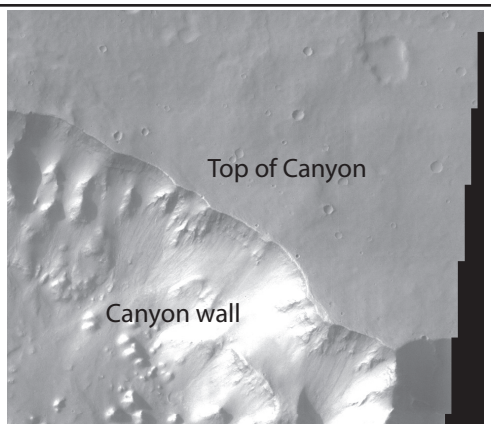
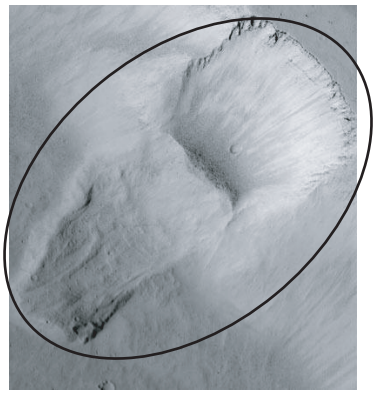
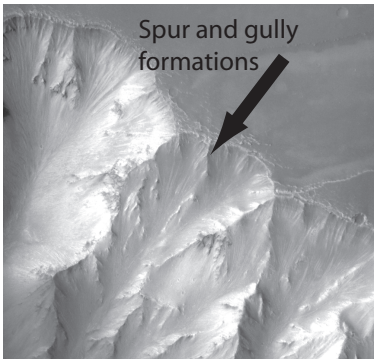
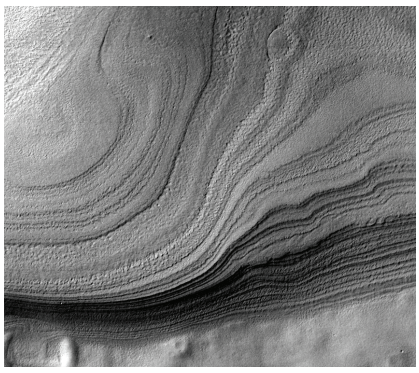
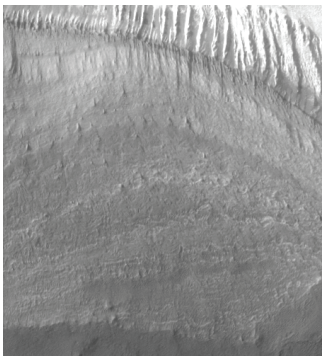
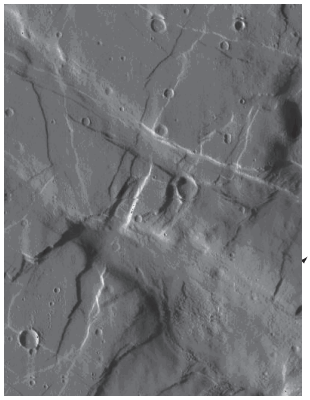
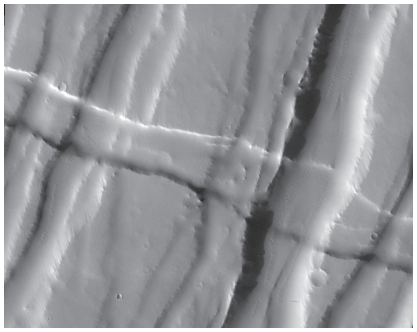
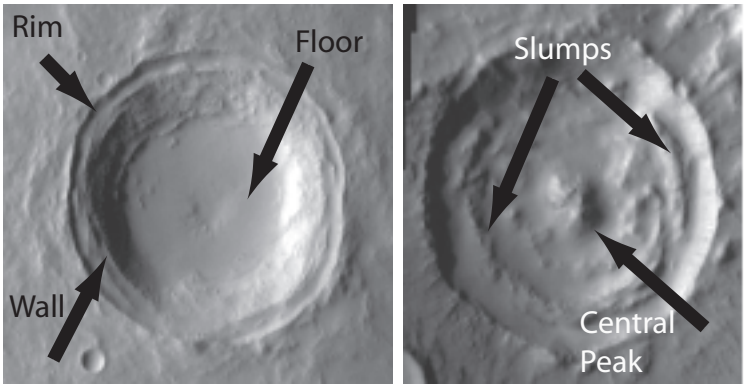
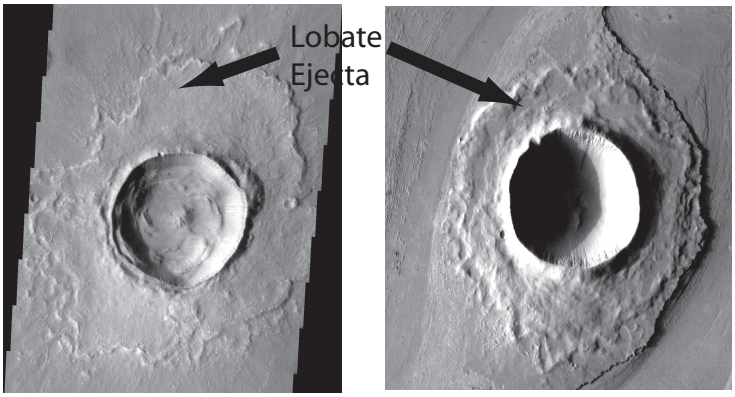
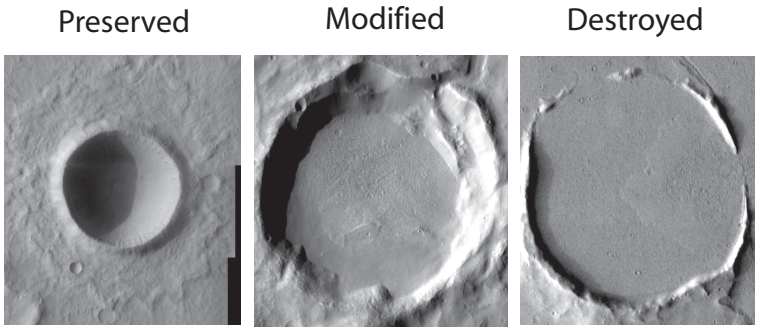
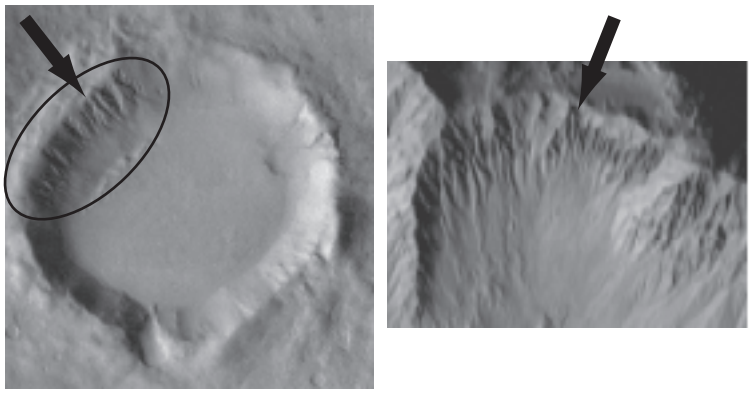
FEATURE IDENTIFICATION CHART

Features Often Associated with Canyons

Feature	An Example of this Feature	Description of Feature
Canyons		-Identified by a steep drop in elevation, similar to what we see with canyons on Earth -Canyon walls often show material that has fallen or slid down slope -Top of canyon is generally flat and smooth
Landslides	 	-Material that has fallen or slid down a steep slope -Landslide material piles up at the bottom of slope -Often seen on steep canyon walls -Spur and gully formations are landslides that look similar to gullies that can be seen on crater walls
Layers	 	-Layers of material can be seen in different areas of Mars, including canyon walls -May be formed by stacks of lava flows, ash from volcanoes, dust, or by sediments deposited in water
Fractures/Faults	 	-The result of a break in the surface -Thought to be a result of weaknesses in the crust -Generally straight features that scar the surface -Often run parallel in areas where multiple fractures occur

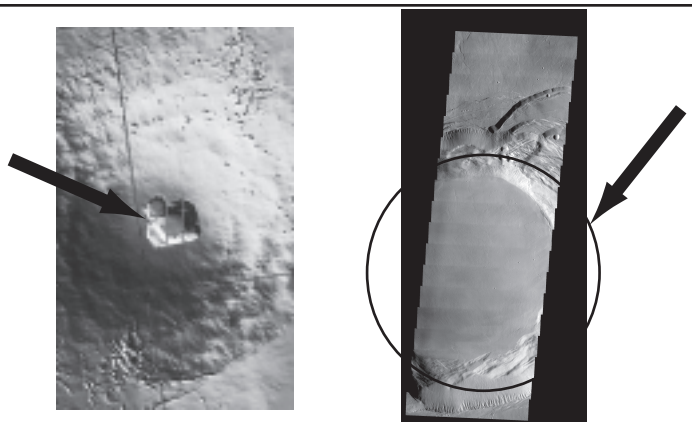
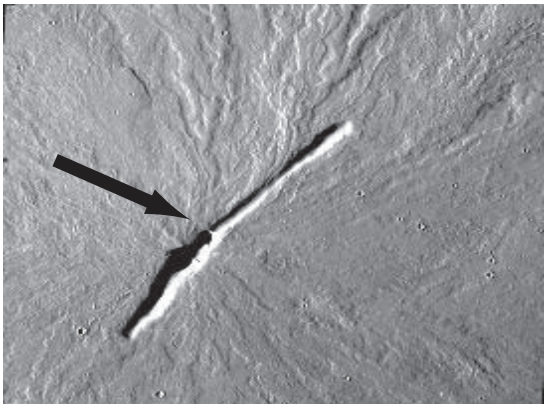
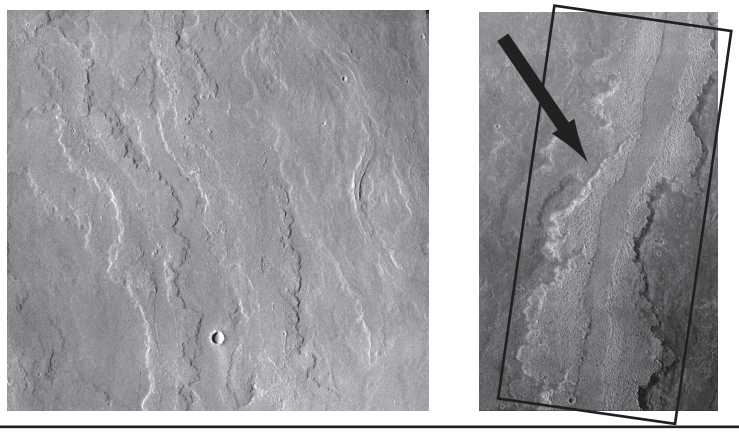
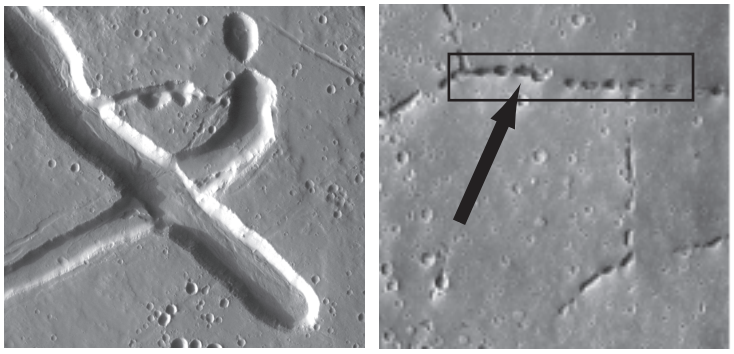
FEATURE IDENTIFICATION CHART

Features Often Associated with Craters

Feature	An Example of this Feature	Description of Feature
Crater		-Formed by meteorites striking the surface -Circular in shape -Have a rim, floor, and walls -Some have central peaks -Material can slump down to the bottom of the crater
Rampart Crater		-Have a special ejecta called lobate -Lobate ejecta looks like it flowed away from the crater (as if you dropped a ball into mud) -Are associated with liquid water or ice being below the surface at impact
Crater Classifications: Preserved Modified Destroyed		**Preserved Craters:** -Near perfect craters -Raised rims; look new **Modified Craters:** -Older craters -Changed by erosion or other impacts **Destroyed Craters:** -Very old -Look very worn away
Gullies		-Often found on crater walls or other slopes -Appear to be very young -Possibly associated with: 1. Past liquid water 2. Areas once covered with snow

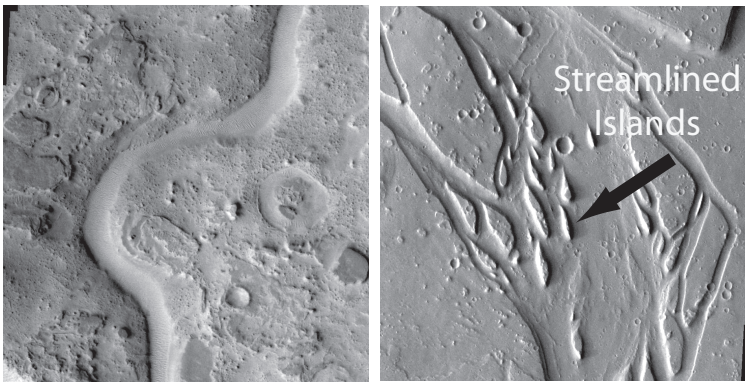
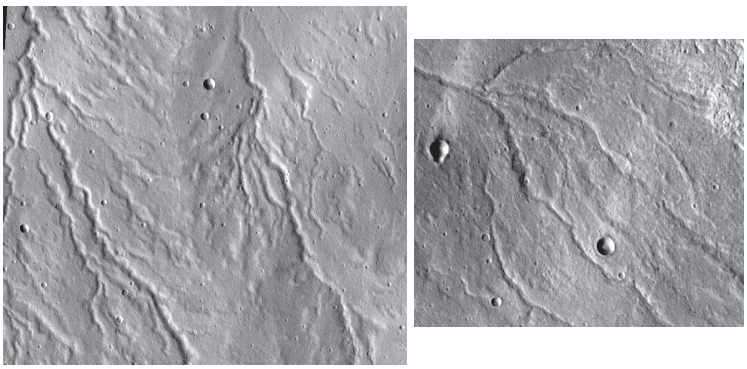
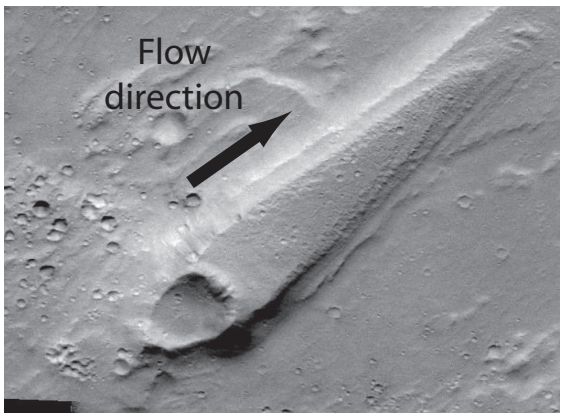
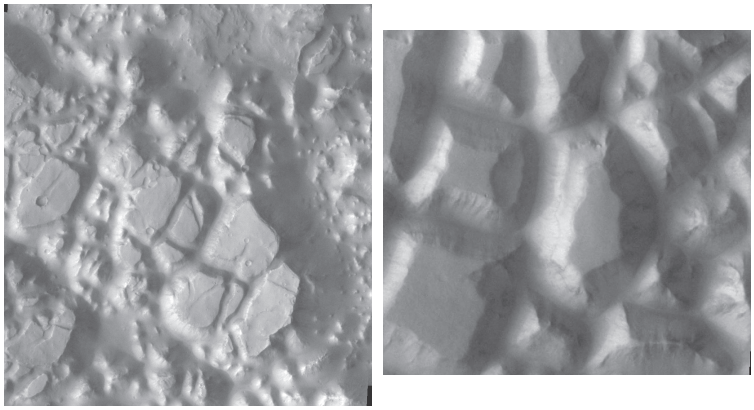
FEATURE IDENTIFICATION CHART

Features Often Associated with Volcanoes

Feature	An Example of this Feature	Description of Feature
Caldera		-A circular depression generally at the summit of a volcano -Considered a collapsed feature (magma comes up through a chamber and once the chamber is empty, collapse can occur) -Sometimes called a central vent
Fissures		-Cracks that are found sometimes on the sides of volcanoes -Lava flows can be seen trailing away from these cracks, indicating a fissure eruption
Lava Flows		-Formed by the eruption and flow of lava from a volcano -Flows can look "wavy" or “fingery” -You can often identify multiple lava flows in an image -Flows are raised features
Collapsed Lava Tubes		-Look similar to channels -Lava once flowed under ground through a “tunnel” and once the tunnel is empty these features often collapse -Some aren’t completely collapsed and look like a chain of small craters

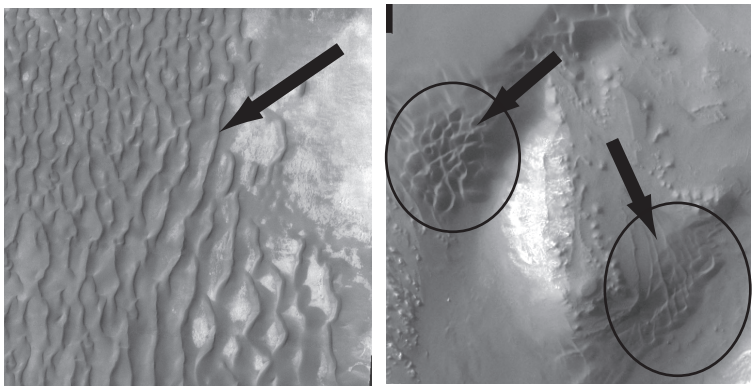
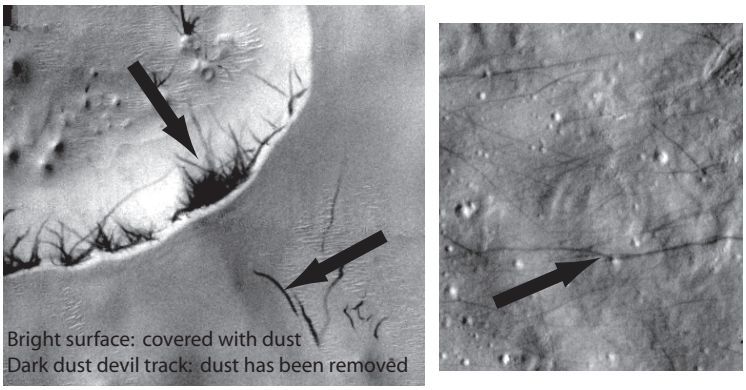
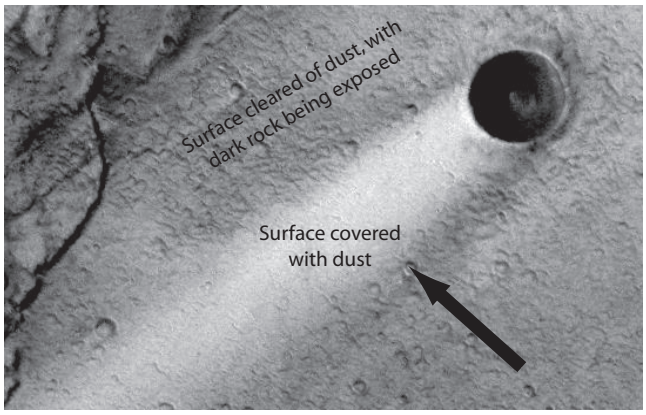
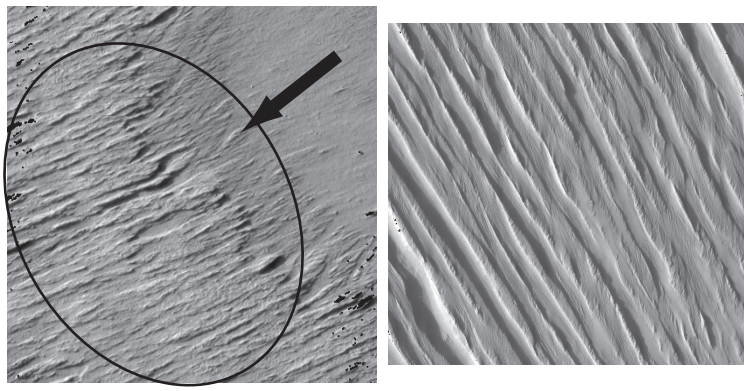
FEATURE IDENTIFICATION CHART

Features Often Associated with Water-Related (Fluvial) Processes

Feature	An Example of this Feature	Description of Feature
Channels		-Large channels are thought to have formed by a catastrophic flow of water -Seem to form curvy "river-like" features -May have streamlined islands
Valley Networks		-Small channels -Generally formed by flow of water in the past -May have numerous branches that start small and feed into larger branches
Streamlined Islands		-Thought to be associated with the past flow of water around a feature, such as a crater -Often found in large channels where large amounts of water flowed -Indicate flow direction -Also called teardrop islands
Chaotic Terrain		-Often found at the head or start of large channels -Thought to be areas where water burst out from the ground causing a chaotic collapse of the surface -Can look like jumbled terrain

FEATURE IDENTIFICATION CHART

Features Often Associated with Wind-Related (Aeolian) Processes

Feature	An Example of this Feature	Description of Feature
Sand Dunes		-Can form in many areas -Often seen in the bottom of craters or channels -Generally darker than the surrounding terrain -Can range in size and shape -Look like ripples of material
Dust Devil Tracks		-Left by dust devils (mini-tornadoes) moving through an area -Dust devils pick up dust uncovering the darker surface underneath -Darker tracks are newer -Lighter tracks tend to be older, as they could have been recovered by some dust
Wind Streaks		-Can be light or dark -Are often seen behind craters -Can give you an idea of wind direction
Yardangs		-Formed by sand-sized particles being blown against a surface wearing it away -Have a uniform direction -Are linear features -Found on surfaces that erode easily