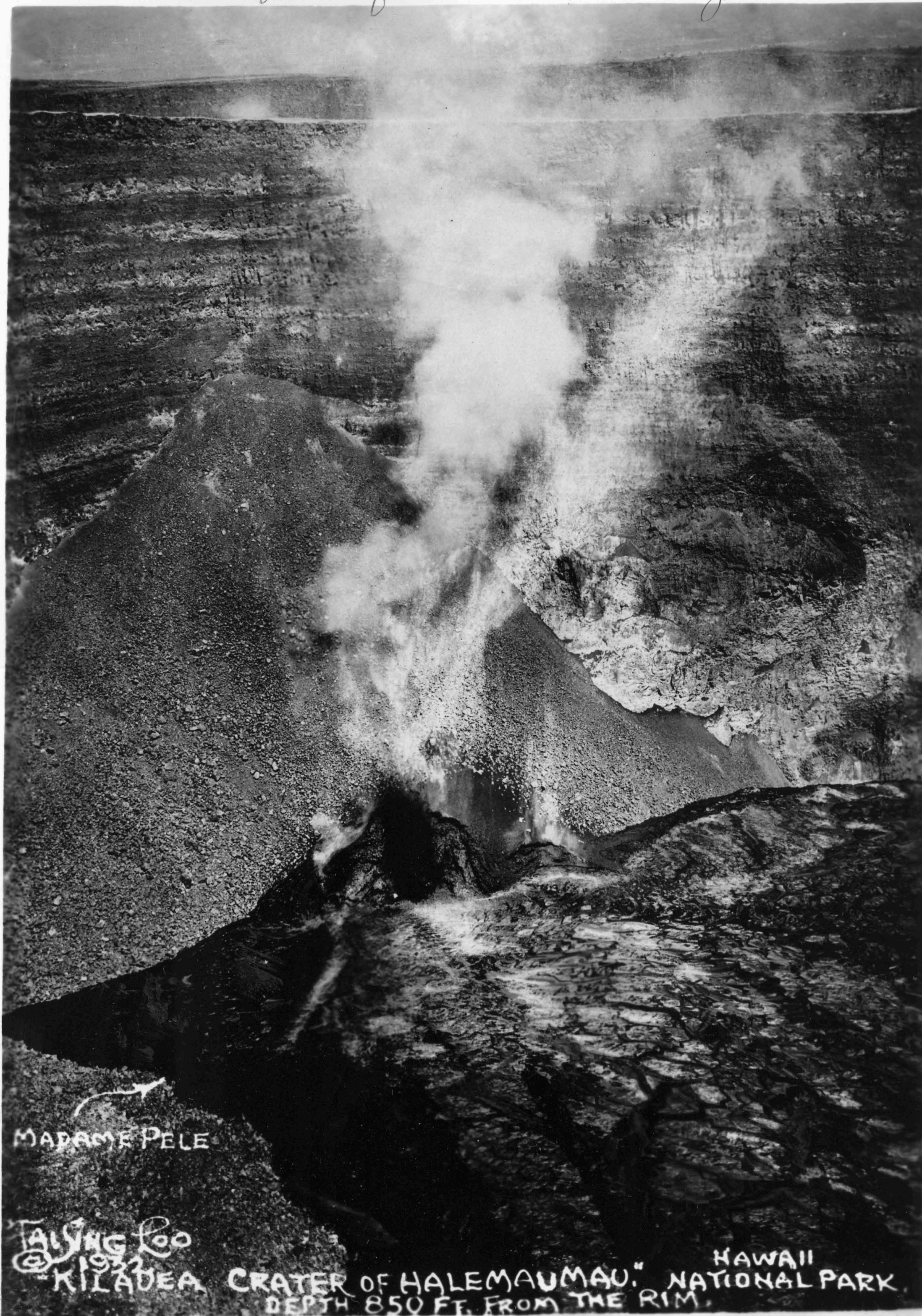


Hawaiian Volcano Observatory Record Book 1932

This volume is one of a series of record books compiled by the Hawaiian Volcano Observatory (HVO) from 1912 through early 1966. The pages for this volume were transferred by HVO to the Bishop Museum, in Honolulu, Hawai'i, in 1972 and are held at that institution (accession number 1972.265). In 2010, HVO entered a cooperative agreement with Bishop Museum to scan many of the record books in their repository. The scanning was done by HVO volunteer Frances Wong using a flat-bed scanner at a resolution equivalent to 600 dpi. The raw scans were then delivered to HVO volunteer Ben Gaddis, who processed each of the scanned pages by cropping and by adjusting the exposure and contrast using a photo editing program. The scanned and photographed pages for this volume were then combined to form this digital version of the record book. Quality control and posting was done by Tim Orr of the U.S. Geological Survey Alaska Volcano Observatory.

Profile of Unale looking



K. L. Lohman Head.

1932

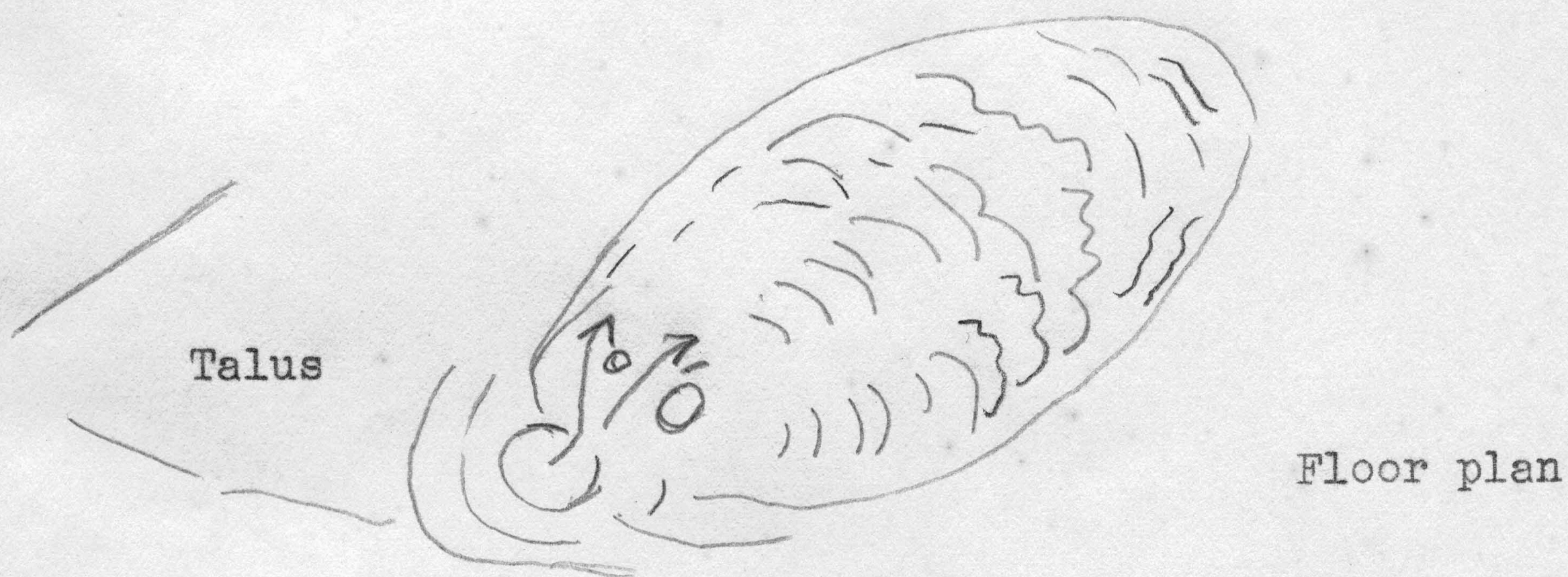
Day	Friday	Date	January 1, 1932
	Saturday		" 2, "

January 1
11 a.m.

The cone SW continues to grow. The west stream continues to flow. Larger area of liquid lava over SW half of floor. Many streams and toes making out at front of liquid part. Ft variable and big.

Much pumice all over country SW. Some pieces 2 or 3 inches across. The N region of the mound-floor appears sagged inward from the edges but hard to judge. Concentrically cracked.

Islet in front of river.



January 1-2
night.

Glow on the fume cloud of the ft and the flows very bright all night. Horizon lightning over Mauna Kea in morning.

January 2
3 p.m.

Ft smaller and looking more like Kilauea lava and less pumiceous. Flow from two streams still stg. Lake scalloped wide leaf shape with rampart around it. Two big flows thro rampart. A few toes around edge floor mound.

8 p.m.

Occasional 300 foot flings from ft, but most of the time 100 to 200 feet. Two flows into lake. Much cracking and foundering in large fields of hard-crustated lava in front of the lake. The overflows in wide streams and wider leaf-shaped fronts on top of these hard-crustated fields. The lake has a bright-line pattern, coarser around the edges five at the entrances of the golden flows from the ftg cone. Waves in the liquid pool about the ft. Caving in of the craterlet about the ft. Spatter continually adds to outer slope of large horse-shoe cone around fountain. Puffs make distinctive noise from time to time thro the steady splash of the ft. Blue fume up with such puffs, in single volutes. The southern stream from the ft pool makes a pattern like the engine-turning of a watch where it enters the main lake. Long cracked slope of floor mound from lake to NE.

January 2
(cont'd)

Fountaining is still steady and pressure strong.

Lava floor on the north area has sunk and settled. A few tiny sulphur spots have been found where the fume comes out.

Two flows from under crust join to one with great speed towards SE direction.

Tai On

9 a.m.

SW fountain still working under same degree of pressure as during past several days and may continue another week.

Slag surges within a cone continuously building up and river of melt pours out its NE side, in two streams with greatest speed these streams have yet developed. The material is nearly liquid for half the floor (bottom) area, crusting as it cools. Often cascades form at some distance from source where topography favors it.

Jones states some tremor increase yesterday about 3:30 p.m. to 10 p.m.; and lava activity seemed brighter to him yesterday at 5 p.m. but may seem so from cloudiness.

Electric storm in evening yesterday and snow Mauna Loa .

R.H.

10:30 a.m.

Flows from SW cone (grotto) have formed a lake with a wall along the N edge. Some lava spilling over. Lake covers about 1/3 of floor. Ed rims of grotto have built out some 150' from talus forming a typical Mauna Loa cone with the channel of flowing lava about 100' wide. Grotto more like a cauldron. Lava flowing more rapidly than on December 30, 1931. Pressure of fresh lake lava forcing partly cooled crust N and up and gradually filling sunken area. Slight rises noted on walls, by pressure.

E.G.W.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

Hawaiian Volcano Observatory

JOURNAL

Day	Sunday	Date	January 3, 1932
	Monday		" 4, "
	Tuesday		" 5, "

January 3
11 a.m.

Now a single wide cascade flowing ENE in a wide, rapid river. Ramparts of the lake continually pushing out as they are overflowed.

Fountain seems more sluggish but it has a heavy weight loading down its orifice. Occasionally there are spurts which throw material well outside the cone rim.

January 4
8 a.m.

Now three streams forking from wide river at open side of grotto. Rapid cascades carrying black crusts past two small islands in center fork.

Fountain is the same, at times slightly sluggish, and then a spurt of high jets with a roar.

Occasional brilliant slides as sides of grotto give way within.

R.H.

3 p.m.

Fountains bubbling fairly steadily, spouting about 50 to 75 ft. One river flowing out from the center of the grotto, dividing into three streams surrounding three islands. The lake covers about a third of the floor and is confined in a well defined rampart, except on the west side where a good deal of overflow was occurring. Only a few tongues of overflow are breaking through on the other margins of the lake.

H.A.P.

January 5
8 a.m.

Flow has lessened; fountain is weaker--probably little changed since HAP's observation of yesterday.

Volume apparently has lessened considerably as sides of grotto and streams are much more defined.

Lake has lost in area and overflows of ramparts have dwindled. At present most of filling appears to be in S bay region.

The river flowing from grotto now forks into two streams with rapid flowing cascades.

Forms removed from Hal. seis. cellar.

8:40 a.m.

Stopped at Museum. More fume rising now.

10:45 a.m.

T.A.J. states flow has revived.

R.H.

January 5
(cont'd)

9:30-11 a.m.

Elevations taken when lake was at its highest 1/5/32 - Powers & Jones

Area over 1930 Cone 2793 -- Fill of (73) ft

SW bay, 2792 - Fill of (134) ft

Lake in front SW grotto cone 2798 - Fill of (125) ft

Lake SW central pit 2777 - Fill of (107) ft.

West bay 2773 - Fill of (113) ft

The amount of filling over whole floor appears to have been (115[±]) ft - a fill of (25[±]) ft over measurements of Dec 29-30, 1931.

E.G.W.

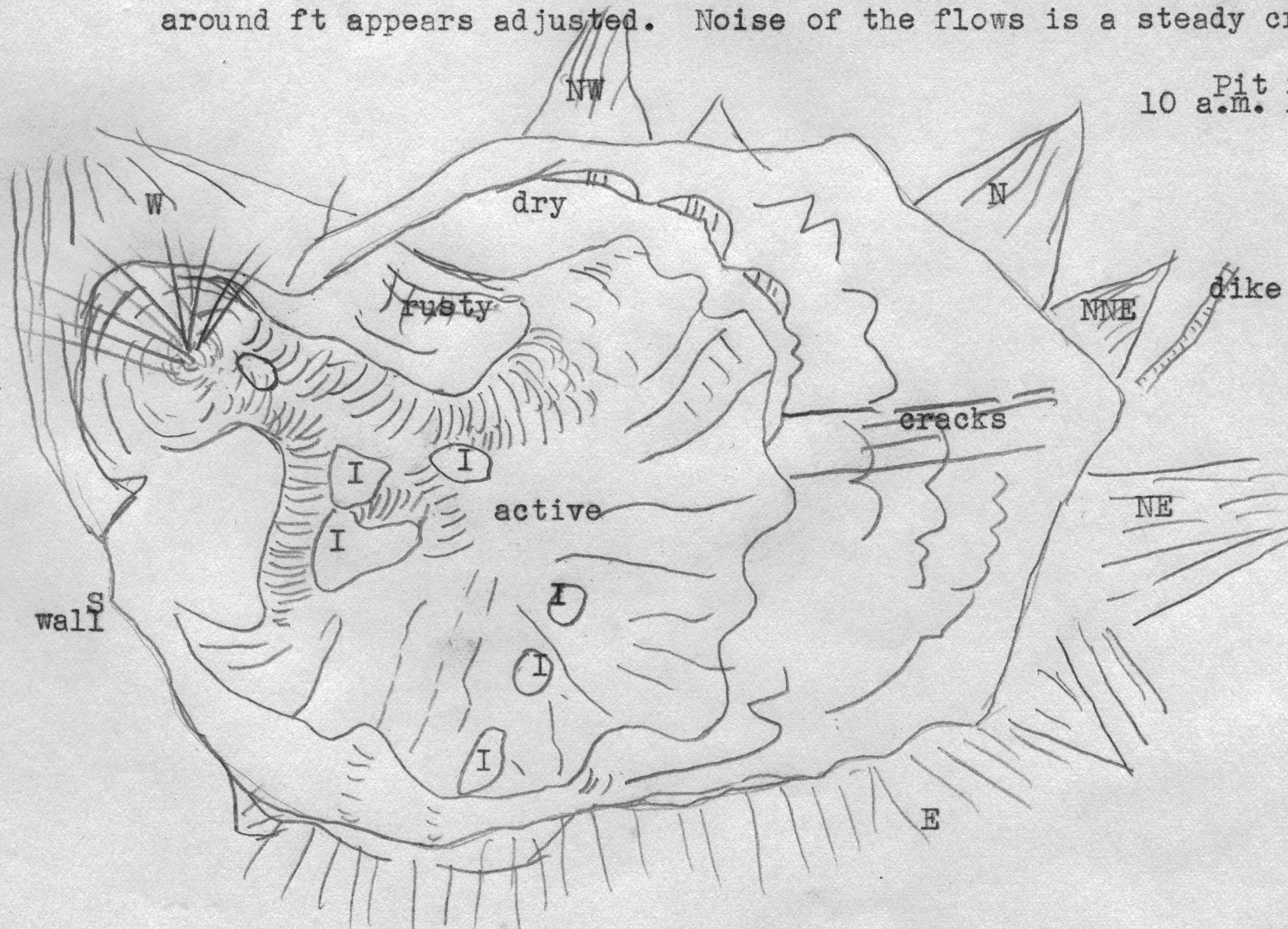
10 a.m.

Bright during night but fume column almost stopped. Slight fume column and high small cumulus above & red brown fume under cloud.

Fountain normal puffing and splashing. Great heat from lake on S edge. Lake has vacated its ramparts on W side & is overflowing ramparts east. Island scarp of last week in front of main channel from cone has brick red rusty inface. Three rapid cascades to E from channel. Streaming bright-hue pattern to E and NE. 3 island scarps divide the channel. N floor has scalloped rampart patterns over its surface, and pressure ridges and four crevasses due NE toward the dike in wall: i.e. on the line of the first fts of December 23, and apparently gaping open by tumescence.

Floor is against rock wall NE, NNW, WNW, S, and 2 places E. The old ledge SE is covered up to a talus above. The cone and crater around it appears adjusted. Noise of the flows is a steady crackling.

10 a.m. Pit from SSE
1/5/32
TAJ



January 5

(cont'd)

1:59 p.m.

Fountain changed. Big fountain stopped. Little fountain NE of old one. Large tremor on seis. for some time prior to 1:15. Gilmore said small fountain was going as at 2 p.m.

Sailor report that at 1 p.m. it was large inside and then worked out to the NE.

2 p.m.

There was a small unit of lava flowing out both rivers. Shortly after only the south river was flowing. Small fountains still working at 2:15.

2:20-2:25 p.m.

Tremor reported as stopped. Booming. N river running again, stopped for a short time, lava apparently raised and flowed back over part of the black lava on the old fountain. More lava later.

2:42 p.m.

Fountain migrating to NE.

2:58-3p.m.

Booming

3:15 p.m.

Lava streams small and less bright & slow.

3:24 p.m.

Spell of vigorous fountaining.

3:30 p.m.

Intermittent spurting with some booming. South river is very narrow, still flowing. Most of outflow thru north river.

3:35p.m.

#4 picture.

3:55p.m.

Spell of rather heavy fountaining.

Jones & Powers



JOURNAL

Day	Tuesday	Date	January 5, 1932
	Wednesday		" 6, "

January 5
(cont'd)

Report from HAP in early afternoon that fountain had stopped action. About 3 p.m. Tai On phoned that fountain was slightly active, flow was weak, and avalanching had begun to be almost constant, but Jones says sailors were rolling rocks in and starting the slides.

3:30 p.m.

TAJ examined records. Some strong tremor at times, and now "normal" for the fountain action. Very little fume to be seen.

3:45 p.m.

Jones and Tai On returned from pit. Fountain very low, some spurts 50 feet. It has moved from center of grotto toward its opening. Jones believes, from hearsay, that its position changed 1 to 1:15 p.m. coincidentally w. a waxing spell of tremor.

January 6
6 a.m.

At pit. No lava activity. Cracking sounds, some louder than others, as of cooling, nearly continuous.

Numerous light points--"bed of coals". Some squeaking noises, like rubbing. A few cascades of cinders from sides of grotto, showing glowing coals underneath.

A little fume from various parts of bottom; saw none coming from grotto. Activity has apparently definitely ceased after several hours of fluctuating fountaining.

R. H.

Pit quiet with several fume jets on the floor.
Top of new cone fuming slightly.
East base of cone giving out.
Strongest fume.
Lake has slumped leaving numerous hummocks.
Steam strong on SE talus.
Steam fair on SW talus.

E.G.W.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

Hawaiian Volcano Observatory

JOURNAL

Day	Thursday	Date	January 7, 1932
	Saturday		" 9, "
	Sunday		" 10, "

January 7
10:50 a.m.

Two small slides NW & NE. Not seen.
Floor very irregular and hummocky. No sounds of settling on bottom.

R.H.

January 9

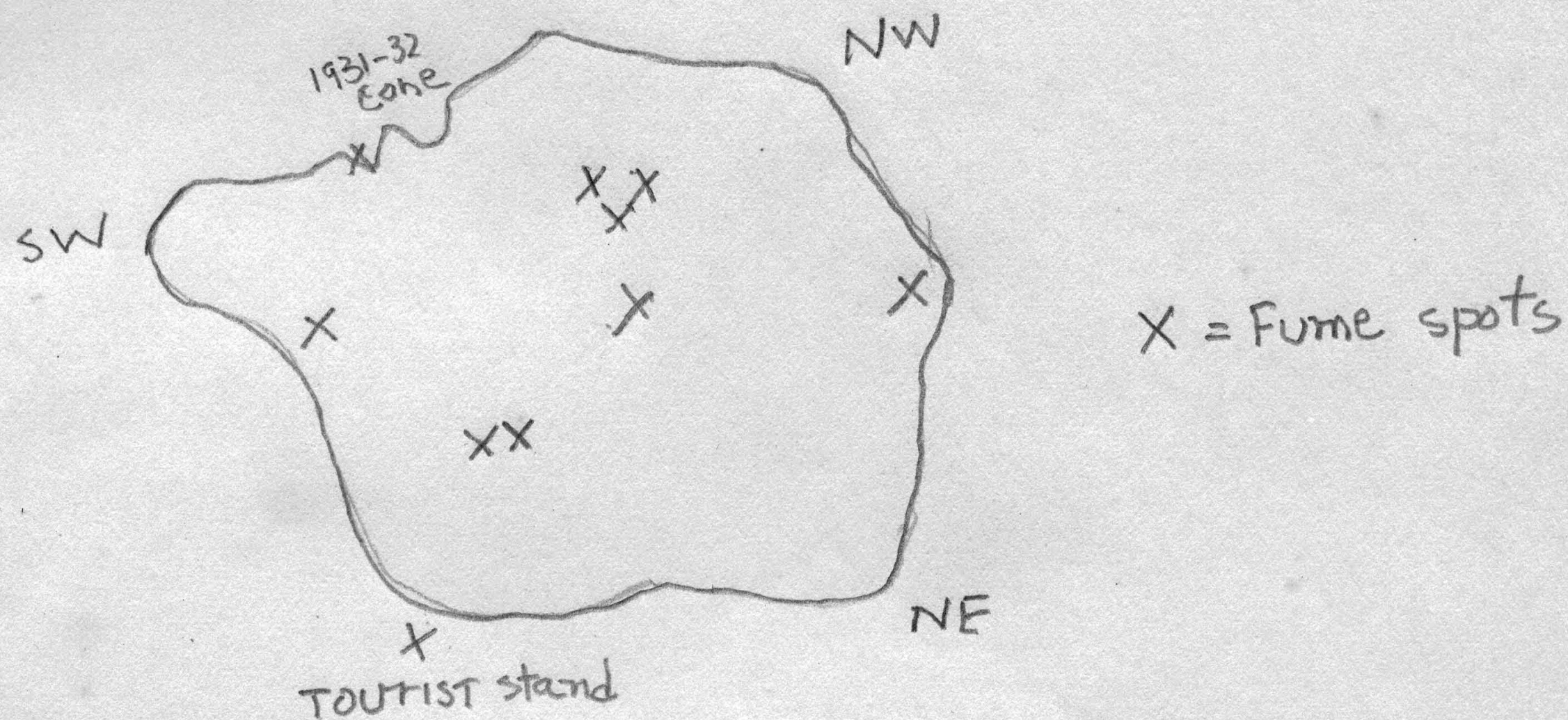
Pit more or less obscured by rain which makes a slight hissing sound on the new floor.

Fume spots located on diagram below.

Heavy steam on SE & SW talus slopes.

Some rocks heard falling & a small slide at 11:10 a.m.

Noticed that slides preceding & during eruption have increased width of NW talus some 30-50 ft & to same height. New debris is reddish in colour. NE rim continues to show slight widening of cracks in some places.



E.G.W.

January 10
1:30 p.m.

As sun moves to W faint blue fume comes up SE side of pit. This shows plainly & later in afternoon whole pit bluish.

Inspection shows that most of this blue fume is from a crust ridge smoking at SE margin of floor. Bottom appears dead with some collapse in SW cone, many hummocks over the area of the recent lake, and everything else as before. Some steam jets from walls & talus low down. Cumulus still forms in high air from heat of pit floor.

Last night a few points of glow.

T.A.J.

PHOTOGRAPH RECORD

Day **Thursday**Date **January 7, 1932**

time	sta	subject	no	pl	scr	stop	ex	cam
<u>January 7</u>								
10:30 a.m.	SSE rim	Pit				f/45	$\frac{1}{2}$	
10:45 a.m.	Seis hut	Pit				f/16	1/10	
10:50 a.m.	Tou'st Looko't	Pit				f/45	$\frac{1}{2}$	
10:51 a.m.	"	Pit				"	1	
R.H.								

PHOTOGRAPH RECORD

Day **Tuesday**

Date **January 12, 1932**

time	sta	subject	no	pl	scr	stop	ex	cam
<u>January 12</u>		3 photos Hal. seis hut.						

R.H.

January 17
 8:30 p.m.

Pit visited after hearing report of quake and slides. Found everything quiet with but occasional rocks dropping. One small slide from N wall at 8:50. One crack at or near the SE fume spot was glowing and there was one faint button of light from the heaps in front of the new cone.

E.G.W.

January 18
 8:30 a.m.

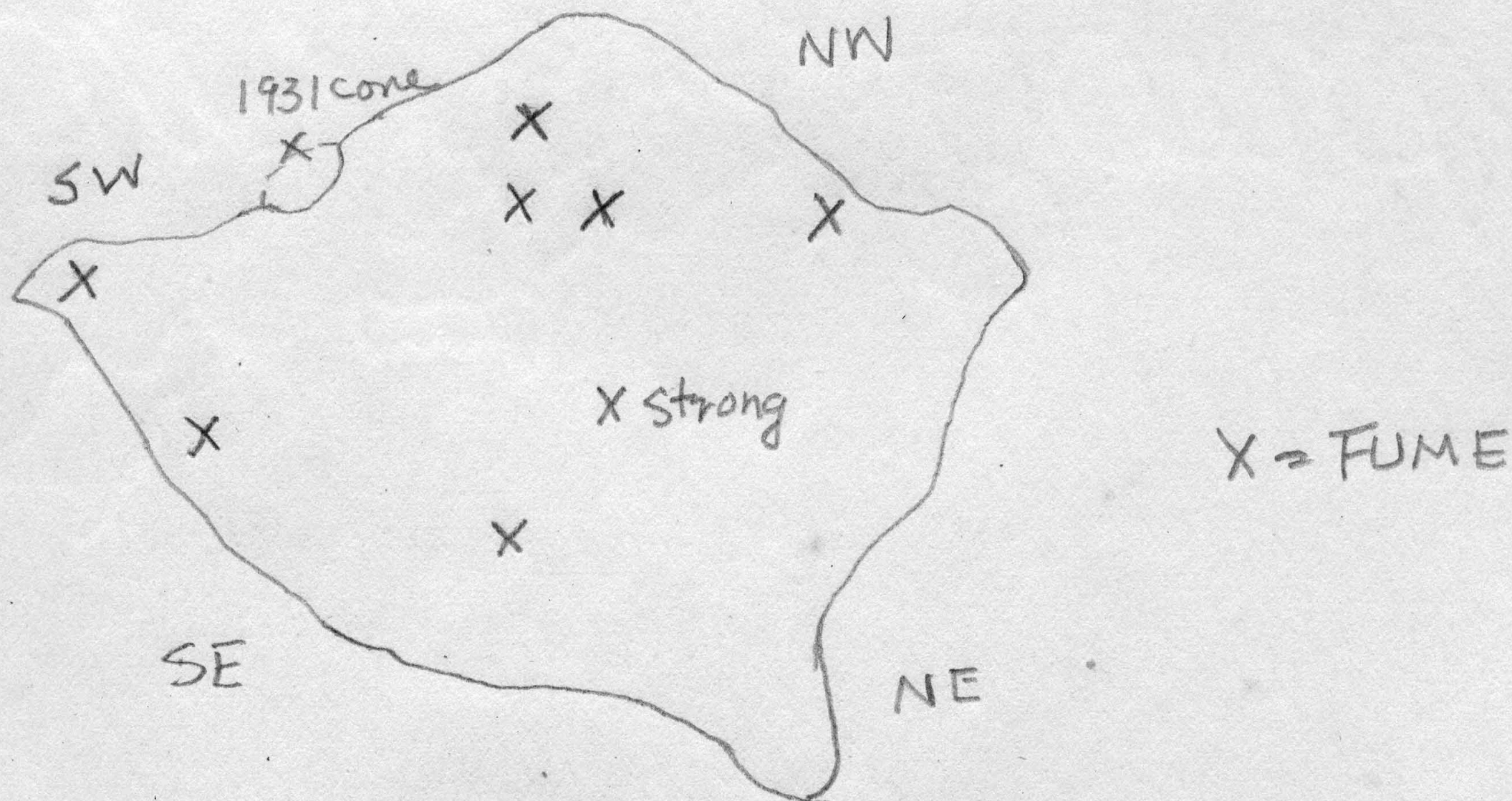
Hard rain and electrical storm all night. Precipitation 4.10 inches in 24 hours to 8:30 a.m.

Steam pours out of Halemaumau. Two water cascades down two lower ledges of Uwekahuna.

R.H.

2-3:30 p.m.

Very quiet at pit. Only one or two rocks falling now and then. Debris is gathering on new floor at foot of the talus slopes. Steam as usual N and NE rim cracks. Very slight widening, others stationary.



E.G.W.

JOURNAL

Day Friday Date January 22, 1932
 Tuesday " 26, "

January 22
afternoon

Pit absolutely quiet.

January 26
10:30 a.-12:30 p.

11:18 a.m. slide on NW wall beginning near the top. Raised considerable dust.

Unable to identify any single vents emitting fume though blue fume was visible in crater from Obs. and Uwekahuna road. Steam as usual.

Strong gusts of wind & rain squalls.

Sliding from SE and S walls was shown by numerous boulders and fresh debris on new floor under SE talus & red debris on floor in S bay.

NE rim cracks continue slight widening.

January tilt.

Jan 5-11	0.6" S
12-18	0.4" NNE
19-25	2.1" ESE
26-Feb 1	1.6" S

During the period between Jan 8-15 there was 1" of tilt to the NW at which point there began a strong ESE tilt amounting to 3.2" between Jan 15 & 27.

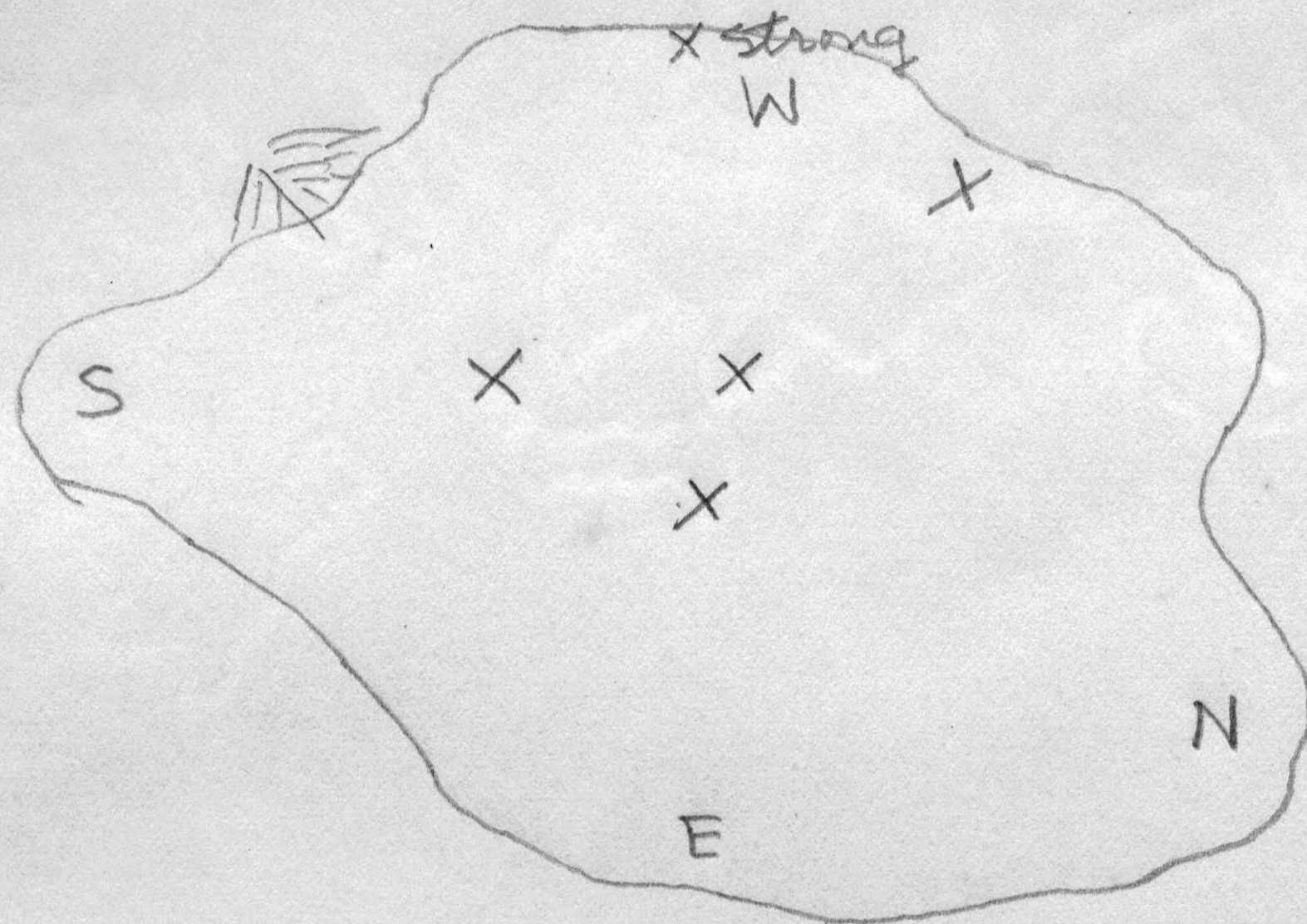
January was a month of heavy rains throughout the Puna Dist E of the Observatory. Over 30" falling during the month with the heaviest rains at the time of the Easterly tilt. The effect of falling temperature was noticeable on the easterly tilt curve for this month.

E.G.W.

Day	Monday	Date	February 1, 1932
	Tuesday		" 2, "

February 1 Pit very quiet. Two or three rocks fell. Cracks on NE rim 10:30-12 a.m. continue a slight widening. Unable to pick out any definite fume spots though fume is in air.

2-2:30 p.m. In dark afternoon light fume noted on diagram seemed to increase slightly.



X = Fume

February 2 Rocks heard falling almost continuously—only one very small 9:30-11 a.m. slide 10:35 a.m.

Fume noticed issuing from spot under west wall. NE rim cracks continues light widening.

Wind strong in gusts on NE & N rim. Clear. Steam has moderated since heavy rains.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

Hawaiian Volcano Observatory

JOURNAL

Day	Tuesday	Date	February 2, 1932
	Monday		" 8, "
	Friday		" 12, "
	Saturday		" 13, "
	Sunday		" 14, "

February 2
(cont'd)

Greatest amount of shrinking detected 40 to 50 feet to the south of old 1930 cone. The lava now stands about 30' above the top of this cone as against a maximum fill of 70 - 80 feet on January 5, 1932.

The average amount of shrinkage as shown by measurements is between 10 & 20 ft except for a small area about the edges which has remained stationary forming a sort of ledge.

The total fill appears to be between 100 & 120 feet or about 110 ft-not enough angles yet to determine exactly.

February 8
9:30-11 a.m.

Driving rain and quite cool. Fume noticed at spot under West wall and in spot in center of pit. A small slide fell from N wall at 9:46 a.m. and some rocks fell intermittently. Over half the cracks measured showed a slight widening with the greatest amount on the NE rim.

February 12
2-4:30 p.m.

Sky overcast; no rain. Some rocks heard falling. A new spot at the W end of the SW talus on the edge of the talus & floor was found sending up fume in puffs. Sulphur was being deposited. The spot under the West wall was also fuming moderately with very slight fume from the central crater spot.

A slide was reported by Doerr to have fallen at 4:10 p.m. but was not heard by us, though it made quite a roar at the Museum.

February 13
9-11 a.m.

The slide reported by Doerr the day before was found to have fallen from the wall above the SW bay. From the amount of material and size of boulders on the floor it appears to have been the largest since the eruption.

Condition at pit as of day previous.

February 14
9:15-9:45 a.m.

Clear day. Nothing new and very quiet. Fume as usual for the past few days.

E.G.W.

10:20 a.m.

Avalanche N., much dust obscured pit on that side. Noted by Rangers Williams and Brumaghim; latter said loud noise attracted their attention at Uwekahuna.

R.H.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

Hawaiian Volcano Observatory

JOURNAL

Day	Monday	Date	February 15, 1932
	Tuesday		" 16, "
	Wednesday		" 17, "

February 15
9:30-11 a.m. Slide reported by Doerr was found to have fallen from N wall between N and NW taluses. The wall showed a fresh scar and there was a mound of fresh debris on the floor. Fume strongish at foot SW talus and under W wall. NE rim cracks continued slight widening.

February 16
2-4 p.m. Dust from a sizeable avalanche was seen at 1:20 p.m. This was found to have fallen from the same spot on the N wall as the one the day previous. The two slides have formed a mound or talus 50-100' high at the foot of the wall.

Another slide has fallen overnight from a point just west of the top of the NW talus, leaving a small scar. Fume quite strong from spot at foot SW talus and is now coming from 2 points some 50' apart. Small slides and falling rocks were heard coming from the N walls more or less continuously. About every five minutes.

February 17
9-11 a.m. Pit visited during height of Kona storm. Seven waterfalls in Keanakakoi. Floor of main crater covered with small lakes. Heavy gusts of wind & driving rain. Pit one huge cauldron of steam. Sulphurous fume was carried by the wind over the tourist stand. A lake 1000' long by 200-300 ft wide formed under the SW wall. Some hail fell during the storm.

E.G.W.

2 p.m. Strong Kona storm. Rainfall 4 a.m. to noon was 2.72 in., ceasing at noon, but wind continuous and stronger than ever. Whole building vibrates with the stronger gusts. South antennae support blown over as the guy supporting it is slacked. The tree to which it is attached is uprooted. Seismographs are vibrating strongly.

Rain was heaviest around 9-10 a.m. when library was flooded. Park phone lines are to some extent out of commission from lightning as well as wind. Two or three flashes centered HVO by tel. wires, the last time accompanied by a report. We then disconnected wires, but no more thunder was heard.

Powers and Wingate went to pit to change instrument, by truck via lava tube road as Uwekahuna road was thought to be washed out. They forgot seis. hut key and phoned for Tai On to bring it. They attempted to return from Halemaumau via desert road and were blocked by a washout. In turning they got mired and had difficulty digging out; got soaked.

Pit seis. cellar has water. A high sill must be built.

Much steam from Halemaumau during forenoon, and now not one bit. Air is perfectly clear but wind strikes us very hard.

R.H.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

Hawaiian Volcano Observatory

JOURNAL

Day	Sunday	Date	February 21, 1932
	Monday		" 22, "
	Tuesday		" 23, "
	Wednesday		" 24, "
	Thursday		" 25, "

February 21 Strong SW wind.
9:30-10:30 a.m. N wall showed a fresh scar from an avalanche. Wind was blowing dust from the walls. Considerable blue haze (fume) in pit but wind made it difficult to identify spots. A few rocks trickled down.

February 22 Dust from a slide was seen at 9:15 a.m.
9:30-11 a.m. Brumaghin reported a slide from the NE wall Sunday afternoon. Light wind NE, clear.
Fume 2 spots foot SW talus & under W wall.
Cracks on NE rim continued widening with #31 showing a movement of $\frac{1}{2}$ " during the week. Avalanching may be expected at any time from this wall now.

February 23 Small slide from rim on N wall at 9:55 a.m.
9:45-11:30 a.m. Fume & steam light inusual places.
Wind light from SE, E, & NE variable. Clear & dry.
Very few rocks falling.
Cracks SW slight widening.
Tourist area stationary.
NE & N slight to strong widening.

EGW

February 24 H.Y. says that, viewed from Uwekahuna, fume rising from Hale-
9 a.m. maumau was the strongest observed since the eruption. He thinks from its position, rising vertically, that it came from the cone.
Wingate noticed new crack back of area of recent avalanching on N wall.

February 25 At west side Halemaumau with Wingate and Iwashita looking at
11 a.m. sites of proposed tilt cellars.
Two fume spots on that side quite active, largest on N edge of SW talus.

R.H.

JOURNAL

Day	Friday	Date	February 26, 1932
	Sunday		" 28, "
	Monday		" 29, "

February 26
9:40-11 a.m. Took Davies' man around pit to look at tiltmeter sites. Also with Tai On to install tiltmeter tripod at seismograph station. Cloudy day with NE wind. Pit quiet and fume appeared about as strong as day before at some places.
Crack #31 has widened $\frac{1}{4}$ " since Monday February 22.
2-3 p.m. Pit visited after quake at noon. Conditions as in a.m. with a few fresh cracks in the ash on the NE rim. Cracks showed no noticeable change.

February 28
10 a.m. Damp cloudy morning & fume appeared strong at SW talus when mixed with steam. Spot under W wall fuming slightly. Steam was noticed coming from a spot in the center of the floor where there was fume for some days after the last outbreak. No rocks or slides fell.

February 29
10-11:30 a.m. Avalanche NE wall 10:17 a.m. Fume strongish at SW talus. NE rim very weak judging from crack measurements. NE breeze with occasional light showers.

Tilt February

Feb 2-8	1.4" SE
9-15	1.6" SW
16-22	2.0" SW
23-29	1.8" S

E.G. W.

Day	Thursday	Date	March 3, 1932
	Friday		" 4, "

March 3
 4:43 a.m. Earth shock felt in home at 27 miles. Roused from light sleep. Motion was perceptible not more than 3 seconds and apparently NW-SE (back to front of house). Dog did not bark and pheasants not heard as in stronger shocks. Felt by Wingate and Jones.

9:32 a.m. Avalanche in Halemaumau reported observed by Ranger Eaton at Uwekahuna.

R.H.

9:45-11 a.m. Pit seismograph indicated strong tilt to E & slight to S accompanying quake of 4:45 a.m. Cracks were measured and in general showed widening the greatest amount being on the weak NE rim. $\frac{1}{2}$ " at one place #31 since Mar 1. A small slide under tourist stand was reported by soldiers.

2:30-3:45 p.m. Avalanche from NE rim reported by Gandy at about 2:10 p.m. Showed weak area to be roped off to Park Rangers. Some little sliding over W end canoe sill. Fume appeared moderate under SW talus. Several large boulders & other fresh debris noted under NE rim.

E.G. W.

March 4
 12:53 p.m. Felt earthquake at George Richardson cottage. (Handley's) Perceptible 3-4 seconds. Motion appeared N-S.

Late evening earthquake awakened sleepers at 27 miles. (No record of a shock that evening.)

R.H.

1:40-3:30 p.m. North tilt at time of quake 12:53 p.m. had carried N-S pen off drum pit instr. West, North & East walls showed scars of fresh slides. Rocks & small slides heard falling from NE wall. Fume considerably stronger than in last few weeks and the sulphur odor could be detected noticeably at time. Large avalanche 2:15 NE wall followed by smaller one 2:17 etc. etc. through the afternoon. All but one fell from weak NE wall. This was from NW.

Some cracks were measured & showed slight widening though #31 on NE rim showed nearly $\frac{1}{2}$ inch of widening since day before. The wall under 31 was sliding while it was being measured.

Wind from SE-SW at times strong. Glow cracks S corner floor seen after dark.

E.G.W.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

Hawaiian Volcano Observatory

JOURNAL

Day	Saturday	Date	March 5, 1932
	Sunday		" 6, "

March 5

11:10 a.m.

Small avalanche in NE corner added to considerable new material on the talus below, from a previous large slide at newly roped area.

A few minutes later a number of rocks fell over NW talus. Two gobs there probably caused this slide.

(EGW reports that more of NE roped section fell Saturday p.m., carrying rope away. I noted a great many new cracks for about 20 back of rope at 11:30 a.m. Was with AEJ escorting Prof. Hans Frey and companion, of Zurich.)

R.H.

9:30-12 noon.

Running levels from Spit BM to BM NE rim. Find an increase of 1.3' at the NE BM since early Sept 1931.

Sliding from NE wall continues, the rim has fallen in as far back as #31 measuring pt.

There was a slide from the NW wall at 11.14 a.m.

E.G.W.

3:28 p.m.

Big aval. See March 6.

T.A.J.

March 6

9:30 a.m.

Small tilt quake ESE recorded on pit inst. during night.

28 huge avalanche from NE rim & wall at 3:28 p.m. March 5. A section 300 ft long & 50' in width has fallen since Saturday noon carrying in measuring points 25, 31, & 35 completely. Material from this avalanche has covered the new floor for about 200' in length and 20' in width.

Fume as vigorous as on Friday. Slight blue fume noticed over glowing spots seen Sat night.

The avalanche also carried in the danger sign & protecting rope put up on Thursday.

Slide N wall 10 p.m. reported by Powers.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

Hawaiian Volcano Observatory

JOURNAL

Day	Monday	Date	March 7, 1932
	Tuesday		" 8, "
	Wednesday		" 9, "

March 7
10-12 a.m.

Pit inst showed a sudden sharp tilt to E without tremor and accumulated S tilt by gradual widening of lines.

Cracks were measured and two new points established on NE rim behind area which fell in Saturday. These were numbered 25 & 31 new.

Fume from foot SW talus as strong as on previous days. Spot under W wall appears to have stopped fuming.

One slide from NE wall at 10:32 a.m. The triangulation station Tourist (#1) had been dug up & thrown in, by sailors apparently. Several other crack measuring pts have been destroyed during their stay.

E.G.W.

7 p.m.

Visited pit to see glowing spots first reported Friday night, March 4 after the earthquakes of that afternoon.

Saw two spots at edge of floor SE, under old tourist stand. Each is slightly elongated and this may be why "four" spots had been reported to newspaper. There has been no avalanching on that side.

R.H.

March 8
1:13 p.m.
2:07 p.m.

Dust from avalanche seen.

Quake? Yes.

Fume strong at foot SW talus & mixed with considerable steam.

A few rocks heard falling.

Cloudy day with considerable mist & S wind.

E.G.W.

March 9
10:10-11:10 a.m.

Circuit of pit with Kimi, contractor, and his foreman, Tanaka.

Nothing new noted except the big scar NE of Sat's avalanche.

Kimi states Muller, Park paving luna, who is renting Kimi's Volcano cottage, will let him have gravel for tilt cellar construction, and perhaps fix him up for sand and water, at cost prices.

Kimi will submit a bid in two day.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

Hawaiian Volcano Observatory

JOURNAL

Day	Thursday	Date	March 10, 1932
	Friday		" 11, "
	Saturday		" 12, "
	Sunday		" 13, "

March 10
1 p.m.

Avalanche dust seen by Tai On from HVO; rose from NE corner.
Jones found no tremor on seismographs.

March 11
8:30 a.m.

Mr. Gandy came reporting fume rising. It came in puffs from west side.

Jones visited pit evening. NE glow spot nearly disappeared. Other still glows "cherry red".

R.H.

10-11 a.m.

10:08a.m.

Small slide NW wall.

Fume at foot SW talus appeared to be about the same intensity for a cloudy damp day as in week previous. It rose in concentrated puffs.

No signs of any large avalanches or slides.

Sulphur stain is slowly increasing about the fume spots.

A very slight widening of cracks back & to the N of the section which fell in on the 5th was detected.

E.G.W.

March 12

EGW reports that watchman KVH said tourist visited pit this evening and saw glow from one spot.

R.H.

March 13

9:45-10 a.m.

Pit inst. showed moderate tilt to E with quake during night. Quake at 8:26 a.m. showed stronger at pit than Obs. Fume appeared the same as on Friday. Very quiet at pit. Wind E to SE. Clear day.

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JOURNAL

Day	Monday	Date	March 14, 1932
	Wednesday		" 16, "
	Thursday		" 17, "

March 14
 10-11:30 a.m. Dust from slide NW wall seen rising 9:37 a.m. Soldiers reported one small slide followed by one much larger. The scar was seen to begin near the rim over the N wall buttress. Some fresh looking debris on floor.

10:31 a.m. Small slide same place. Frequent rocks falling mostly from N wall.

11:04 a.m. Small slide over Canoe sill W end. Fume appeared about the same intensity as past few days.
 NE rim cracks continued widening. Very slight.
 Wind light to fresh from S & SE. Day clear.

2-3:30 p.m. With Leavitt, Crist & Craik to inspect tilt cellar sites.
 Cloudy afternoon & some mist. Fume in pit as in a.m. but mixed with more steam. Some rocks heard falling but no slides noted.

8:30-9:30 p.m. Made circuit of pit to see if there were more than the one spot glowing. None found though the glow from the one was brighter & covered more space when viewed from NE rim than at Tourist Stand. Not visible from Nest rim.

E.G.W.

March 16
 11-11:15 a.m. Nothing new noticed at pit. Fume as usual for past week. None can be seen now at foot W wall. One or two rocks fell.

E.G.W.

3:30 p.m. Fume is plainly visible in Halemaumau (front HVO)

R.H.

March 17
 10:14 a.m. Fume noticed in pit; no tremor. Fume noticed from HVO. Tai On says from W talus at stained spot.

A.E.J.

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Day	Friday	Date	March 18, 1932
	Saturday		" 19, "
	Monday		" 21, "

March 18
10:30 a.m.

Fume is considerably thick & comes out at the bottom of SW talus stain spot. Also the day before, March 17. It is plainly visible on way down to pit.

The N and S pen of the pit seismograph was tilted off the recording drum to S. Do not know whether due to temperature or not. Mr. Jones said that the Bosche instr. has also a moderate tilt to the S.

Tai On

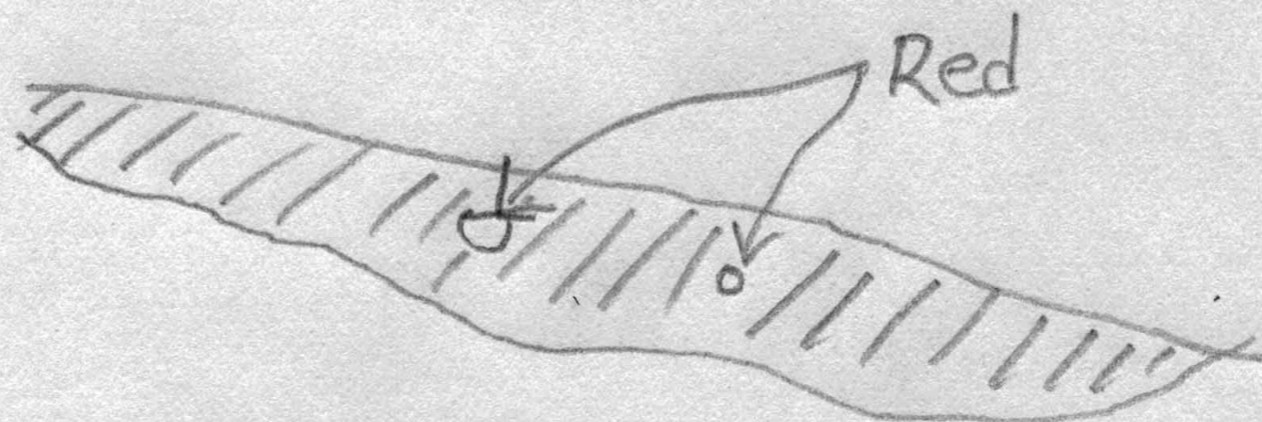
March 19

10:30-11 a.m. Very quiet at pit. Fume appeared to be slighter than for past week or so. Sulphur stain quite heavy about fume spots. No rocks fell or slides. NE wind fresh. A little misty at times.

E. G.W.

7 p.m.

Visited the pit. Two spots were glowing. SE side, just west of the tourist stand. In the center of a gray patch thus:



A.E.J.

March 21
1:50-3 p.m.

Fume at foot SW talus stronger than at any time since March 4-5. Scars of two small slides seen on S wall. Small slide over NW talus 2:24 p.m. raised a cloud of dust. Began installation of Clinoscope at Seis cellar at pit with Tai On.

E. G.W.

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Day Tuesday Date March 22, 1932
 Wednesday " 23, "

March 22 Nothing new at pit. Fume at foot SW talus appeared slightly
 10:30-11:10 a.m. less than on March 21.

At 10:55 a.m. a crackling sound was heard. May have been rocks falling but no dust was seen to rise anywhere. Sounded more as though floor was crackling.

E.G.W.&AEJ

March 23 Avalanche dust seen by H.Y.

12:30 p.m.

1:40 p.m.

2 p.m.

Large avalanche made dust obscuring pit orifice.

Dust continues on NW side. Probably small slides set off by the big one. T.O. is down there.

R.H.

1:30 p.m.

A good sized avalanche occurred at 1:30 p.m. from the NW rim. A fresh streak on the NW talus. Saw considerably thick dust on way to pit. Pit seis recorded ava. tremor. E & W pendulum recorded bigger amplitude than the N & S.

Fume is thick at the foot of the W talus, but in the morning was very thin.

Tai On

4:30 p.m.

Examined pit after avalanches of early afternoon. Main avalanche appeared to have fallen directly from the NW rim over the W end of buttress & looked as though 150 ft in length of rim had fallen. Debris was composed of large boulders though considerable dust was seen on floor.

Fume appeared normal.

E.G.W.

JOURNAL

Day	Date
Friday	March 25, 1932
Saturday	" 26, "
Monday	" 28, "

March 25
10:30 a.m. Pit seismograph indicates crater is very quiet. Fume is less than usual.

March 26 Glow still in crack S Hale.

March 28
10-11:45 a.m. Fume is definitely issuing from a spot (crack?) at foot S talus. Can be seen from NE rim. Steam on this talus is unusually strong for clear day. The steam vents are 100' S of fume spot. Fume at foot SW talus stronger than for week past.

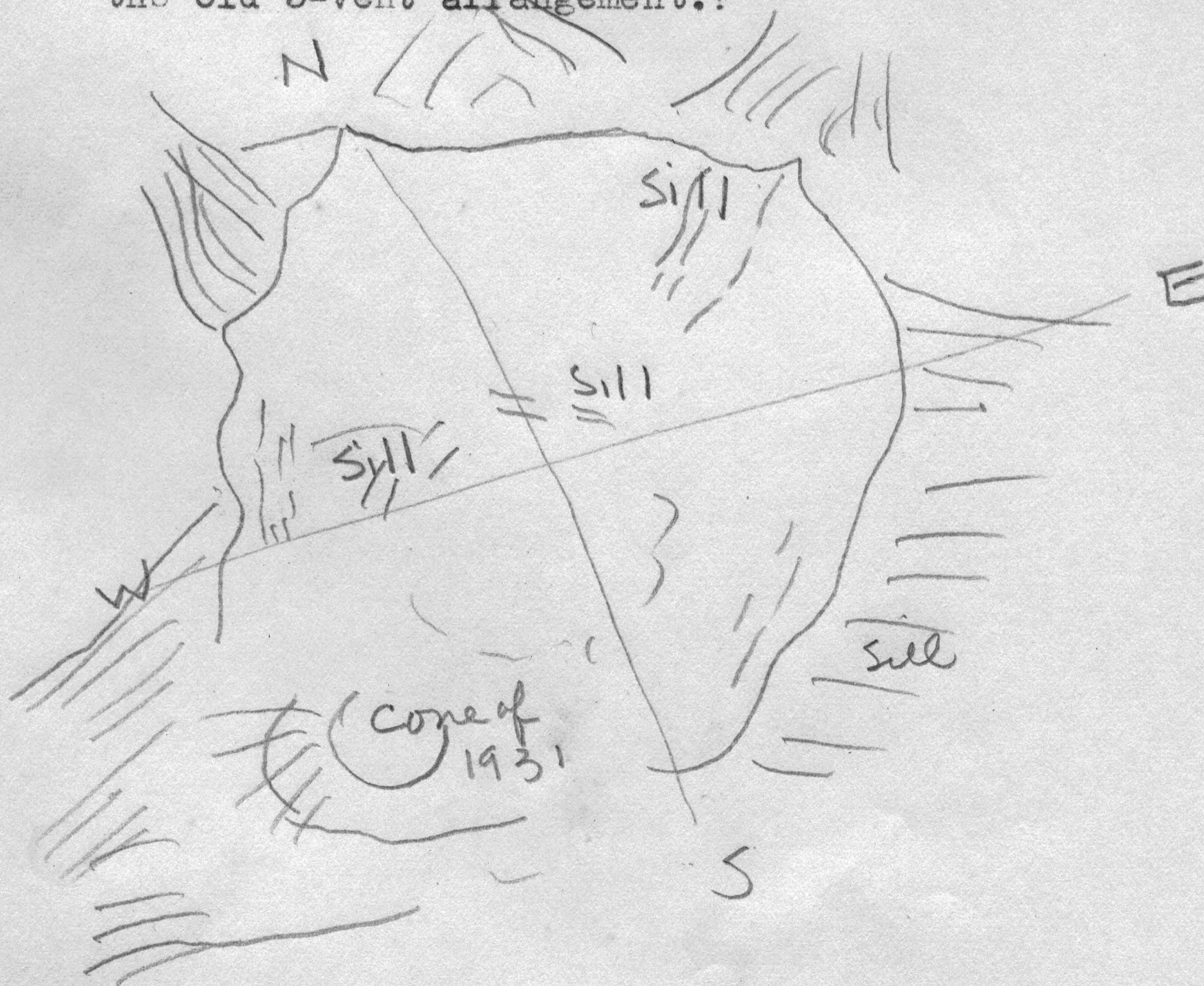
Dust from a slide on N wall was seen to rise at 11:53 a.m. from Obs.

Crack movements on NE rim have ceased. Those in the old roped off area S of Tourist Stand are commencing to widen slightly.

E.G.W.

March 29
3:20 p.m.

Looking from SW, note that the three sulphur stain areas are at the edges of floor W, SE & NE in a triangle. There is a fourth stained area in the center of floor. The big NE radial cracks go to the NE place. Other cracks, less well defined, go to SE, & W places. Is this the old 3-vent arrangement.?



T.A.J.

Tilt March 1932

Vector Diagram by E.G.W.

March 1-7	4.6"	SSE
8-14	3.3"	SW
15-21	1.5"	SW
22-28	1.1"	SSW

Accumulation of tilt to date-March 28- since Jan 1 1932
17.4" S; .7"W.

This represents a greater amount of Southerly tilt than the total
for any of 1928-29-30-31; other years since 1924 not available.

See table below

	Mar 28	Date of Max S tilt	
1931	9.3" S 6.0" W	1931 June 4	15.2" S 10.9" W
1930	4.1" S 3.3" W	1930 Feb 23	6.5" S 4.6" W
1929	10. " S 0.2" E	1929 May 7	13.6" S 1.5" W
1928	5.6" S 3.8" W	1928 July 22	10.3" S 7.0" W

E.G.W.

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Day	Date
Friday	April 1, 1932
Sunday	" 3, "
Monday	" 4, "
Wednesday	" 6, "
Thursday	" 7, "

April 1
10-11 a.m. Inspected progress on work at pit cellars. Carpenters installing partitions at seis bldg. Excavation proceeding on cellar o.k.
Pit quiet and fume less than on Mar 28th. No noticeable changes in the way of slides.

April 3
9:30-10 a.m. Nothing new at pit. Fume as on April 1st. Steam light. Clear dry day with very strong NE wind. No new slide scars observed. No rocks fell.

April 4
10:30-11:30 a.m. Quiet at pit, with slight steam and little variation in fume. Clear dry day strong NE wind. Finished installing tiltmeter with Tai On. Put in 3 gals fuel oil damping for trial. Cracks measured and showed very little change.

April 6
10:15-11 a.m. Pit quiet. Fume moderate at foot SW talus. Spot under SE wall & talus still fuming slightly. Sulphur stain at fume area SW talus a brilliant yellow.
Scar from a small slide seen on NE wall.
Misty day-fresh NE wind.

E.G.W.

April 7
3:30-4 p.m. Inspected work at tilt cellars and new seismograph building. Fume at foot SW talus has been rather dense all day though its visibility is more or less due to a cloudy damp day. Some fume visible at spot under SE wall.
Fresh NE wind at times gusty.
Note: Use dense rather than strong in describing fume.

TAJ & EGW

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Day	Date
Saturday	April 9, 1932
Tuesday	" 12, "
Wednesday	" 13, "
Thursday	" 14, "

April 9
9:30-10:30 a.m. Nothing new at pit. Fume as on Wednesday.
Fresh to strong NE wind and occasional mist.
Pit ~~seismograph~~ showed ESE tilt accompanying the quake of 5:50 a.m. during the night. One of several tremors showed E tilt only.
Blasting & digging for SW cellar will be finished in two days.
Workmen have been unable to catch more than an inch or so of rain water from their tin roof for concrete work.

April 12
10:20-11:15 a.m. Measured rim cracks about tourist lookout and SW rim.
Cracks in old roped-off area are definitely widening but very slightly. Some fume visible at SW talus spot but there was too much rain and mist to see well in the pit.
Digging for W tilt cellar will be completed tomorrow and work started on N one day after.
Strong NE wind with mist and occasional showers.

E.G.W.

Note: SW tilt cellar work slowed by rains; excavation completed April 15.

R.H.

April 13
10:15-10:30 a.m. Clouds and mist lifted for a few minutes and had a good view of pit. Countless small steam vents were giving out feathery clouds of steam and the steam at the usual vents was very dense. Fume from the SW talus area was drifting Eward across the pit and occasionally a slight odor of sulphur could be detected. There was enough in the air to cause a little huskiness in the throat.
A few rocks trickled down the N walls from time to time.
Fume also visible under SE wall. This issues from several small cracks on the 1932 floor a few feet from the SE talus.
Wind light NE. Misty with occasional heavy showers.

April 14
9:30-10 a.m. Clear sunny day. Fresh NE wind. Fume as usual at foot SW talus.
Fume not visible at foot SE wall. No rocks heard falling. Rim cracks NE stationary.

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JOURNAL

Day	Friday	Date	April 15, 1932
	Sunday		" 17, "
	Monday		" 18, "
	Tuesday		" 19, "
	Wednesday		" 20, "
	Thursday		" 21, "
	Friday		" 22, "

April 15 Quiet at pit.
 9:45-10:30 a.m. Fume as usual SW talus. No fume visible under E wall. Strong NNE wind, occasional showers.
 Workers have begun digging N cellar today.

E.G.W.

April 17 Pit seismograph recorded a feeble earthquake.
 11:15 a.m. Fume is moderate and sulphur spot is getting much yellower at at the foot of the SW talus.

April 18 Fume is less. Pit is quiet.
 9:10 a.m.

April 19 Measured all cracks; not much widening showed since last measurements.
 9:20 a.m. Fume is very thin. Clinoscope cellar hole on N side of pit is progressing rapidly.

April 20 Fume is very thin. No steam on SE rock bank.
 9:25 a.m.

April 21 Fume is visible, rising from pit on way to crater.
 9:20 a.m. An avalanche occurred at 10:05 a.m. on N side. Another considerably large one on the same place at 10:10 a.m. It recorded on the Bosch Instrument.

April 22 Visited pit with Dr. Jaggard. Looked over digging for Clinoscope cellars.
 9:45 a.m. Fume at pit is visible. Yesterday slides occurred on N wall.

Tai On

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Day	Friday	Date	April 22, 1932
	Saturday	"	23, "
	Monday	"	25, "
	Tuesday	"	26, "
	Wednesday	"	27, "

April 22
4:38 p.m.

Small dust cloud rose from middle of NE Hal. rim, seen from HVO.
Ranger Brumaghim told Yasunaka this morning he saw 5 or 6 slides during yesterday.

R.H.

April 23
9:30 a.m.

Pit is quiet. Fume is as usual.

Tai On

April 25
9:30-11 a.m.

First visit to pit in over a week. (Was in Kona with Powers)
Found nothing new and could not detect scars left by slides reported during previous week.

Fume appeared the same as when last seen. There seems to be an increase in sulphur stain on floor at foot N talus over the N fountains of 1931-32 eruption.

April 26
10-11 a.m.

Quiet at pit and fume at SW talus appeared about the same density.
Measured NE rim cracks. No changes.
Inspected progress on W tilt cellar.

8 p.m.

Quiet at pit. Looked carefully for any seeming glow. Found none.

Wind strong & gusty from NE. Clear night.

April 27
9:50-10:15 a.m.

To pit with Powers. All quiet. Clear sunny morning light NE breeze. Fume as usual SW talus. Nothing new observed.

E.G.W.

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Day	Wednesday	Date	April 27, 1932
	Thursday		" 28, "
	Friday		" 29, "
	Saturday		" 30, "

April 27
10:30 a.m. Fume rises on west side of Halemaumau quite conspicuously. Some puffs concentrated, but sometimes dispersed so as to be nearly invisible. No thicker, however, than has been seen on other occasions in recent weeks. (From HVO)

R.H.

April 28
8:30-9 a.m. Quiet at pit. Fume about as usual at SW talus but due to damp cloudy morning appeared denser. Workers at SW tilt cellar have nearly completed concrete forms. Probably get started pouring today. Light S wind. Damp day & cloudy.

April 29
9-9:30 a.m. Pit quiet. Fume SW talus as usual. Fresh E wind. Appeared to have been a small slide over W end of Cance sill during night. Inspected W tilt cellar.

April 30
8:45 a.m. Nothing new at pit. Fume as usual at SW talus. Wind light from S. Partly cloudy and air damp.

Tilt April

March 29-April	4	1.0" NE
5-	11	0.8" E
12-	18	0.8" NW
19-	25	0.3" SE
26-May	2	0.6" SSW

Total accumulated tilt since Jan 1, 1932 17.4" S- 0.5" E
Askew coord 17.4" S 0.3" W.

E.G.W.

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JOURNAL

Day	Monday	Date	May 2, 1932
	Tuesday		" 3, "
	Friday		" 6, "
	Monday		" 9, "
	Wednesday		" 11, "

- May 2 Quiet at pit. Debris on floor in S bay from small slide since
9:30-11 a.m. Sunday a.m. Fume remains constant at SW talus spot.
Clear morning with strong NE wind. Men are pouring concrete for
W tilt cellar walls. Measured rim cracks about Tourist Stand area-
3 pts showed very slight widening.
8 p.m. Clear night with high NE wind. Pit quiet.
- May 3 Pit quiet. Fume appeared more dense but probably due to mois-
9-9:15 a.m. ture content. Cloudy morning, frequent showers. Wind NE, in strong
gusts.
- May 6 Pit quiet with fume as usual at SW talus.
9:10 a.m. Some gravel and a few rocks have peeled off of the wall above
the S bay and fallen on the small pile of debris mentioned on May 2.
Wind NNE damp morning & partly cloudy. Inspected W tilt cellar.
- May 9 Rainy with strong gust of NE wind. Pit quiet & fume appeared
9-11 a.m. slightly more dense. A slight odor of sulphur could be detected at
times at Tourist lookout. Changed damping of pit seis.
2:30-4:15 p.m. Clear since 11:30 a.m. at pit. Fume was seen to be more dense
than for some weeks past. A few rocks fell. Inspected seis cellar
& W tilt cellar with HAP & Jones.
8 p.m. Completed 2nd week of night readings of clinoscope. Clear & cool
with NE wind.
- May 11 Clear with NE wind. Pit quiet and fume less dense than on Monday.
9:10-10 a.m. Some small sliding has been going on over the west end of Canoe sill.
10:30 a.m. Mist began blowing across crater floor.

E.G.W.

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Day	Thursday	Date	May 12, 1932
	Friday		" 13, "
	Monday		" 16, "
	Tuesday		" 17, "
	Wednesday		" 18, "

May 12
9:15-9:45 a.m. Partly cloudy, warm with damp feel to air. Wind variable NE. Fume moderately dense, showing above rim in infrequent puffs. A slide was reported from the S wall on May 11, afternoon. Not able to pick out scar & nothing new on floor. The location of this slide corresponds with a steady though slight widening of cracks S of tourist lookout.

May 13
8:30-10:30 a.m. Installed check clinoscope in NE corner of seis room with Tai On. Damp misty morning with NE wind clearing about 10 a.m. Fume moderately dense. Pit quiet.

May 16
9-10:30 a.m. Nothing new at pit. Fume unchanged. Crack measurements showed negligible movements. Inspected W tilt cellar. Removed thermograph from pit seis cellar.

May 17
10:55 a.m. Dust cloud; no visible sliding; appeared to come from N wall. With T.A.J. inspected W and N tilt cellars.
4:45 p.m. Blue Fume showed plainly above rim of pit as seen from Observatory.
9:15 a.m. Pit quiet with fume appearing at SW talus as usual.

May 18
9:10 a.m. Still quiet at pit. No change noticed in fume. A dusty streak showed on N wall above center of canoe sill which might have been caused by slide which raised dust cloud of 10:55 a.m. on the 17th.

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JOURNAL

Day	Friday	Date	May 20, 1932
	Monday		" 23, "
	Tuesday		" 24, "
	Thursday		" 26, "

May 20
9-10 a.m. Continued quiet at pit with no visible change in fume.
Inspected W tilt cellar. Men are walling up entrance way & rubble fill at sides of chamber have been completed.

May 23
9:15-10 a.m. Continued quiet at pit. One or two rocks fell. Fume as usual and sulphur deposits a brilliant yellow.
Warm partly cloudy morning, light NE breeze. A little mist now and then.
Inspected W tilt cellar. Outside roof & floor only remaining work to be done. Men have cleared a road half way around west side of pit & are continuing work on that today.
Cracks S of Tourist lookout continued very slight widening.

E.G.W.

5 p.m. Rainy & much fume at W sulphur spot.
5:30 p.m. A small avalanche over sill ledge at N corner of pit.

T.A.J.

May 24
8:30-9:15 a.m. Nothing new at pit with fume unchanged.
Warm partly cloudy morning with some mist.
Temperature as recorded in seis cellar has corresponded with rise in temp at Obs (outside air) during last few days. It has been a gradual rise however with daily range as usual of from 1° to $1\frac{1}{2}^{\circ}$.

May 26
9-10 a.m. Observation of pit today & day before showed no changes. Fume as usual at SW talus.
Inspected W tilt cellar and workers have completed upper concrete roof. Floor & covering roof with gravel are the only remaining jobs.
Sky over cast & light NE wind.
9:45 a.m. Heavy shower with strong gusts of wind.

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Day	Friday	Date	May 27, 1932
	Saturday		" 28, "
	Sunday		" 29, "
	Monday		" 30, "
	Tuesday		" 31, "

May 27
9-10:30 a.m. Pit remains very quiet with fume from sulphur patch at foot SW talus constant.

Inspected W & N tilt cellars driving to N in car by way of rough road made by workers under Uwekahuna bluff. Work on concrete forms began at N cellar.

Rainy with gusty NE wind.

May 28
9:15-9:30 a.m. Quiet at pit and fume as usual. Halfway between top of NW talus & rim a vertical crack was noticed which had been exposed by avalanching & peeling from wall some months ago but crack was not noticed until today.

Wind variable NE. Partly cloudy and some mist.

E.G.W.

May 29
1:51 p.m. Felt shock in residence at 27 miles. Motion of vibrating objects (doors and windows) was N-S. One door swung like a heavy mass approximately a half-inch amplitude. Motion was weak and of about 5 sec. duration.

R.H.

May 30
9:30-10:15a.m. Local quake at 1:52 p.m. May 29 recorded strongly on pit seis. Inspection of pit showed only a few new rocks on floor & little indication of any sizeable sliding. A few cracks measured & showed no changes.

Fume as usual. Partly clear & occasional showers. Fresh NE wind.

May 31
8:30-9:45 a.m. Quiet at pit with no changes noted. Clear with fresh NE wind. Inspected W tilt cellar.

E.G.W.

Day	Wednesday	Date	June 1, 1932
	Thursday		" 2, "

June 1
9-10:20 a.m. Quiet at pit. Fume at foot SW talus appeared more dense than for some days past.
Crack measurements showed little change.
Clear with light NE wind.

E.G.W.

12:22 p.m. Avalanche NE, reported by Mr. Gandy. "Quite a bit of dust."

R.H.

June 2
9a.m.-4p.m. With R. Lee to pit. At 9:45 a few rocks fell. Fume at SW talus as on day before. Showing in puffs above rim.
Partly cloudy. Lt. NE wind. Misty over Kilauea Iki.
Flagged Beggar & NW pit. On return to Tourist found Lindsay of Police & others who said car we had seen on rim was that of man who had murdered girl & thrown her in pit. Thought he was trying to escape across floor. Phoned Jones to bring field glass & gun. Most of day spent on search & trying to determine whether foreign matter in pit were the two bodies. Proved to be so. Car was at pit when we arrived at 8:50 a.m.

E.G.W.

June 3
9a.m.-3:15p.m. Pit quiet with fume as on Wed. & Thursday. Clear with Lt. NE wind. Made some measurements to determine horizontal distance from Rim to top of SW talus. This was thought by several to be the most likely place of descent to recover bodies. In afternoon flagged 2 points. Cracks & land still.

E.G.W. & R.Lee

June 3
(cont'd)
10 a.m.

Large distant earthquake occurred after midnight, or 12:16 a.m. Estimated distance (AEJ) 3,700 miles. Bosch E-W pen dismantled. Halemau mau pens interlocked, part of record obscured. Uwekahuna has good record.

Jas. Tsuchiya, of Volcano House, called with information from Dr. Glynn, Hilo dentist, saying tidal waves began at 7 a.m., with maximum later of about $2\frac{1}{2}$ feet; spectators lined waterfront watching the waves.

Called Lacerdo earlier, who stated he saw lively disturbance on tide gauge.

Capt. Woods phoned he got record of a large quake. I asked him to inquire for water disturbance and drop us a line, and send his record promptly.

R.H.

Mr. Gandy reported that he heard over the radio that there was a large quake occurred in Oaxaca, Mexico, at 4:55 a.m. Eight people were killed, railroads were destroyed and some large buildings were damaged.

Tai On

(See also AEJ note in earthquake record book. R.H.)

3:50 p.m.

Lacerdo called up for the second time. Says tide was normal 1 to 1:30 p.m., when wave crests began to show again about 12 or 14 inches high, and still continuing, but are slow in falling, with out-going tide.

Says maximum this a.m. was between 7:30 and 10:30; that they came in on a half tide, which was fortunate as with a high tide some damage might be caused to river shipping. Period of rise during forenoon was 8 minutes, and of fall 10 minutes. A.E.J. suggests that the afternoon recurrence of waves may be due to reflected waves off the coast of S. America.

R.H.

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Day	Monday	Date	June 6, 1932
	Tuesday		" 7, "
	Monday		" 13, "
	Tuesday		" 14, "

June 6
9-3:15 p.m. Got Lee & Borges off flagging Δ points. To pit. Nothing new. Fume somewhat less dense. No signs of any avalancheing after quake of night before.

Measured all rim cracks & found only negligible changes.

Large crowd watching men at work on recovering bodies.

Slide from above NW talus at 1:10 p.m. left some new boulders on floor.

Powers & Tai On trucked down clinoscope & we placed it in West Tilt cellar - not set up yet.

June 7
9-10:15 a.m. day. Changed pit seis etc. Nothing new in pit. Strong NE wind, clear. Men at work on recovering bodies. Cable not stretched as yet.

Got Lee & Borges off to pit flags in Desert. Arranged with Buster Brown for horses on Thursday to send men to Kulani.

June 13
6-7 a.m. Occupied Observatory. Fog.

8:50-10:45 a.m. At pit.

Measured rim cracks. Only 3 points showed any widening very slightly. Inspected both W & N tilt cellars. No work has been done on either for some days. Men were assisting at getting bodies out of pit.

Nothing new noted at pit and fume as usual.

E.G.W.

June 14
A moderate quake occurred at 4:51 a.m. Both pens on the Bosch instrument, N and S pen of the pit Seis., one pen of the Uwekahuna instrument were dismantled. Pen on the vertical seismograph was jammed against the magnet during the quake and stopped the driving clock. Complete good records were registered by the Shock recorder and the two component strong motion seis.

Many felt quake in Hilo, and said that its motion was in all directions.

The distance of that was about 9 miles from HVO.

Tai On

PHOTOGRAPH RECORD

Day Wednesday
Friday
Saturday
SundayDate June 8, 1932
" 10, "
" 11, "
" 12, "

time	sta	subject	no	pl	scr	stop	ex	cam
<u>June 8</u>								
5:30 p.m.		Attempt at test. Could not lift weight	1					Pan Kodak
<u>June 10</u>								
11 a.m.		Rig with cage hanging	2					"
<u>June 11</u>								
a.m.		Cage going out	3					"
a.m.		Cage farther out	4					"
<u>June 12</u>								
p.m.		Final landing of Konishi	5					"
								T.A.J.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

Hawaiian Volcano Observatory

JOURNAL

Day	Date
Tuesday	June 14, 1932
Wed-Thur-Frid.	" 15, 16, 17
Saturday	" 18,

June 14
4:52 a.m.
(cont'd)

Felt earth shock in residence at 27 m. Three distinct motions-- small preliminary, followed immediately by a moderate movement which swayed bed and rattled windows and pictures, then a smaller bump. Whole action lasted five to six seconds.

Dog whimpered afterwards (usually barks in alarm in a strong shock). Did not hear any pheasants.

R.H.

5:50-6:30 a.m.

Awakened by quake at 4:52 a.m. Picked up R. Lee and went to pit after examining Obs. insts. Did not dismantle pit Seis bud did dismantle new clinoscope. Both old Clinoscope and new indicated tilt to the SE. S 75° & S 60° E respectively. The boom on new clinoscope was reconnected & then reading was made. Nothing new was observed in pit and fume about as usual.

Workman reported feeling quake strongly at 12 miles Olaa. Measured a few rim cracks & found no noticeable changes.

June 15-16-17

Weather very windy & though we were on station at daylight it took three days to complete occupying Uwekahuna.

At pit in early morning between 5 & 8 a.m. Fume remained constant and nothing new observed.

E.G.W.

June 18
7-9 a.m.

M. F. Lacerdo, tide observer, Hilo, states a small tidal disturbance of 2 or 3 inches was recorded.

This may check with small teleseism of last night's record, and with press reports from Mexico City of earthquake damage to the extent of causing deaths and much damage near Colima Volcano.

R.H.

5-7 a.m.

Occupied Ahua Kamokukolau. Good weather and calm.

7:45-8:30 a.m.

Nothing new & fume as usual.

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JOURNAL

Day	Saturday	Date	June 18, 1932
	Sunday		June 19, 1932
	Monday		" 20, "
	Tuesday		" 21, "
	Wed-Sun		" 22-26 "
	Monday		" 27 "

June 19
8:30-9:15 a.m. At pit to change seis.
No changes in pit & fume as usual.

E.G.W.

June 20
10 a.m. Fume rising from west side of pit this damp and cloudy morning.

R.H.

Occupied Ohale Δ 5-8 a.m. Calm morning with clouds coming up from SW.
At pit 10:45-11:15 a.m. A small teleseism registered on E-W component barely visible.
Raining at 10 a.m. Fume as usual but appeared more dense due to damp morning. One or two rocks fell. Did not measure cracks.

June 21 Occupied Puu Huluhulu. At pit at 4:30 a.m. until 7:15 a.m. Clear but wind from NE came up early.
Nothing new at pit noticed & fume as usual. Measured rim cracks & found negligible changes 9-11:30 a.m.

June 23 Wed occupied Δ Aa 5:30-7:30 a.m. Wind came up strong from NE at 6:30 a.m.
Thursday occupied Sta Nose 5:30-7 a.m.
Friday at Cone Peak 4:55-7 a.m. Too windy to work.
Saturday occupied Sta Beggar 5-7 a.m.
Pit showed no changes during this time & fume was constant.

June 27 Occupied Cone Peak 5:30-7:30 a.m.
Calm cloudy morning. Fine weather.
At pit 9-10 a.m. Quiet and nothing new.
Occupied Sta N Rim 4:30-6 p.m. Calm southerly weather- some showers in Kau Desert.

Hawaiian Volcano Observatory

JOURNAL

Day	Tuesday	Date	June 28, 1932
	Wednesday		" 29, "
	Thur-Fri-Sat		" 30,31 & July 1

June 28

Occupied Station S rim 5:19-9:15 a.m. Cloudy southerly weather continues-very warm & muggy.
No changes at pit & fume constant.

June 29

Occupied Station Pali 5:30-8 a.m. Weather has changed to NE trades & clear. Quite windy but we were sheltered at this point.
Reflagged Sts. Spit & Sand Hill in afternoon.
Pit quiet & fume constant when visited.

June 30,31-July 1

Too windy to work.
Pit quiet with no noticeable changes and fume as usual.

E.G.W.

Tilt
May-June 1932
From Bosch-Omori

May 3-9	.4" NNE
10-16	1.0" NNE
17-23	1.1" NW
24-30	.8" SW
31-	
June 6	.4" NNE
7-13	.8" NE
14-20	.7" SW
21-27	1.0" N

Accumulated tilt since January 1-32 14.2" S - 1.4" W
Tilts at the pit have been found to change direction abruptly with sudden changes in the weather ie., from normal NE trades with clear windy days & low humidity to southerly weather-generally calm, high humidity; sky cloudy, & rainy over Kau desert & lower Mauna Loa.

E.G.W.

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JOURNAL

Day	Monday	Date	July 4, 1932
	Tuesday		" 5, "
	Wednesday		" 6, "
	Friday		" 8, "

July 4 Southerly weather. Calm with occasional S wind. Ptly cloudy.
 9:30-10:10 a.m. There has been a slide from W wall which left a small mound of debris about 20 feet high on new floor. 9:50 a.m. a few rocks fell NE followed by a slide at 9:53. Raised much dust & made quite a noise. Fume appeared normal.
 4:15-5:20 p.m. At pit. Measured rim cracks NE. A very slight widening was general through this area. Fresh cracks in the ash had appeared back of the point where the slide occurred this morning.

E.G.W.

July 5 Reoccupied Uwekahuna 5:30-8:30 a.m. Cloudy and visibility good but showers slowed up work considerably.
 At pit 11:30-12:15 a.m. Nothing new since yesterday and fume remains constant. Southerly weather continues.
 There has been a 4° rise in temp in SE seis hut in last three days. Pit seis continues to show many tiny tremors not recorded at Obs.

July 6 Occupied Station Cracks 6-7:30 a.m. Tilt at the pit again abruptly changed with change in weather to normal NE trades.

July 8 At pit 6:10-7:30 a.m.
 Quake at 10:30 p.m. on the 7th had tangled pens but did not dismantle. Clinoscope showed 2 3/4" tilt to SW.
 Measured all rim cracks & found that nine out of nineteen showed very slight widening.
 There appeared to have been no avalanching and fume was normal. Calm clear morning no wind. Workmen completed the last job on tilt cellars at pit.
 The 1931-32 cone has done some slumping in the crater. Ki leaves & bananas have been left on edge of pit again.

E.G.W. & RLEE

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JOURNAL

Day	Date
Saturday	July 9, 1932
Monday	" 11, "
Tuesday	" 12, "
Wednesday	" 13, "

July 9
9:30-10:15 a.m. Began showing Yasunaka pit Seis & Clinoscope routine.
Quiet at pit & no changes noted.
Inspected W tilt cellar. The steam seems to have been successfully shut off. Cellar quite dry with ceiling but slightly warmer than floor.
Very strong NE wind & clear.
Up at 4:15 a.m. with Lee in hopes of doing some observing. Wind too strong.

E.G.W.

July 11
5:30-6:15 a.m. Very quiet at pit with nothing new noted. Looked for signs of avalanche reported by B. Cartwright on Saturday afternoon from NE wall. Couldn't pick out scar and surface ash appeared undisturbed.
Out at 4:30 a.m. to do triangulation but wind & mist came in before five.

E.G.W. & R.E.L.

July 12
Up at 4:30 but weather too rainy to work.
To pit & Uwekahuna with Yasunaka 9:30 a.m.
Showed Yasu crack measuring pts on E & NE rim 10-11 a.m.
Measured all points and found a general very slight widening continuing.
Nothing new at pit. Clear day with NE wind.
Plat clinoscope tilt. No records available for seis?

p.m.

E.G.W.

July 13
Up at 4:30 in hopes of beating weather. No luck. At pit 5:30-7:30 a.m.
Put up rain gauge at NE corner of Seis hut.
Nothing new observed in pit. A very small slide occurred over NW talus at 6:40 a.m. Fume was normal.
Misty morning with fresh NE wind. Kept Lee on job in a.m. to help arrange Engr. Bldg.
Brought Obs. Rainfall & Temp plats up to date.

p.m.

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JOURNAL

Day	Thursday	Date	July 14, 1932
	Friday		" 15, "
	Saturday		" 16, "
	Sunday		" 17, "

July 14

Up again at 4:30 but no work done. This weather is beginning to get on one's nerves.

Changed pit Seis. Rainfall .02.

Pit remains quiet (6:15 a.m.) and fume as usual.

p.m.

Commenced reading pit records for tilt and to count small tremors which have been appearing on grams for a month or so.

July 15

4:45-8 a.m.

Too windy again to observe.

To pit to change Seis etc.

Fume remains constant in volume and we noticed no changes.

Fresh to strong NE wind. Clear. Rainfall 0.

Drove down to hill Kokoolau along Chain of Craters, to examine its availability as a Δ sta in proposed extension of Kilauea net.

Copied tide records. Lee tracing of tidal wave June 2nd.

p.m.

Continue reading pit seis record.

E.G.W. & R. E.L.

July 16

Up at 4:30 but too much wind to observe.

To pit & Uwekahuna with Yasunaka 9:30-10:30 a.m.

Pit seis indicated slight E tilt with quake about 9 a.m.

Yasu noticed a fresh looking slide of gray rocks beginning about 200' above floor on SE wall a little to left of Tourist lookout.

Fume as usual on clear windy day at SW talus spot.

Rainfall 0. Fresh NE wind. Misty at HVO.

July 17

8:30-11 a.m.

Change insts Obs, Uwe & Pit.

At pit 10:30-11 a.m.

Pit seis indicated slight S tilt with quake at 2:40 a.m.

Pit quiet. No noted changes. Fume as usual.

Wind Strong NE. Clear

Rainfall 0.

E.G.W.

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JOURNAL

Day	Date
Monday	July 18, 1932
Tuesday	" 19, "
Wednesday	" 20, "

July 18

At pit from 5:45-7:30 a.m.

Not much wind but mist covered Uwekahuna & Ahua Kamuku Kolau making Observations impossible.

A small fresh looking scar was noticed on SE wall.

Measured all rim cracks. Only four showed a slight widening.

Ash along some of the cracks in the old roped off area S of the Tourist stand appeared recently cracked. The places noted were too deep into the cracks to have been caused by workers with Konishi.

Clear at pit until 6:45, then misty until we left. Wind light NE.

Fume constant. No falling rocks or slides heard.

E.G.W. & R.E.L.

July 19

Windy again. No observing. At pit 9:15-10:45 a.m. with R.E.L.

Examined W. tilt cellar & inst. Steam drops on ceiling-probably entered through crack around inner door. Outer one had been left closed for some time. This was left open today. Inst. wires much rusted. Lee is going down in afternoon to clear inst. & give good coat of vaseline.

Pit quiet & no changes noted. Fume remains constant at SW talus spot.

Clear with Str NE wind.

Rainfall .01".

July 20

To pit 6:15 a.m. but proved too windy to make a set up.

Changed seis etc.

Pit quiet & very few tremors on record.

Fume as usual.

Continued reading & platting pit records. Lee helped all day.

To English's to get back rainfall record at 3:30 p.m.

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JOURNAL

Day	Thursday	Date	July 21, 1932
	Saturday		" 23, "
	Sunday		" 24, "
	Monday		" 25, "
	Tuesday		" 26, "

July 21

Too windy to observe in early a.m.

At pit 8:45-9:30 a.m.

Seis showed moderate SE tilt.

2° drop in Temp?

Quiet at pit. Fume unchanged. Wind strong NE clear.

July 23

6:45 a.m.

At pit.

Damp cloudy morning. Lt NE wind and occasional fine rain.

Pit quiet. Fume appeared rather dense in damp air. It mixes with steam from a vent near sulphur area. Thought I detected a faint taste of sulphur in air.

Rainfall.01.

Occupied Spit Δ 9-10:30 a.m. with REL. Windy but got ~~xxx~~ a fair closure.July 24

8:45-10:30 a.m.

Change Uwekahuna & pit insts.

Quiet at pit. Fume as usual. Wind Lt NE. Clear.

Rainfall .03.

July 25

Too much wind & mist to observe.

At pit 5:30-6:15 a.m.

Measured all rim cracks 9:30-11 a.m. Negligible changes only.

Continued reading back pit Seis records for "tilt tremors".

Quake 6 a.m.? May 1/32 may prove significant in this connection.

Pit remains quiet & fume constant.

July 26

Still too windy to observe.

At pit in a.m. & p.m. setting up clinoscopes in W & N tilt cellars.

North cellar is in excellent condition but W still has some steam.

Nothing new to report from pit.

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JOURNAL

Day	Date
Wednesday	July 27, 1932
Thursday	" 28, "
Friday	" 29, "
Saturday	" 30, "

July 27

After 20 days of unsuccessful attempts finally got a calm morning & occupied Sta Sand Hill 5:30-7:30 a.m.

Have now only one unoccupied Sta & two reoccupations to make.
 14 Δ s have been closed with an average error of $2\frac{1}{2}$ ".
 Continued reading pit records.

July 28

Reoccupied N rim 5:15-7:30 a.m.

To pit 10-11:15 a.m.

One or two rocks fell over center of canoe sill where there has recently been a slide. Slide had put much dust on new floor.

Fumes as usual.

With Jones & Lee in aft. to look for way to get a car to Kaae.

Will have to camp out to make it.

July 29

Windy again; no observing. To pit 5:30-7 a.m.

Nothing new observed & fume remains constantly light.

Jones, Lee & self to Napau Crater 9:30-12 a.m.

Plat rainfall & temp for month in aft.

July 30

Windy no observing.

To pit & Uwekahuna with Lee & Yasu 9:10:15 a.m.

Lee went to N tilt cellar to set Clinoscope footings in cement.

There has been an avalanche over night which left a wide scar down S wall visible from HVO. Yellow dust over west $\frac{1}{2}$ floor & considerable small debris & large boulders in S bay. Seis showed NW tilt accompanying slide. Two cracks back of S rim showed slight widening since Monday. One or two rocks fell. Fume as usual. Raining at 10:15

Tilt for week

Tilt tremors at Pit were moderate during most of week; dropping to 0 on Friday 29th followed by a moderate peak on Sat & Sun.

Total No for week 137

Week previous 150

E.G.W.

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JOURNAL

Day	Monday	Date	August 1, 1932
	Tuesday		" 2, "
	Wednesday		" 3, "
	Thursday		" 4, "
	Friday		" 5, "

August 1

Weather still too windy for observing.

To pit 9-10:30 a.m.

A few rocks trickled down along the scar of Friday's(?) slide.

Pit quiet & nothing new noted.

Fume remains light but constant.

Cracks measurements revealed no changes during week except two pts on cracks behind part of S rim which broke off Thurs. These have been widening very slightly for some time. These were measured on Friday & showed less than 1/16" widening.

August 2

Pit remains quiet and fume unchanged (light)

Spent afternoon repairing worn out capstan screw in transit.

Too much rain to make adjustments.

E.G.W.

August 3

Adjusted transit & attempted to reoccupy Beggar. Too much steam in line with Spit Sta. 5:45-8 a.m.

Had good weather 4:30p.m. & occupied Spit 4:45 p.m.-6 p.m.

Picked up $4\frac{1}{2}$ " error in previous windy setup.

Quiet at pit.

August 4

Occupied Puu Koae. Drove Station Wagon to within 1 mile of hill.

Had fine weather for observing late in afternoon. Left Obs.

6:30 a.m. Returned 6 p.m.

Felt small quake at 2:24 p.m. while sitting.

Noticed some blackish splashed of pahoehoe about 3/4 mile NW of Koae.

Maunaiki flow?

August 5

Reoccupied Beggar Δ Sta 5:30-8 a.m. All signals clear for once.

Changed pit Seis. Nothing new noted at pit & fume is unchanged.

To Ohale in aft. 1:45 p.m. with Lee. Tore down upper of two terraced cairns marking station, in order to get a sufficiently wide base to set tripod & not disturb inst while working.

Too much wind to observe; waited there until 5:15 p.m.

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JOURNAL

Day	Date
Saturday	August 6, 1932
Monday	" 8, "
Tuesday	" 9, "
Wednesday	" 10, "

August 6

Drove down to Ohale and reached there 5:25 a.m. but wind came up too strong to work.

To pit with Jones 9-11 a.m.

Showed him Crack measuring points & measured cracks. Movement was negligible since week previous.

Pit quiet & fume as usual.

There appears to have been some additional small sliding from S walls above S bay since the avalanche of last week.

Inspected N tilt cellar.

Tilt Tremors Pit Seis Week Aug 1-7

141 A very slight increase over week previous. They were moderate during 1st part of week, slight during middle and recovered to a moderate peak on Sunday.

August 8

Completed triangulation of Kilauea net with occupation of Ohale. Reached station shortly after 5 a.m. & though wind came up about 7 a.m. was able to complete set up. Did not go to pit in A. M.

August 9

To pit 8:30-10 a.m. All quiet. Inspected W tilt cellar. The outer door had been purposely left open for some time and cellar was found to be quite dry.

The outer door was closed on leaving to see whether moisture from steam will gather inside again.

Worked on Temp & rainfall plats in aft.

E.G.W.

August 10

To N Rim 4:45 a.m. in hopes of picking up a few seconds error in previous work.

Heard rocks falling in pit at 5:40 a.m. & 6:43 a.m.

To pit 10:15-10:45 a.m.

Fall of rocks at 5:40a.m. was recorded as a tiny tremor with slight West tilt.

An examination of pit revealed nothing new to the eye however. Fume remains constantly, light day, partly cloudy, Lt NE wind.

E.G.W. & R.E.L.

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JOURNAL

Day	Thursday	Date	August 11, 1932
	Friday		" 12, "
	Saturday		" 13, "
	Sunday		" 14, "
	Monday		" 15, "

August 11

At pit 9:30-10:30 a.m.
 Quiet and no changes noted. Pit seis showed NE tilt accompanying quake at 12:53 a.m. Aug 11.
 Worked on tilt records from clinoscope in aft.

August 12

At pit all day remarking triangulation points about rim,- new wires, paint etc.
 No rocks were heard falling and fume was light.
 Clear day with fresh to strong NE wind.

August 13

To pit with Jones to measure cracks. A very slight widening was noticed at about 1/3 of the points.
 Pit quiet & fume light.

August 14

On duty for old insts a.m.
 Sliding door Uwekahuna Museum needs work done on it-too heavy & clumsy.
 Pit quiet & fume light.

Pit Tremors Week of Aug 8-14 203

August 15

At pit 10:15-11:15 a.m.
 A few rocks trickled over the canoe sill west end.
 Otherwise quiet & fume light.
 Began observing for retriangulation of four pit stations.
 Occupied Obs 8:30-9:30 a.m.
 Returned to pit in aft & watched seis closely by flashlight.
 Found that many of the tremors we have been getting seem to be due to some defect in drum shaft. Watched for one & one-half hours.

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JOURNAL

Day	Tuesday	Date	August 16, 1932
	Wednesday		" 17, "
	Thursday		" 18, "
	Saturday		" 20, "

August 16

Occupied Sta seismograph 6:30-8:30 a.m.
 Pit quiet and in damp morning air blue fume showed above rim.
 Cleaned rust from Δ had shaft of pit seis soldered to eliminate looseness.
 Worked on clinoscope dial holders in aft.

August 17

Occupied Sta SW Pit & changed pit inst 6:30-8 a.m.
 Pit remains quiet with no noticed change in quantity of fume.
 To Hilo to register for coming primaries etc in aft. 1st trip to town since July 3.
 Cleaned rust etc from 2nd pit inst drum.

E.G. W.

2:20 p.m.

Gray dust rose N side.

R.H.

August 18

Occupied Stas NW pit 6:30-8:15 a.m. and NE pit 4:30-5:45 p.m.
 Pit quiet & no changes noted.

E.G.W.

August 20

To pit to change seis & measure cracks.
 Pit quiet except for rocks thrown by soldiers on NW rim causing considerable dust to rise.
 Only five cracks showed any movement - a very slight widening.
 Four of these were in neighborhood of Tourist lookout. Took three pictures of pit from Δ tourist, 2 horizontal & one vertical using 25-11.
 Fume appeared unchanged, but sulphur stain was noticed to have spread farther up on W talus.

E.G.W. & A.E.J.

DEPARTMENT OF THE INTERIOR, U. S. GEOLOGICAL SURVEY

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JOURNAL

Day	Date
Sunday	August 21, 1932
Monday	" 22, "
Wednesday	" 24, "
Thursday	" 25, "

August 21

At pit 9:30-11 a.m. Changed Seis Uwekahuna & Pit.

Examined a crack back of Tourist lookout which Ranger Eaton had reported. It is a continuation of crack from pt #22 in roped off area & meets rim about 50' N of B.M. Tourist. Discussed advisability of fencing rim at lookout or changing location entirely with Leavitt.

Pit remains quiet & fume as usual.

Record from Uwekahuna Seis showed several tremors accompanied by tilt similar to those registered for some time on Pit Seis.

Tremors Pit Seismograph
Total No. Aug 15-21----107

Both drums were cleaned & one with looseness in shaft was soldered. The frame on which the drum rests etc, was made stable. All of this did not eliminate tremors entirely. The Uwekahuna record showed similar ones on the 20th & 21st.

August 22

At pit 8:30-10:45 a.m.

Quiet and fume unchanged (light).

Put in one new crack point 40' back of rim at Tourist Stand.

Began reporting tilt from Clin. at SE pit & breaking it into two components on azimuths to center of pit & tangent.

August 24

At pit 8:15 a.m.

No tilt with quake at 5:30 a.m. August 23.

One or two large rocks fell from W wall at 8:33 a.m.

Occasional puffs of NE wind. Ptly cloudy. Fume unchanged.

To Hilo in aft.

At pit with Jones at night. Quiet & dark.

August 25

At pit 9:40-10:50 a.m.

Quiet & fume unchanged.

Constants Clin SE pit. Weights too small.

Aft set up clinoscope tripod & heavy mass with Yasu at N tilt cellar.

E.G.W.

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JOURNAL

Day	Date
Saturday	August 27, 1932
Monday	" 29, "
Tuesday	" 30, "
Wednesday	" 31, "

August 27

Drove down to Puu Huluhulu & Aloi Craters with Ranger Barnett. Took a look at crack behind tourist stand at Aloi. Appears to be dangerous only in event of moderate quake. Advised watching ash for signs of movement.

Pit quiet & fume unchanged.

Measured rim cracks.

Six points on SE, E, & NE rim showed a very slight widening.

E.G.W. & A.E.J.

August 29

At pit 8:50-9:30 a.m.

Quiet & unchanged.

Brought Clinoscope record SE pit up to date.

With Lee to pit in aft to orient dial on Clin st. SW Pit.

E.G.W.

August 30

Pit quiet. Fume appeared to be very slightly more dense.

Began plane table traverse of SW & W rim of pit.

August 31

At pit 9-10:30 a.m.

No changes noted.

In aft completed SE rim traverse.

E.G.W. & R.E.L.

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JOURNAL

Day	Thursday	Date	September 1, 1932
	Friday		" 2, "
	Saturday		" 3, "
	Monday		" 5, "

September 1

At pit 8:50-11:15 a.m.

Continued trav of W rim.

A few rocks fell from SW wall at (see time on field sheet)
Fume light.

Afternoon completed work on boom & dial for clin of NE pit.

September 2

Lee took care of Pit Station in morning.

Continued surveys on W rim at Pit.

Put in one new crack measuring point #36 on crack at SW corner
of rim.

Pit quiet & fume constant.

R.E.L. & E.G.W.

September 3

At pit 9-10:15 a.m.

Measured rim cracks. Four points in vicinity of Tourist lookout
showed very slight widening and two on NE rim.

Pit quiet & fume remains constant.

Misty day with fresh NE wind.

Recorded only six localized pit tremors during the ^W week.

A.E.J. & E.G.W.

September 5

Change Seis Obs, Uwe, & Pit.

Took Mr. R. Wallace along (of Kona)

At pit 9:45-10:15 a.m.

Quiet and no changes noted. Aft plotted tilt for Aug from Bosch-Omori.

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JOURNAL

Day	Tuesday	Date	September 6, 1932
	Wednesday		" 7, "
	Thursday		" 8, "
	Saturday		" 10, "

September 6 At pit 9-9:45 a.m. No changes noted.
Strong NE wind. Clear.
Aft worked on tilt report for Aug.

September 7 At pit 9-9:45 a.m.
Quake at 4:38 a.m. registered more strongly on N-S component with slight tilt to N.
No tilt with small quake at 2:45 p.m.

September 6 Pit showed no changes & fume appeared about the same density as for week past which is somewhat more dense than for several months past. May be actual increase or due to condition of atmosphere.
Wind very strong NE. Clear.

September 8 To pit 8:30-9:30 a.m.
Quiet. Fume appeared very slightly more dense (after rain?).
A small slide fell over night from E wall, beginning about 50' below rim. Some dust on floor beneath. It fell from N end of crack extending some 400' N of Tourist Lookout.
In aft surveying along W rim.
At 3:06 p.m. small slide over SW talus.
At 3:30 p.m. rocks fell along scar of slide reported above on E wall.
Rim cracks back of W wall showed widening recently by fresh looking cracks in ash.

E.G.W.

September 10 Pit remains quiet & fume as in last few days (slight).
Measurement of rim cracks showed only negligible changes.

Note: For 2 days following quake at 4:38 a.m. September 7 there was moderate tilt away from the pit recorded on clinoscope of SE Pit.

A.E.J. & E.G.W.

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Day	Tuesday	Date	September 13, 1932
	Wednesday		" 14, "
	Thursday		" 15, "
	Saturday		" 17, "

September 13

At pit 8:20 a.m.

Quake at 5:48 p.m. (?) Sept 12 showed W tilt on Seis; clinoscope indicated tilt to SSW for 24 hours 12-13th.

Pit quiet. Blue fume showed above rim in occasional puffs; visibility probably due to damp calm morning. Finished setting up N clinoscope & centered.

P. M. Finished surveying W & N rim at pit.

E.G.W. & R.E.L.

September 14

At pit 8:30-10 a.m.

A small slide has fallen from W wall beginning about 100' above floor.

Pit quiet & fume as for several last days.

To Keaau in aft to have work done on car.

September 15

At pit 8:40-10:15 a.m.

Another small slide has fallen from center of NW buttress leaving some fresh boulders & debris on floor.

Pit quiet & fume as usual.

E.G.W.

September 17

Very quiet at pit.

There appeared to have been a little more sliding of rock from the E wall at the point where a slide was reported last week.

Measurement of rim cracks showed a very small amount of widening at 8 points. 6 of these have been showing slight widening for some time.

A.E.J. & E.G.W.

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Day	Date	September 18, 1932
Sunday		
Monday	"	19, "
Tuesday	"	20, "
Wednesday	"	21, "
Thursday	"	22, "

September 18

At pit 9:15-10:20 a.m.
 Quiet & fume as usual.
 Fresh NE wind and some mist blowing over.

September 19

At pit 9-10 a.m.
 No changes noted.
 Spent afternoon at political meeting at Hotel. Houston spoke.

E.G.W.

September 20

At pit 8:30-11:30 a.m. & 1:30-3 p.m.
 Intersection work for new map of pit.
 Some rocks fell S wall at 10:07 a.m.
 There was some trickling of rocks from time to time during the day.
 Fume unchanged.
 Weather clear & calm in a.m.; p.m. fresh NE wind.

September 21

At pit 8:10-;:15 a.m.
 Quiet and nothing new observed.
 Intersection work on new pit map p.m. Compute elevations.

September 22

At pit 8:15-11:40 a.m.
 A few rocks fell from time to time.
 Completed intersection work on new map of pit.
 Fume unchanged.
 P.M. Compute elevations etc.
 Rain with some thunder 12:30 p.m.

R.E.L. & E. G.W.

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Day	Date	September 23, 1932
Friday		
Saturday	"	24, "
Sunday	"	25, "
Monday	"	26, "
Tuesday	"	27, "

September 23

At pit 8:20-9:45 a.m.
 A few rocks fell from time to time. No sizeable slides.
 Fume about the same. It appears in puffs above rim & is quite visible from H.V.O. in afternoons during humid weather.
 P.M. work in office on pit map.

E.G.W.

September 24
9-10:30 a.m.

Pit quiet & fume constant & unchanged in quantity.
 One-half of the rim cracks measured indicated a very slight widening.
 Keaau in p.m.

September 25
9:20-10:30 a.m.

Change seis HVO & Pit. Yasu Uwe.
 Nothing new at pit.
 A few rocks fell NE.

E.G.W.

September 26

At pit 8:40-11:45 a.m.
 Rocks fell from the walls a.m.
 Several (3 or 4) occasions.
 Fume appears unchanged.
 Made additional intersections on floor of pit.
 P.M. drafting contours on pit map.

September 27
8:30-11:30 a.m.

No changes noted & pit was quiet.
 Ran levels from Spit to NE Rim. Heavy showers at 11:20 a.m.
 P.M. drafting on map.

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Day Wednesday Date
 Friday

September 28, 1932
" 30, "

September 28 Nothing new noted at pit.
8:30-11:15 a.m. Some falling of rocks was heard.
 Fume appeared unchanged.
 Completed field work on new map of pit.
 P. M. drafting on map.

R.E.L. & E.G.W.

September 30 No noticeable changes at pit.
8:15-10:15 a.m. There was a considerable sliding of rock from the walls W & N.
 P.M. work on pit map.

E.G.W.

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Day	Date
Saturday	October 1, 1932
Monday	" 3, "
Tuesday	" 4, "
Thursday	" 6, "
Saturday	" 8, "
Tuesday	" 11, "

October 1
8:45-10:20 a.m. Pit seemed to be quiet though there was a strong NE wind blowing.
Nothing new observed.

All cracks were measured. No changes except for 4 points near Tourist lookout. One of these, 100' to the N showed a widening of 1/16" since Sept. 24.

October 3
8:45-10:30 a.m. The trickling of rocks from the walls continues more or less constantly. No sliding noticed. Fume unchanged.
Calm and clear with light SE breeze coming up about 10 a.m.

October 4
8:20-10:10 a.m. Rocks continue to trickle from the walls. No large sliding noticed. Fume remains the same. Clear with light SE breeze.

October 6
8:05-9:30 a.m. Change pit & Uwekahuna. Yasu working on Waikii seis & thermometer box for pit.
Quiet at pit & fume unchanged. Very muggy feeling weather. Clear.
Calm.
P.M. tilt computation, tce.

October 8
9-11:30 a.m. Measured rim cracks. Only four showed any widening. #9, 100' N of Tourist Stand again showed 1/16" widening.
A few large rocks fell from the W wall at 11:15 a.m.

October 11
8:40-11:30 a.m. Pit quiet and no changes noted.
Adjusted SW clinoscope.
Tightened spring (earth attachment). Clear with fresh NE wind.

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Day	Wednesday	Date	October 12, 1932
	Thursday		" 13, "
	Saturday		" 15, "
	Sunday		" 16, "
	Tuesday		" 18, "

October 12 No changes noted at pit and it appeared quiet. Strong NE wind.
8:30-11 a.m. Clear. Fume seemed to be about the same for this type weather.
Adjusted spring attachment on SE clinoscope & made test of mag
with weight (50 gr).

October 13 Pit remains quiet and fume apparently unchanged. Clear day with
8:30-10:20 a.m. fresh NE wind.
P. M. for week office work on tilt & map.

E.G.W.

October 15 Pit quiet & no changes noted.
9:20-11 a.m. Measured rim cracks. Eight cracks showed slight widening. #9
100 ft N of the Tourist stand continues widening slowly.

A.E.J. & E.G.W.

October 16 Change seis Obs & Pit. Yasu to Uwekahuna.
Nothing new at the pit. Clear with very strong NE wind. There
has been no rainfall for a week.

October 18 Clear with strong NE wind.
8:20-11 a.m. Pit appeared quiet & nothing new noticed. Repainted thermometer
shelter to suit Park color scheme.
P.M. with Christ to help locate some Park Bdy marks.

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Day	Date
Wednesday	October 19, 1932
Thursday	" 20, "
Saturday	" 22, "
Wednesday	" 26, "
Thursday	" 27, "

October 19 Misty morning at pit with slight NE breeze blowing.
8:15-9:45 a.m. No changes noted in pit and fume appeared unchanged for this type of weather.

October 20 Misty with strong NE wind blowing at pit. Mist & steam obscured
8:20-9:30 a.m. pit floor. Only a trace of actual rainfall was recorded for the last 24 hours, however.

E.G.W.

October 22 Conditions at pit unchanged.
8:50-10:20 a.m. Strong NE wind.
Measured rim cracks. Eight points showed slight widening. Three of these had shown opening the week before. Point #9 continues to widen a slight amount each week.

A.E.J. & E.G.W.

October 26 Lt SE breeze. Air humid. Ptly cloudy.
8:15-9:45 a.m. A few small rocks trickled in the NW wall 8:50 a.m. Fume was seen to rise in puffs above rim.
Nothing new noticed.

October 27 At 10:03 a few rocks fell followed by a small slide NW at 10:06
8:50-10:30 a.m. a.m. Sky overcast with light rain falling occasionally. Blue fume showed above rim at times.

JOURNAL

Day	Date
Saturday	October 29, 1932
Sunday	" 30, "

October 29 No changes at pit.
8:30-10:20 a.m. Ptly cloudy and some mist at times with fresh to strong NE wind.
Measured rim cracks. Seven showed slight widening with #9 just north of the tourist lookout continuing progressive widening at about 1 mm. a week.

October 30 Ranger Brumaghin reported a good sized slide from N wall at 9:05 with a more or less continuous falling of rocks after.
Inspection at 11:30 a.m. showed all quiet and the slide had left no noticeable scar.

E.G.W.

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JOURNAL

Day	Tuesday	Date	November 1, 1932
	Wednesday		" 2, "
	Thursday		" 3, "
	Friday		" 4, "
	Saturday		" 5, "

November 1 At 9:55 a.m. small slide from niche at W end N buttress.
 8:30-11:10 a.m. Spent afternoon with Park Rangers at pit, trying to identify with telescope clothing hanging on walls under Tourist stand. Had noticed this on trip around pit in a.m. Appeared to be new material, probably thrown in by Hawaiians as offering to Pele.

A little sliding of rocks from time to time was noticed at E end N buttress.

November 2 Pit quiet and no changes noted. Calm with increasing clouds.
 9:20-10:40 a.m.

November 3 Calm with increasing clouds.
 8:10-9:50 a.m. Pit quiet.

Portuguese (?) with car drove off in hurry when I appeared. Thought actions queer at time. Proved later to have stolen car & wrecked it at Heake. Moral: report anything that appears queer.

November 4 Calm & clear morning. Pit quiet. There has been a slide from the
 9:20-10:45 a.m. S wall south of the tourist stand. Probably at time of small quake on November 3.

Fume quite visible above rim from Uwekahuna. It seems that sunlight shining through the fume & shining through the fume & showing against a dark background greatly increases its visibility.

E.G.W.

November 5 Quiet at pit. Early morning misty with lt NE breeze, later clear.
 8:30-10 a.m. Fume showed above rim in puffs from Uwekahuna.

Measurements of Rim Cracks showed only very slight widening at 6 points. #9 again opened 1 mm.

A.E.J. & R.E.L.

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Day	Date	November 6, 1932
Sunday		
Monday	"	7, "
Sunday	"	13, "
Tuesday	"	15, "
Wednesday	"	16, "
Friday	"	18, "

November 6 Some rocks fell NE at 10:32 a.m. Fume showed plainly above rim from
9:40-10:40 a.m. Uwekahuna. No changes noted at pit
 .87 inches rain fell at pit during night and numerous small ponds
 of water were seen on the floor.

November 7 Rocks trickled frequently from the walls. Fume quite visible
8:45-10:10 a.m. above rim from Uwekahuna.

Week ending

Sunday Nov. 13 Reports from Park workmen, who have been at pit all week indicate
 that Halemaumau remains quiet. There appeared to have been one small slide
 from the S wall judging from fresh looking debris on floor seen Saturday
 (11th) morning.

 Crack measurements on the 11th showed 8 cracks widening in very
 slight amounts and 6 closed slightly. These measurements were made
 the day after a feeble quake was felt 8:30 (?) p.m. Nov. 10.

November 15 Workers at pit report considerable falling of stones. Misty with
 lt SW wind. 9:30 raining.

November 16 Increasing low clouds. SW breeze. Rainfall last 24 hours 1.34"
8:45 a.m. 9:05 a.m. trickling rocks N & W . 9:22 a.m. small slide NE.

November 18 Fume at 5 p.m.

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Day	Date	November 19, 1932
Saturday		
Monday	"	21, "
Saturday	"	26, "
Wednesday	"	30, "

November 19
9-10:30 a.m. #9 Measurements of rim cracks showed opening at only four points. #9 continued opening having widened 1 mm. during the week. There has been considerable trickling of rocks from the walls all week though only one or two fell while observing today. Southerly weather continues, fume visible from Uwekahuna in a.m.

November 21
9:10-10:40 a.m. Small rocks trickled steadily for 15 minutes 9:40-9:55 a.m. A few larger rocks fell from time to time. The trickling was down the notch at the E end of the N Buttress. A small slide has fallen near the E end of the N buttress leaving a light reddish brown scar.

November 26
9:25-10:45 a.m. Measurements of rim cracks showed widening at 10 points. Three moving as much as $1\frac{1}{2}$ mm. Pit appeared quiet as it has been for several days though high NE winds may have obscured the sound of small slides or rock falls.

November 30
8:30-9:45 a.m.; Stormy day at pit. Strong NE wind and driving rain & mist. Steam obscured view into pit. A crack in the E wall was pouring out a cloud of steam. This crack emits usually only a small amount.

E.G.W.

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Day	Thursday	Date	December 1, 1932
	Friday		" 2, "
	Saturday		" 3, "
	Wednesday		" 7, "

December 1 Calm day with high clouds. Lt puffs of wind from NE. No falling
8:50-10:10 a.m. rocks were heard in a 20' watch from E rim of pit. Steam was moderate
from the usual vents and fume light. No changes noted in walls
or floor of pit.

E.G.W.

December 2 Over three inches of rain fell at Halemaumau overnight & continued
8:50-11:15 a.m. during morning. Waterfalls (cascades) were seen on Uwekahuna
Bluff & small ones in Keanakakoi. Volumes of steam poured from pit
lifting at times when a view of floor afforded a most beautiful sight
of the thousands of steam vents. Sliding from the walls was continuous
though no large slides were noted. A dull thud-like sound was also
apparent & had been noticed by Foreman Craik. Believe it to be caused
by sudden expansion of steam in pockets of lava. Jones came down
and he took six photos. The steam enabled us to pick^{out} some blue fume
issuing from a crack near the center of the floor.

December 3 Rim cracks were measured. Ten at various locations about the pit
9-10:20 a.m. showed slight opening. Point #9 again opening 1 mm. Steam was again
issuing in volumes but thinned rapidly as the day cleared. Rockfalls
& small slides were frequent and considerable gravel & small boulders
were scattered on the floor near the walls. There have been no
large slides or avalanches judging from lack of distinct scars on the
walls. The dull thud sounds (or like distant gun shots) were noticed
from time to time but not so frequent or strongly as on December 2.

A.E.J. & E.G.W.

December 7 Quiet at pit. Day clear & calm-sliding during the storm last
8:50 week has exposed some light brick-red rock on the E wall above top of
E talus. The walls here are very cracked & broken with much loose
material and some slightly overhanging ledges.

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Day	Date	December 10, 1932
Saturday		
Sunday	"	11, "
Monday	"	12, "
Tuesday	"	13, "
Thursday	"	15, "

December 10 Measurement of rim cracks showed 13 opening a slight amount.
8:10-9:50 a.m. Inasmuch as a new tape was used the amounts of opening were probably less than indicated.

Conditions remain very quiet at the pit. During a watch of 20' on Friday a.m. no sounds were heard & reports from Park workmen at the Tourist stand indicate a very little trickling of rocks. The weather has been mostly calm & clear the latter part of the week. Blue fume at times visible above rim when sunlight shines through it.

December 11 Continued quiet at pit. During a ten minute watch no sounds were
9:50-10:15 a.m. heard. Calm morning & clear. Steam & fume light. The steam crack through the S talus keeps this continually wet.

December 12 Continued quiet at pit.
8:25-9:50 a.m. Inspection from E & N rims revealed no noticeable changes. Workers report no falling of rocks.

Clear morning with lt NE breeze. Looking against sun, blue fume showed above rim from Uwekahuna.

December 13 Weather clear with fresh NE breeze. No rocks were heard falling
8:30-10:10 a.m. in the pit.

A low mound near the center of the floor is much stained with sulphur & quite cracked. Had not noticed its appearance before. It may be that the blue fume noticed during the heavy rains a week or so ago was issuing from this mound.

December 15 Pit quiet and did not notice any gravel etc on floor or scar
on wall from slide reported by Mr. Gandy on December 14.

Fresh NE wind. Sky overcast & threatening.

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Day	Date
Friday	December 16, 1932
Saturday	" 17, "
Monday	" 19, "
Tuesday	" 20, "

December 16 Continued quiet at pit.
 8:20-9:30 a.m. Gray dust on N buttress is probably place of slide reported by Gandy two days ago.
 Park workmen are putting in two new crack measuring points at tourist stand for us.
 Wind fresh NE.
 Saw Chief Ranger Christ who had just returned from Mauna Loa and and he reported conditions unchanged at the summit crater. Blue fume appeared at the usual places.

December 17 Measurement of rim cracks showed only four points widening in
 8:15-10:10 a.m. slight amounts. #9 again opened 1 mm.
 Very quiet at pit.
 Noticed some dark red gravel on NE wall & some on talus. Probably a little sliding has taken place here.
 Fresh NE breeze. Occasional mist.

December 19 Debris from a small slide from the W wall has covered the NW end
 9:10 of the fuming sulphur patch at the N end of the SW talus.
 A few rocks were heard falling.
 Clear: Fresh NE breeze.

December 20 No changes noted at pit and it appeared to be quiet. A fresh NE wind
 8:40-10 a.m. was blowing.
 At 9:50 thought I noticed dust rising from a slide (wind?) but it dissolved while I looked & so didn't bother to investigate as it was very light.

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Day	Date
Wednesday	December 21, 1932
Saturday	" 24, "
Monday	" 26, "
Tuesday	" 27, "

December 21 Clear morning with light NE breeze. Heard a few rocks fall
8:25-9:20 a.m. from time to time. The dust scar of a small slide was seen on the
NW wall above the NW talus. The rocks did not reach the pit floor but
were seen on the talus.

E.G.W.

December 24 Measurement of rim cracks showed 8 points opening in slight
9:10-10:50 a.m. amounts. Point #9 again widened 2 mm.

There appears to have been some small sliding from the N & NE
walls. One or two rocks fell. Blue fume was showing in puffs above
rim as seen from Uwekahuna.

A.E.J. & E.G.W.

December 26 A short inspection of the pit revealed no changes from slides
9:30-10:15 a.m. etc. A strong NE wind was blowing & may have obscured the sound of
any falling rocks.

Clear morning at pit with low clouds over Puna.

December 27 Clear day with strong NE wind. Low clouds over Puna. At 9:01 a.m.
8:35-10:15a.m. a small slide fell from the W wall about 100' N of the fuming area.
The appearance of the walls (small fresh looking scars & considerable
loose gravel) indicates that there is more or less small sliding or
falling of rocks going on from time to time.

E.G.W.

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Day	Tuesday	Date	December 27, 1932
	Wednesday		" 28, "
	Thursday		" 29, "
	Friday		" 30, "
	Saturday		" 31, "

December 27
(cont'd)
2-3:15 p.m. Visited pit after quake at 1:30 p.m. Measured several cracks & found no change. Inspected E rim and there had been no cracking of crust in that area. A small slide had fallen from near the rim above the W talus.

A.E.J. & E.G.W.

December 28 Inspected pit from 3:15-3:45 p.m. & measured a few crack points. No changes were noted. A few rocks fell from the walls.

December 29
8:45-10:20 a.m. A small slide fell from the niche above the NW talus at 9:01 a.m. It raised a small cloud of dust. No rocks reached the floor. There was considerable trickling of loose rocks from the walls. The sulphur-stained area appeared a more brilliant yellow than usual. Blue fume was not noticeably more dense & from Uwekahuna showed in puffs above rim. Clear day with light NE wind. Snow on Mauna Loa & Mauna Kea.

E.G.W.

December 30 Lee made tracing of new Halemaumau map & helped at pit in afternoon. With Kauni to pit in ~~after~~ a.m. to run levels about rim. Indicate a slight lowering of N & NE rim since Sept. In aft located & set four points on N-S & E-W lines centered about SE pit clinoscope station to check clinoscope readings, with ~~spirit~~ spirit level observations. A few rocks fell in the pit & soldiers throwing down boulders started a small slide at 3:10 p.m. from the NW wall.

E.G.W.; Lee; Kauhi

December 31 Measured all rim cracks. Only six showed any opening & in very slight amounts. Point No. 9 did not open for the first time in several months.

Between 10-11 a.m. a heavy rain storm blew up from the S accompanied by much thunder and some lightning.

E.G.W. & A.E.J.