. Waesche, and H. Yasumaki; on January 23, S. Sato, from the C. G. C. Camp was added to the staff as library and clerical assistant to the volcanologist. Other clerical assistance was obtained from the Park Headquarters from time to time to meet the stress of this exceptional month at the end of the Mauna Loa eruption. Mauna Loa has continued to eject sulphur fume at the upper rift cone throughout the month. The weekly press reports have been issued regularly, and a large amount of unusual routine work has been occasioned by the necessity to print and compile the photographic negatives of the eruption, and the notes.

Observations of Mauna Loa.

Mr. Jagger flew in commercial airplanes over the flow and source region December 31, made a trip to Pua Oo January 3 to 5, and made a trip to Humula January 24-25, in order to visit the source region of the flow. The observations of December 31 showed the glowing lava stream of the inner channel still moving in Pua Oo Ranch, and at the flow source the glowing liquid torrent of 3 days before, which had poured in a new course over the source as result of the booming, had solidified and ceased action. On January 3, the flow was stagnant at Humula, and the extreme front amid koa and ohia trees, east of Pua Oo, had penetrated the forest reservation 600 feet and stopped. There was slight creaking in the rough pahoehoe lava, and some smouldering bushes remained, but otherwise, there was no motion.

A report from the rift cone at elevation 12,000 feet on Mauna Loa, of date January 19, indicates that dark fume was still rising vigorously, and this continued to the end of the month. A crack in the south wall of the cone was staining the outside yellow with sulphur and ejecting sulphur fragments. An unconfirmed account of the interior crater of the cone, relates that there was a flat floor, and some appearance of streaming at the sides without evident glow.

On my visit to the source heap of the Humula flow, January 25,

- 2 -

I climbed over the inner pahoehoe from the east side at about elevation 7,800 feet, and found fresh on top of the pahoehoes. This was probably one of the new flows released by the bombing. Careful study of the photographs proves conclusively that on the morning of the bombing, the two source channels were crushed over with the lava flowing in a tunnel beneath. Photographs the next day from the air show one of these channels with rushing liquid lava which spilled over the surface farther down the slope. My own photographs of the next 3 days from the ground and from the air, show large new flows on the upper heap, and the stagnation of those flows on December 31.

These facts, and the very marked continuation of puffing fume at the upper rift vent throughout January, mean that the Mauna Loa activity is not yet ended, but that the Hamaa flow was sharply arrested by the bombing.

Observations of Halemauau

Halemauau pit of Kilauea Volcano has remained very quiet, and earthquakes have been trivial with 20 to 35 local seismic disturbances per week, and some spells of continuous tremor at the end of the month. Such increased intensity of earth shocks, accompanied by decreasing frequency as usually indicates the end of a Mauna Loa eruption, has not yet appeared.

The numbers of tremors by weeks in January were 19, 23, 16, and 20; of weak earthquakes 5, 6, 7, and 5. The local seismic index by weeks was 7.75, 8.75, 7.50 and 10.00. Opening of cracks around Halemauau aggregated 40.5 mm. Nothing remarkable has yet appeared from the leveling and horizontal angles. The only conspicuous slides at Halemauau were at the NW region over the yellow sulphur places just before noon January 20. The distance of very feeble earthquakes has frequently accorded with the distance of the Mauna Loa eruption, about 19 miles.

Observatory Notes

Proofs of the Volcano letter have been corrected for July and August. A large amount of delayed correspondence has been cared for. Assistant-Geologist H. H. Waesche returned from his vacation January 4, and he has finished the monthly seismostatic reports to November inclusive. He has marked the trig stations used for horizontal angle measurements with large vertical white pipes; this dispenses with flags, and makes a signal easy to read.

All the cooperative geologists and officers of the Army and Navy have sent in helpful reports and photographs to assist the record of the Mauna Loa eruption. Mr. Waesche has prepared map diagrams for quick location of earthquakes on the basis of our Hawaiian travel times. Lieutenant Hetherington of the Air Corps is preparing an article for the Air Corps News letter on the bombing of Mauna Loa and has been furnished with information.

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- 3 -

I am preparing an article for the The Military Engineer on the Bombing of Mauna Loa, and I plan an article on the Mauna Loa eruption for the American Journal of Science.

I have in view supplying pictures of the eruption to the National Geographic Magazine and to the Illustrated London News. It is probable also that a note will be sent on the subject to the Scientific American, which has asked for it.

With my release from field work it becomes necessary to prepare for a better illustrated form of the Volcano-Letter, which will begin with the November number, and the Mauna Loa eruption. I am arranging to transfer to the Honolulu office of the Volcano Research Association, the printing of this publication, and much other work of that Association hitherto done here. The annual meeting of the Association has been arranged for March 21 in a lecture hall of the University, when I shall give a public lecture illustrated with slides on the Mauna Loa eruption.

I have started overhauling the library of the Observatory preparatory to the Graduate Summer School of Physical Geology which will begin in June in the National Park. I plan to get additional assistance through the Volcano Research Association for getting the Observatory in order and putting in shape the specimen collections and instruments before the Summer School begins.

Very respectfully.

F. A. JAGGAR,
Volcanologist.

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*Miss Whitney
in Monthly Report
E.G.W.*

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII NATIONAL PARK
HAWAII

OFFICE OF THE SUPERINTENDENT

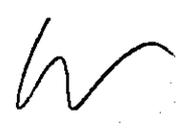
January 31, 1936

Memorandum to Superintendent Edward G. Wingate:

The following is a report of work accomplished under my direction during the month of January, 1936.

1. Completed addition to machine shop.
2. Removed wire guard rail at Halemauau.
3. Rebuilt turnstile at bird park entrance.
4. Relocated hot water heater and built fire-proof shed around same at Quarters #1.
5. Rearranged hot water line, Quarters #15.
6. Cleaned trail to Lava Tube.
7. Repaired walk at entrance to Lava Tube.
8. Cleaned drains Uwekahuna Pit road.
9. Inspected and condemned broken and worn-out tools and equipment, ECW.
10. Hauled fire-wood, Employees Quarters.
11. Varnished linoleum, Quarters #3.
12. Built two fireplaces, Bird Park camp grounds.
13. Janitor service office building during illness of C. Kahl for ten days.
14. Repaired stopped drains, Quarters #3.
15. Scrapped and painted roof, " #1.
16. " " " " " #5.
17. Made two inspection trips, Mauna Loa Truck Trail.

R.R. Craik
R. R. Craik, Foreman HNP



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Feb. 4, 1936

The Superintendent,
Hawaii National Park,
Hawaii.

Dear Sir:

The following is a report of my time by
hours, for the month of Jan. 1936.

Repairs on cars and trucks	100	Hours
Check, recharge and refill all fire extinguishers	14	"
Pump water as follows, High tank 24,000 Gals.		
E. C. W. camp 600 "		
Watering plants 400 "		
Total 25,000 "	9	"
Survey E. C. W. clothing and tools	7	"
Museum light plant	6	"
Check in gasoline	6	"
Inspect tractor and order repairs	5	"
Fill all car batteries	4	"
Transfer gasoline to storage tank	4	"
" kerosene " " "	4	"
Repair and paint Perfection stove from Supts. Res.	4	"
Repair tools in warehouse	3	"
Dressing stone tools	3	"
Making new tools and equipment	3	"
Repair traffic counter (Hilo(entrance))	3	"
Check in kerosene	2	"
Warehouse	2	"
Repair surveyors chain	2	"
Dispose of condemned E. C. W. Tools	2	"
Marking new tools and equipment	2	"
Repair fire pump	2	"
Repair type writer Museum	2	"
Repair bitumuls pump	2	"
Repair room heater (Res. # 4)	2	"
Drying fire hose	2	"
Transfer motor oil to storage tank	1	"
Check telephone batteries	1	"
Repair grass sickles	1	"
Repair carpenter brace	1	"
Repair tubes	1	"
Make targets for Observatory	1	"
Repair wheel barrow	1	"
Repair old spring to use as extra	1	"
Make new numbers for garages	1	"
Clean battery terminals	1	"
Install new light over grinding wheel in warehouse	1	"
Repair Gravely mowing machine	1	"
Sharpen shears for Museum	1	"
	<u>208</u>	Hours,

Submitted by,

F. F. Fischer

F. F. Fischer

Mechanic.

February 4, 1936

The Superintendent
Hawaii National Park

Dear Mr. Wingate:

There follows a report of the activities of the ranger department during January, 1936.

000 - General

Ranger department activities were the same as heretofore, including assisting the naturalist division, maintenance of telephone lines, park patrols, etc. By the second of the month the front of the Mauna Loa Flow had stopped moving and danger to the Hilo water supply and additional grazing lands was over.

020 - Weather Conditions

Total rainfall at headquarters was 4.85 inches, at the CCC camp 3.55 inches and on Haleakala 1.2 inches. There was also 1.25 inches of snow on Haleakala. On the morning of the 31st both Mauna Loa and Mauna Kea were covered with snow

100 - Administration

110 - Status of Work

Work was kept current during the month. The chief ranger was appointed acting superintendent effective the 21st for the balance of the month, while the superintendent was on Maui and Oahu.

Boundary survey was 30% complete at the end of the month, with the Mauna Loa section fully completed.

The ECW fence crew had finished $4\frac{1}{2}$ miles of fence line by the end of January.

120 - Park Inspections

Regular inspections were made of all work in progress here and by District Ranger Peck on Haleakala.

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On January 8 an inspection of the entire park was made by the staff including District Ranger Peck, who had been called over to this island from Maui.

On January 30 the chief ranger, in company with Chief Clerk Higashida, made a trip to Halape to inspect the coconut palms planted there by CCC enrollees. From all appearances they are making splendid progress, with the exception of three which had died.

122 - Special Field Representatives of the National Park Service

E.E. Tillett, Field Supervisor for the ECW in Honolulu, arrived on the 4th and departed on the 12th. The purpose of his visit was to investigate reported irregularities in the local CCC camp. He was accompanied by Mrs. Tillett and Everett Jr.

126 - Other Governmental Officers

Jack Moskowitz, Principal Highway Engineer of the HPR on the islands, passed through the park on the 4th, on his way around the island to inspect various Public Works projects.

150 - Equipment and Supplies

The Board of Survey met during the month to pass on the disposition of worn out equipment and supplies at the CCC camp. A separate report on its findings has been submitted.

170 - Plans, Maps and Surveys

Associate Architect M.S. Sager was occupied a greater part of the month revising the master plan for the San Francisco office.

200 - Maintenance, Improvements and New Construction

210 - Maintenance

Routine maintenance was carried on. District Ranger Peck reports from Haleakala that continuous thawing and freezing weather has made it necessary for the cantoneers to spend most of their time in clearing the road of rubble.

220 - Improvements

Two new fireplaces were set up in Bird-Park

The extension of the machine shop is approximately 90% completed.

It is suggested that when trucks are available they be used to pile sand and crushed rock at intervals along ~~all park roads~~ in order that chuck-holes can be filled as they develop.

the picnic ground at Kipapa Park

*Mauna Loa Truck
-mail*

Center lines were painted on the worst curves at the upper end of the Haleakala road.

The Mauna Loa truck trail is progressing as rapidly as weather conditions will permit.

230 - New Construction

One additional comfort station has been constructed at Bird Park.

The Haleman-u trail is approximately 50% complete. Much hand drilling, blasting and construction of stone retaining walls has been necessary this past month.

300 - Activities of Other Agencies in the Park

320 - Cooperating Governmental Agencies

The FERA project is still underway at the Volcano House.

350 - Donations

Mrs. Linda Doty of the Theo H. Davies Company, Honolulu, donated a new coffee pot for use at the 10,000 foot resthouse on Mauna Loa. This was indeed a most welcome gift.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

Ranger Kenneth J. Williams was appointed acting camp superintendent at the Kilauea CCC camp, during the period of camp superintendent Rivenburgh's suspension from duty.

District Ranger J.A. Peck was ordered to this island to assist in case of emergency in connection with the Mauna Loa flow, arriving on January 4. However, as all danger had passed he returned to Maui on the 8th.

Effective January 1, Rangers Lamb and Waesche were transferred to the positions of assistant naturalist and assistant geologist respectively.

500 - Use of the Park Facilities by the Public

510 - Increase or Decrease in Travel

Travel for January to this section was as compared with for the same period in 1935. On Haleakala travel amounted to 131 cars and 655 people, a decrease of 38% over December which was due no doubt to very unfavorable weather conditions.

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530 - Visitors

January 15 - Mr. and Mrs. Frank C. Atherton of Honolulu. Mr. Atherton has just retired as president of Castle & Cooke. They spent approximately 10 days in the park.

600 - Protection

610 - Police Protection

Usual patrols of all park roads, campgrounds, etc., were made during the month.

620 - Fire Protection

The usual quarterly fire inspection of buildings was made by Ranger Murray and has been the subject of a special report.

On the 31st a fire drill was held in the utility area. Water was on the building in $2\frac{1}{2}$ minutes. Only two errors were noted - one that Nakamura parked the fire truck within five feet of the "burning" building and the second no one removed the truck which was inside the building.

900 - Miscellaneous

On the 30th a President's Birthday dance was held at the Volcano House. Because it was on a week-day the crowd was exceptionally small, hardly any one from the neighboring towns being in attendance, though Ranger Murray reports the sale of a large number of tickets..

One hundred and sixty five CCC enrollees from this camp, who had purchased tickets were allowed to go to the dance at the Hilo armory.

Respectfully submitted

Joseph H. Christ
Joseph H. Christ
Acting Superintendent

[Handwritten signatures]