



**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS - 1984**  
**U.S. Geological Survey and University of Washington**  
**Vancouver and Seattle, Washington**

Formal statements released in 1984

Compiled by Bobbie Myers, 2005

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**1984**

January – *includes Information Statement*

February – *includes Volcano Advisories, Alerts, and Update and dome-building eruption*

March – *includes Volcano Advisories and dome-building eruption*

April –

May – *includes Information Statements about explosions and lahars*

June – *includes Volcano Advisory and dome-building eruption*

July – *includes Volcano Advisory*

August –

September – *includes Extended Outlook Advisory, Volcano Advisories, and Updates and dome-building eruption*

October –

November –

December –

**JANUARY 1984**

**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
Vancouver and Seattle, Washington

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Report at 1330, Tuesday, January 03, 1984

Seismicity and gas emissions remain at slightly elevated levels. Small gas and ash emission events continue to occur several times a day. The information supplement issued on December 30, 1983 remains in effect.

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Report at 1330, Friday, January 06, 1984

Seismicity and gas emissions remain at slightly elevated levels. Small gas and ash emission events continue to occur several times a day. The information supplement issued on December 30, 1983 remains in effect.

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Report at 0945, Monday, January 09, 1984

Seismicity and gas emissions remain at slightly elevated levels. Small gas and ash emission events continue to occur several times a day. The information supplement issued on December 30, 1983 remains in effect.

Crews were unable to reach the crater over the weekend. A break between fronts is permitting access this morning.

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Report at 0945, Tuesday January 10, 1984

Seismicity and gas emissions remain at slightly elevated levels. Small gas and ash emission events continue to occur several times a day. The information supplement issued on December 30, 1983 remains in effect.

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Report at 0945, Friday, January 13, 1984

Seismicity and gas emissions remain at slightly elevated levels. Small gas and ash emission events continue to occur several times a day. The information supplement issued on December 30, 1983 remains in effect.

During the recent clear weather crews have continued on-site measurements in the crater and have repaired equipment damaged during the December cold spell.

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Report at 0920, Monday, January 16, 1984

Seismicity and gas emissions remain at slightly elevated levels. Small gas and ash emission events continue to occur several times a day. The new mound is the highest point on the dome (35 feet higher than ever before). The information supplement issued on December 30, 1983 remains in effect.

Clear weather is permitting field work again today.

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Report at 0940, Tuesday January 17, 1984

Gas emissions remain at slightly elevated levels. Seismicity has decreased but is still considered to be at a slightly elevated level. Deformation rates continue to slow. The new mound (which formed high on east side of the dome near the sites of former mounds and spines) is the highest point on the dome. The information supplement issued on December 30, 1983 remains in effect.

Clear weather is permitting field work again today.

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Report at 0930, Wednesday, January 18, 1984

Gas emissions remain at slightly elevated levels. Seismicity has decreased but is still considered to be at a slightly elevated level.

Deformation rates continue to slow. The information supplement issued on December 30, 1983 remains in effect.

Clear weather is permitting field work again today.

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Report at 0930, Thursday, January 19, 1984

Gas emissions remain at slightly elevated levels. Seismicity has decreased but is still considered to be at a slightly elevated level. Deformation rates continue to slow. The information supplement issued on December 30, 1983 remains in effect.

Clear weather is permitting field work again today.

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Report at 1030, Friday, January 20, 1984

Gas emissions and seismicity remain at slightly elevated levels. Deformation rates continue to slow.

Clear weather is permitting field work again today.

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Report at 1330, Monday, January 23, 1984

Gas emissions and seismicity remain at slightly elevated levels. Deformation rates continue to slow on the south side of the dome. Deformation on the north side of the dome is continuing.

Weather prevented crews from working in the field over the weekend.

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Report at 0900, Tuesday, January 24, 1984

Gas emissions and seismicity remain at slightly elevated levels. Deformation rates continue to slow on the south side of the dome. Deformation on the north side of the dome is continuing.

Weather prevented crews from working in the field yesterday.

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Report at 0800, Wednesday, January 25, 1984

Gas emissions and seismicity remain at slightly elevated levels. Deformation rates continue to slow on the south side of the dome. Deformation on the north side of the dome is continuing.

Weather prevented crews from working in the field yesterday.

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Report at 1000, Friday, January 27, 1984

Gas emissions and seismicity remain at slightly elevated levels. Deformation rates continue to slow on the south side of the dome. Deformation on the north side of the dome is continuing.

Weather prevented crews from working in the field yesterday.

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Report at 1000, Monday, January 30, 1984

Gas emissions remain slightly elevated. Small gas and ash emission events continue to occur several times each day. Seismicity is at a slightly elevated level. Crews working the crater

have reported an increase in heard and felt earthquakes during the last few days. Deformation rates on the north side of the dome are accelerating. Night observations also indicate an increase in activity on the north side of the dome.

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Report at 1300, Tuesday January 31, 1984

Excellent weather condition allowed crew to work in the crater yesterday and this morning. Gas emissions remain slightly elevated. Small gas and ash emission events continue to occur several times each day. Seismicity is at a slightly elevated level. Deformation rates on the north side of the dome are accelerating.

Based on observations and measurements over the last few weeks the following information statement was issued today

MOUNT ST. HELENS  
INFORMATION STATEMENT

JANUARY 31, 1984

Measurements in the crater of Mount St. Helens show significant increases in the rate of spreading of the north and west sides of the dome over the last 10 days, and rates are now higher than at any time in the past year. Movement of the southeast sector, previously the most active part, has slowed and is now barely perceptible. Increased incandescence on the north and west sides of the dome and ground cracking on top of the dome have also been observed. Emission rates of sulfur dioxide gas have decreased in the last 10 days. Gas and ash events continue to occur several times each day, but have become more vigorous. Seismicity has generally been slightly elevated, occasionally decreasing to background levels. A crater seismometer and field observations indicate an increased number of small earthquakes and a shift in location from the south side of the dome to the north side.

The recent changes in activity in the north sector of the dome have increased the chances of a large rockfall or small lateral explosion from the north side of the dome. Rapid snowmelt from such activity could produce a mudflow north of the crater. More extensive mudflows could result if the snowpack thickens.

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## **FEBRUARY 1984**

### **VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
Vancouver and Seattle, Washington

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Report at 0900, Wednesday February 1, 1984

Excellent weather condition allowed crew to work in the crater yesterday. Gas emissions have been very low for the last several measurements. Small gas and ash emission events continue to occur several times each day. Seismicity is at a slightly elevated level. Deformation rates on the north side of the dome continue to accelerate.

The information statement issued January 31, 1984 remains in effect.

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Report at 1230, Thursday, February 2, 1984

Weather condition allowed crews to work in the crater yesterday. Gas emissions have been very low for the last several measurements. Small gas and ash emission events continue to occur several times each day. Seismicity is at a slightly elevated level. Deformation rates on the north side of the dome continue to accelerate.

The information statement issued on January 31, 1984 remains in effect.

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Report at 1130, Friday, February 3, 1984

Weather condition allowed crew to work in the crater yesterday. Deformation of the north and west sides of the dome is continuing. Gas emissions have been very low for the last few days. Small gas and ash emission events continue to occur several times each day. Seismicity has increased to moderate level over the past 2 days.

The information statement issued January 31, 1984 remains in effect.

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Report at 0900, Monday, February 6, 1984

Crews worked both days over the weekend. Deformation of the north and west sides of the dome is continuing. Gas emissions have been very low for the last few days. Small gas and ash emission events continue to occur several times each day. Seismicity has increased to elevated levels over the past 2 days.

Based on observations and measurements over the weekend the following statements were issued.

MOUNT ST. HELENS  
VOLCANO ADVISORY

FEBRUARY 4, 1984  
7:45 PM, PST

Shallow seismicity and ground deformation near the lava dome of Mount St. Helens have accelerated since our previous statement of January 31. Many small earthquakes are occurring within and just beneath the dome. Much and possibly all of the dome and some parts of the crater floor are deforming. It appears that magma is rising beneath the dome at an increased rate.

The present activity resembles the preliminary signs of the episodic, dominantly non-explosive 1981-82 eruptions, superimposed on the continuous dome growth that began in February 1983. If the analogy to the 1981-82 eruptions is valid, we might expect a pulse of magma to rise close to or onto the surface of the dome within the next few days. A pulse rising through the dome would further deform it and increase the chance of a landslide or small explosion.

MOUNT ST. HELENS  
VOLCANO ALERT

FEBRUARY 5, 1984  
9:45 P.M. PST

Frequent earthquakes and rapid expansion of the lava dome indicate that an eruptive pulse is likely to begin within the next 48 hours, probably within the next 24 hours. Similarities to seismicity before the eruption of March 19, 1982 suggest that an explosive onset is likely. Such an explosion, were one to occur, could affect areas within a few miles of the dome but would probably not pose hazards to nearby communities.

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Report at 0800, Tuesday, February 7, 1984

Deformation of the dome is continuing. Gas emissions have increased over the last two days. Seismicity has increased to elevated levels over the few days. Based on observations and events over the last 24 hours the following Alert Update was issued.

MOUNT ST. HELENS  
ALERT UPDATE

FEBRUARY 6, 1984  
9:10 PM PST

At 8:16 PM a small landslide from the east side of the lava dome reached the east crater wall and has caused minor snow melt in the back of the crater. A plume with a little ash rose to 13,000' and is drifting to the east. No mudflow has occurred. This marks the onset of the expected eruptive pulse; further activity including rock avalanches, slow lava extrusion, and small explosions may follow over the next few days.

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Report at 0800, Wednesday, February 8, 1984

Deformation of the dome is continuing. Gas emissions have increased over the last three

days. Seismicity still remains at elevated levels, although we have seen a slight decrease in the number and size of events over the last twelve hours. The Alert Update issued on Feb. 6th, 1984 still remains in effect.

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Report at 1300, Thursday, February 9, 1984

Inclement weather prevented crews from operating within the crater at Mount St Helens yesterday and today.

Due to activity during the past two days the following Alert Update was issued:

MOUNT ST. HELENS  
ALERT UPDATE

FEBRUARY 9, 1984  
1:00 PM PST

Since our previous statement of February 6, 1984, signs of unrest at Mount St. Helens have changed significantly. Earthquake activity continued to increase until the afternoon of February 7. When last observed on February 7, radial cracks in the dome were still widening and swelling of the uppermost part of the dome was still accelerating. A part of the top of the dome was intensely disrupted to form an elongate mound; as this mound grew, an earlier summit mound located 100 yds to the east of the elongate mound subsided. SO<sub>2</sub> gas emission increased on February 6 and 7. Since the evening of February 7 clouds have prevented field observations and measurements, but earthquake activity has decreased and seismic signals caused by rockfalls from the dome have become more frequent.

In the past, such increases in seismicity and swelling have accompanied the rise of magma high into the dome; rockfall seismic signals such as are occurring now have previously accompanied extrusion of lava onto the surface of the dome. Whether extrusion is actually in progress cannot be confirmed until the weather permits visual observations.

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Report at 1200, Friday February 10, 1984

Inclement weather prevented crews from operating within the crater at Mount St Helens yesterday and early today. Seismicity has decreased to slightly elevated levels.

The Feb. 9 statement remains in effect except for the change in seismicity.

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Report at 1300, Monday, February 13, 1984

Late Friday afternoon fog and clouds in the crater thinned for about 5-10 minutes, allowing a brief helicopter tour of the crater (north of the dome only). Crews were able to distinguish what appeared to be a new lobe on top of the dome. Friday evening the following Volcano Advisory was issued.



MOUNT ST. HELENS  
VOLCANO ADVISORY

FEBRUARY 10, 1984  
6:30 PM PST

Late this afternoon under conditions of poor visibility, a USGS field crew saw what appears to be a new lava extrusion on top of the dome.

Weather did not permit field observations (fixed-wing or helicopter) over the weekend and probably will not permit them today.

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Report at 1000, Tuesday February 14, 1984

Weather prevented crews from making observations at the mountain yesterday. Observers on the Gas flight this morning confirmed the new lobe on top of the dome. Deformation crews are on the way to the mountain (by helicopter) at this time. Seismicity is at a slightly elevated level.

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Report at 0800, Wednesday, February 15, 1984

Seismicity has returned to background levels and gas emissions are slightly elevated, but down from eruption levels. Due to weather yesterday, crews were able to perform a minimal amount of deformation measurements. Results show movement on the dome has probably slowed, although another days worth of measurement is necessary to confirm this.

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Report at 1300, Tuesday, February 21, 1984

Seismicity has returned to background levels and gas emissions are slightly elevated, but down from eruption levels. Measurements made last Wednesday (Feb 15) indicate that deformation rates have slowed. Weather has prevented crews from making further measurements.

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Report at 0900, Wednesday, February 22, 1984

Seismicity has returned to background levels and gas emissions are slightly elevated, but down from eruption levels. Measurements made last Wednesday (Feb 15) indicate that deformation rates have slowed. Weather has prevented crews from making further measurements.

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Report at 1600, Thursday, February 23, 1984

Seismicity remains at background levels and gas emissions are slightly elevated, but down from eruption levels. Measurements made last Wednesday (Feb 15) indicate that deformation rates have slowed. Weather has prevented crews from making further measurements.

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Report at 0900, Friday, February 24, 1984

Seismicity remains at background levels. Weather has prevented measurement of gas emissions or ground deformation since Feb. 15. However, the last measurements indicated that both had decreased since the extrusion of the new lobe.

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Report at 0900, Monday, February 27, 1984

Seismicity remains at background levels. Weather has prevented measurement of ground deformation since February 15. However, the last measurements indicated deformation had decreased since the extrusion of the new lobe. Gas emissions (measured on Saturday) remain slightly elevated, although down from eruption level.

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Report at 0830, Tuesday, February 28, 1984

Seismicity remains at background levels. Weather has prevented measurement of ground deformation since February 15. However, measurements at that time indicated that rates had slowed. Gas emissions (measured over the weekend) remain slightly elevated, although down from eruption level.

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Report at 1100, Wednesday, February 29, 1984

Seismicity remains at background levels. Weather has prevented measurement of ground deformation since February 15. However, measurements at that time indicated that rates had slowed. Gas emissions (measured over the weekend) remain slightly elevated, although down from eruption level.

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## MARCH 1984

### VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS

U.S. Geological Survey and University of Washington  
Vancouver and Seattle, Washington

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Report at 1100, Thursday, March 1, 1984

Seismicity remains at background levels. Weather has prevented measurement of ground deformation since February 15. However, measurements at that time indicated that rates had slowed. Gas emissions (measured over the weekend) remain slightly elevated, although down from eruption level.

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Report at 1000, Friday, March 2, 1984

Seismicity remains at background levels. Weather has prevented measurement of ground deformation since February 15. However, measurements at that time indicated that rates had slowed. Gas emissions (measured last weekend) remain slightly elevated, although down from eruption level.

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Report at 1000, Monday, March 6, 1984

Seismicity is background level. Crews were able to work in the crater over the weekend. Deformation rates have slowed to background. Gas emissions remain slightly elevated, although down from eruption level.

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Report at 1300, Tuesday March 6, 1984

Seismicity is background level. Crews were able to work in the crater over the weekend. Deformation rates have slowed to background. Gas emissions remain slightly elevated, although down from eruption level.

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Report at 0800, Wednesday March 7, 1984

Seismicity is background level. Deformation rates have slowed to background. Gas emissions remain slightly elevated, although down from eruption level.

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 Report at 0800, Friday March 9, 1984

Seismicity is background level. Deformation rates have slowed to background. Gas emissions remain slightly elevated, although down from eruption level.  
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Report at 1000, Monday March 12, 1984

Seismicity is background level. Deformation rates have slowed to background. Gas emissions remain slightly elevated, although down from eruption level.  
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Report at 1000, Tuesday March 13, 1984

Seismicity is background level. Deformation rates have slowed to background. Gas emissions remain slightly elevated, although down from eruption level. Weather has prevented crews from working in the field for several days.  
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Report at 0900, Wednesday March 14, 1984

Seismicity is background level. Deformation rates have slowed to background. Gas emissions remain slightly elevated, although down from eruption level. Weather has prevented crews from working in the field for several days.  
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Report at 0700, Tuesday, March 20, 1984

Rain, drizzle, and low clouds again! When last measured, deformation rates were background and gas emissions were lower than during the eruption (deformation was last measured about 2 weeks ago and gas about 1 week ago).  
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Report at 1000, Wednesday, March 21, 1984

Rain, drizzle, and low clouds still! When last measured, deformation rates were background and gas emissions were lower than during the eruption (deformation was last measured about 2 weeks ago and gas about 1 week ago).

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 Report at 1200, Friday, March 23, 1984

Finally a break in the weather! Gas measurements are slightly elevated although lower than during the eruption. Deformations rates continue to be quite slow. Seismicity is up slightly but is still considered to be background level.

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Report at 0900, Monday, March 26, 1984

Friday afternoon seismicity was officially called "slightly elevated". Poor weather has prevented further field measurements. The last field measurements were made on March 22. At that time gas emissions were slightly elevated and deformation rates were slow.

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Report at 0900, Tuesday, March 27, 1984

Seismicity is at moderate levels. Crews were unable to work at the mountain yesterday. Improving conditions should permit field work today. The last field measurements were made on March 22. At that time gas emissions were slightly elevated and deformation rates were slow.

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Updated Report at 0930, Tuesday, March 27, 1984

Seismicity has increased to high levels. Crews were unable to work at the mountain yesterday. Improving conditions should permit field work today. The last field measurements were made on March 22. At that time gas emissions were slightly elevated and deformation rates were slow.

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Report at 0830, Wednesday, March 28, 1984

Seismicity has increased to high levels. Crews were able to get into the crater yesterday. From the results of Tuesday's measurements and the then current seismic activity the following advisory was issued:

MOUNT ST. HELENS  
 VOLCANO ADVISORY

MARCH 27, 1984  
 9:30 PM PST

Frequent earthquakes and rapid swelling of the dome indicate that a new episode of dome growth

is beginning. Current growth is internal; if magma continues to rise through the dome, lava will be extruded onto the surface within a few days. As with each dome building eruption, rockfalls and small explosions are possible; these are unlikely to pose hazards outside the crater and immediate vicinity.

As of this morning seismic activity continues at high levels.

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Report at 0830, Thursday, March 29, 1984

The following advisory was issued this morning.

MOUNT ST. HELENS  
VOLCANO ADVISORY

MARCH 29, 1984  
7:00 A.M. PST

Landslides from the lava dome, possibly accompanied by a small explosion, occurred about 3:20 this morning. Minor snow melt occurred in the crater, but no significant mudflow extended beyond the crater. Lava is now being extruded onto the top of the dome. As during previous episodes lava extrusion, hazards are largely restricted to the crater.

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Report at 0915, Friday, March 30, 1984

Seismicity, deformation, and ground tilt continued at high rates yesterday. Gas emissions were elevated. Crews were able to make regular measurements and observations during the day. Night observations from a fixed-wing confirmed a glowing area on top of the dome and glowing rockfalls on the north side of the dome.

Seismicity and tilt appears to have decreased slightly overnight. Deformation crews will be arriving at the mountain around 1000. Gas emission rates will be checked around noon.

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**APRIL 1984****VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
 Vancouver and Seattle, Washington

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Report at 0845, Monday, April 02, 1984

Crews were able to work at the mountain on Friday, however weather prevented work over the weekend. Friday seismicity decreased to moderate level, deformation and tilt rates decreased to about 1/10 of Thursday's rate, and gas levels remained elevated. Crews confirmed a new lobe (about the size of the 2/84 lobe) on top of the dome. Large rockfalls from the north and northwest sides of the dome were frequent.

This morning seismicity has decreased to slightly elevated levels. Tilt rates are around zero. Deformation crews are attempting to reach the mountain at this time.

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Report at 0930, Tuesday, April 03, 1984

Seismicity has returned to background level. Gas emissions are down but remain at a "slightly elevated level". Although poor weather and damaged and missing reflectors made measuring difficult, crews were able confirm that rates of deformation on the dome are slowing. Observed rockfalls were smaller and less frequent than on Friday. The tilt site was damaged by rockfalls yesterday morning. Tilt will be installed at a new site later this week.

Weather is preventing crew from reaching the mountain today.

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Report at 0830, Wednesday, April 04, 1984

Seismicity has returned to background level. Gas emissions are down although last time measured (April 02) they remained at a "slightly elevated level". Rates of deformation on the dome are down (April 02). Crews are attempting to reach the mountain at this time.

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Report at 0840, Thursday, April 05, 1984

Seismicity has returned to background level. Gas emissions are down although last time measured (April 02) they remained at a "slightly elevated level". Rates of deformation on the dome are down (April 02). Crews are attempting to reach the mountain at this time.

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Report at 1230, Friday, April 06, 1984

Weather has prevented crews from working at the mountain for the last few days. Seismicity remains at background level. Gas emissions were slightly elevated when last measured (4/2). Deformation crews are attempting to reach the crater at this time. Deformation rates were slow when last measured (4/2).

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Report at 0900, Monday, April 09, 1984

Deformation crews were able to work Friday making measurements and installing new targets. Deformation rates are background. Gas emissions are slightly elevated. Seismicity is background.

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Report at 0830, Tuesday, April 10, 1984

Seismicity and ground deformation rates are at background level. Gas emissions are slightly elevated. Crews were unable to reach the mountain yesterday.

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Report at 0830, Wednesday, April 11, 1984

Seismicity and ground deformation rates are at background level. Gas emissions are slightly elevated. Crews were unable to reach the mountain yesterday.

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Report at 1100, Thursday, April 12, 1984

Seismicity and ground deformation rates are at background level. Gas emissions are slightly elevated. Crews were unable to reach the mountain yesterday.

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Report at 0800, Friday, April 13, 1984

Seismicity is at background level. Ground deformations and gas emission levels have not been measured for over a week due to low clouds and rain. When last measured deformations was background and gas emissions were slightly elevated. A break between storms may permit crews to measure deformation and gas emissions today.

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Report at 1030, Monday, April 16, 1984

Seismicity is at background level. Crews were able to work in the crater over the weekend. Ground deformation rates remain at background. No appreciable tilt is being measured at the two sites near the dome. Gas emissions were slightly elevated when last measured over a week ago.

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Report at 1000, Tuesday April 17, 1984

Seismicity is at background level. Crews were able to work in the crater yesterday. Ground deformation rates remain at background. No appreciable tilt is being measured at the two sites near the dome. Gas emissions are slightly elevated.

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Report at 0830, Wednesday April 18, 1984

Seismicity is at background level. Crews were able to work in the crater yesterday. Ground deformation rates remain at background. No appreciable tilt is being measured at the two sites near the dome. Gas emissions are slightly elevated.

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Report at 1130, Thursday, April 19, 1984

Seismicity and ground deformation rates are at background level. No appreciable tilt is being measured at the two sites near the dome. Gas emissions are slightly elevated.

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Report at 0730, Friday, April 20, 1984

Seismicity and ground deformation rates are at background level. No appreciable tilt is being measured at the two sites near the dome. Gas emissions are slightly elevated.

Low clouds and rain prevented crews from working at the mountain yesterday. A slight break in the weather may permit fieldwork this afternoon or tomorrow morning.

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Report at 0930, Monday, April 23, 1984

Seismicity and ground deformation rates are at background level. No appreciable tilt is being measured at the two sites near the dome. Gas emissions are slightly elevated. Crews were able to work in the field over the weekend.

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Report at 0930, Tuesday, April 24, 1984

Seismicity and ground deformation rates are at background level. No appreciable tilt is being measured at the two sites near the dome. Gas emissions are slightly elevated. Yesterday weather prevented GD crews from working in the crater although WRD crews were able to work at lower elevation sites.

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Report at 0900, Wednesday, April 25, 1984

Seismicity and ground deformation rates are at background level. No appreciable tilt is being measured at the two sites near the dome. Gas emissions are slightly elevated. Yesterday weather prevented GD crews from working in the crater.

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Report at 0900, Friday, April 27, 1984

Seismicity, gas emissions and ground deformation rates are at background level. No appreciable tilt is being measured at the three sites in the crater. Crews were able to work in the crater yesterday.

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Report at 0830, Monday, April 30, 1984

Seismicity, gas emissions and ground deformation rates are at background level. No appreciable tilt is being measured at the three sites in the crater. Crews were able to work in the crater Friday.

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**MAY 1984**

**VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
Vancouver and Seattle, Washington

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Report at 0900, Tuesday, May 1, 1984

Seismicity, gas emissions and ground deformation rates are at background level. Rain and snow prevented crews from working in the crater yesterday.

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Report at 0830, Wednesday, May 2, 1984

Seismicity, gas emissions and ground deformation rates are at background level. Rain and snow prevented crews from working in the crater yesterday.

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Report at 0930, Friday, May 4, 1984

Seismicity, gas emissions and ground deformation rates are at background level. Rain and snow prevented crews from working in the crater yesterday.

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Report at 0830, Monday, May 7, 1984

Crews were able to work in the crater on Friday. Seismicity, gas emissions and ground deformation rates are at background level.

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Report at 0930, Tuesday, May 8, 1984

High winds prevented crews from working in the crater yesterday. Seismicity, gas emissions and ground deformation rates are at background level.

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Report at 0830, Wednesday, May 9, 1984

Poor weather conditions prevented crews from working in the crater yesterday. Seismicity,

gas emissions and ground deformation rates are at background level.

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Report at 1030, Friday, May 11, 1984

Poor weather conditions have prevented crews from working in the field for the past few days. Seismicity, gas emissions and ground deformation rates are at background level.

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Report at 1145, Monday, May 14, 1984

This morning at about 0935 a small explosion occurred on the dome. The explosion produced a gas and ash plume to about 28,000 feet and melted snow on the west crater wall. The snow melt developed into a small mudflow which traveled out of the crater and down the North Fork Toutle. The mudflow which is smaller than the March 1982 flow, took about 2 hours to reach N-1.

At the time of the event crews and a helicopter were on standby in Cougar awaiting clear weather. Geologists were in the crater on Saturday. Deformation measurements made on Saturday showed continuing slow rates. Seismicity has been at background level.

Hydrologists are making measurements along the Toutle at this time. Geologists are attempting to reach the crater. When more information is available this "Update" will be updated. The following statement was released this morning via Forest Service call-down.

MOUNT ST. HELENS  
INFORMATION STATEMENT

MAY 14, 1984  
10:20 AM PDT

A gas and ash emission at about 0935 hrs sent a small amount of ash to about 28,000', the ash is drifting NE. A small mudflow in the North Toutle is passing Elk Rock as of about 1020 hrs.

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Report at 1100, Tuesday May 15, 1984

Yesterday morning at about 0935 a small explosion occurred on the dome. The explosion produced a gas and ash plume to about 28,000 feet and melted snow on the west crater wall. The snow melt developed into a small mudflow which traveled out of the crater and down the North Fork Toutle. The mudflow which was smaller than the March 1982 flow, took about 2 hours to reach N-1. A small amount of waterflow also reached Spirit Lake (in just under 20 minutes).

Crews worked in the field measuring the mudflow as it passed stations along the North Fork Toutle. Crater crews were unable to make deformation measurements due to clouds and steam. A close inspection of the source of the gas and ash emission and the source of the water flow were also impossible due to poor weather, however crews were able to walk the flow channel between the northwest side of the dome and the steps.

Gas emissions were elevated after the event. Seismicity returned to background.

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Report at 0930, Wednesday May 16, 1984

Deformation measurements, gas measurements and a closer inspection of the source of Monday's gas and ash emission were impossible due to poor weather.

Crews were able to work in the crater yesterday. Deformation, tilt and seismicity are at background level. Gas emissions have not been measured for several days.

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Report at 0930, Monday, May 21, 1984

Crews did not work in the field over the weekend. Tilt and seismicity are at background level. Measurements on Thursday indicate that deformation is at background. Gas emissions have not been measured for several days.

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Report at 0830, Wednesday, May 23, 1984

Poor weather prevented crews from working on the mountain yesterday. Tilt and seismicity are at background level. Measurements on Thursday (May 17, 1984) indicate that deformation is at background. Gas emissions have not been measured for several days.

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Report at 0830, Thursday, May 24, 1984

Poor weather prevented crews from working on the mountain yesterday. Tilt and seismicity are at background level, with a slight increase in avalanche activity. Latest measurements indicate deformation is at background. Gas emissions have not been measured for several days.

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Report at 0930, Friday, May 25, 1984

Crews were able to work in the crater yesterday. Seismicity, deformation and tilt are at background levels. Gas emissions have not been measured for several days.

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Report at 1005, Saturday, May 26, 1984

MOUNT ST. HELENS  
INFORMATION STATEMENT

MAY 26, 1984  
10:05 AM, PDT

A gas and ash plume at 8:14 AM rose to about 22,000 feet and carried a small amount of ash to the east. A small mudflow entered Spirit Lake; little or no flow entered the North Toutle. Both the plume and flow were smaller than those of May 14, 1984. No further statement is anticipated.

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Report at 0930, Tuesday, May 29, 1984

Seismicity, deformation, tilt and gas emissions are at background levels. At 8:14 AM Saturday a gas and ash plume rose to about 22,000 feet and carried a small amount of ash to the east. A small mudflow entered Spirit Lake; little or no flow entered the North Toutle. Both the plume and flow were smaller than those of May 14, 1984. Crews worked Saturday measuring deformation and studying the mudflow.

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Report at 0830, Wednesday, May 30, 1984

Crews were able to work in the crater yesterday. Seismicity, deformation, tilt and gas emissions are at background levels.

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**JUNE 1984****VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
 Vancouver and Seattle, Washington

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Report at 1230, Friday, June 01, 1984

Seismicity, deformation, tilt and gas emissions are at background levels.

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Report at 1230, Monday, June 04, 1984

Crews worked in the field on Friday. Seismicity, deformation, tilt and gas emissions are at background levels.

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Report at 0930, Tuesday, June 05, 1984

Rain and clouds prevented crews from reaching the mountain yesterday. Seismicity, deformation, tilt and gas emissions are at background levels.

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Report at 0830, Wednesday, June 06, 1984

Rain and clouds prevented crews from working in the crater yesterday. Seismicity, deformation, tilt and gas emissions are at background levels. At 0351 this morning a gas and ash emission occurred sending a plume to approximately 20,000.

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Report at 0930, Thursday, June 07, 1984

Crews were in the crater, yesterday. Deformation, seismicity, tilt and gas emissions remain at background levels.

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Report at 1815 PDT, Thursday, June 07, 1984

Another in the series of small explosions and mudflows that started at Mount St. Helens on May 14 began at 5:20 p. m. PDT today. Reports from pilots in the area suggested an ashy plume

to about 30,000 feet altitude, and observers at the Spirit Lake pump station confirmed increased water flow from the crater at about 5:40 p. m., which reached Spirit Lake at 6:02 p. m. The crater is currently obscured by clouds, so details of the event are unknown at this time. However, seismic signals generated by today's event suggest that it was smaller than the May 14 avalanche and mudflow. We do not anticipate any increased hazards from water flow or ashfall beyond the immediate vicinity of the crater.

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Report at 0730, Friday, June 08, 1984

Crews were unable to work in the field yesterday due to rain and low clouds. Deformation, seismicity, tilt and gas emissions remain at background levels.

Weather conditions are preventing crews from reaching the mountain this morning.

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Report at 0930, Monday, June 11, 1984

Crews worked in the field over the weekend. Deformation, seismicity, tilt and gas emissions remain at background levels.

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Report at 0930, Tuesday, June 12, 1984

Deformation, seismicity, tilt and gas emissions remain at background levels.

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Report at 0830, Wednesday, June 13, 1984

Deformation, seismicity, tilt and gas emissions remain at background levels.

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Report at 1030, Thursday, June 14, 1984

Deformation, seismicity, tilt and gas emissions remain at background levels.

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Report at 1030, Friday, June 15, 1984

Deformation, seismicity, tilt and gas emissions remain at background levels.

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Report at 1030, Monday, June 18, 1984

Deformation and seismicity increased slightly late last week and over the weekend, however levels were still low enough to be considered background. Tilt and gas emissions also remained at background level.

During a night observation flight (fixed-wing) Sunday at 10 PM crews spotted what appeared to be a new lobe growing in the slot on the west side of the dome. The glowing patterns which indicate a new lobe, were not present during the Thursday night flight. Deformation crews confirmed the lobe this morning while on a helicopter flight around the dome. The lobe is as wide as the slot and has a typical "spreading center" feature in the center. The axis of the spreading center is oriented N-S.

The following Advisory was issued this morning.

MOUNT ST. HELENS  
VOLCANO ADVISORY

JUNE 18, 1984  
0920 HRS PDT

A new lobe is growing on the west side of the lava dome, within a notch that formed during the small explosion of May 14, 1984. Lava extrusion began after relatively small increases in seismicity and ground deformation.

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Report at 0930, Tuesday June 19, 1984

Crews worked in the crater yesterday measuring deformation of the dome and changes in the new lobe. Deformation rates have increased. Seismicity has increase to slightly elevated levels. Gas emission levels also increased yesterday.

Measurements yesterday, observations made during the night-flight yesterday and during the first helicopter flight this morning indicate that the lobe is continuing to grow.

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Report at 1130, Wednesday June 20, 1984

Crews worked in the crater yesterday measuring deformation of the dome and changes in the new lobe. Deformation rates have increased. Seismicity remains at slightly elevated levels which are mostly rockfall signals. Gas emission levels remain elevated.

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Report at 1030, Thursday June 21, 1984

Unfavorable weather conditions kept deformation crews out of the crater yesterday.

Seismicity remains at slightly elevated levels which are mostly rockfall signals, gas emission levels remain elevated, and the advisory issued on June 18 remains in effect.

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Report at 0830, Friday June 22, 1984

Unfavorable weather conditions kept crews out of the field yesterday. Clear conditions are allowing crews into the crater today. First reports this morning indicate that the new lobe is continuing to grow.

Seismicity remains at slightly elevated levels. Deformation and gas emission levels have not been measured for several days. When last measured they were both elevated.

The advisory issued on June 18 remains in effect.

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Report at 0900, Monday, June 25, 1984

Excellent weather conditions allowed crews to work in the crater both Friday and Saturday. Seismicity and gas emissions remain slightly elevated. Growth of the new lobe slowed and deformation of the north side of the dome accelerated slightly.

The advisory issued on June 18 remains in effect.

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Report at 1030, Tuesday, June 26, 1984

Excellent weather conditions allowed crews to work in the crater yesterday. Seismicity, deformation and gas emissions remain slightly elevated. Growth of the new lobe slowed.

The advisory issued on June 18 remains in effect.

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Report at 0830, Wednesday, June 27, 1984

Poor weather conditions prevented crews from working in the crater yesterday. Seismicity remains slightly elevated. Gas emissions were measured last Saturday and were slightly elevated.

The advisory issued on June 18 remains in effect.

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Report at 1130, Thursday, June 28, 1984

Poor weather conditions prevented crews from working in the crater yesterday. Seismicity remains slightly elevated, most signals being produced by rockfalls. Gas emissions were measured last Saturday and were slightly elevated.

The advisory issued on June 18 remains in effect.

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Report at 0930, Friday, June 29, 1984

Poor weather conditions prevented crews from working in the crater yesterday. Seismicity remains slightly elevated, most signals being produced by rockfalls. Gas emissions were measured last Saturday and were slightly elevated. Deformation was measured on Monday and rates were slightly elevated.

The advisory issued on June 18 remains in effect.

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**JULY 1984****VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
Vancouver and Seattle, Washington

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Report at 0900, Monday, July 02, 1984

Poor weather conditions prevented crews from working in the crater on Friday. Crews were able to work in the crater on Saturday and Sunday. Seismicity has increased - seismic energy release at SHW remains at "slightly elevated"; however earthquake counts on YEL are elevated. Deformation rates have accelerated and gas emissions are at slightly elevated.

The advisory issued on June 18 remains in effect.

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Report at 0900, Tuesday, July 03, 1984

Crews worked in the field yesterday. Seismic energy release at the SHW seismic station (west flank of Mount St. Helens) remains at a "slightly elevated" level; however earthquake counts at the YEL seismic station (in the crater) are elevated. Deformation rates on the north flank of the dome are also elevated and large rockfalls from the north and northwest flank of the dome are quite common. The gas emission level is slightly elevated.

The lava extrusion that began on June 17 has now stopped, but seismicity and swelling of the north flank of the dome indicate that internal dome growth is continuing.

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Report at 0930, Thursday July 05, 1984

Seismic energy release at the SHW seismic station (west flank of Mount St. Helens) remains at a "slightly elevated" level. Earthquake counts at the YEL seismic station (in the crater) have decreased from their July 1 high. When last measured (July 2) deformation rates on the north flank of the dome were also elevated. The gas emission level is slightly elevated.

The lava extrusion that began on June 17 has now stopped, but seismicity and swelling of the north flank of the dome indicate that internal dome growth is continuing.

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Report at 1130, Friday July 06, 1984

Seismicity remains at a "slightly elevated" level. The frequency of very small earthquakes in the crater has decreased from the July 1 high. When last measured (July 2) deformation rates on the north flank of the dome were elevated. The gas emission level is slightly elevated.

The lava extrusion that began on June 17 has now stopped. However the June 18 advisory remains in effect since seismicity and swelling of the north flank of the dome indicate that internal dome growth is continuing.

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Report at 0930, Monday, July 09, 1984

Seismicity remains at a "slightly elevated" level. The frequency of very small earthquake in the crater has decreased from the July 1 high. Deformation rates (last measured on July 6) on the north flank of the dome have slowed; however the rates are not down to background level. Gas emissions have returned to background level.

The lava extrusion that began on June 17 has now stopped. However the June 18 advisory remains in effect since seismicity and swelling of the north flank of the dome indicate that internal dome growth is continuing.

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Report at 1000, Tuesday, July 10, 1984

Seismicity remains at a "slightly elevated" level. Deformation rates (last measured on July 9) have almost returned to background level. Gas emissions have returned to background level.

Based on measurements over the past few days the following statement was issued this morning.

MOUNT ST. HELENS  
ADVISORY CANCELLATION

JULY 10, 1984  
1000 PDT

The episode of dome growth that began on June 17 has ended. Lava extrusion occurred from June 17 to about the end of June; internal dome growth began in late June, peaked on or about July 1, and has gradually slowed since that date. Gas and ash emissions and small rockfalls from the dome and crater walls are likely to continue, but pose few hazards outside the crater.

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Report at 0900, Wednesday, July 11, 1984

Seismicity remains at a "slightly elevated" level. Deformation rates (last measured on July 9) have almost returned to background level. Gas emissions have returned to background level.

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Report at 0930, Thursday, July 12, 1984

Crews were in the crater, yesterday. Seismicity remains at a "slightly elevated" level. Deformation rates are returning toward background levels. Gas emissions remain at background

level.

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Report at 0845, Friday, July 13, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0830, Monday, July 16, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 1100, Tuesday, July 17, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0800, Wednesday, July 18, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 1000, Friday, July 20, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0800, Monday, July 23, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0800, Tuesday July 24, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 1200, Wednesday July 25, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 1600, Friday July 27, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0800, Monday July 30, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0900, Tuesday, July 31, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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**AUGUST 1984****VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
Vancouver and Seattle, Washington

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Report at 0900, Wednesday, August 1, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 1000, Friday, August 3, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0930, Monday, August 6, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 1030, Tuesday, August 7, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0900, Wednesday, August 8, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0830, Thursday, August 9, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0830, Friday, August 10, 1984



Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0900, Monday, August 13, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 1030, Tuesday, August 14, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0730, Wednesday, August 15, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 1030, Friday, August 17, 1984

Seismicity, gas emissions, tilt, and deformation rates are at background levels.

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Report at 0830, Monday, August 20, 1984

Gas emissions, tilt, and deformation rates are at background levels. Seismicity has increased to slightly elevated.

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Report at 0930, Tuesday, August 21, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated. Deformation rates have also increased slightly.

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Report at 0800, Wednesday, August 22, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated. Deformation rates, last measured Monday, have also increased slightly.

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Report at 0900, Thursday, August 23, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated.  
Deformation rates on the north side of the dome have also increased slightly.  
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Report at 1000, Friday, August 24, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated.  
Deformation rates on the north side of the dome have also increased slightly.  
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Report at 1000, Monday, August 27, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated.  
Deformation rates on the north side of the dome have also increased slightly.  
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Report at 1000, Tuesday, August 28, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated.  
Deformation rates on the north side of the dome increased slightly last week.

High winds prevented crews from working in the crater yesterday.  
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Report at 0830, Wednesday, August 29, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated.  
Deformation rates on the north side of the dome continue to increase slightly.  
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Report at 1200, Thursday, August 30, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated.  
Deformation rates on the north side of the dome continue to increase slightly.  
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Report at 1200, Friday, August 31, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated. Deformation rates on the north side of the dome are also slightly elevated.

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**SEPTEMBER 1984****VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
 Vancouver and Seattle, Washington

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Report at 0845, Tuesday, September 4, 1984

Gas emissions and tilt are at background levels. Seismicity is slightly elevated. Deformation rates on the north side of the dome are continuing to increase.

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Report at 1000, Tuesday, September 5, 1984

Tilt is at background levels. Gas emissions and seismicity are slightly elevated. Deformation rates on the north side of the dome are continuing to increase. Based on measurements over the past week the following extended outlook advisory was issued today.

**MOUNT ST. HELENS  
 EXTENDED OUTLOOK ADVISORY**

**SEPTEMBER 5, 1984**

Seismicity, deformation of the crater floor and lava dome, and SO<sub>2</sub> gas emission are increasing slowly at Mount St. Helens. The pattern of activity through yesterday is similar to the pattern observed one to two weeks before previous episodes of rapid dome growth. Thus if current trends continue, rapid dome growth (internal growth, possibly accompanied by lava extrusion) is likely within two weeks. As in previous episodes of dome growth, small explosions are possible but no large explosion is suggested.

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Report at 0930, Thursday, September 6, 1984

Tilt is at background levels. Gas emissions and seismicity are slightly elevated. Deformation rates on the north side of the dome are continuing to increase. The advisory issued September 5 remains in effect.

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Report at 0930, Friday, September 7, 1984

Tilt is at background levels. Gas emissions and seismicity are slightly elevated. Deformation rates on the north side of the dome were continuing to increase when last measured on Wednesday, September 5. The advisory issued September 5 remains in effect.

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Updated Report at 1040, Friday, September 7, 1984

At 1030 this morning the following advisory was issued.

MOUNT ST. HELENS  
VOLCANO ADVISORY

SEPTEMBER 7, 1984  
10:30 AM

The numbers of small earthquakes and rockfalls in the crater of Mount St. Helens have climbed to levels comparable to those observed during previous periods of very rapid dome growth. The latest deformation measurements, made on Wednesday morning, showed rapidly accelerating deformation of the north side of the dome. Weather is preventing field observations, but the evidence on hand suggests rapid dome expansion or extrusion at this time.

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Report at 0930, Monday, September 10, 1984

Crews worked in the crater on Saturday and Sunday. Based on field observations and telemetry the following advisory was issued Sunday morning.

MOUNT ST. HELENS  
VOLCANO ADVISORY

SEPTEMBER 9, 1984  
9:30 AM

The number of rockfalls and small earthquakes in the crater of Mount St. Helens increased sharply last night (Sept. 8-9). Observers in the crater on Saturday afternoon (Sept. 8) found accelerating deformation but no new lava extrusion as of that time. Glowing cracks in the dome, observed last night, also indicate significant deformation of the top and north side of the dome. Similar rapid growth of the north side of the dome in late March 1984 led to a landslide from the dome, and such landslides can trigger small explosions. Hazards now, as then, are largely restricted to the crater.

Seismicity and deformation continued to increase on Sunday. Crews on the night observation flights confirmed almost continuous incandescent rockfalls from the north and northwest sides of the dome. These rockfalls traveled only a few tens of meters beyond the base of the dome

Crews will be working in and around the crater today if conditions permit.

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Report at 0945, Tuesday, September 11, 1984

Crews worked in the crater yesterday. Based on field observations and measurements and telemetry the following advisory was issued this morning

MOUNT ST. HELENS  
VOLCANO ADVISORY UPDATE

SEPTEMBER 11, 1984  
9:30 AM PDT

The northern part of the lava dome has grown substantially, by internal expansion. Growth was especially rapid late Sunday night and early Monday morning. Since that time, the rate of dome growth has slowed. However, slower dome growth continues, so rockfalls are likely to continue for at least several days. A large collapse is less likely now than it was during the most rapid internal expansion of the dome, but such collapse remains possible as long as the dome continues to grow.

Seismicity has decreased from "very high" to "high" levels. Weather conditions at Mount St. Helens are poor at this time, if conditions improve deformation and gas measurements will be made.

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Report at 1030, Wednesday, September 12, 1984

Seismicity has decreased to moderate level. Crews in the crater yesterday reported a dramatic decrease in rockfalls and felt earthquakes. Deformation rates are continuing to slow. The advisory update issued on September 11 remains in effect.

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Report at 0800, Thursday, September 13, 1984

Crews were able to work in the crater yesterday. Deformation rates continued to decrease. Rockfall activity and earthquakes have decreased significantly. Gas emission levels have also decreased.

Crater crews reported a new lobe growing high on the northwest side of the dome (on the highly disrupted north portion of the June lobe). The lobe is quite large and has probably been growing for several days.

The following advisory update was issued yesterday.

MOUNT ST. HELENS  
VOLCANO ADVISORY UPDATE

SEPTEMBER 12, 1984  
1:00 PM PDT

A new extrusion (lobe) has been sighted high on the northwest side of the lava dome. Lava that had intruded into the northern part of the dome, and caused remarkably rapid internal dome growth, has finally leaked onto the surface. Lava extrusion supports the previous assessment of declining hazards at Mount St. Helens provided that no additional lava is intruded into the dome.

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Report at 0900, Friday, September 14, 1984

Deformation rates and seismicity have returned to background levels. Gas emissions have decreased to "slightly elevated". The September 12 advisory update remains in effect.

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Report at 1430, Friday, September 14, 1984

Deformation rates and seismicity have returned to background levels. Gas emissions have decreased to "slightly elevated".

The following advisory cancellation was issued at 1400 today.

MOUNT ST. HELENS  
ADVISORY CANCELLATION

SEPTEMBER 14, 1984  
2:00 PM

The latest episode of dome growth at Mount St. Helens has ended, the volcano is quiet at this time, and the advisory of September 9 is cancelled.

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Report at 1400, Monday, September 17, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 0830, Tuesday, September 18, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 1300, Wednesday, September 19, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 0900, Friday, September 21, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 0900, Monday, September 24, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 0900, Tuesday, September 25, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 0900, Wednesday, September 26, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 0830, Friday, September 28, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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**OCTOBER 1984****VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
Vancouver and Seattle, Washington

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Report at 1030, Monday, October 01, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 1030, Tuesday, October 02, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 0900, Wednesday, October 03, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 0900, Thursday, October 04, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 1200, Friday, October 05, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 0930, Tuesday, October 09, 1984

Deformation rates and seismicity are at background levels. Gas emissions are slightly elevated.

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Report at 1145, Wednesday, October 10, 1984

Seismicity remains at background level. Stormy weather has kept crews away from the crater.

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Report at 0900, Thursday, October 11, 1984

Seismicity remains at background level. Stormy weather has kept crews away from the crater. Deformation and gas emissions remain at background levels.

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Report at 0900, Friday, October 12, 1984

Seismicity remains at background level. Stormy weather has kept crews away from the crater. Deformation and gas emissions remain at background levels.

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Report at 1000, Tuesday, October 16, 1984

Seismicity remains at background level. Deformation and gas emissions remain at background levels.

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Report at 0930, Wednesday, October 17, 1984

Seismicity remains at background level. Deformation and gas emissions remain at background levels.

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Report at 0930, Friday, October 19, 1984

Seismicity, deformation and gas emissions remain at background levels.

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Report at 0930, Monday, October 22, 1984

Seismicity, deformation and gas emissions remain at background levels.

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Report at 1430, Tuesday October 23, 1984

Seismicity, deformation and gas emissions remain at background levels

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Report at 0930, Wednesday October 24, 1984

Seismicity, deformation and gas emissions remain at background levels:

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Report at 1130, Thursday, October 25, 1984

Seismicity, deformation and gas emissions remain at background levels.

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Report at 0730, Friday, October 26, 1984

Seismicity, deformation and gas emissions remain at background levels.

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Report at 0830, Monday, October 29, 1984

Seismicity remains at background level. Deformation and gas emission levels were at background last week. Snow storms have prevented crews from working in the field for the last 4 days.

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Report at 0900, Wednesday, October 31, 1984

Seismicity remains at background level. Deformation and gas emission levels were at background last week. Snow storms have prevented crews from working in the field for the last 6 days.

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## NOVEMBER 1984

### VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS

U.S. Geological Survey and University of Washington  
Vancouver and Seattle, Washington

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Report at 1100, Thursday, November 1, 1984

Seismicity and deformation remain at background level. Sulphur dioxide gas emission levels continue to be slightly elevated above background since September.

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Report at 0900, Friday, November 2, 1984

Seismicity and deformation remain at background level. Sulphur dioxide gas emission levels continue to be slightly elevated above background since September.

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Report at 0900, Monday, November 5, 1984

Seismicity and deformation remain at background level. Sulphur dioxide gas emission levels continue to be slightly elevated above background since September.

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Tuesday, November 6, 1984

Seismicity and deformation remain at background level. The gas emission level is slightly elevated.

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Report at 0900, Wednesday, November 7, 1984

Seismicity and deformation remain at background level. The gas emission level is slightly elevated.

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Report at 1000, Thursday, November 8, 1984

Seismicity and deformation remain at background level. The gas emission level is slightly elevated. Unfavorable weather conditions continue to keep crews out of the crater.

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 Report at 1000, Friday, November 9, 1984

Seismicity and deformation remain at background level. The gas emission level is slightly elevated. Unfavorable weather conditions continue to keep crews out of the crater.  
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Report at 0900, Tuesday, November 13, 1984

Seismicity and deformation remain at background level. The gas emission level is slightly elevated. Unfavorable weather conditions continue to keep crews out of the crater.  
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Report at 0900, Wednesday, November 14, 1984

Seismicity and deformation remain at background level. The gas emission level is slightly elevated. Unfavorable weather conditions continue to keep crews out of the crater.  
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Report at 0900, Thursday, November 15, 1984

Seismicity and deformation remain at background level, and likewise the gas emission level has returned to background. Improved weather conditions enabled crews to continue their tasks in the crater yesterday.  
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Report at 1030, Friday, November 16, 1984

Seismicity deformation and gas emissions are at background level. No. 904  
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Report at 1200, Monday, November 19, 1984

Seismicity deformation and gas emissions are at background level.  
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Report at 0900, Wednesday, November 21, 1984

Seismicity, deformation and gas emissions are at background level.

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Report at 0900, Monday, November 26, 1984

Seismicity, deformation and gas emissions are at background level. No. 907

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Report at 0900, Tuesday, November 27, 1984

Seismicity, deformation and gas emissions are at background level. No. 908

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Report at 0930, Wednesday, November 28, 1984

Seismicity, deformation and gas emissions are at background level. Inclement weather prevented crews from working in the crater yesterday.

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Report at 0930, Thursday, November 29, 1984

Seismicity, deformation and gas emissions are at background level. Inclement weather prevented crews from working in the crater yesterday.

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Report at 0930, Friday, November 30, 1984

Seismicity, deformation and gas emissions are at background level. Inclement weather prevented crews from working in the crater yesterday.

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**DECEMBER 1984****VOLCANIC AND SEISMIC ACTIVITY AT MOUNT ST. HELENS**

U.S. Geological Survey and University of Washington  
 Vancouver and Seattle, Washington

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Report at 0930, Monday, December 03, 1984

Seismicity, deformation and gas emissions are at background level. Crews were able to work in the crater over the weekend.

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Report at 0800, Wednesday, December 05, 1984

Seismicity, deformation and gas emissions are at background level. No. 913

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Report at 1000, Thursday, December 06, 1984

Seismicity, deformation and gas emissions are at background level.

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Report at 1000, Friday, December 07, 1984

Seismicity, deformation and gas emissions are at background level.

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Report at 1300, Wednesday, December 10, 1984

Seismicity, deformation and gas emissions are at background level. No. 916

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Report at 1000, Tuesday, December 11, 1984

Seismicity, deformation and gas emissions are at background level.

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Report at 0800, Wednesday, December 12, 1984

Seismicity, deformation and gas emissions are at background level. No. 918

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Report at 0930, Thursday, December 13, 1984

Seismicity, deformation and gas emissions are at background level.

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Report at 0800, Friday, December 14, 1984

Seismicity, deformation and gas emissions are at background level. No. 920

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Report at 1200, Monday, December 17, 1984

Poor weather conditions continue to prevent crews from working in the crater. When last measured, deformation rates were at background. Gas emissions and seismicity are also at background level.

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Report at 0800, Tuesday, December 18, 1984

Weather conditions prevented crews from working at Mount St. Helens yesterday, however a clearing trend may permit access to the crater today. Deformation, seismicity and gas emissions were at background level when last measured.

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Report at 0900, Wednesday, December 19, 1984

Crews were able to work in the crater yesterday and will probably be able to work in the crater again today. Deformation, seismicity and gas emissions are at background level.

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Report at 1200, Thursday, December 20, 1984

Crews were able to work in the crater yesterday. Deformation, seismicity and gas emissions are at background level.

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Report at 0800, Wednesday, December 26, 1984

Deformation, seismicity and gas emissions are at background level. No. 925

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Report at 0730, Thursday, December 27, 1984

Inclement weather has kept crews from the crater for the past seven days but deformation, seismicity and gas emissions appear to be at background levels.

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Report at 1000, Friday, December 28, 1984

Seismicity remains at background level. Deformation rates were background when last measured (on Dec 19). Inclement weather and equipment problems have prevented SO<sub>2</sub> measurements since Dec 5. SO<sub>2</sub> levels measured on the 5th were background.

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Report at 0945, Monday, December 31, 1984

Seismicity remains at background level. Deformation rates were background when last measured (on Dec 19). Inclement weather and equipment problems have prevented SO<sub>2</sub> measurements since Dec 5. SO<sub>2</sub> levels measured on the 5th were background.

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