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Title : Science course unit 25.
(Clock title: Continents)

Contributors : M.J. Pentz (introduction)
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Producer: Nat Taylor

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Form VTR
538.72
551.46084
1st TX: 18.7.1971

Seq.	Time	Footage	Sequence List	Sound Cue
			Pentz introduces the unit. He explains that it will examine the magnetic patterns of the ocean floor.	
			Pentz explains the method used to take magnetic anomaly readings on the ocean floor.	
	1'01"		Shots of an oceanographic research vessel at sea.	
1.			Shots of magnetometer being prepared on board ship and dropped overboard inside a drogue.	538.78 538.79028
			Underwater shots of drogue being towed behind the ship. Shots of magnetometer readings being recorded.	
	1'48"			here is Dr. Smith
			P.J. Smith with a chart of the west coast of Canada and the U.S. The chart shows the magnetic anomalies on the ocean floor in this area.	Well, one of the... 551.4653 Smith, Peter J.
	2'44"			
			Smith with a chart of the Reykjanes Ridge area of the Atlantic, south of Iceland. The chart shows the magnetic anomalies on the ocean floor. Smith discusses the pattern of the anomalies.	551.46131
2.	4'10"			
			Smith with his dynamic model of an ocean ridge which shows how the magnetic anomalies occur. He explains, then demonstrates the process with the model.	551.460840184
	5'35"			
			Smith explains how ocean floor rocks can be dated and how the ocean floor spreading rate can be calculated.	
	6'25"			sea floor spreading
				We have here ....

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3.	7'48"		I. Gass with a chart of the north and south Atlantic oceans showing the Mid-Atlantic ridge. He points out differences in distance from ridge to land masses on either side. These indicate a variety of spreading rates at different points of the ocean floor.	Gass, Ian 551.4613
	8'14"		I. Gass points out major breaks in the Mid-Atlantic ridge, (transform faults).	
	[redacted]'46"		I. Gass uses a transform fault model to illustrate what happens at these breaks in the ridge.	551.87
	11'05"		Animated diagram of 3 sections of ridge linked by 2 transform faults showing areas of seismic activity.	551.870184
4.	14'44"		Gass with globe on which areas of strong seismic activity are marked. He points out areas of no seismic activity and covers these with seismic plates.	so let's go from.... Gass, Ian
	16'21"		Gass speculates on the results of two seismic plates coming together. He takes two model plates and pushes them together to simulate a meeting of seismic plates: On first attempt plates meet, buckle and rise. On second attempt plates meet, buckle and one dives beneath the other.	551.4 551.130184
	20'21"		Animated diagram of earth's crust. East Pacific Rise, Mid-Atlantic Ridge, South America and Africa are shown. The diagram shows the possible result of the meeting of the East Pacific Rise and the continental mass of South America. In this case the East Pacific Rise plate dives beneath the continental plate creating an area of strong earthquake and volcanic activity.	551.4098 under the other

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5.	22'08"		I. Gass with a cut-away diagram of the earth. The diagram shows possible convective currents in the mantle which would be responsible for continental plate movement. Gass discusses the drawbacks to this theory. He gives another theory, also shown in the diagram, in which the convective area is confined to the low velocity layer.	Now, this is ... Gass, Ian 551.12
	22'47"		Shots of a laboratory simulation of convective currents within the earth. Convective plumes are seen to rise.	551.120184
	22'58"		Gass sums up the unit.	
	23'15"		Credits.	