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Core Lithology
Valles Caldera #1, New Mexico

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PREFACE

This document contains core-related geologic and geophysical information about VC-1, the first core hole drilled in the Valles caldera as part of the Continental Scientific Drilling Program (CSDP). The CSDP is a collaborative effort among the U.S. Department of Energy, the U.S. Geological Survey, and the National Science Foundation.

For more than two decades, workshops, panels, and studies concerned with the CSDP have consistently selected characterization of active magma-hydrothermal systems as a major objective. The Valles caldera has always been considered a prime site for research coring because of its size, youth, preservation, hydrothermal system, and extensive subsurface data base.

The attendees at one such workshop on core and sample curation formulated a set of recommendations on drilling targets and supporting science for shallow, intermediate, and deep wells. From these recommendations the general location of the first CSDP well, VC-1, was selected and a proposal prepared.

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by

J. N. Gardner, F. Goff, S. Goff, L. Maassen,
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ABSTRACT

Valles caldera #1 (VC-1) is the first Continental Scientific Drilling Program research core hole in the Valles caldera and the first continuously cored hole in the region. The hole penetrated 298 m of moat volcanics and caldera-fill ignimbrites, 35 m of volcaniclastic breccia, and 523 m of Paleozoic carbonates, sandstones, and shales with over 95% core recovery. The primary research objectives included coring through the youngest rhyolite flow within the caldera; obtaining structural and stratigraphic information near the intersection of the ring-fracture zone and the pre-caldera Jemez fault zone; and penetrating a high-temperature hydrothermal outflow plume near its source. This report presents a compilation of lithologic and geophysical logs and photographs of core that were collected while drilling VC-1. It is intended to be a reference tool for researchers interested in caldera processes and associated geologic phenomena.

I. INTRODUCTION

This report is a reference document and catalog for the core collected during the drilling of Valles Caldera #1 (VC-1) under the Continental Scientific Drilling Program (CSDP). It consists of a complete set of lithologic logs, geophysical logs, and photographs of all the core recovered from VC-1.

The core recovery record of over 95% will aid further research into the structure of the Valles caldera and the nature of the associated hydrothermal system. Low recovery in the upper 45 m of the well reflected the broken condition of the flow top of the Banco Bonito rhyolite, the youngest volcanic unit inside the caldera. Lower in the core hole, particularly in the Madera Limestone, core recovery per run was commonly 100%.

Core is protected under U.S. Department of Energy (DOE) curatorial guidelines and procedures (S. Goff 1986) and now resides in a permanent CSDP curatorial facility at the DOE Grand Junction Office in Colorado. Inquiries on the availability of samples should be addressed to R. D. Dayvault, Bendix Field Engineering Corp., Grand Junction Operations, Grand Junction, CO 81502-1569, (303)242-8621, ext. 535.

II. DRILLING HISTORY OF VC-1

Because of the widespread interest to drill the Valles caldera for the CSDP, a workshop was held in Los Alamos, New Mexico, in October 1982 to bring together interested parties from the government laboratories, the U.S. Geological Survey, universities, and industry (EOS 1983). A set of recommendations on drilling targets and supporting science was obtained for shallow, intermediate, and deep wells, and from these recommendations the general locations of shallow, intermediate, and deep boreholes were chosen. In late 1982, representatives of the Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory, Sandia National Laboratories, and Los Alamos National Laboratory met to formulate a "four-laboratory" proposal that would address specific scientific questions at Long Valley, Valles, and Salton Sea magma-hydrothermal systems by means of shallow drill holes (Eichelberger et al. 1983). It was at this meeting that Valles Caldera #1 was first conceptualized.

The submittal of the proposal for VC-1 was preceded by considerable discussion with the Union Oil Co., geothermal leaseholder of the Baca land grant, and with various coring companies to ensure that a feasible coring plan with sound scientific objectives was presented. The original objectives were to core down the vent of the youngest volcano inside the Valles caldera (Banco Bonito rhyolite, age 0.13 Ma) and to intersect any associated hydrothermal fluids in the southern ring-fracture zone.

After presentation and funding of the proposal in October 1983 by the U.S. DOE/Office of Basic Energy Sciences, negotiations and planning began in earnest. F. Goff, J. Rowley, and J. Gardner from Los Alamos coordinated negotiations, permits, subcontracts, environmental impact studies, and site

layout. During early 1984, the climate for coring on the Baca land grant became unfavorable because of sensitive relations between the Baca Land and Cattle Co. and Union Oil. In order to ensure the success of the CSDP at Valles, negotiations then ensued with the U.S. Forest Service on a second site, which would be used only if it was impossible to occupy the original site on a timely basis. This modification to the proposal was approved by the principal investigators and the funding agency in April 1984. By early June, the Baca Land and Cattle Co. was still unable to allow coring on their property; thus, planning focused on the second site.

Because the Banco Bonito vent could not be occupied, the primary objective of VC-1 shifted from coring down the throat of a young rhyolitic vent to penetration of a high-temperature hydrothermal outflow plume. The second VC-1 site (Fig. 1) optimized the potential for success in encountering the hydrothermal plume because it was located close to the intersection of the southwestern ring-fracture zone and the pre-caldera Jemez fault zone. Several investigators had postulated that geothermal fluids leaked out of the caldera along the Jemez fault zone (Trainer 1974; F. Goff et al. 1981; White et al. 1984). Additional objectives of VC-1 were to obtain structural and stratigraphic information at this intriguing tectonic intersection and to obtain continuous core through the caldera-related volcanics, particularly the young Banco Bonito rhyolite flow (EOS 1984a; Geotimes 1984).

During the various site negotiations, the tasks of subcontract preparation, DOE approval, competitive bid, and final award were pursued. To achieve the project goals at either site, continuous core was required from potentially complex intracaldera volcanic rocks and faulted pre-caldera rocks with the hope of encountering hot (>120°C) hydrothermal fluids. Of major technical importance was the need to procure a coring subcontractor with demonstrated experience in the use of blow-out preventers (BOP), high-temperature drilling muds and cements, and exploration-oriented rig operations (Rowley et al. 1987). The subcontract was awarded to Tonto Drilling Services Co. of Salt Lake City, Utah, after competitive bid and technical evaluation.

By June 1984, an on-site management team and well sitters were organized to oversee the coring operations. This group totaled about 20 people who were trained to clean, label, and box the core according to prescribed methods (S. Goff 1986) and instructed in standard and emergency

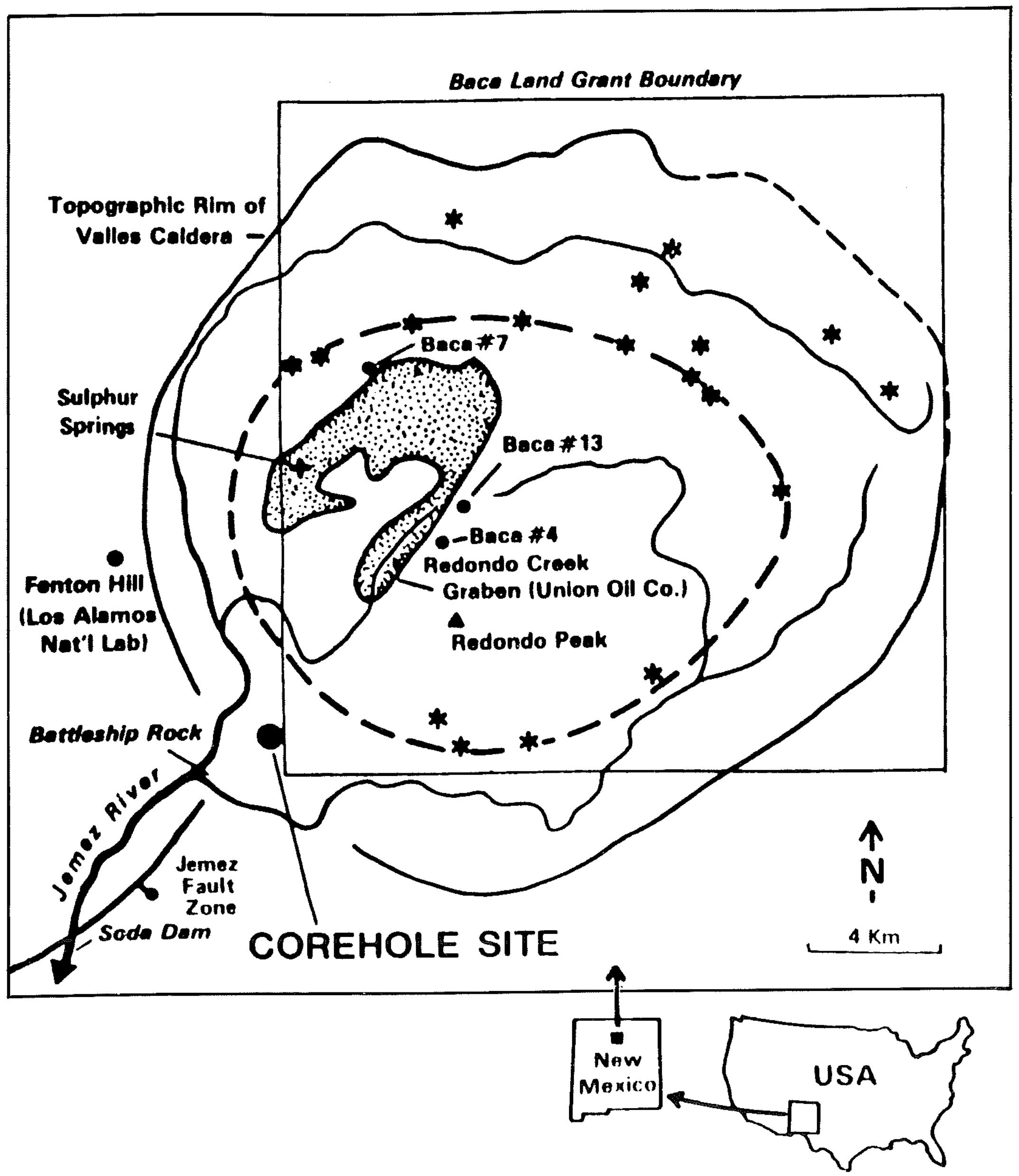

Fig. 1. Core hole site of VC-1 (modified from Dondanville 1978).

operating procedures. A specific site in a forested valley between two large pressure ridges on the Banco Bonito flow was agreed upon by the Forest Service and Los Alamos. Various regulations on road access, maintenance, and sanitation, as well as environmental restrictions and archeological limitations, were reviewed. After the site was laid out, a cellar was dug for the core hole, a trailer was hauled to the site for the convenience of the well sitters, a 10 000-gallon tank was set in place for the water supply, and all large trees were covered with protective planks. On July 31, 1984, the coring rig arrived and an ice-breaker meeting was held on-site involving all participating parties to review procedures and Forest Service regulations.

Thirty-five days later, on September 3, 1984, VC-1 was successfully cored (F. Goff et al. 1984, 1985, 1986; EOS 1984b; Geotimes 1985). The entire project took a little over two years, from formulating the concept to reporting preliminary results.

III. VC-1 OPERATIONS

A. Coring

Coring of VC-1 was a 24-hr/day, 7-day/week operation in which all crews worked 12-hr shifts. Coring operations as a function of depth and time are described in detail by Rowley et al. (1987). The original coring plan was based on a proposed depth of 650 m and a temperature of 120°C. The target depth was reached about 10 days ahead of schedule; the average advance rate was 25.9 m/day during the 33 days of rig operations.

After initial rotary drilling to 3 m, a surface conductor with 16.5-cm outer diameter (o.d.) was cemented in place below the cellar floor. Once the cement hardened and was drilled out, coring with an HQ bit (9.73-cm o.d.) commenced into very broken, pumiceous rhyolite on the top of the Banco Bonito flow. Circulation of fluids was lost immediately and never returned; thus, cuttings were never collected during the entire coring project. At 122-m depth, the hole was reamed to 14.3-cm diameter with a tricone bit in preparation for the first string of casing. An attempt was made to log the open hole, but a zone of caving (bridge) at 37 m prevented the logging tools from penetrating below this depth. A casing shoe was screwed onto the bottom of the 11.4-cm o.d. casing that was then used to ream through the bridge to total depth. This casing formed a solid structural tie for mounting the BOP and prevented drilling fluids from contaminating shallow warm aquifers known to circulate near the base of the Banco Bonito rhyolite (Goff and Grigsby 1982).

Once the first casing string was cemented and the BOP attached, HQ coring resumed through moat and caldera-fill volcanics at a rate of nearly 60 m/day. At 310-m depth, the core tube became stuck in the core barrel while coring through sticky clay in volcanic breccia. In order to free the core tube, an attempt was made to pull the coring string. The tube remained stuck in the hole at 275 m until it was finally fished from the core barrel with a special adapter fabricated on-site. The rods, however, remained firmly planted in the hole. Thus, a decision was made to cement in the HQ bit and rods and to continue coring with an NQ core bit (7.70-cm o.d.). Coring proceeded slowly with light bit pressure through the cement plug from 275 to 310 m to keep the bit from wandering out of the original hole. When the formation was tagged again at 310 m, operations ceased in order to repair the hydraulic ram on the main hoist of the rig that was damaged during fishing. These various delays totaled 5-1/2 days but resulted in a hole that was essentially cased from top to bottom.

Following rig repairs, NQ coring resumed through the volcanic sequence into red shales and sandstones of the Permian Abo Formation at 334 m. Identification of this contact was greeted with considerable apprehension because, from experience gained in the drilling of other wells around the region, clay horizons in the Abo were notorious for squeezing in on drill strings. To combat this problem, the drilling mud was modified to retard swelling of clays and the Abo was cored without any problems. Coring continued into Pennsylvanian Madera Limestone at 422 m, and oriented cores were taken at 473 to 477 m. These oriented cores were immediately placed into on-site devices that measured stresses and relaxation rates (Dey et al. 1984; Holcomb et al. 1984).

As coring continued through the Madera, temperature readings from a maximum-reading thermometer attached to the wireline overshot began to rise steadily. On night 21 of operations, the core of a limestone breccia cut with vuggy calcite veins (518 m) came out of the hole steaming. This indicated probable penetration of one of the aquifers in the top of the postulated hydrothermal plume leaking from the Valles caldera.

By day 23 of operations, the primary objectives of VC-1 had been satisfied. Because funds remained in the budget and the hole was coring

without difficulty, it was decided to continue NQ coring until (1) the project ran out of money, (2) the coring string got stuck, or (3) the core hole reached Precambrian basement. Based on the depth of the Abo-Madera contact in VC-1 and the known thickness of Madera Limestone in other wells of the region, the depth to Precambrian was estimated at 735 m. The lure of penetrating basement was great because a complete geologic section of core would be obtained and the core hole might enter a purely conductive thermal regime below the hydrothermal plume.

As coring passed the 760-m interval, still in Madera Limestone, the temperature rose steadily to roughly 140°C. At 808 m, the formation changed from limestone to a conglomerate-sandstone-shale sequence identified as Pennsylvanian Sandia Formation. This unit, which is of variable thickness, fills an irregular erosion surface on Precambrian basement around the region. On night 30, the core bit began to stick in a mixture of brecciated Sandia shale and Precambrian granite, and it was decided to terminate coring so as not to jeopardize the success of the hole or overtax the budget. To this point, 60% of rig time was spent on coring. Final depth of VC-1 at 4 a.m., September 1, 1984, was 856.2 m (2809 ft).

B. Logging and Completion

After the core string was pulled from the hole, an attempt was made to run a suite of geophysical logs. This was delayed because clay zones in the Abo Formation squeezed into the core hole, causing several bridges. A casing shoe was attached to the N-rods, which were run back into the bottom of the hole to ream out the bridges. Temperature, natural gamma, and neutron logs were then completed inside the rods. Once these were completed, the rods were pulled in 150-m increments and the remainder of the logs were run below the rods in each newly exposed open-hole interval. Logging in this fashion was completed up to the bottom of the Abo, about 427 m (Fig. 2). A preliminary comparison between the logs and the stratigraphy can be found in Rowley et al. (1987).

The core hole was finished by attaching a dull NQ core bit to a worn-out set of rods and running them as deep as possible (854.4 m) to act as a solid liner. A cement slurry was then pumped to the bottom followed by a plug and the liner was filled with fresh water. The rig was released at 1:15 p.m., September 3, 1984, and a gate valve was installed on the wellhead the

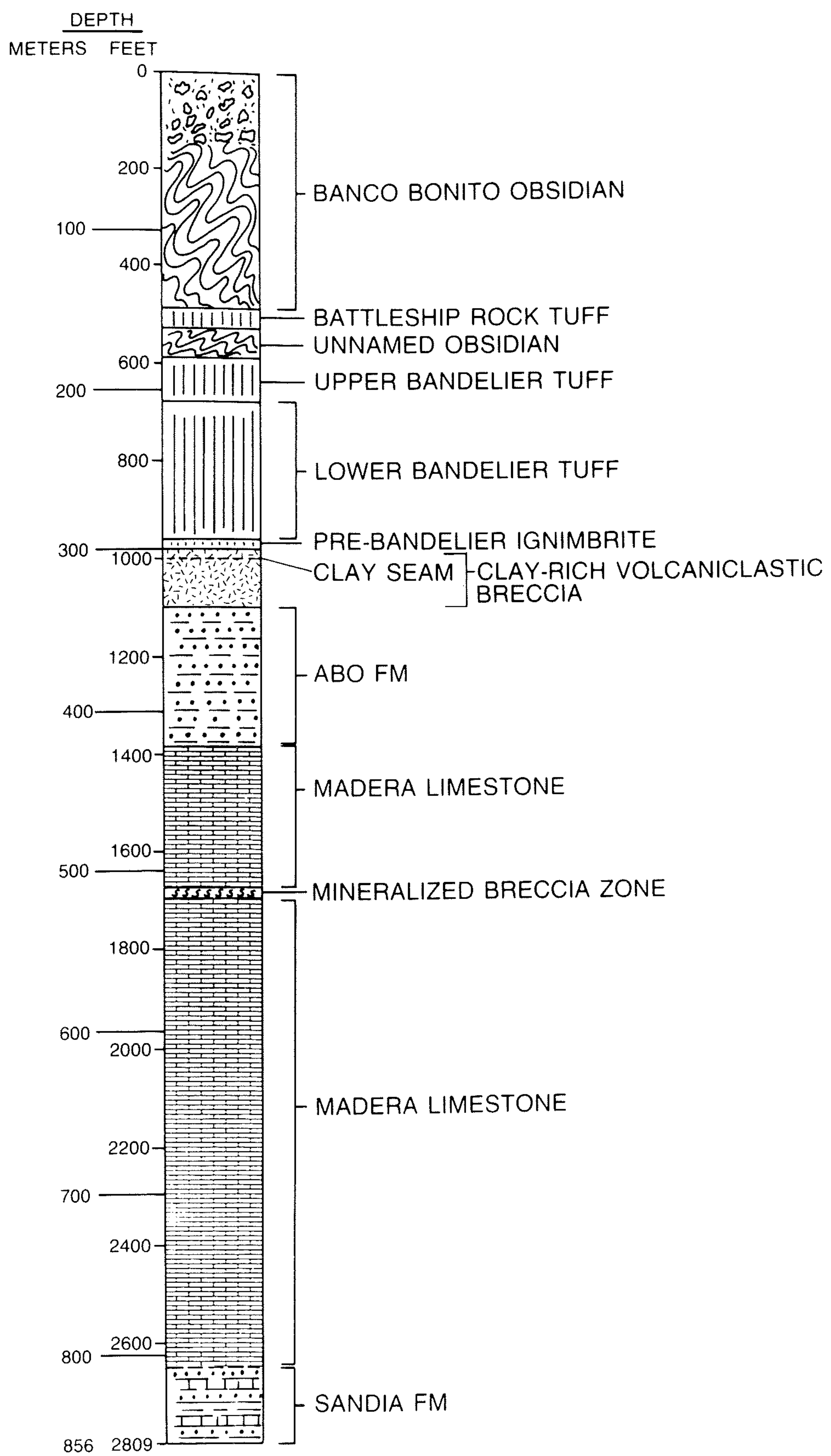

Fig. 2. VC-1 stratigraphy.

next day. The cellar was filled with gravel, and the site was returned to its original condition by Los Alamos personnel.

Core is protected under DOE Curatorial Guidelines and Procedures (S. Goff 1986). All personnel handling core at the drill site worked under the direction of the CSDP Curation Office and were trained in curation procedures. Well sitters were responsible for transferring core from the core tube to the core box, core labeling and numbering, and renumbering broken core. Every 20 ft a 15-cm piece of core was wrapped in aluminum foil and dipped in beeswax to preserve it for physical property measurements. A comprehensive field form was completed immediately upon labeling each core piece from a core run. The core boxes were then transferred to a temporary facility at Los Alamos, about 30 km from the coring site. Before samples of the core were removed or mailed to interested researchers, the boxed and labeled core was photographed in color and the lithology described in detail for this document. Researchers submitted formal requests to the Chief Scientist of the coring project for samples of the core; requests were filled by the Sample Manager. Scientists are expected to return unused pieces of core to the curation facility within one year. Since mid-1985 a dedicated curation facility on the DOE compound in Grand Junction, Colorado, has handled sample distribution of VC-1 core and core from other CSDP (thermal regimes) holes.

C. Cost

The total cost of VC-1 in 1984 dollars was $240,000. Cost per unit depth of VC-1 was $278/m ($85/ft). This cost includes site preparation, road maintenance, core drilling, and related services materials. These costs do not include the time of planning and site-management teams, well sitters and other support personnel, the cost of transporting these people to and from the site, nor do the costs reflect core curation, preliminary data interpretation, and report preparation.

D. Lithologic Summary

VC-1 penetrates 298 m of intracaldera volcanics, 35 m of Tertiary volcaniclastic breccia that pre-dates caldera formation, 91 m of Permian Abo Formation, 381 m of Pennsylvanian Madera Limestone, and 40 m of Pennsylvanian Sandia Formation (Fig. 3) (F. Goff et al. 1985, 1986). Based on detailed

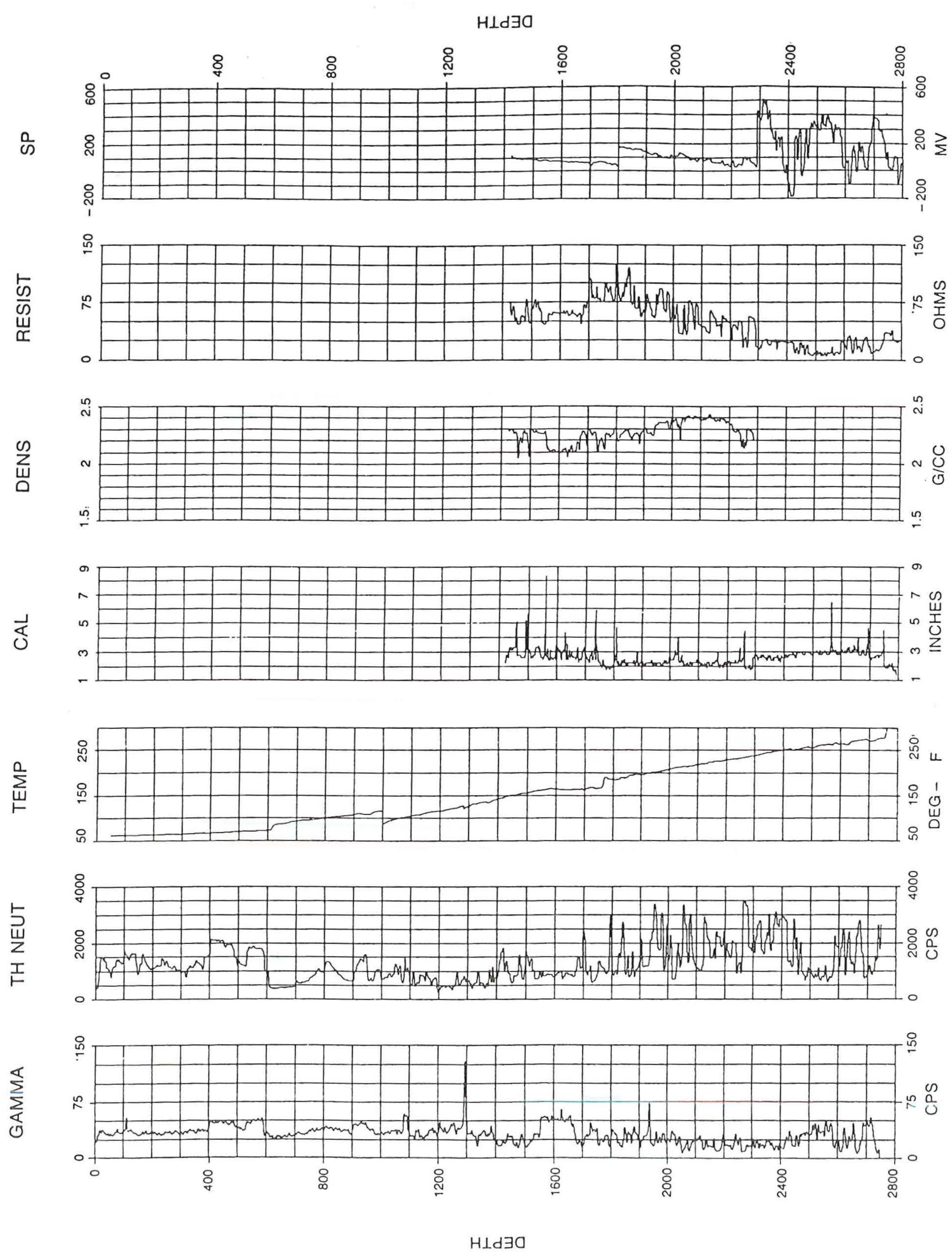

Fig. 3. VC-1 geophysical logs.

examination of the lower part of the core (Hulen 1985), the core hole bottomed in a cataclastic(?) breccia zone of Sandia shale and Precambrian granite.

The Banco Bonito rhyolite (140 m thick) is four times thicker than the nearest exposure 0.3 km away in the northeast wall of San Diego Canyon, southwest of Valles caldera. This suggests that it filled a paleo-valley in the caldera moat. In contrast, the Battleship Rock Tuff, which is over 100 m thick in San Diego Canyon, is only 12 m thick in VC-1. In addition, a previously unknown obsidian flow 19 m thick underlies the Battleship Rock Tuff. Lower in the volcanic sequence are lithic-rich, densely welded upper and lower Bandelier Tuff (probable intracauldron facies) and a pre-Bandelier ash flow, which most likely erupted from a nearby vent west-northwest of VC-1 (Self et al. 1986).

A volcaniclastic clay-rich breccia is at the base of the main volcanic sequence. This breccia, 35 m thick, has about 1 m of black-to-brown andesitic soil at the top and consists of poorly sorted rock containing angular andesite and subordinate dacite, rhyolite, and basalt fragments in a variegated clay matrix. The unit is interpreted to be an altered colluvium shed from surrounding volcanoes of Tertiary Keres Group (13 to 6 Ma; Gardner and Goff 1984) into a paleo-San Diego Canyon or some similar valley along the evolving Jemez fault zone.

The Paleozoic rocks are faulted, sheared, and mineralized. From examination of oriented cores from Madera Limestone at 476 m, the Paleozoic section in VC-1 strikes approximately N35E and dips 25SE as opposed to the gentle northeast dip observed in Paleozoic rocks of upper San Diego Canyon. This tilting may have been caused by drag along the northeast-trending Jemez fault zone. The Paleozoic lithologies correlate well with cuttings from the Jemez Springs geothermal well and with outcrops exposed in San Diego Canyon southwest of the caldera (F. Goff et al. 1981). The Madera Limestone, however, is approximately 120 m thicker than expected.

Mineralization observed in VC-1 core is most intense along shears, fractures, and faults below 550 m. The alterations consist primarily of clays, calcite, pyrite, quartz, and chlorite. Ore minerals include chalcopyrite ($CuFeS_2$), sphalerite (ZnS), galena (PbS), and molybdenite (MoS_2), as well as pyrite (FeS_2), marcasite (FeS_2), and pyrrhotite

($Fe_{1-X}S$). There is a general increase in the intensity and rank of alteration mineral assemblages with depth.

The summary above describes some initial scientific results from VC-1. The core and all aspects of the core hole will continue to provide fundamental data about, and new insights into, the nature of the Valles caldera thermal regime.

ACKNOWLEDGMENTS

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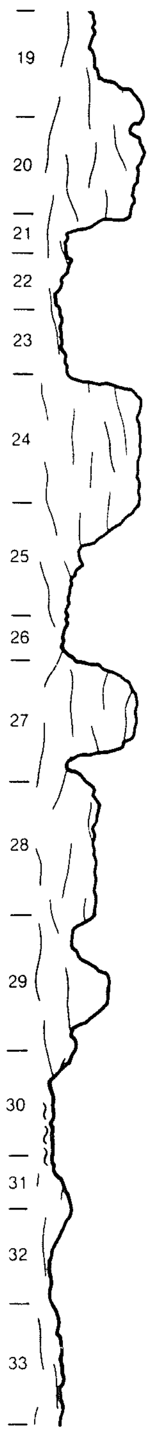
APPENDIX A

DETAILED LITHOLOGY

LITHOLOGY — VALLES CALDERA NO. 1

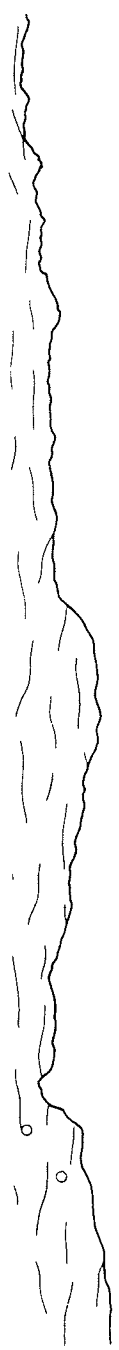
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
10.0–12.4	1	1	Soil —11.0 Banco Bonito Obsidian	0.6	very high	soil	weathering	none
12.4–16.0	1	2	Predominantly white pumiceous biotite rhyolite w/minor obsidian flow bands	0.9	medium	rubble	none	none
16.0–18.0	1	3		0.7	medium	rubble	none	none
18.0–21.1	1	4		0.7	medium	rubble	none	none
21.1–21.4	1	5		0.3	medium	rubble	none	none
21.4–25.0	2	6		0.7	medium	rubble	none	none
25.0–28.3	2	7	—26.5 Pumiceous banded rhyo-obsidian	1.6	medium	rubble	none	none
28.3–31.8	2	8		0.5	medium	rubble	none	none
31.8–33.5	2	9		0.7	medium	rubble	none	none
33.5–	2	10		1.5	medium	rubble	none	none
	3	11	—37.0 Obsidian and rhyolite	3.0	high	rubble	none	none
42.0–45.2	3	12	—42.0 White pumiceous biotite rhyolite	3.1	medium	medium to rubble	none to weathered	none
45.2–49.3	4	13		3.7	medium	rubble	none	none
49.3–52.0	4	14	White pumiceous biotite rhyolite	1.8	medium	rubble	none	none
52.0–57.0	4	15		3.0	high	rubble	none	none
57.0–58.7	5	16	White pumiceous biotite rhyolite	1.1	very high	rubble	none	none
58.7–62.0	5	17		2.7	medium	minor	none	none
62.0–65.8	5	18		3.3	high	medium	none	none

LITHOLOGY — VALLES CALDERA NO. 1



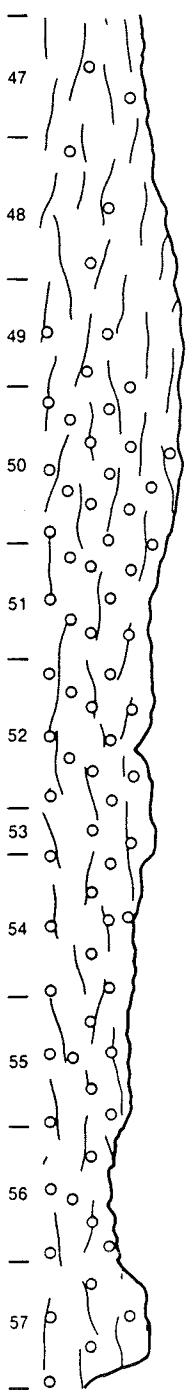
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
65.0 65.8–69.5	6	19	White-pink pumiceous rhyolite	3.1	high to medium	high to rubble	minor	none
69.5–73.4	6	20		3.1	high to medium	medium	minor oxidation of mafics	none
73.4–74.9	7	21		1.0	high	medium	none	none
74.9–76.0	7	22		0.4	high	rubble	none	none
76.0–79.0	7	23	—76.0 Grey perlitic biotite rhyolite	1.2	high	rubble	none	none
79.0–84.0	8	24		3.6	medium	medium to rubble	minor oxidation	none
84.0–87.6	9	25	—84 White to grey flow-banded biotite rhyolite	1.3	medium	rubble	none	none
87.6–90.3	9	26		1.1		rubble	none	none
90.3–95.0	10	27		3.3	medium	medium to rubble	minor oxidation	none
95.0–99.9	10	28		2.6	medium	medium to rubble	minor oxidation	none
99.9–105.0	11	29	—99.9 Black banded perlitic obsidian	3.7	low	low to rubble	none	none
105.0–107.8	12	30	—107.0 Oxidized rhyo-obsidian flow breccia	1.9	very high	rubble	none	none
107.8–111.4	12	31	—109.0	1.2	very high	rubble	none	none
111.4–114.2	13	32	Black banded perlitic obsidian	1.7	high	rubble	none	none
114.2–118.6	13	33	—118.6	1.9	high	rubble	none	none

LITHOLOGY — VALLES CALDERA NO. 1



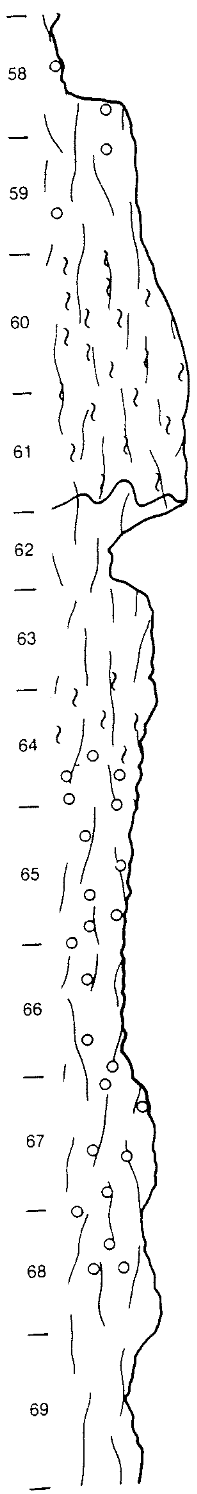
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
118.6	14	34	118.6 Mixed pumice, rhyo-obsidian	0.7	medium	rubble	minor oxidation	none
119.8		35	breccia and obsidian 120.0	1.2	low	rubble	minor oxidation	none
121.6		36	Black flow-banded obsidian	1.6	low	medium	minor oxidation	none
125.2	15	37		1.3	low	high to rubble	oxidation	none
126.6		38		2.3	low	high	oxidation	none
			130 0					
131.4	16	39	Black to pink flow-banded pumiceous obsidian	2.9	medium	high	oxidation	none
137 0	17	40		4.6 (E-core)	low	high	oxidation	none
141.2	18	41		5.0	low	high	oxidation	none
			147 0					
146.3	19	42	Black to pink flow-banded obsidian with mottled devitrification and oxidation	4.3	medium	high	oxidation	none
151.3	20	43		4.9	low	high	oxidation	none
156.2	21	44	Black vitrophyre	4 2	low	very high	oxidation	none
			161 0					
160.4	22	45	Black vitrophyre w/large smeared pink lithophysae	5.0	very low	medium to low	minor oxidation	none
			165 0					
165.4	23	46	Black vitrophyre	3.6	low	medium	minor oxidation	none
169.0			169 0					

LITHOLOGY — VALLES CALDERA NO. 1



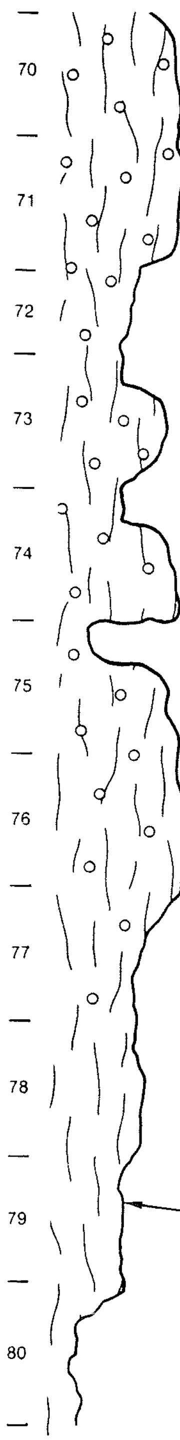
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
165.0								
169.0	24	47	169.0 Black vitrophyre w/smeared pink lithophysae	4.6	low	high	minor oxidation	none
173.6	25	48	174.0 Black vitrophyre w/pink lithophysal cavities	5.0	low	medium	minor oxidation	none
178.6	26	49	178.6 Black vitrophyre w/2 generations of lithophysae (smeared and not smeared)	5.0	medium	medium	oxidation	none
183.6	27	50		5.2	medium to high	low	oxidation	none
188.6	28	51		4.7	medium	low	oxidation	none
193.5	29	52	195.0 Mixed glassy and devitrified biotite rhyolite w/2 generations of lithophysae	4.9	medium	low	oxidation	none
198.0	30	53		3.1 (E-core)	medium	low	oxidation	none
201.5	31	54		5.1	medium	low	oxidation	none
206.8	32	55		4.8	medium	medium	oxidation	none
211.6	33	56	212.0 Banded glassy rhyolite w/2 generations of lithophysae	5.2	medium	high to medium	minor oxidation	none
216.8	34	57		4.8	medium	medium	minor oxidation	none
221.6								

LITHOLOGY — VALLES CALDERA NO. 1



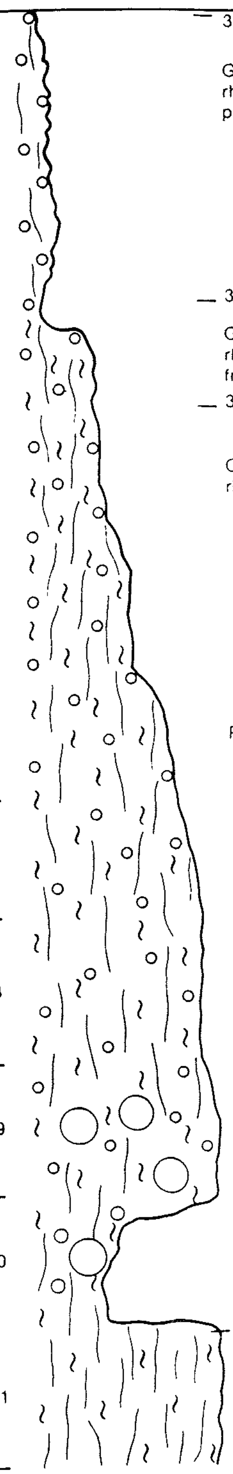
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
221.6–226.8	35	58	— 222.0 Banded devitrified rhyolite w/fewer lithophysae than above	5.2	medium	high	extensive oxidation	none
226.8–230.4	36	59	— 227.0 Mixed glassy and lithophysal banded rhyolite	3.8 (E-core)	medium to low	low	minor oxidation	none
230.4–235.5	37	60	— 231.0 Black obsidian intra-flow breccia	4.9	low	none	none	none
235.5–240.0	38	61	Base of flow unit — 240.0	4.7 (E-core)	low	none	none	none
240.0–242.5	39	62	Devitrified flow-banded lithophysal rhyolite	2.5	low	high	none	none
242.5–247.0	40	63		4.2	low	low	none	none
247.0–251.8	41	64	— 247.0 Mixed brecciated lithophysal rhyolite and lithophysal rhyolite	5.0 (E-core)	low	low	minor oxidation	none
251.8–257.0	42	65	— 252.0 Flow banded lithophysal rhyolite	4.9	medium	low	minor oxidation	none
257.0–261.7	43	66		5.1 (E-core)	low	low	minor oxidation	none
261.7–267.0	44	67		5.1	low	low	minor oxidation	none
267.0–271.7	45	68		5.1 (E-core)	medium	medium	minor oxidation	none
271.7–277.0	46	69	Most lithophysae have smeared into flow bands	5.2	low	medium	minor oxidation	none

LITHOLOGY — VALLES CALDERA NO. 1



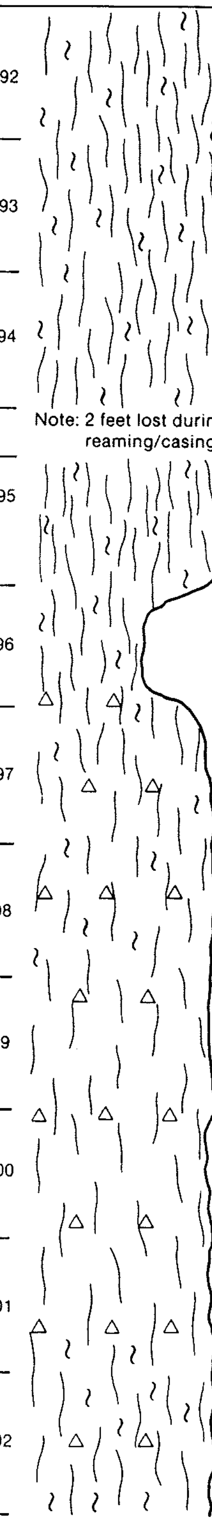
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
277.0–282.0	47	70	— 277.0 White to grey devitrified flow banded rhyolite w/multiple generations of lithophysae	5.0	medium	low	none	none
282.0–287.0	48	71		5.0	medium	low	none	none
287.0–289.5	49	72		2.8	medium	high	none	none
289.5–294.5	50	73	Some flow bands are reddish brown	5.0 (E-core)	medium to high	medium	minor oxidation	none
294.5–299.6	51	74		5.0	medium to high	medium	minor oxidation	none
299.6–304.7	52	75		5.1	medium	medium to high	minor oxidation	none
304.7–309.7	53	76	— 305.0 Grey flow-banded vesicular devitrified rhyolite w/minor lithophysae	5.0	high	low	minor oxidation	none
309.7–314.7	54	77		5.0	high	medium	none	none
314.7–319.8	55	78	— 315.0 Same as above but lithophysae gone	5.1	high	medium	none	none
319.8–324.8	56	79	322.0 Felsic granulite (?) xenolith	5.1	medium	medium	none	none
324.8–329.8	57	80	Note: No Box "58" (Number mistakenly skipped)	5.0	medium	high	none	none

LITHOLOGY — VALLES CALDERA NO. 1



Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
329.8–334.8	59	81	330.0 Grey flow-banded devitrified rhyolite w/abundant lithophysae	5.1	medium	high	none	none
334.8–339.8	60	82		5.0	medium	high	none	none
339.8–344.8	61	83	341.0 Grey flow-banded lithophysal rhyolite containing obsidian fragments	5.0	medium	high	minor oxidation	none
344.8–349.8	62	84	345.0 Grey to black lithophysal rhyolite obsidian flow breccia	5.0	medium	medium	minor oxidation	none
349.8–354.8	63	85		5.0	medium to low	low	minor oxidation	none
354.8–359.7	64	86	Pinkish oxidation	5.0	medium	medium	minor oxidation	none
359.7–364.5	65	87		5.0	medium	medium	minor oxidation	none
364.5–369.5	66	88		5.0	medium to low	low	oxidation	none
369.5–374.6	67	89	"Baseball" size lithophysae	5.0	medium to low	low	oxidation	none
374.6–379.6	68	90		4.8	medium	medium	oxidation	none
379.6–384.7	69	91	380.0 Obsidian flow-breccia w/sparse lithophysae	5.1	low	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1

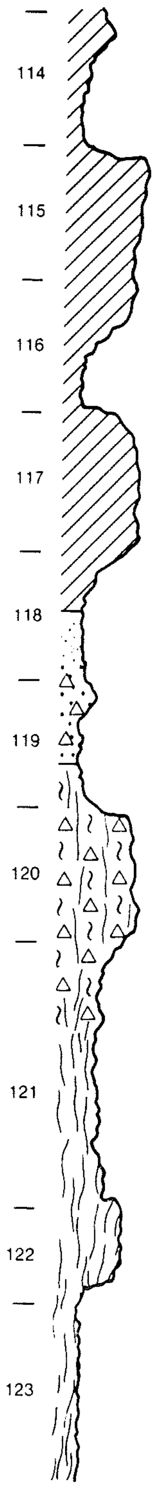


Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
384.7–389.8	70	92	385.0 Obsidian flow-breccia w/sparse rhyolite fragments	5.0	low	low to none	none	none
389.8–394.7	71	93		4.9	low	none	none	none
394.7–399.9	72	94	399.9	5.1	low	none	none	none
399.9–402.0	—	—	Note: 2 feet lost during reaming/casing; 402.0					
402.0–407.0	73	95		4.9	low	none	none	none
407.0–412.0	74	96	Obsidian flow-breccia w/variety of lithic fragments	4.9	low	medium	none	none
412.0–417.0	75	97		5.0	none	low	none	none
417.0–422.0	76	98		4.85	none	none	none	none
422.0–427.0	77	99	422.0 Obsidian flow-breccia w/very sparse lithic fragments	4.95	none	none	none	none
427.0–432.0	78	100		5.0	none	low	none	none
432.0–437.0	79	101	435.0	5.0	none	low	none	none
437.0–442.0	80	102	Obsidian flow-breccia w/ deformed lacustrine sediments	5.0	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1

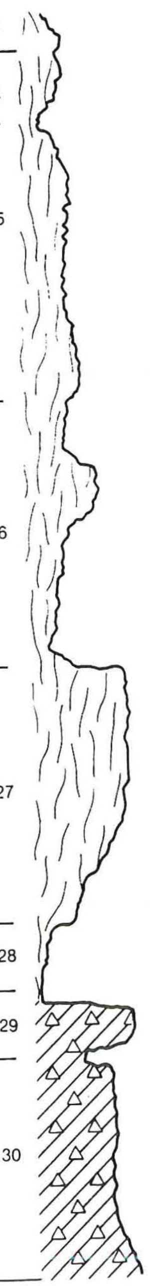
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
442.0	81	103	Obsidian flow-breccia w/ variety lithic fragments	5.0	none	low	none	none
447.0	82	104		4.9	none	none	none	none
452.0	83	105	455.0 Obsidian flow-breccia	5.0	none	low	none	none
457.0	84	106		5.0	none	low	none	none
462.0	85	107		4.9	none	low	none	none
467.0	86	108		5.0	none	medium	none	none
472.0	87	109		5.0	low	medium	none	none
477.0	88	110		4.7	medium	high	oxidation	none
482.0	89	111	Obsidian flow-breccia 486.0	5.0	low to medium	high	oxidation	none
487.0	90	112	Battleship Rock Tuff Tan crystal-lithic welded tuff	4.9	medium	medium	none	none
492.0	91	113	495.0	5.0	medium to low	high to rubble	none	none
497.0								

LITHOLOGY — VALLES CALDERA NO. 1

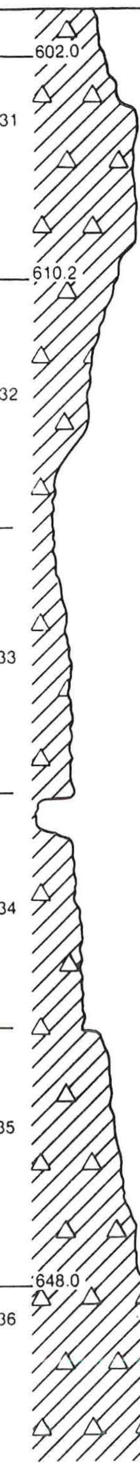


Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
			495.0					
497.0	92	114	White weathered crystal-lithic welded tuff	5.0	high	rubble	weathered	none
502.0	93	115	504.0	4.5	high	high to rubble	none	none
506.8	94	116	White weathered crystal-lithic welded tuff	5.2	high	high to rubble	weathered	none
512.0	95	117		5.0	high	high	weathered	none
517.0	96	118	517.0 Weathered nonwelded crystal-lithic tuff 519.0 Weathered soil 521.0	5.0	very high	rubble	weathered	none
522.0	97	119	Reworked zone of rhyolite and lithic fragments 525.0	5.0	high	rubble	weathered	none
527.0	98	120	VC-1 rhyolite (unnamed obsidian) Grey to black rhyolite flow-top breccia w/ occasional exotic lithic fragments	4.9	medium to high	medium	weathered	none
532.0	99	121	535.0	10.0	low	high to rubble	none	none
539.0	100							
542.0	101	122	Black sparsely porphyritic obsidian w/ alternating zones of flow-banded perlitic, splintered obsidian	3.6	low to none	high to rubble	none	none
545.7	102	123		9.1	low to none	high to rubble	none	none
553.0								

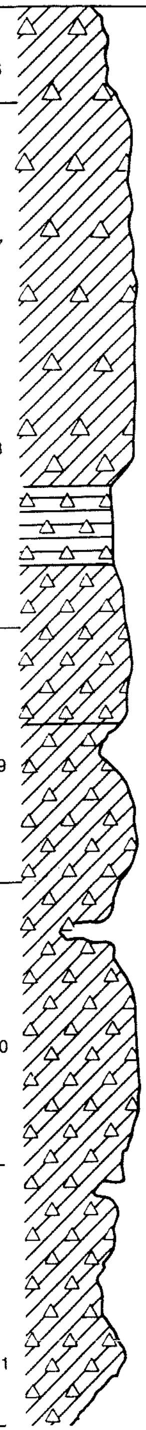
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
553.0	103	123						
554.9		124	555.0	2.4	low	high	none	none
557.4	104	125	Black porhyritic flow-banded perlitic obsidian	10.2	none	high to rubble	none	none
565.0	105	—						
567.6	106	126		10.0	low	high	none	none
573.0	107							
577.6	108	127		9.9	low	high	none	none
587.6	109	128	590.5 Reworked lithic-rich	2.7	high	rubble	weathered	none
590.3		129	Upper Bandelier Tuff 590.7	2.5	high	medium	oxidation	none
592.8	110	130	Dull orange lithic-rich welded Upper Bandelier Tuff; uppermost 5 ft. is baked	8.9	high	medium	oxidation	none
600.0			600.0					
602.0								



Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
600.0	111	131	600 White to pink lithic-rich welded Upper Bandelier Tuff	8.4 (E-core)	high	low	none	none
608.0	1112a							
610.2	112b	132		9.0	high	high to rubble	weathered	none
619.2	113	133		9.8	high	high	weathered	none
629.2	114	134		10.1 (E-core)	very high	high to rubble	weathered?	none
638.0	115	135	White to pink lithic-rich welded Upper Bandelier Tuff	10.0	very high	low	none	none
646.6	116	136		10.0	very high	low	none	none
653.0	117							
655.0								

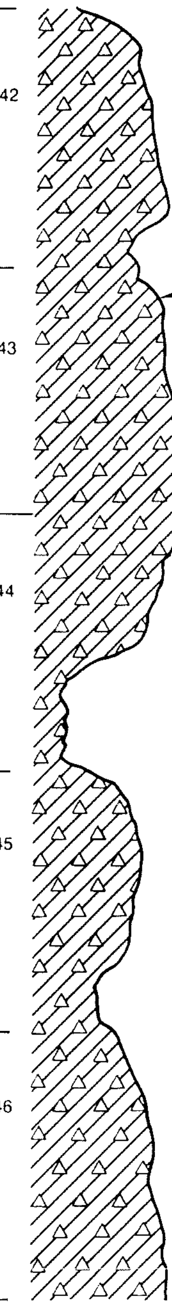


LITHOLOGY — VALLES CALDERA NO. 1



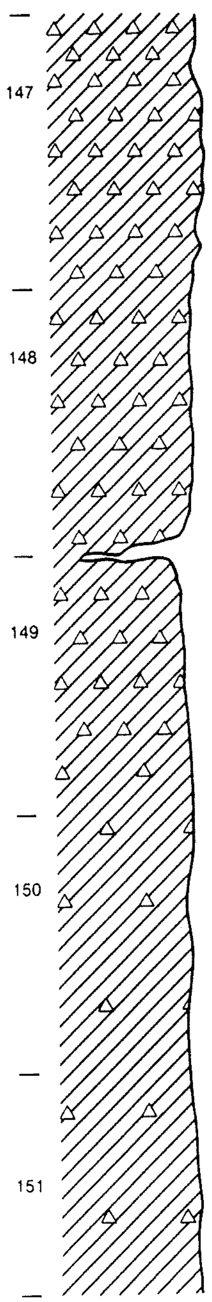
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
655.0	117	136						
658.0								
660.4	118	137	White to pink lithic-rich welded Upper Bandelier Tuff	10.0	very high	very low	none	none
668.0	119	— / 138		10.0	very high	very low	none	none
			673.0 Grey lithic-rich ash and lapilli tuff (Tsankawi?) 676.0					
675.6	120							
678.0			Grey lithic-rich ash-flow tuff w/possible 0.5 ft-thick lapilli tuff at base					
			682.5					
683.2	121	139	White to pink lithic-rich welded Lower Bandelier Tuff	10.0	very high	low	none	none
688.0								
690.4	122	140		10.0	very high	low	none	none
698.0	123	—						
704.0	124	141		10.2	very high	medium	none	none
708.0		—						

LITHOLOGY — VALLES CALDERA NO. 1



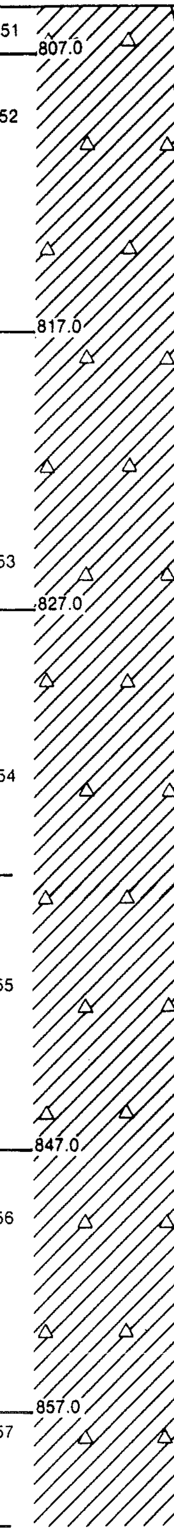
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
705.0								
708.0	125	— / 142		10.1	very high	low	none	none
715.2	126							
718.0	127	— / 143	High angle shear/fracture; White-grey lithic rich welded Lower Bandelier Tuff	8.4	very high	low	none	none
724.0	128							
728.0	129	144	Grey densely welded lithic-rich Lower Bandelier Tuff	10 (E-core)	high	medium	none	none
733.0	130		Rubble zone w/abundant fiamme					
736.8	131	— / 145		10.2	medium	medium	none	none
743.0	132							
747.0	133	— / 146		10 2	low	low	none	none
752.7	134							
757.0		—						

LITHOLOGY — VALLES CALDERA NO. 1

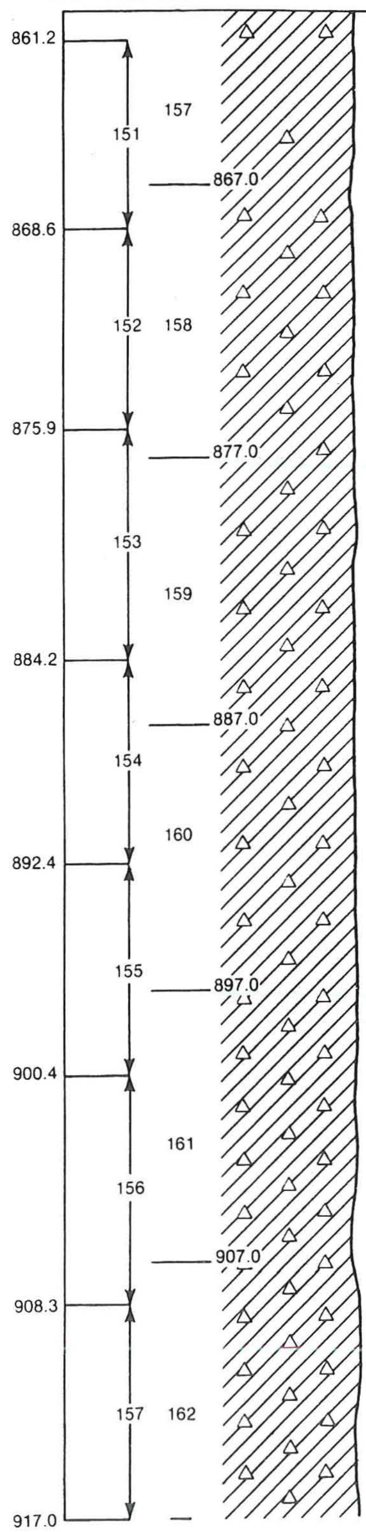


Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
755.0								
757.0–763.0	135	147	Grey densely welded lithic-rich Lower Bandelier Tuff	10.0	low	low	none	none
763.0–767.0	136							
767.0–772.4	137	148	Contains large dense glassy fiamme	10.0	very low	low	none	none
772.4–777.0	138		Large Precambrian lithic fragment at 777.0 ft					
777.0–783.8	139	149		9.9	very low	low to none	none	none
783.8–787.0	140							
787.0–792.7	141	150		10.0	none	very low	none	none
792.7–797.0	142							
797.0–805.0	143	151		10.0	none	very low	none	none

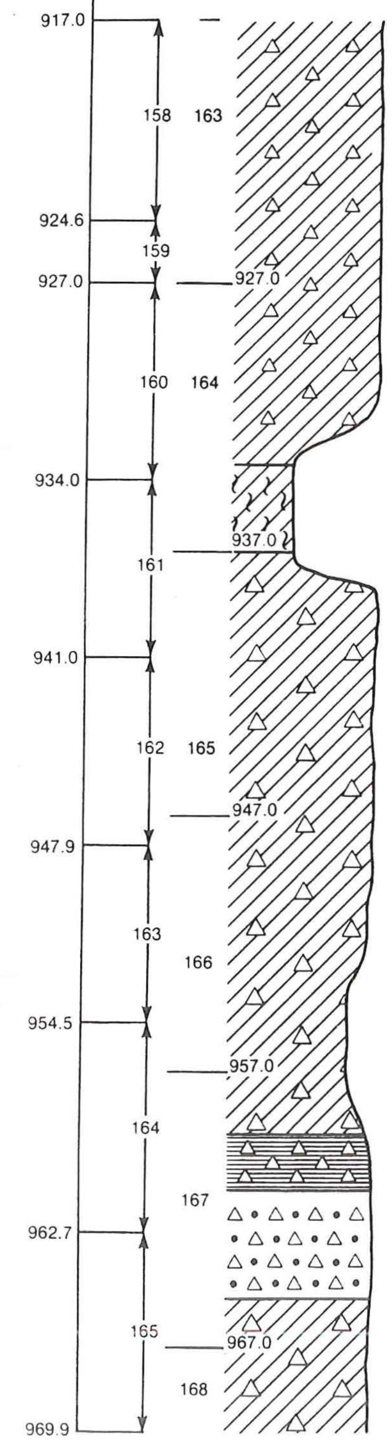
LITHOLOGY — VALLES CALDERA NO. 1



Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
805.0		151						
805.0–813.6	144	152	Grey densely welded Lower Bandelier Tuff; less lithics and more fiamme; calcite filled fracture at 811.0 ft	10.0	none	very low	minor silica on rare fractures	none
813.6–821.7	145							
821.7–829.7	146	153		10.0	none	medium	none	none
829.7–837.0	147	154		10.0	none	medium to low	none	none
837.0–845.7	148	155		10.0	none	medium to low	none	none
845.7–853.8	149	156		9.9	none	low	none	none
853.8–861.2	150	157						

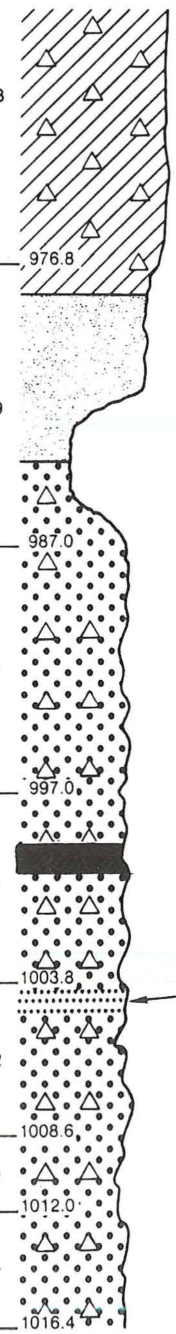


Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
157	Grey densely welded Lower Bandelier Tuff w/abundant fiamme; more abundant lithics at 860 ft; welding decreases at 860 ft.	10.0	none	medium to low	none	none
158		10.0	low	medium	none	none
159		9.7	medium	medium	none	none
160	890.0 Grey welded Lower Bandelier Tuff with lithic fragments and fiamme	9.9	medium	medium	none	none
161		9.9	medium	medium to high	none	none
162		10.0	medium	medium to high	none	none



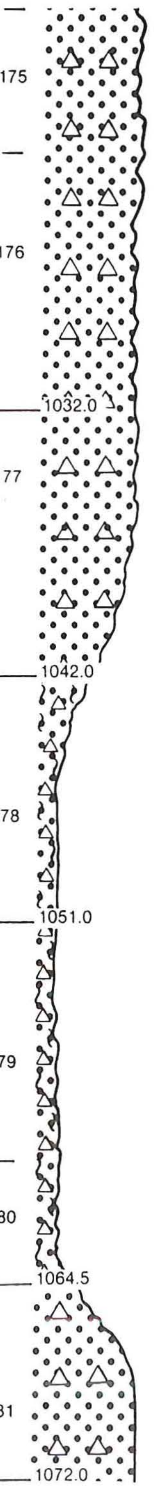
Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
163	920.0 Grey densely welded Lower Bandelier Tuff below 920 ft; few lithics; abundnant fiamme. A piece of amber is included within welded tuff	10.0	low	medium to high	none	none
164	934.0 Fault zone 937.0	9.7	medium	very high	some carbonate & silica	none
165		10.0	medium	medium	some carbonate & silica	none
166	951.0 Pink welded lithic-rich Lower Bandelier Tuff	10.0	medium	low	none	none
167	959.0 Ash lapilli fall (Otowi?) 961.0 Reworked lithic tuff 965.0 Grey-white lithic-rich welded Pre-Bandelier Tuff	10.0	high	low	oxidized	none

LITHOLOGY — VALLES CALDERA NO. 1



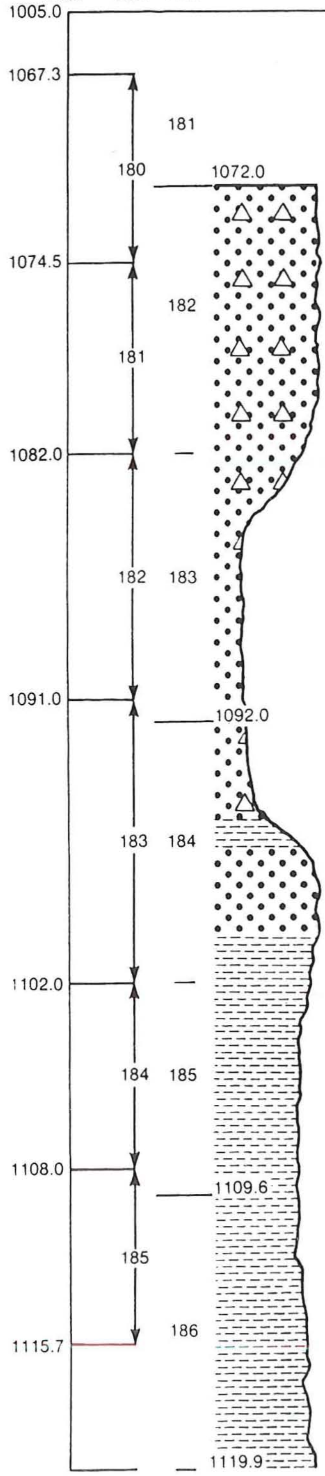
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
965.0								
967.0	165	168	Grey-white lithic-rich welded Pre-Bandelier Tuff; zone of pumice leaching at 970 ft.	9.8	high	low	oxidized	none
969.9	166							
		976.8	977.0					
977.9	167	169	Dark brown soil w/abundant andesite fragments	10.2	very high	high	oxidized	none
			983.0					
985.7	168	987.0						
		170	Pink-orange very poorly-sorted volcaniclastic conglomerate w/pumice, xtals, and rock fragments to boulder-size; lithics predominantly andesite	9.6	very high	high	oxidized	none
992.6	169	997.0						
			998.0 Tan clay 999.0					
		171		6.4	extremely high	high	oxidized	none
1000.8	170	1003.8	6"-thick grey lithic wacke at 1004 ft.					
		172	Grey-pale brown poorly-sorted volcaniclastic conglomerate; extremely high in clays; lithics to boulder-sizes are dominantly andesite and dacite	0.7	high	medium	oxidized	none
1007.3	171	1008.6						
		173		7.2 (E-core)	extremely high	medium	oxidized	none
		1012.0						
		174		4.4	extremely high	medium	oxidized	none
1014.7	172							
1016.4		1016.4	1016.4					

LITHOLOGY — VALLES CALDERA NO. 1



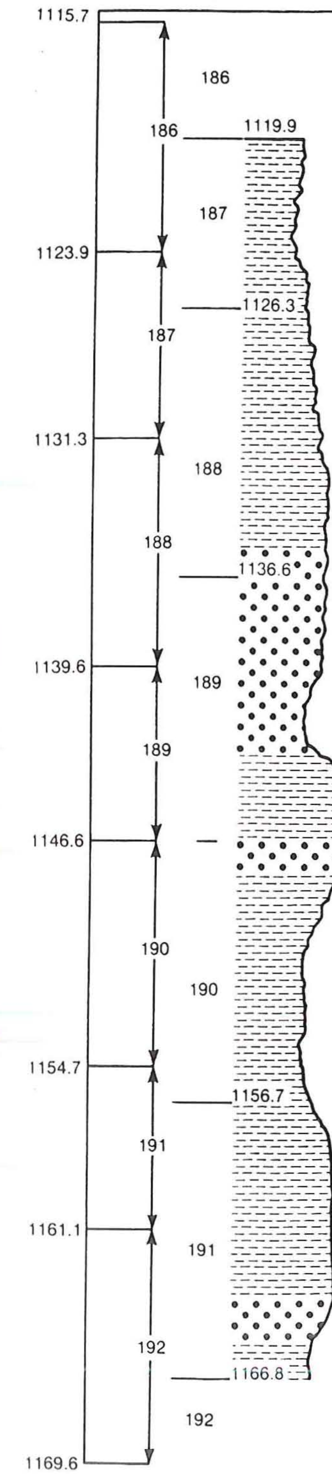
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
1015.0								
1016.4	173	175	Grey-pale brown poorly-sorted volcaniclastic conglomerate with interbedded clay-horizons; contains minor sandstone and shale fragments	5.3	high	medium	oxidation	none
1022.0	174	176		9.6	high	medium	minor oxidation	none
1029.7	175	1032.0						
		177		10.1	high	medium?	minor oxidation	none
1037.0	176	1042.0	1042.0					
1043.5	177	178	Abundant slickensides and shear planes; possible fault zone	9.3	high	rubble	minor oxidation	none
		1051.0						
052.5	178	179		8.7	high	high	minor oxidation	none
1060.0	179	180		4.2	high	high	minor oxidation	none
		1064.5	1065.0					
1067.3		181	Grey-pale brown poorly-sorted volcaniclastic conglomerate w/interbedded clay horizons; contains mostly rhyolite-dacite fragments	7.5	high	high to rubble	minor oxidation	none
		1072.0						

LITHOLOGY — VALLES CALDERA NO. 1



Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
Grey-pale brown poorly-sorted volcaniclastic conglomerate as above	9.8	high	low	oxidized	none
	9.4	high	high to rubble	oxidized	none
1096.0 Abo Formation 1097.0 White sandstone 1099.0	7.6	high	high to rubble	oxidized	none
Mostly brick red siltstone; sparse fossil tests from 1112-1120 ft.	10.0 (E-core)	high	high	none	none
	8.0	high	low	none	none
Abo Formation					

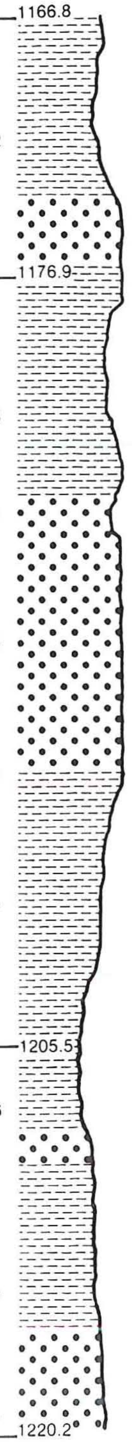
LITHOLOGY — VALLES CALDERA NO. 1



Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
Abo Formation; mostly brick red siltstone	8.7 (E-core)	high	high	none	none
	10.0	high	medium	none	none
1135.0 Abo Formation; white hydro-thermally altered sandstone 1143.0					
	10.3 (E-core)	high	medium	minor carbonate & silica	yes
Abo Formation; mostly brick red siltstone and clay; minor sandstone					
	10.0	high	medium	none	none
	10.1	high	medium	none	none

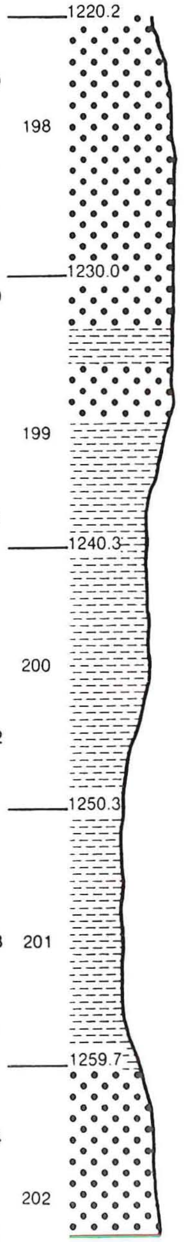
LITHOLOGY — VALLES CALDERA NO. 1

Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
1165.0								
1169.6	193	192 (1166.8)	Abo Formation; mostly brick red siltstone and clay; minor sandstone	8.0	high	low	none	none
1180.2	194	193 (1176.9)		10.2 (E-core)	high	medium	none	none
1185.4	195	194	—1185.0 Abo Formation; banded brick red and white sandstone with minor siltstone; carbonate veins at 1186 and 1187 ft.	9.5	high	low	carbonate vein fillings	yes
1195.5	196	195	—1195.0 Abo Formation; mostly brick red siltstone and clay; minor sandstone	4.7	high	high	none	none
1202.7	197	196 (1205.5)	Fossiliferous Zone; 1212 to 1215 ft.	10.2 (E-core)	high	high	none	none
1210.0	198	197	—1216.0 Abo Formation; mostly brick red sandstone	10.2	high	medium to high	none	none
1218.7		(1220.2)						

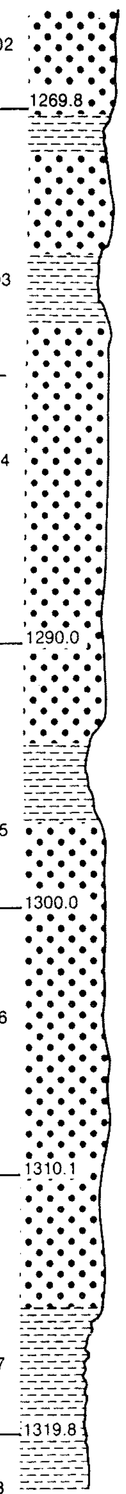


LITHOLOGY — VALLES CALDERA NO. 1

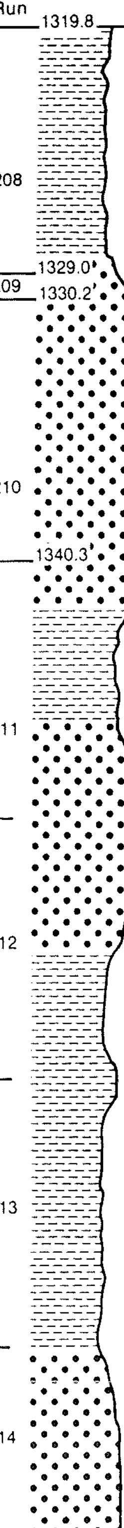
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
1215.0								
1218.7	199	197						
		198 (1220.2)	Abo Formation; mostly brick red sandstone; minor siltstone	10.2 (E-core)	high	medium	none	none
1226.8	200	199 (1230.0)	—1235.0 Abo Formation; mostly brick red siltstone	9.8	high	medium	none	none
1234.9	201	200 (1240.3)		9.9	high	medium	Hematite on fractures	none
1243.3	202	201 (1250.3)		10.1 (E-core)	high	medium	none	none
1251.4	203							
1258.8	204	202 (1259.7)	—1260.0 Abo Formation, banded brick red and grey sandstone; minor siltstone	10.0	high	medium	none	none
1266.1		(1269.8)						



LITHOLOGY — VALLES CALDERA NO. 1

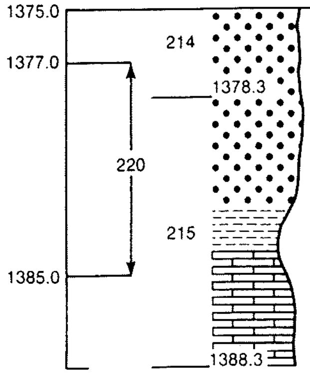


Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
1265.0								
1266.1								
		202						
	205	1269.8	Abo Formation; banded brick red and grey cross-bedded sandstone with minor siltstone; some coarse-grained layers in sandstone at 1291-1292 ft. and 1296-1299 ft.	10.2	high	high	none	none
1272.9								
	206	203						
1279.8		—						
	207	204	Carbonate veins at 1285 ft.	10.1	medium	low	some carbonate veins	none
1286.5								
		1290.0						
	208							
1294.1								
	209	205		10.0	medium	low	none	none
1300.0		1300.0						
	210	206		9.5	medium	medium	none	none
1307.9								
		1310.1						
	211							
1314.5			— 1315.0					
	212	207	Abo Formation; mostly brick red siltstone and claystone	10.2 (E-Core)	medium	high	none	none
		1319.8						
1322.6		208						



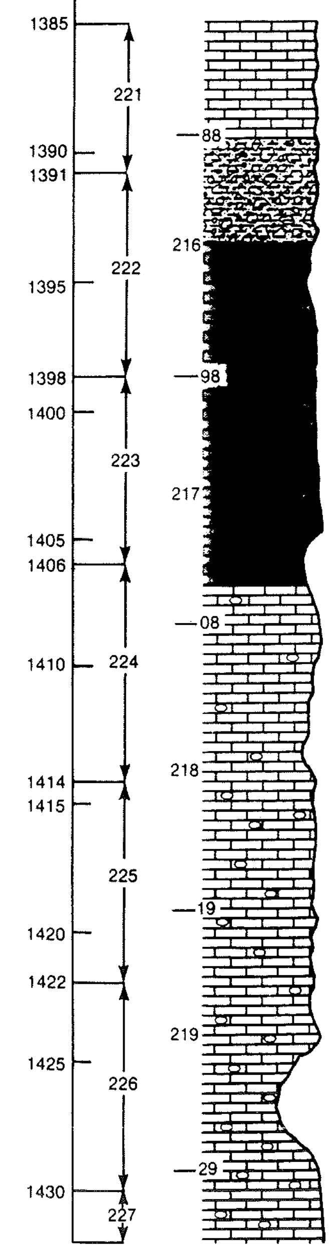
Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
		1319.8						
1322.6								
	213	208	Abo Formation; mostly brick red siltstone and claystone	8.4	medium	medium	none	none
			— 1328.0					
1329.0		1329.0'						
		209 1330.2'	Abo Formation; banded brick red and grey sandstone; hydrothermally altered from 1333 to 1340 ft; contains high angle fractures with carbonate	2.6 (E-core)	medium	low	none	none
	214							
1334.8								
		210		9.1	medium	low	minor carbonate veins	none
	215							
		1340.3'						
			— 1342.0					
1343.0			Abo Formation; mostly brick red siltstone and sandstone					
	216	211		9.7	medium	medium	none	none
1350.0		—						
	217	212		9.1	medium	high	none	none
1359.2		—						
	218	213		9.0	medium	high	none	none
1369.8		—	— 1370.0					
	219	214	Abo Formation; banded brick red and grey sandstone; minor siltstone	10.0	medium	medium	none	none
1377.0		—						

LITHOLOGY — VALLES CALDERA NO. 1



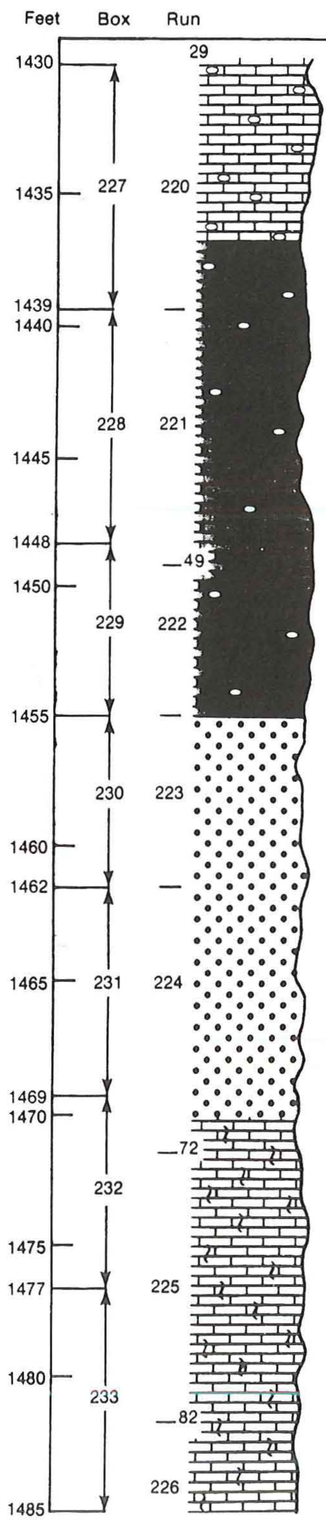
Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
Abo Formation: banded brick red and grey sandstone with minor siltstone					
1384.0	9.9	none	medium	none	none
Madera Limestone: light grey burrowed limestone with some bioclastic fragments					

LITHOLOGY — VALLES CALDERA NO. 1



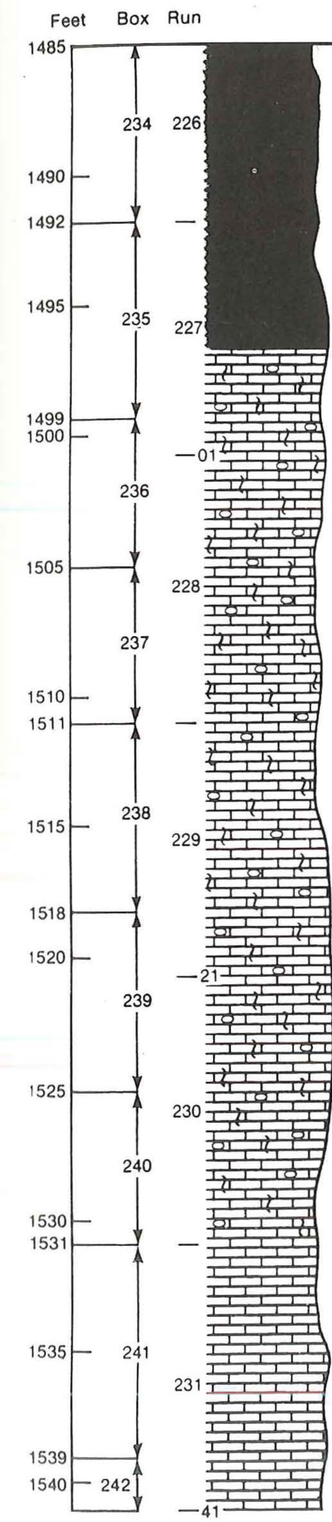
Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
84					
88					
Red and gray mottled siltstone and shale. Resembles Abo Formation					
93	9.9	none	none	none	none
Silty limestone with varying amounts of clays. Varies in color from green-gray to reddish-brown					
	10.2	none	none	none	none
07					
Brecciated light-gray limestone. Burrowed in places					
14	8.7	low	minor	none	pyrite
Burrowed light-gray limestone with brachiopod and crinoid fossils					
	9.7	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



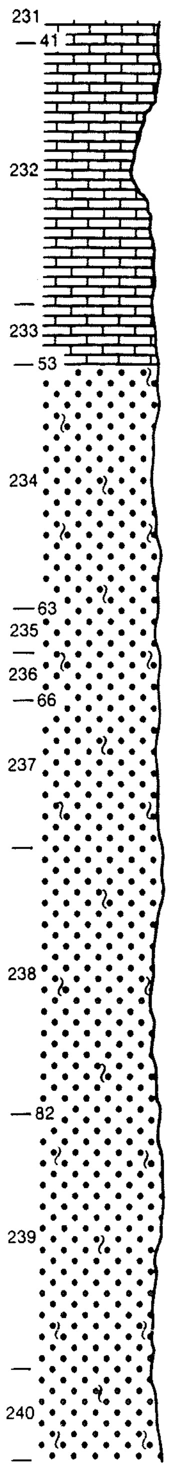
Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
As above	10.0	none	none	none	none
—37					
Gray to brown silty limestone with varying amounts of clay. Few burrows	9.7	none	none	none	none
	5.5	none	none	none	none
—55					
Crossbedded gray sandstone with calcite cement	7.4	none	none	none	none
	10.0	none	none	none	none
—70					
Light to dark-gray brecciated limestone. Some solution cavities containing large euhedral calcite crystals	9.9	medium	medium	carbonate veins	dissem-inated pyrite
—85					

LITHOLOGY — VALLES CALDERA NO. 1

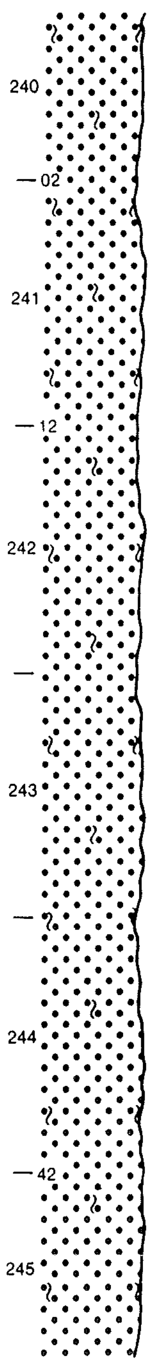


Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
Gray limestone with high clay content	9.7	none	none	none	none
	10.0	none	none	none	none
—97					
Burrowed, brecciated light to dark-gray limestone with many calcite-filled veins. Two generations of brecciation	10.1	none	medium	calcite filled veins	none
	10.0	none	medium	calcite filled veins	none
	9.9	none	medium	calcite filled veins	none
—30					
Gray limestone with fossil fragments in a mud-supported matrix	9.8	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
232	As above	10.0	none	none	none	none
233		1.0	none	none	none	none
234	White argillaceous sandstone. XRD analysis reveals 80% quartz, 20% clay. Exhibits stratification and minor brecciation	3.7	low	none	argillic	Finely dissem-inated pyrite
235		0.5	low	none	argillic	Finely dissem-inated pyrite
236		0.6	low	none	argillic	Finely dissem-inated pyrite
237		5.7	low	none	argillic	Finely dissem-inated pyrite
238		10.0	low	none	argillic	Finely dissem-inated pyrite
239		10.0	low	none	argillic	Finely dissem-inated pyrite
240		10.0	low	none	argillic	Finely dissem-inated pyrite

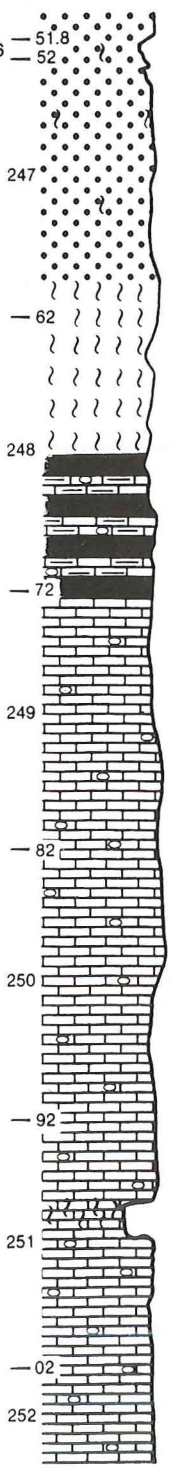


Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
240		10.0	low	none	argillic	Finely dissem-inated pyrite
241	As above	10.0	low	none	argillic	Finely dissem-inated pyrite
242		10.0	low	none	argillic	Finely dissem-inated pyrite
243		7.4	low	none	argillic	Finely dissem-inated pyrite
244		10.0	low	none	argillic	Finely dissem-inated pyrite
245		9.8	low	none	argillic	Finely dissem-inated pyrite

LITHOLOGY — VALLES CALDERA NO. 1

Feet	Box
1649–1650	
1650–1656	257
1656–1663	258
1663–1671	259
1671–1679	260
1679–1687	261
1687–1696	262
1696–1703	263
1703–1705	264

Depth marks (Feet): 1649, 1650, 1655, 1656, 1660, 1663, 1665, 1670, 1671, 1675, 1679, 1680, 1685, 1687, 1690, 1695, 1696, 1700, 1703, 1705

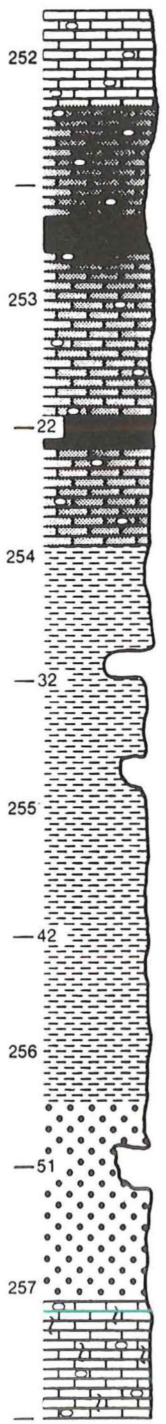


Run	Run marks	Lithology*	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
246	—51.8, —52	As above	0.4	low	none	argillic	Finely dissem-inated pyrite
247		_60 Breccia; carbonate and non-carbonate fragments	9.7	low	none	argillic	Finely dissem-inated pyrite
248	—62	_67 Gray limestone, burrowed in places. Stylolites and mud-stone most prevelant in interval 1667' - 1672'	10.0	none	none	minor	none
249	—72		9.8	none	none	none	none
250	—82		10.0	none	none	none	none
251	—92	95 / Brecciated limestone \ 96	9.0	high	none	none	none
252	—02	Gray limestone, burrowed and laminated in places	10.0	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1

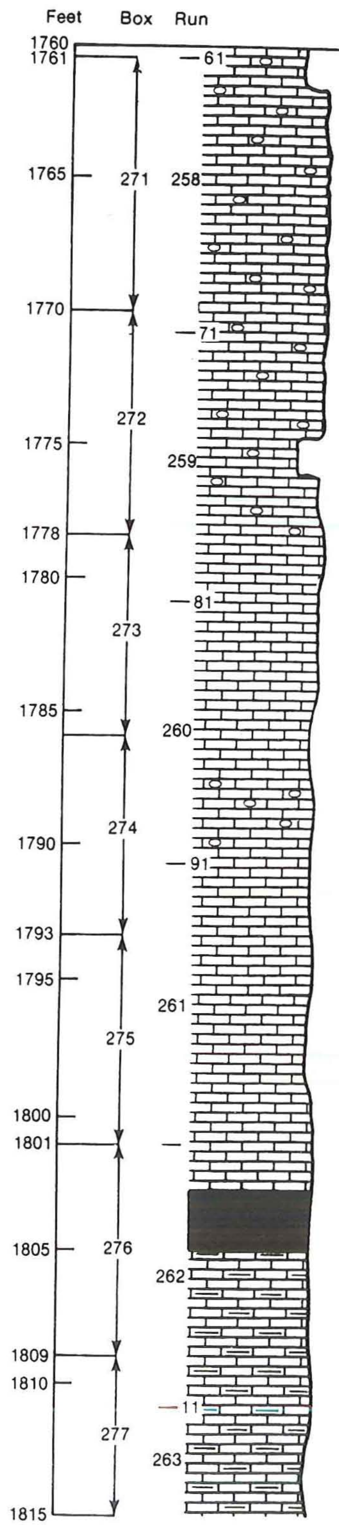
Feet	Box
1703–1712	264
1712–1721	265
1721–1728	266
1728–1737	267
1737–1745	268
1745–1753	269
1753–1761	270

Depth marks (Feet): 1703, 1705, 1710, 1712, 1715, 1720, 1721, 1725, 1728, 1730, 1735, 1737, 1740, 1745, 1750, 1753, 1755, 1760, 1761



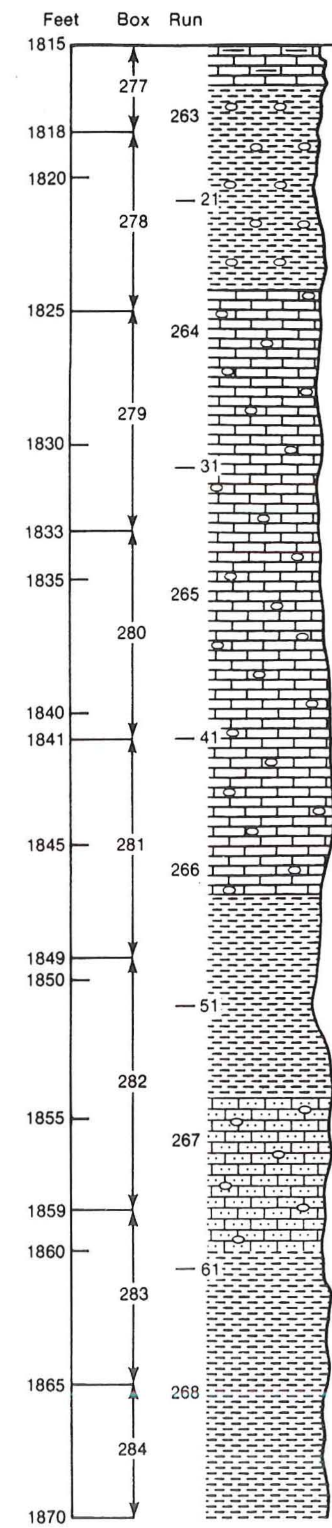
Run	Run marks	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
252		_09	10.0	none	none	none	none
253	—	Dark-gray limestone and minor mudstone. Locally contains burrows and fossil fragments	9.9	none	none	none	none
254	—22	_27	9.3	none	none	none	none
255	—32	Gray mudstone and siltstone with minor crossbedding	10.2	none	none	none	none
256	—42	_48	10.0	none	none	none	none
257	—51, —	Crossbedded white sandstone; 56 / Burrowed, brecciated light to dark-gray limestone \ 57	10.1	moderate	none	none	pyrite

LITHOLOGY — VALLES CALDERA NO. 1



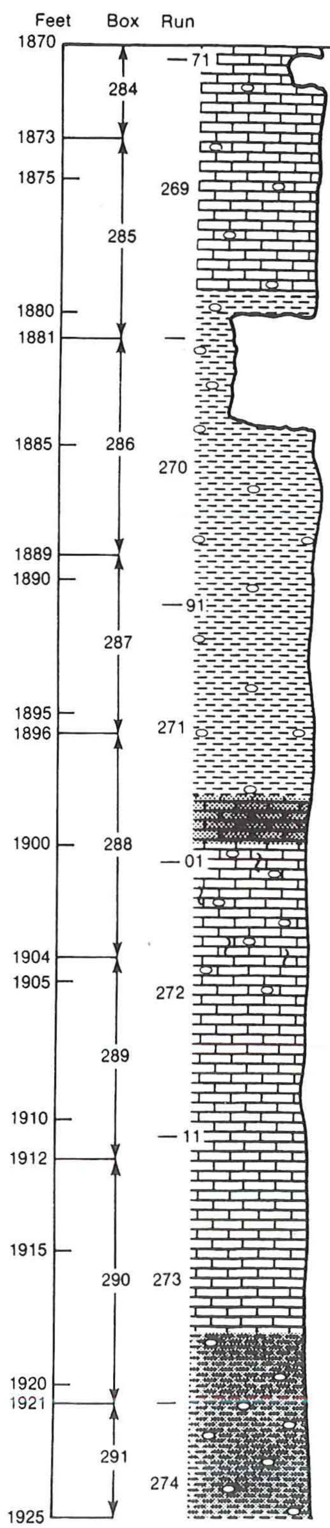
Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
_57					
Burrowed dark-gray limestone with large amount of non-carbonate clasts	10.0	none	none	none	none
	10.2	none	none	none	none
_78					
Dark-gray lithographic limestone. Burrowed in interval 1788' - 1790'					
	10.0	none	none	none	none
_90					
Gray to dark-gray limestone with some fossil fragments	10.0	none	none	none	none
Towards top of unit the fossil content decreases greatly and rock becomes laminated and stylolitic Interval 1803' - 1805' is a black, organic rich clay	9.8	none	none	none	pyrite filled burrow
	10.0	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



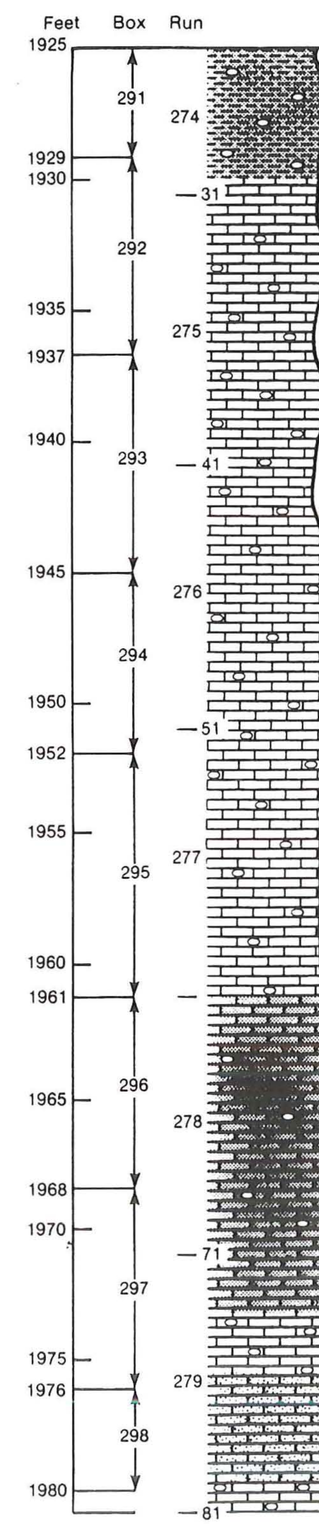
Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
_17					
Burrowed, calcareous reddish-brown shale. Burrows are calcite filled					
_24					
Burrowed, dark-to-light-gray, fossiliferous limestone	10.0	none	none	none	none
	10.0	none	none	none	none
	10.0	none	none	none	none
_47					
Gray siltstone					
_54					
Detrital, burrowed gray limestone	9.7	none	none	none	none
_60					
Red siltstone with calcite veins	10.1	none	calcite veins	none	none
_70					

LITHOLOGY — VALLES CALDERA NO. 1



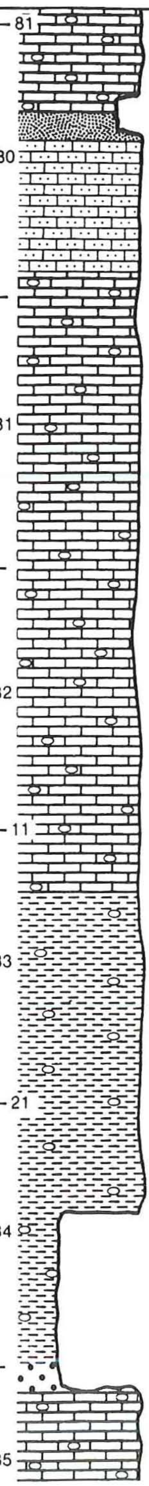
Depth	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
70	Gray recrystallized limestone. Minor burrows	10.0	none	none	none	none
79	Gray and reddish-brown shales with varying amounts of carbonate within burrows and veins.	10.0	none	calcite veins	none	none
		10.0	low	none	none	none
98	Gray argillaceous limestone					
00	Burrowed limestone with indications of brecciation while soft					
		10.0	none	none	none	none
06	Lithographic gray limestone with calcite-filled veins					
		10.0	none	calcite veins	none	none
18	Dark-gray burrowed and laminated siltstones. Minor carbonate					
		10.0	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



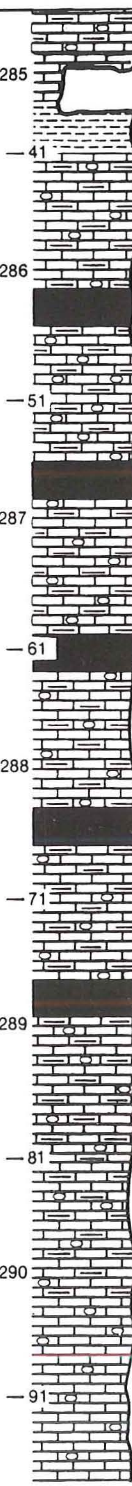
Depth	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
	As above	10.0	none	none	none	none
30	Fossiliferous limestone					
32	Gray limestone, burrowed and fossiliferous in places	10.0	none	none	none	dissem-inated pyrite
		9.3	none	none	none	none
		10.0	none	none	none	none
61	Dark-gray lithoclastic limestone with few burrows	10.0	none	none	none	none
70	Dark-gray fossiliferous lime-stone					
73	Burrowed, gray limestone	10.3	none	none	none	none
76	Gray, clastic limestone					
79	Burrowed, gray limestone					

LITHOLOGY — VALLES CALDERA NO. 1

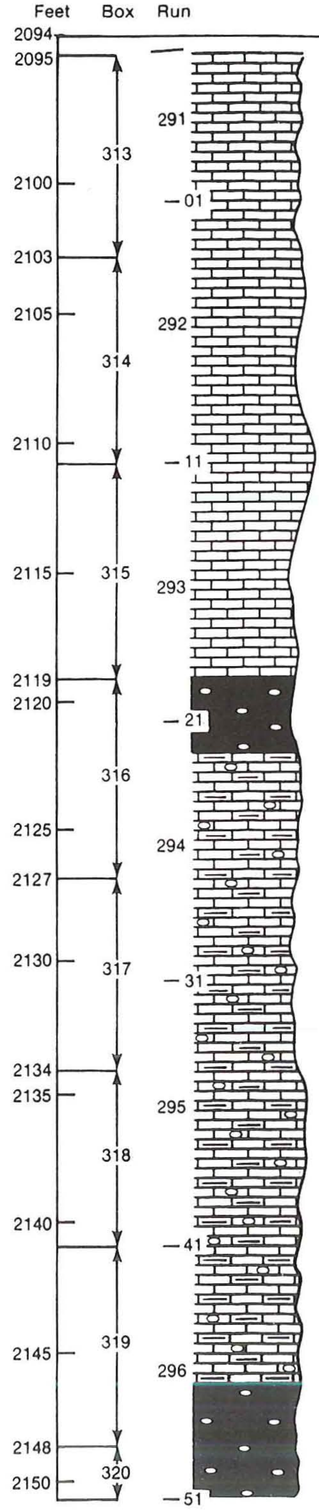


Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
1980	298	—81	Burrowed, gray limestone					
1984			84 Coal					
1985		280	—85					
	299		Laminated detrital gray limestone	10.0	none	none	none	minor sulfides in coal
1990			—90					
1991		—						
1995	300	281	Burrowed, gray limestone	10.0	none	none	none	none
2000								
2001		—						
	301			10.0	none	none	none	none
2005								
2007		282						
2010	302	—11						
			—13					
2015								
2016		283	Dark brown shale; burrowed in places	10.0	none	none	none	none
	303							
2020		—21						
2022								
2025	304	284		10.0	none	none	none	none
2030			31					
2031		—	Poorly-sorted sandstone					
	305		32					
2035		285	Burrowed, gray limestone	10.1	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1

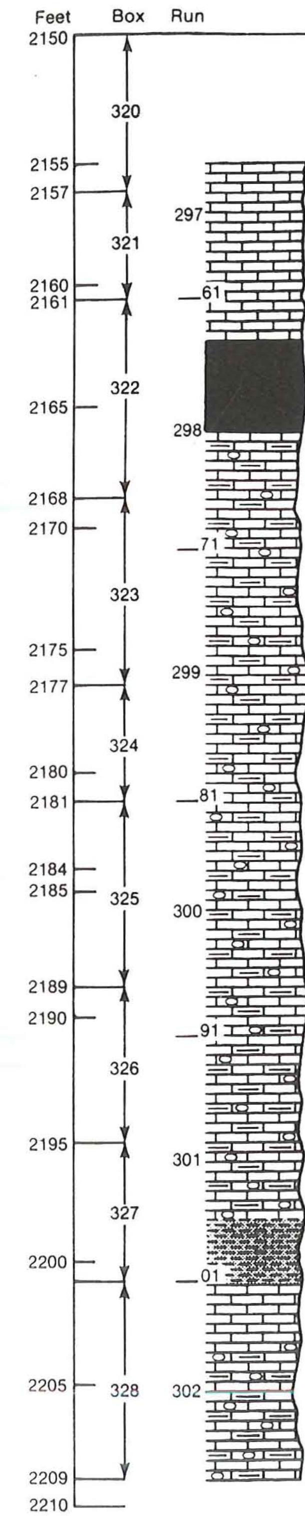


Feet	Box	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
2035			Brown limestone					
			—36					
	305	285	Gray limestone					
2039			—39					
2040			Red shale					
		—41	—41					
	306							
2045		286	Burrowed, stylolitic limestone Minor intercalated mudstone	10.0	none	none	none	none
2047								
2050	307	—51						
2053								
2055		287		10.0	none	none	none	none
	308							
2060		—61						
2065	309	288		10.0	none	none	none	none
2070		—71						
	310							
2075		289		10.0	none	none	none	none
2078								
2080		—81						
	311							
2085								
2086		290						
			87					
2090	312	—91	Burrowed, fossiliferous gray limestone	10.0	none	none	none	none
2094			—94					

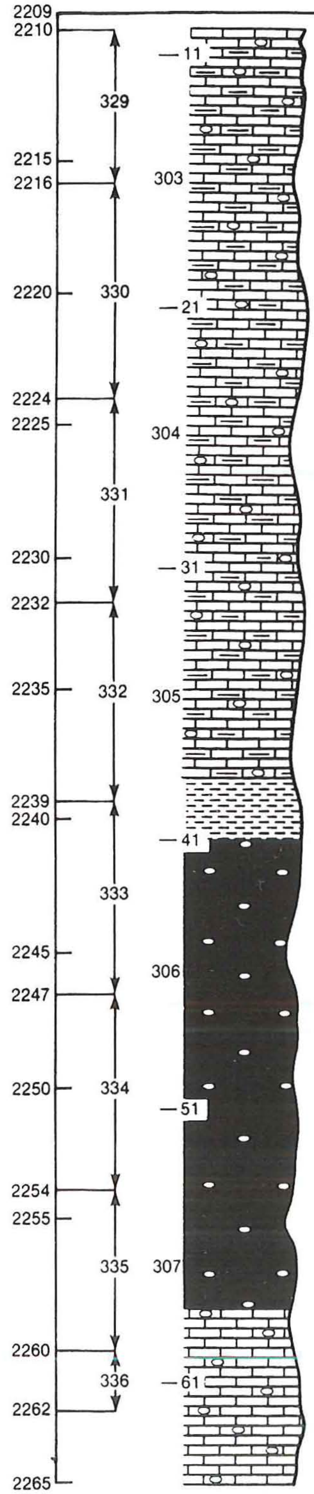


Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
291	94 — Lithographic, dark-gray limestone	10.0	none	none	none	none
292	Lithographic, dark-gray limestone	10.0	none	none	none	none
293	— 19 Burrowed mudstone. Burrows are calcite filled — 22	10.0	none	none	none	none
294	Burrowed, stylolitic limestone	10.0	none	none	none	none
295	Burrowed, stylolitic limestone	9.9	none	none	none	none
296	— 46 Burrowed mudstone. Burrows are calcite filled	10.0	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1

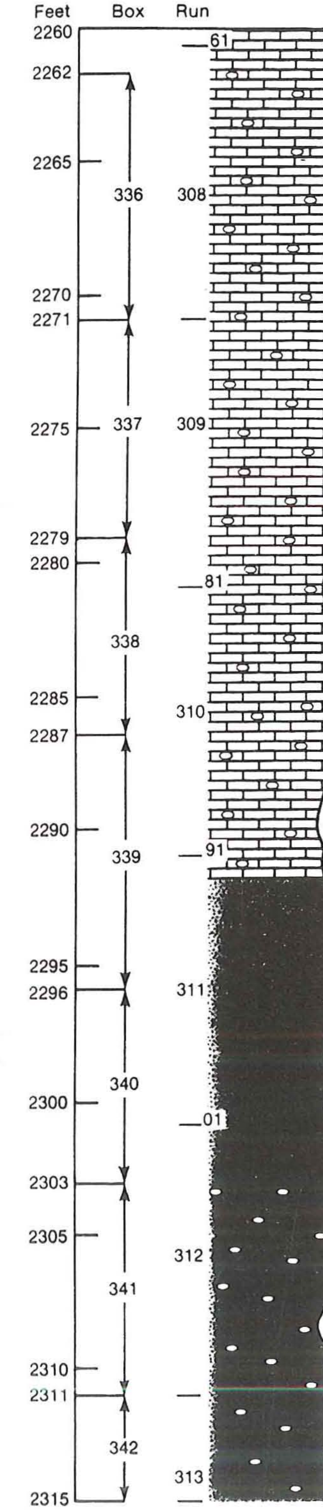


Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
297	50 — Gray limestone	10.0	none	none	none	none
298	— 63 Gray mudstone — 66	10.0	none	none	none	none
299	Burrowed, stylolitic gray limestone with calcite veins	10.0	none	calcite veins	none	none
300		10.0	none	none	none	none
301	— 98 Gray siltstone — 01	9.9	low	none	none	none
302	Dark-gray calcarenite (> 50% detrital calcite grains) — 03; Burrowed, stylolitic gray limestone with calcite veins	10.0	none	calcite veins	none	none



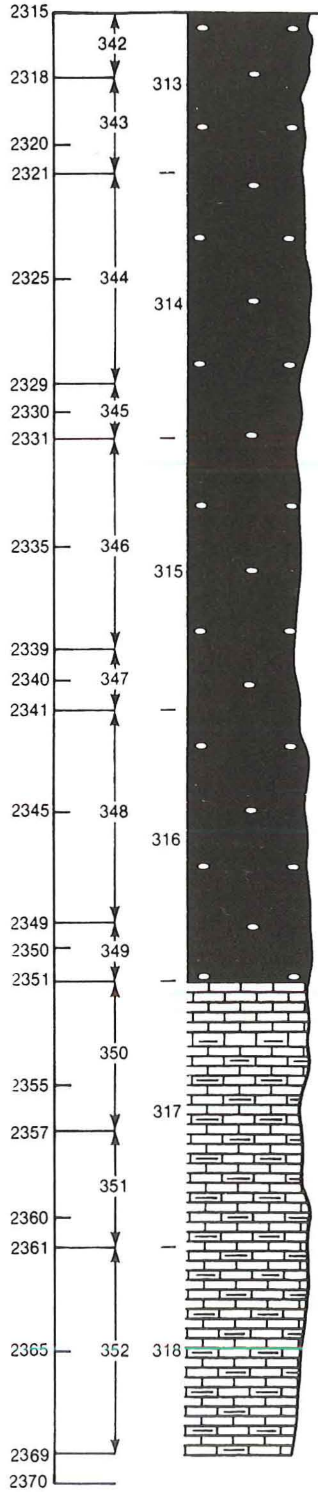
Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
Burrowed, stylolitic gray limestone with calcite veins	9.5	none	calcite veins	none	none
	9.8	none	none	none	none
	10.0	high	none	none	none
—38 Siltstone —41					
Burrowed mudstone; calcite filled burrows	10.0	none	none	none	none
—58 Burrowed gray limestone	10.0	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



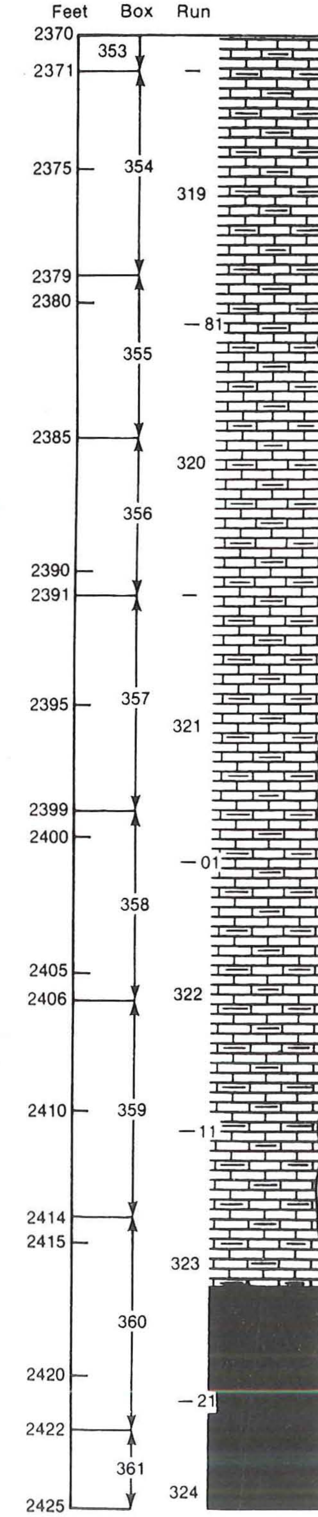
Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
Burrowed gray limestone	9.7	none	low	none	none
	10.0	none	low	none	none
	10.0	none	low	none	none
—92					
	10.0	none	low	none	none
Fossiliferous gray and brown mudstone					
—03					
	9.8	none	low	none	none
Burrowed calcareous gray and brown mudstone					
	10.0	none	low	none	none

LITHOLOGY — VALLES CALDERA NO. 1



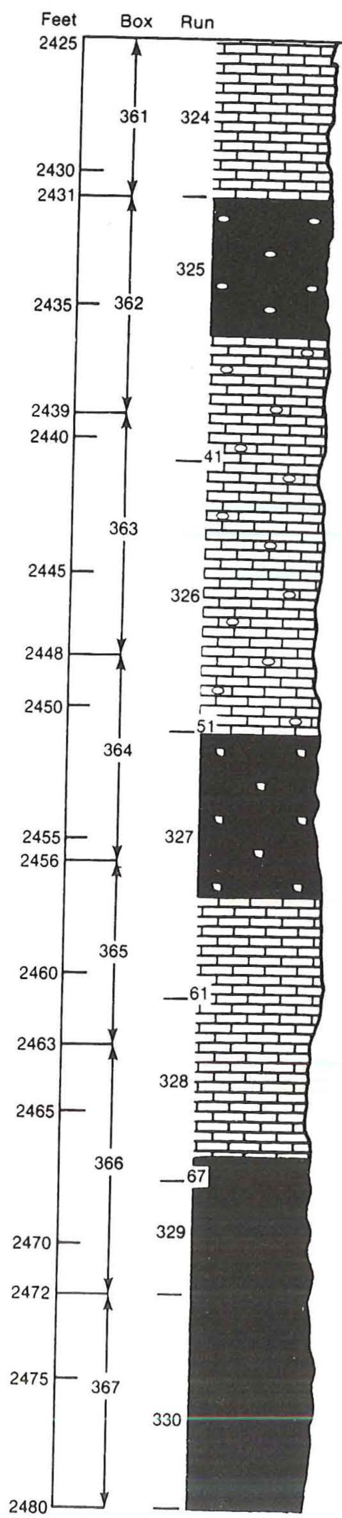
Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
313	Burrowed calcareous mudstone	10.0	none	none	none	none
314		10.0	none	none	none	none
315		10.0	none	none	none	none
316		9.8	none	none	none	none
317	—51 Calcarenite (> 50% detrital calcite grains) —53; Gray fossiliferous stylolitic limestone intercalated with laminated gray limestone	9.4	low	none	none	none
318		9.5	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



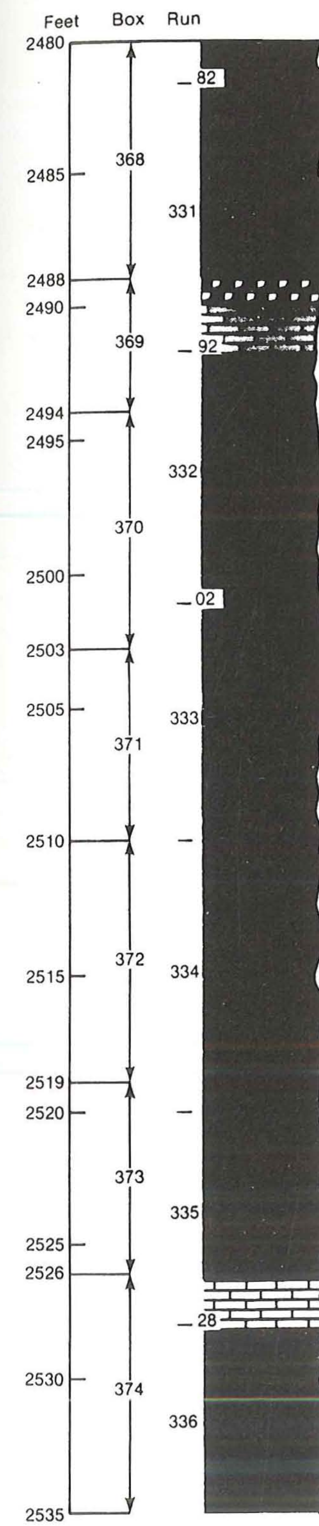
Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
319	Gray bioclastic stylolitic limestone intercalated with laminated gray limestone	10.0	none	none	none	none
320		10.0	none	none	none	none
321		9.9	none	none	none	none
322		10.0	none	none	none	none
323	—17 Mudstone	10.0	none	none	none	none
324	—24	9.3	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



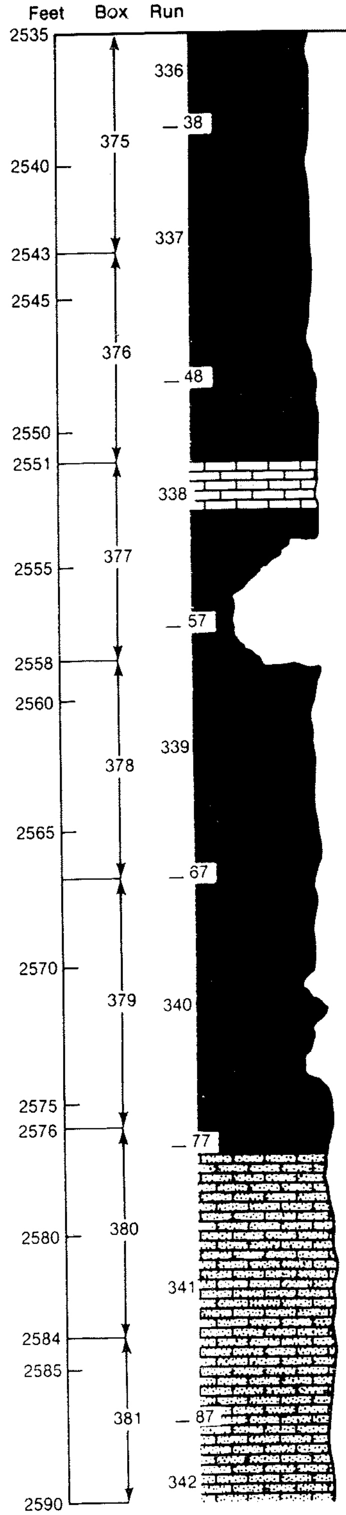
Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
324	Bioclastic gray limestone	9.3	none	none	none	none
	—31					
325	Laminated burrowed mudstone, XRD reveals 60% clay, 40% quartz	10.0	none	none	none	none
	—36					
326	Burrowed fossiliferous gray limestone	10.0	none	none	none	none
	—51					
327	Siliceous laminated gray mudstone	10.0	none	none	none	none
	—57					
328	Fossiliferous gray limestone	6.0	none	none	none	none
	—66					
329		4.9	none	none	none	none
330	Gray and red mottled mudstone	10.0	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



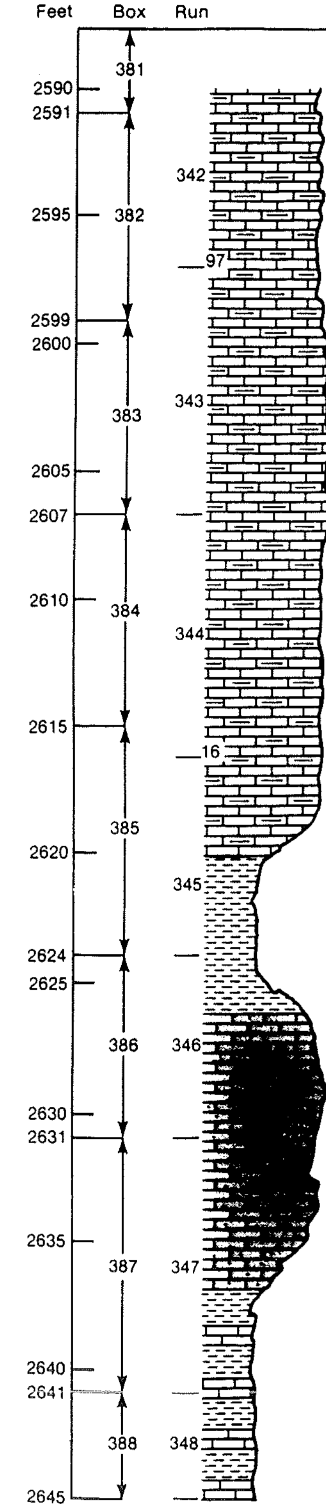
Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
331	As above	10.1	none	minor	none	none
	88 / 89 Siliceous mudstone					
	Fossiliferous limestone with minor clay					
	92					
332		9.5	none	minor	none	none
	Shaly mudstone					
333		8.5	none	minor	none	none
334		10.0	none	minor	none	none
335	26	7.8	none	minor	none	none
	Light-gray fossiliferous limestone					
	28					
336	Laminated gray to black mudstone. Minor carbonates	10.1	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



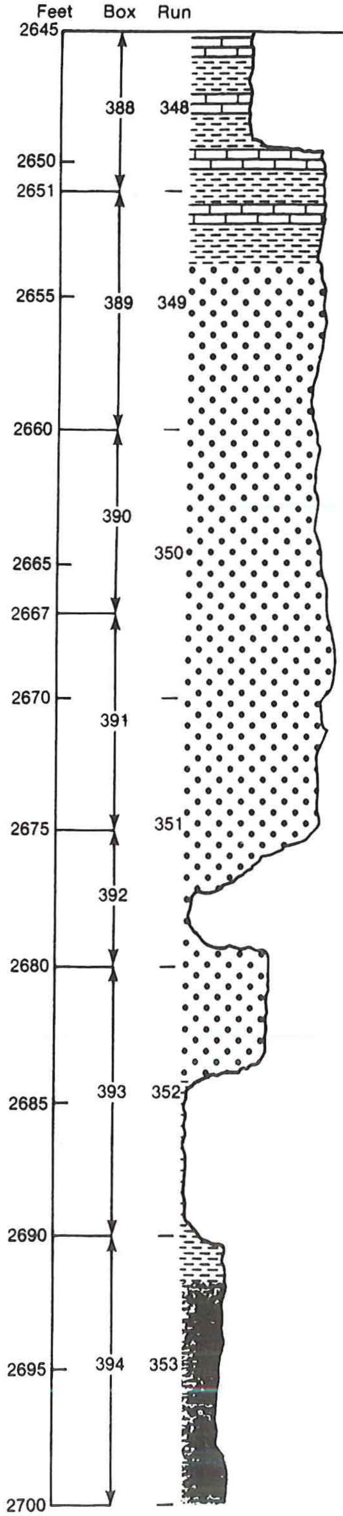
Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
As above	9.1	none	none	none	none
51 Laminated gray limestone with calcite filled veins 53 54	10.0	none	calcite veins	none	none
58 Laminated gray to black mudstone with minor clay, carbonate and possibly some anhydrite	10.0	none	none	none	none
	9.5	none	none	none	none
77	10.1	none	none	none	3 to 4 cm^3 aggregates of Fe Sulfides
Fossiliferous and argillaceous light to dark-gray limestone and mudstone					
90	10.1	none	high (calcite filled)	none	none

LITHOLOGY — VALLES CALDERA NO. 1



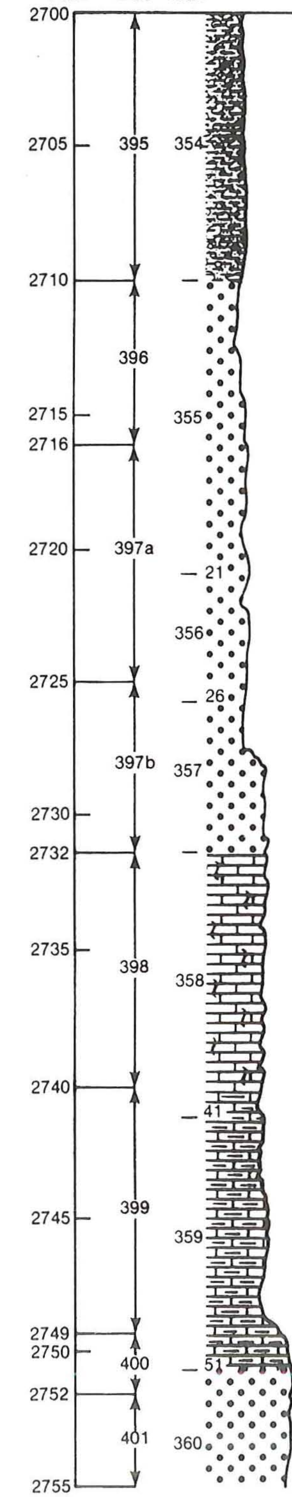
Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
Light to dark gray fossiliferous stylolitic limestone	10.1	none	calcite veins	none	none
	10.0	none	high (calcite filled)	none	none
	9.0	none	high (calcite filled)	none	disseminated sulfide on fracture plane
20 Black shale containing calcite fragments. Bedding 40° to long axis of core	7.2	none	none	none	stratiform sulfides in shale
26 Fossiliferous light-gray limestone with varying amount of clay	8.3	none	none	none	none
Bottom of Madera Limestone 37	9.8	none	none	none	none
Gradational contact					
Detrital limestone in a dark-red to brown matrix of shales and mudstone	9.0	none	none	none	vugs filled with Fe sulfide

LITHOLOGY — VALLES CALDERA NO. 1



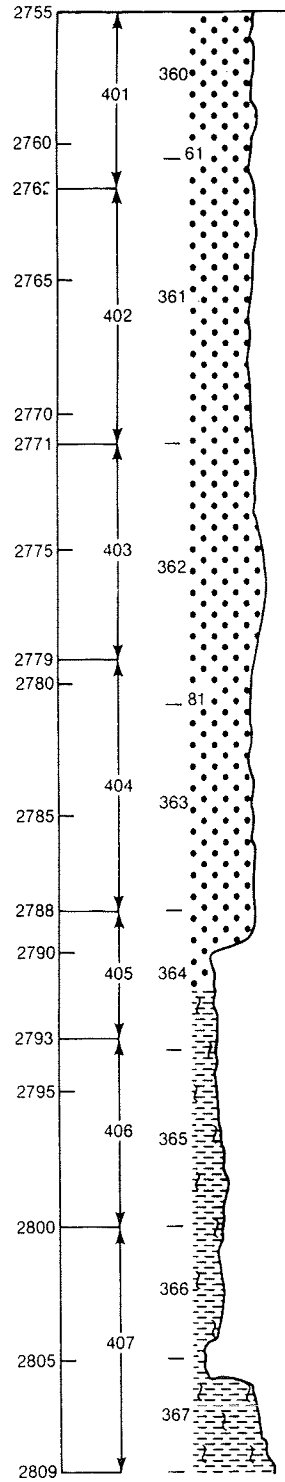
Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
348		9.0	none	none	none	vugs with Fe sulfides
	Top of Sandia Formation					
	— 54					
349		10.0	none	none	none	disseminated Fe sulfide in fracture
350	Greenish-gray to gray sandstone with varying amounts of carbonate as cement. Locally contains carbonate clasts	9.4	none	none	none	none
351		10.0	none	none	none	none
	— 84					
352	Red shale	9.6	none	none	none	none
	— 92					
353	Mottled greenish-gray siltstone with varying amounts of carbonate cement	10.0	none	none	none	none

LITHOLOGY — VALLES CALDERA NO. 1



Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
354	As above	10.0	low	medium	chlorite, hematite & celadonite in cavities	minor pyrite
	— 12					
355	Dark-red argillaceous sandstone containing angular chert fragments	7.5	medium to high	low	lightly altered	minor pyrite
356		7.0	medium	low	none	none
357		6.0	high	low	none	none
	— 31					
358	Dark to light-gray brecciated limestone	9.0	low	low	none	disseminated pyrite
	— 41					
359	Gray stylolitic limestone	9.3	low	low	none	pyrite in stylolite seams
	— 51					
360	Crossbedded, coarse-grained sandstone	9.5	low	medium	none	pyrite in stylolite seams

LITHOLOGY — VALLES CALDERA NO. 1



Feet	Run	Lithology	Recovery (feet)	Porosity	Fracturing	Alteration	Sulfides
2755	360	As above	9.5	low	medium	none	pyrite in stylolite seams
— 61	361	Brecciated green sandstone with Precambrian fragments	10.1	medium	medium	chlorite	pyrite
	362		10.3	medium	low	chlorite	molybdenite in fractures
	363		9.2	medium	low	chlorite	molybdenite in fractures
— 87	364	Coarse-to-fine-grained, massive, dark-gray sandstone	2.0	none	high	chlorite	disseminated pyrite
— 91	365	Brecciated black to greenish-gray shale and calcareous shale	6.0	none	high	none	disseminated pyrite
	366		4.8	none	high	none	disseminated pyrite
	367		?	none	high	none	disseminated pyrite

APPENDIX B

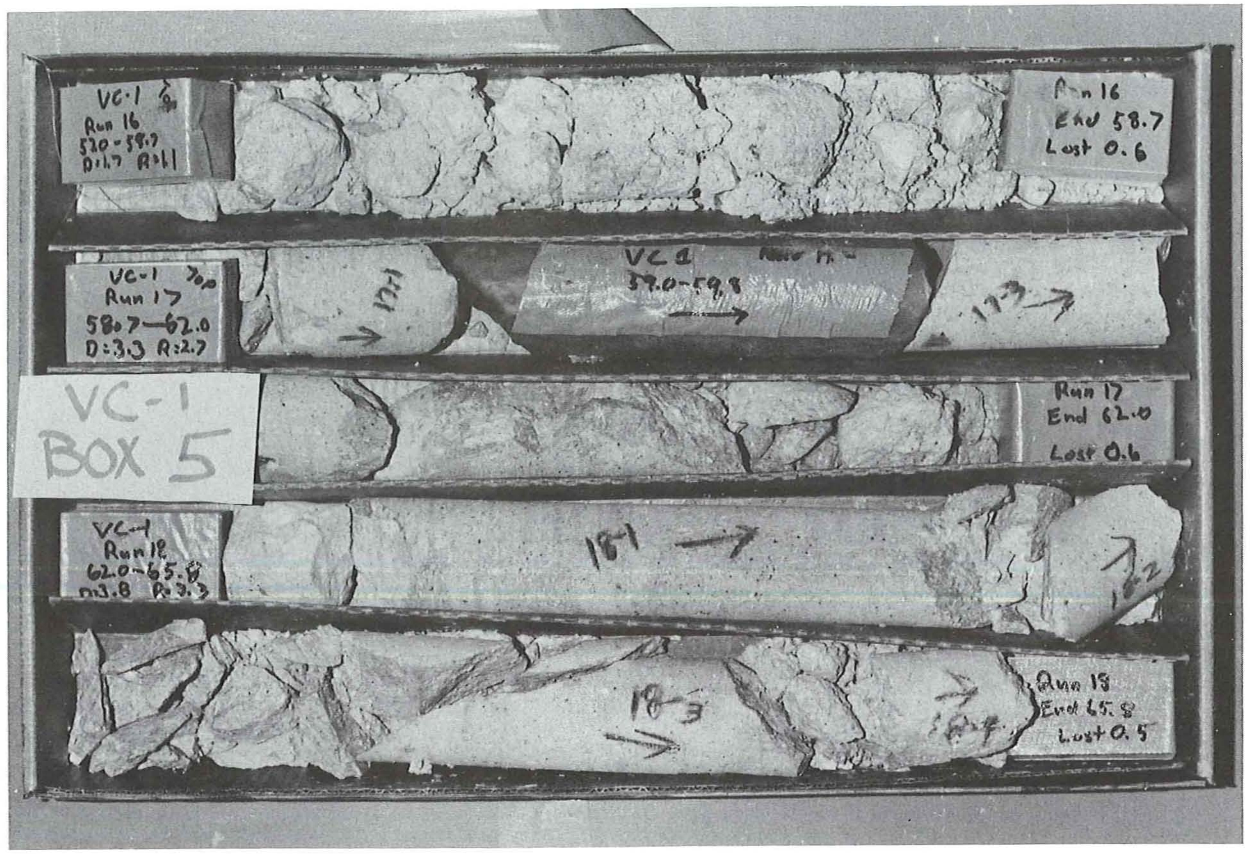
CORE PHOTOGRAPHS


VC-1
BOX 1
Lost
1.8
PEPSI

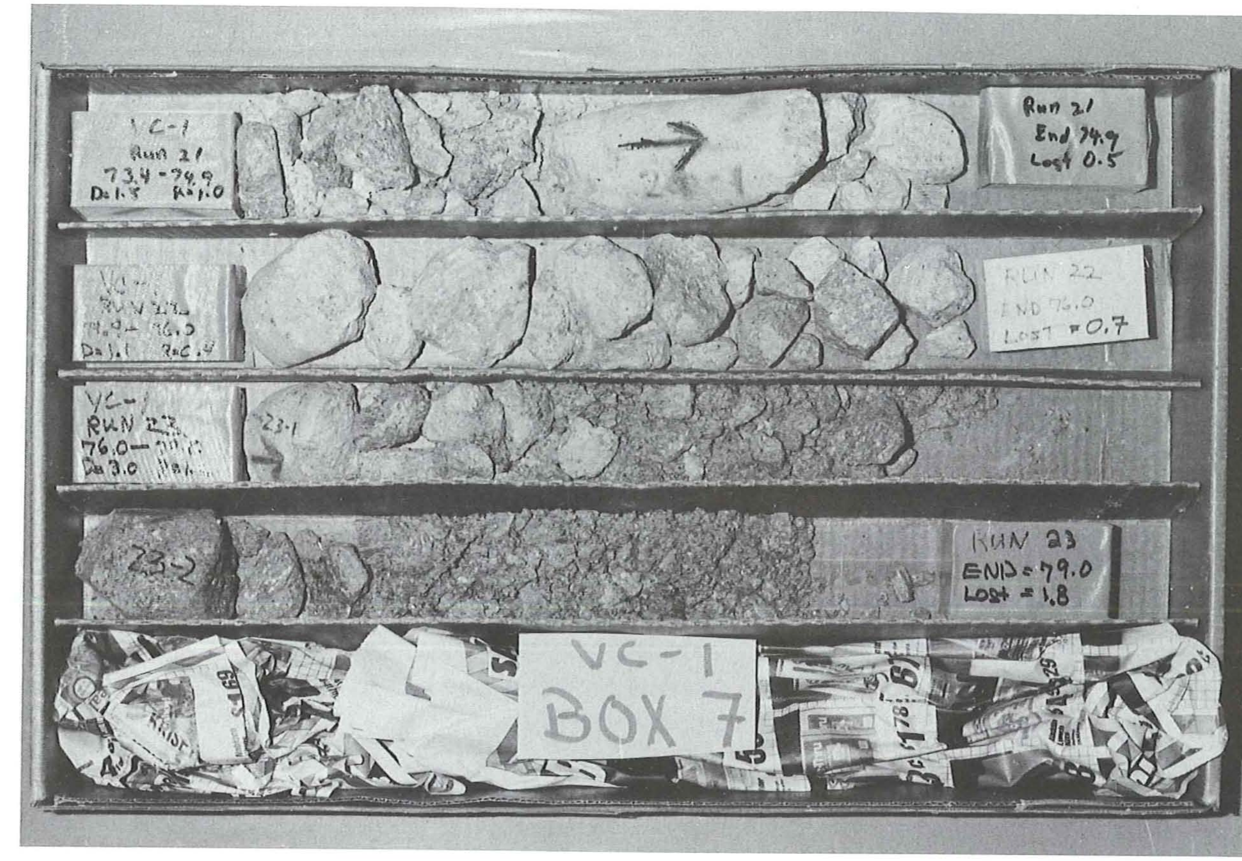

VC-1
Box 2
Run 7
End 28.3
Lost 1.6


VC-1
BOX 3
Run 12
End 45.2

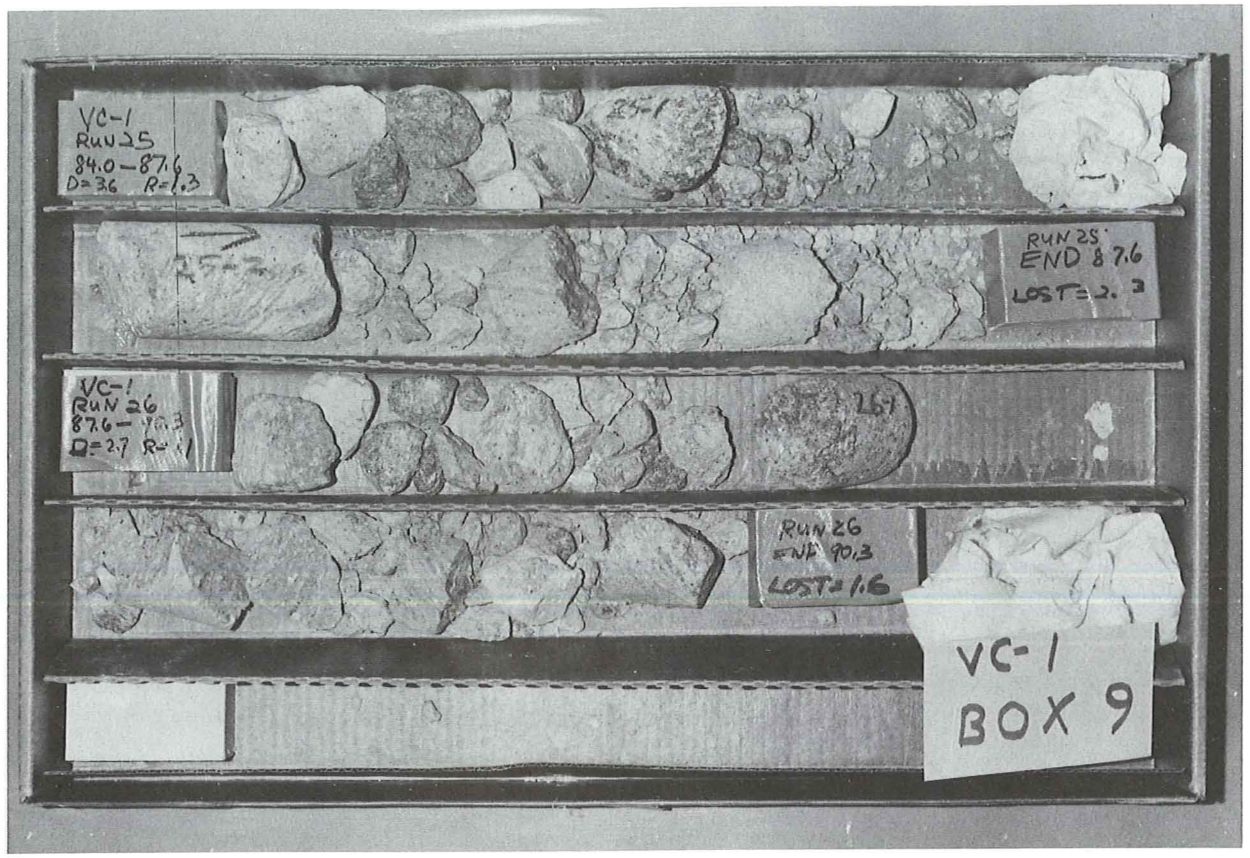

VC-1
BOX 4
Run 13
END 49.3
Run 15
End 52.0

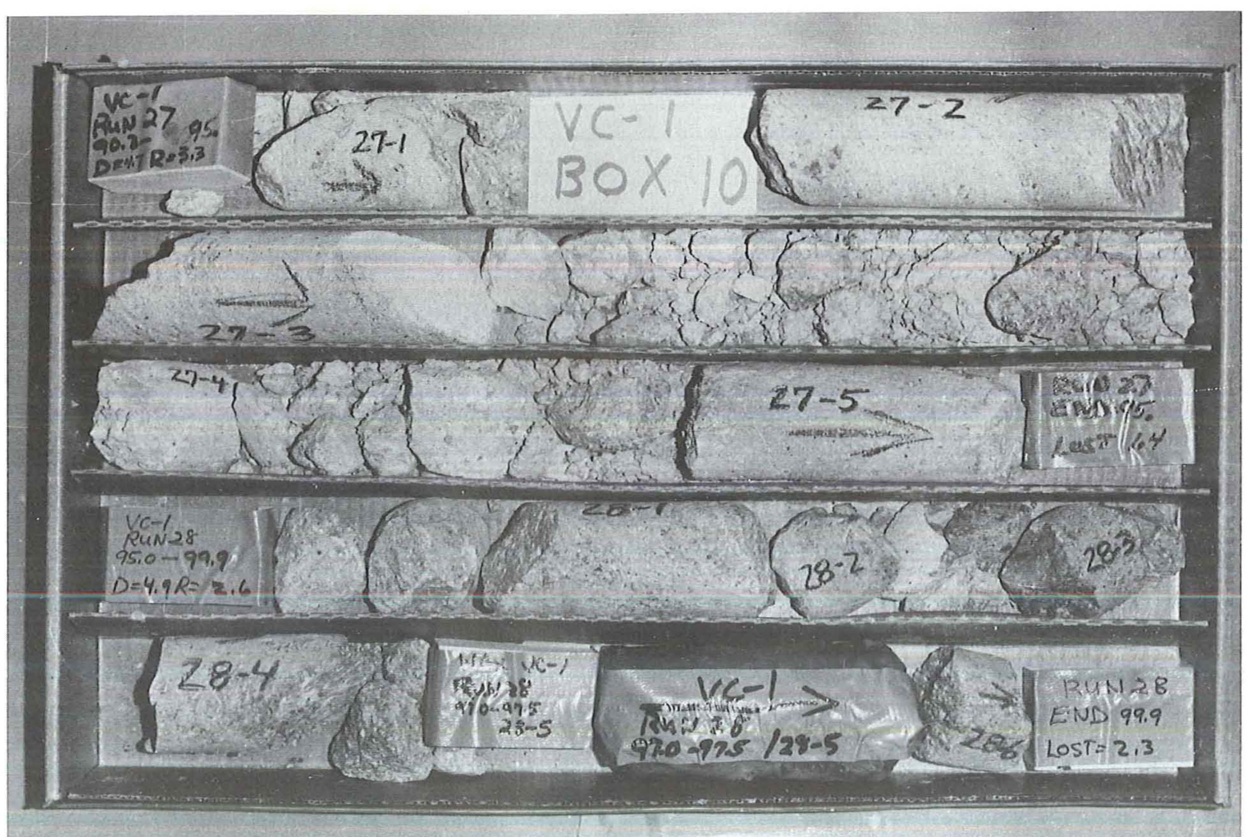

VC-1
BOX 5

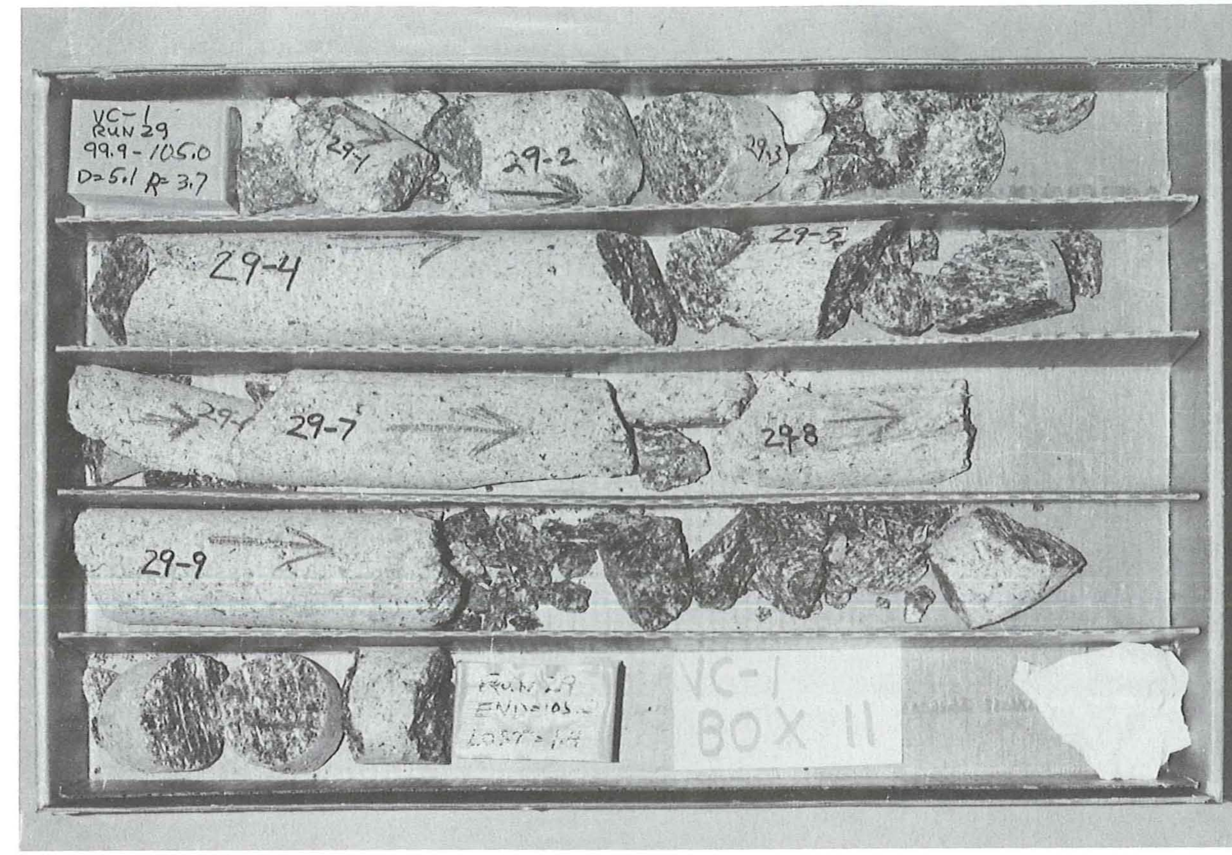

VC-1
BOX 6


VC-1
BOX 7


VC-1
BOX 8


VC-1
BOX 9
RUN 25
END 87.6
RUN 26
END 90.3
LOST=1.6


VC-1
BOX 10
27-2
27-5
RUN 28
END 99.9
LOST=2.3

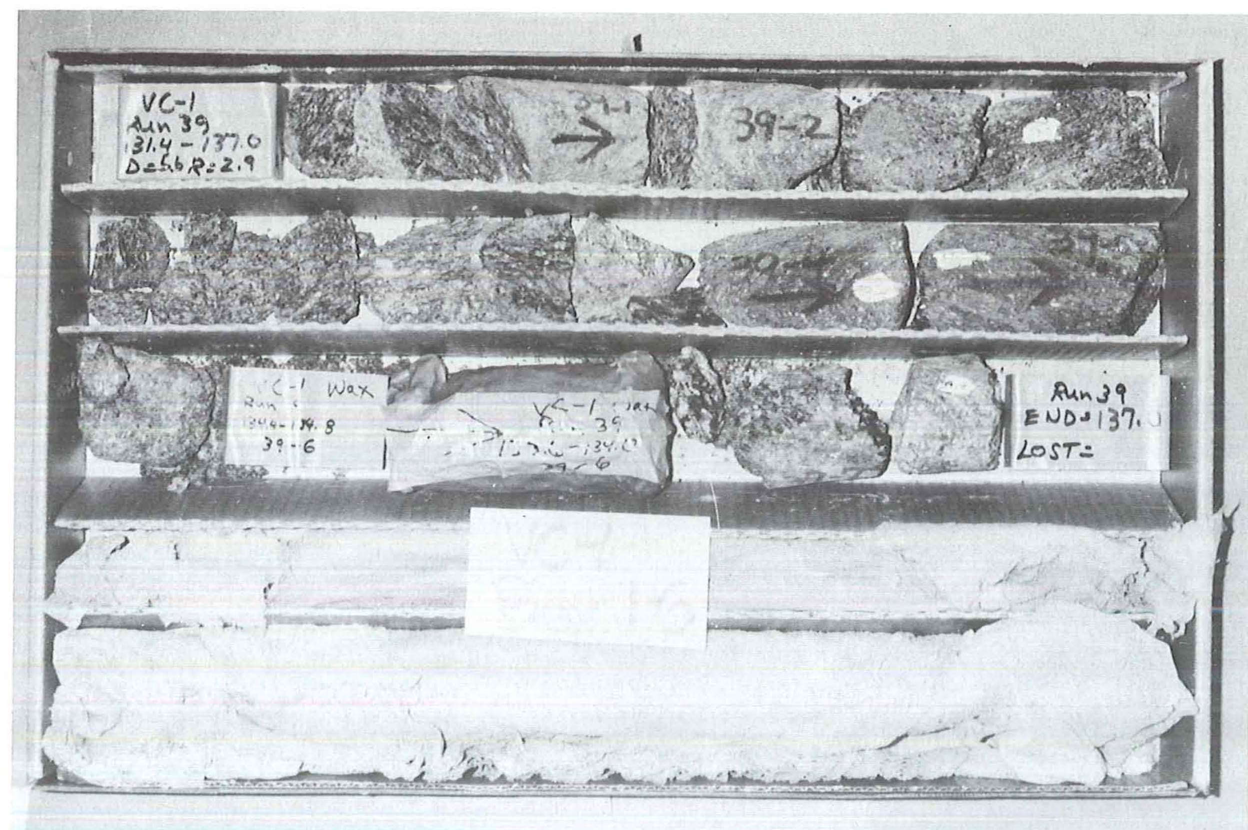

VC-1
BOX 11
29-2
29-4
29-7
29-9


VC-1
BOX 12
RUN 30
END=107.8
LOST=0.9
RUN 31
END 111.4
LOST=2.4

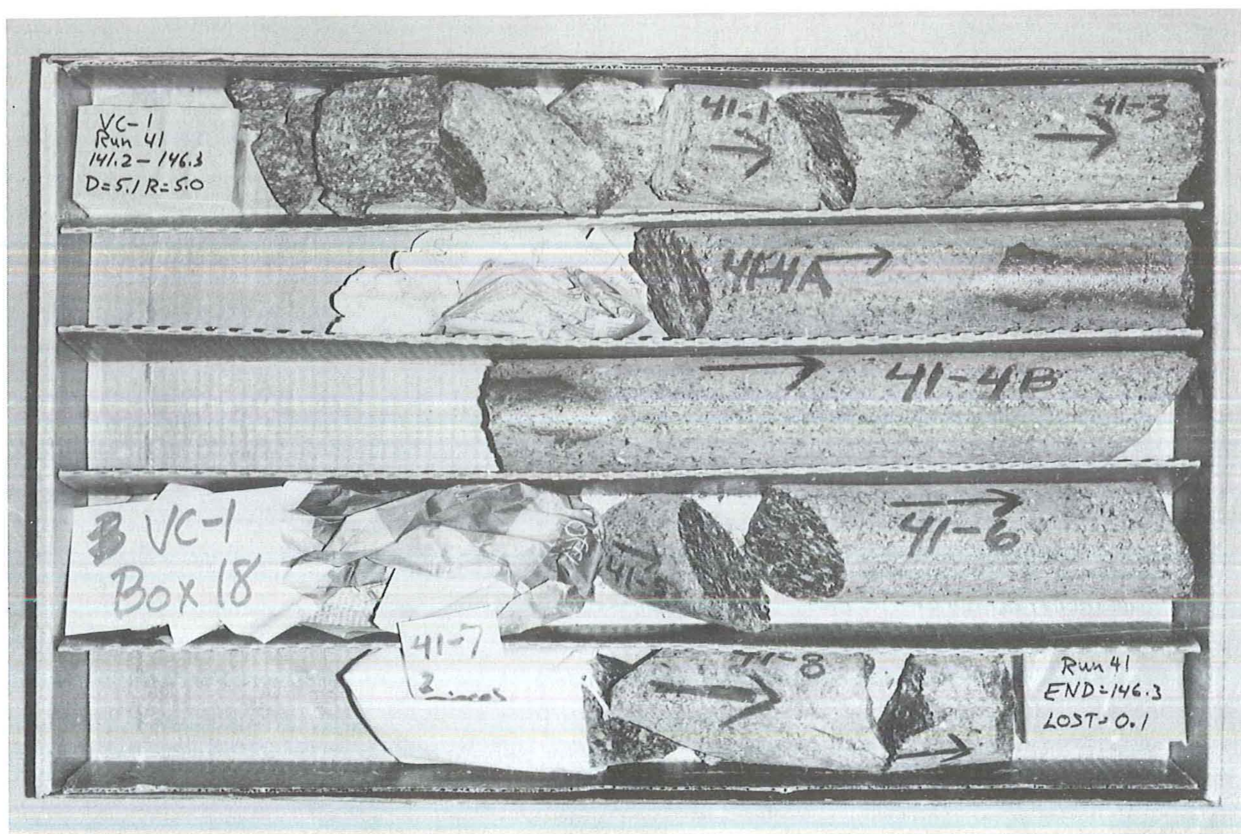

VC-1
RUN 32
RUN32
END=114.2
LOST=1.1
32-1
RuN33
END=118.6
LOST=2.5
VC-1 WAX
33-2
VC-1
Box 13

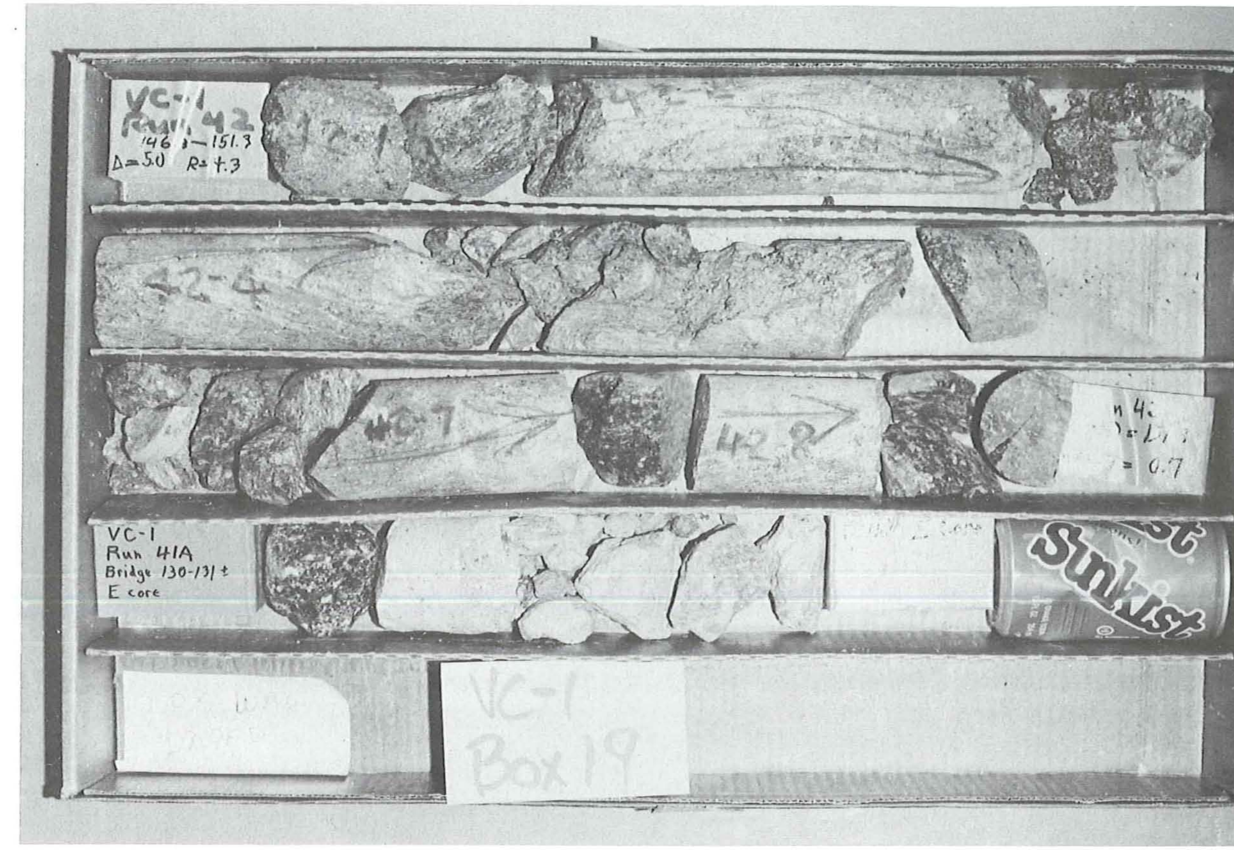

VC-1
RUN 34
RuN 34
END=119.8
35-1
RUN 35
VC-1
RUN 36
36-1
VC-1
Box 14


VC-1
Run 37
37-2
37-3
37-4
37-5
37-6
RuN 37
VC-1
38-1
38-2
38-3
VC-1
Box 15

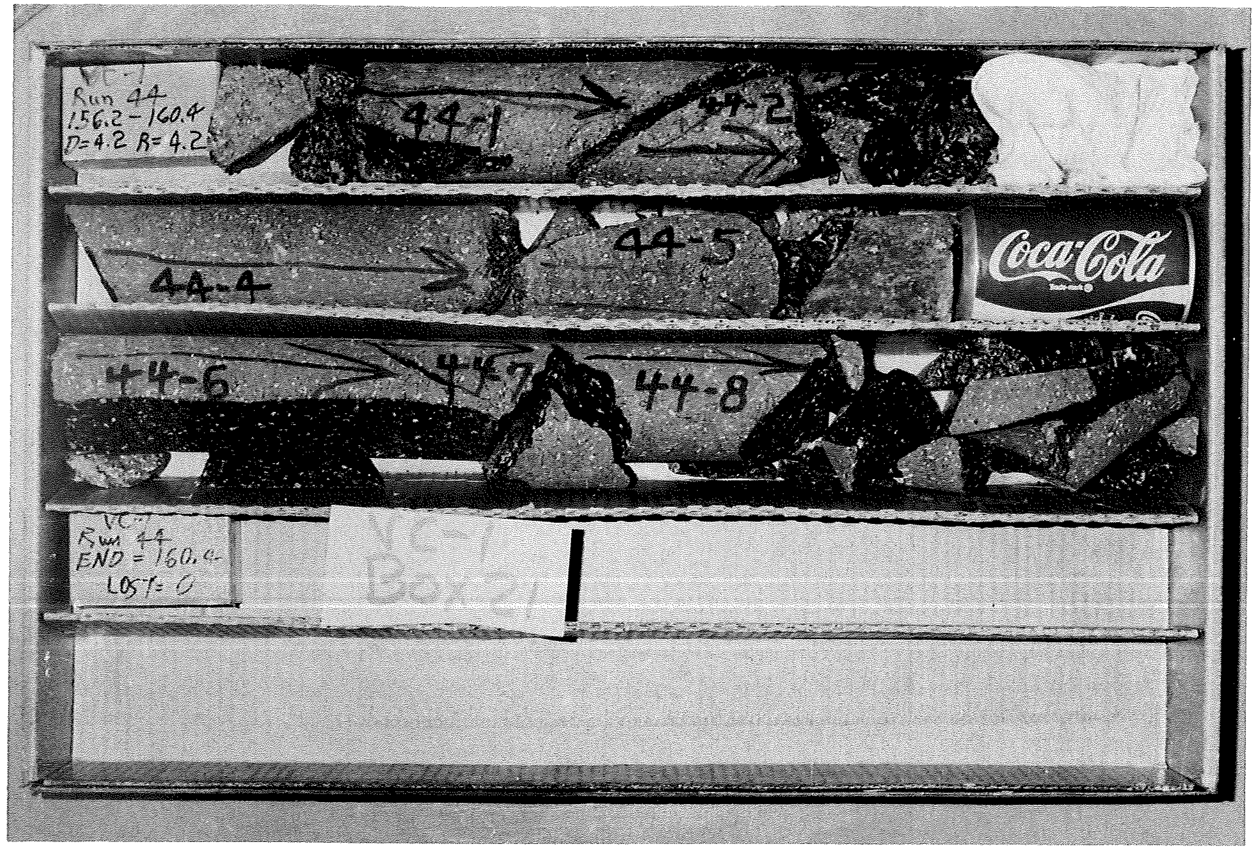

VC-1
Run 39
39-2
VC-1 WAX
Run39
LOST=

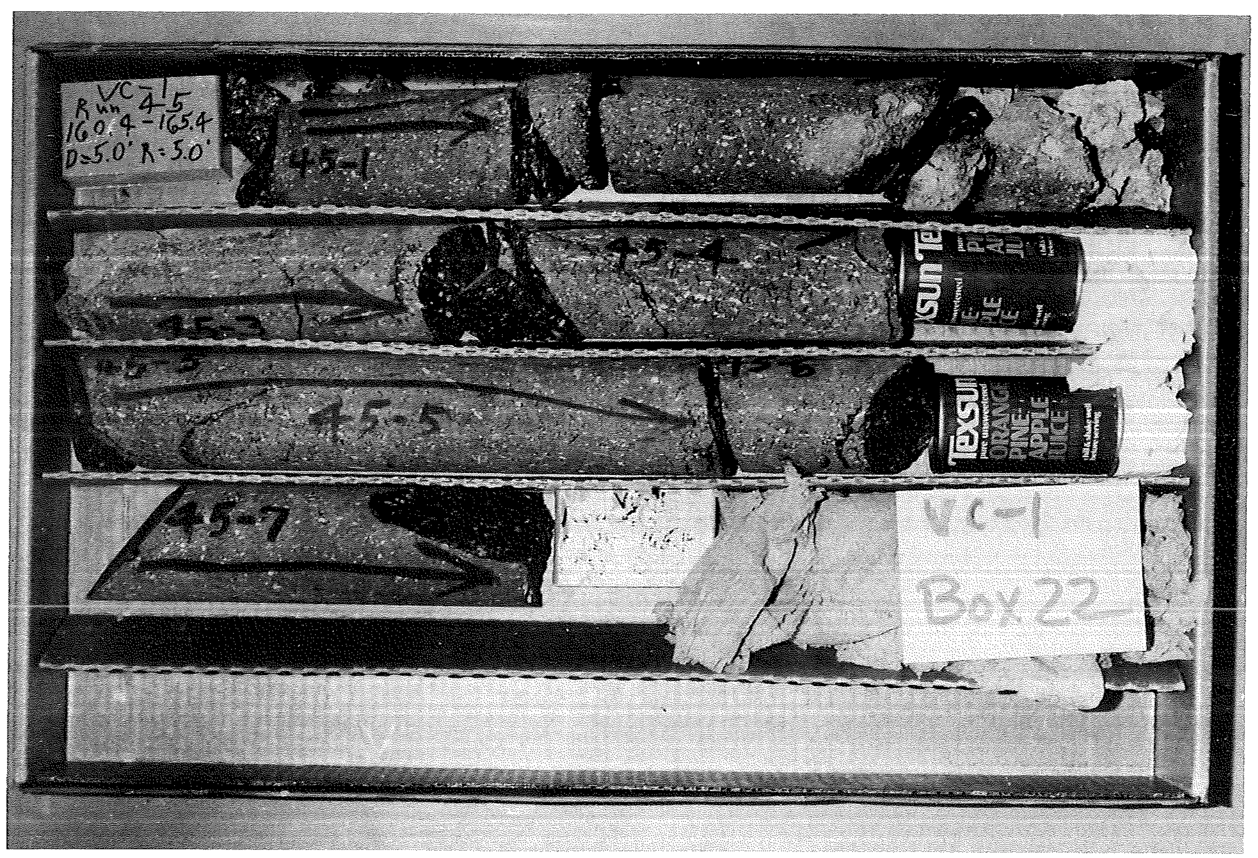

VC-1 Run 40 137.0-141.2 D=4.2 R=4.6
VC-1 Run40 ECORE 137.0-137.6 (40-1 & 40-2)
VC-1 Box 17
Run 40 END=141.2 LOST=0.0 E CORE.

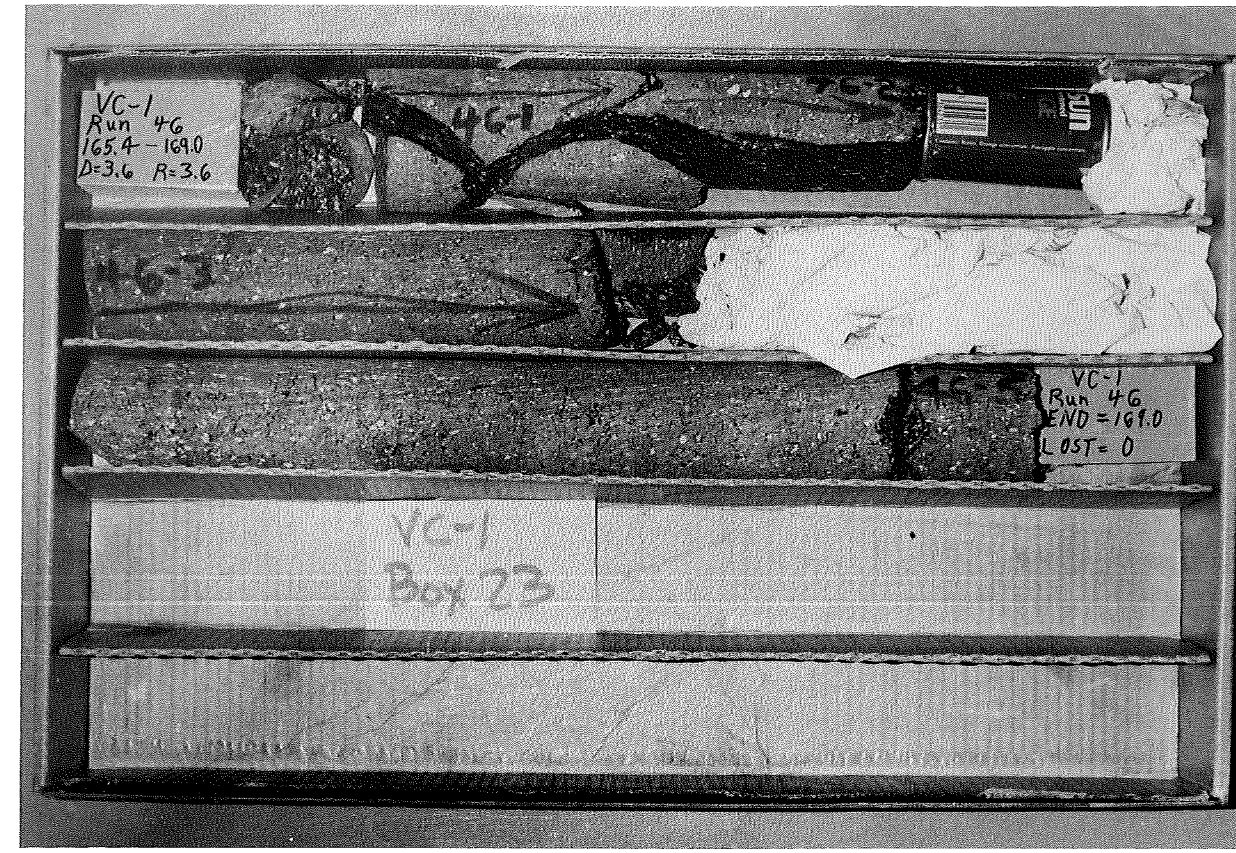

VC-1 Run 41 141.2-146.3 D=5.1 R=5.0
VC-1 Box 18
Run 41 END=146.3 LOST=0.1

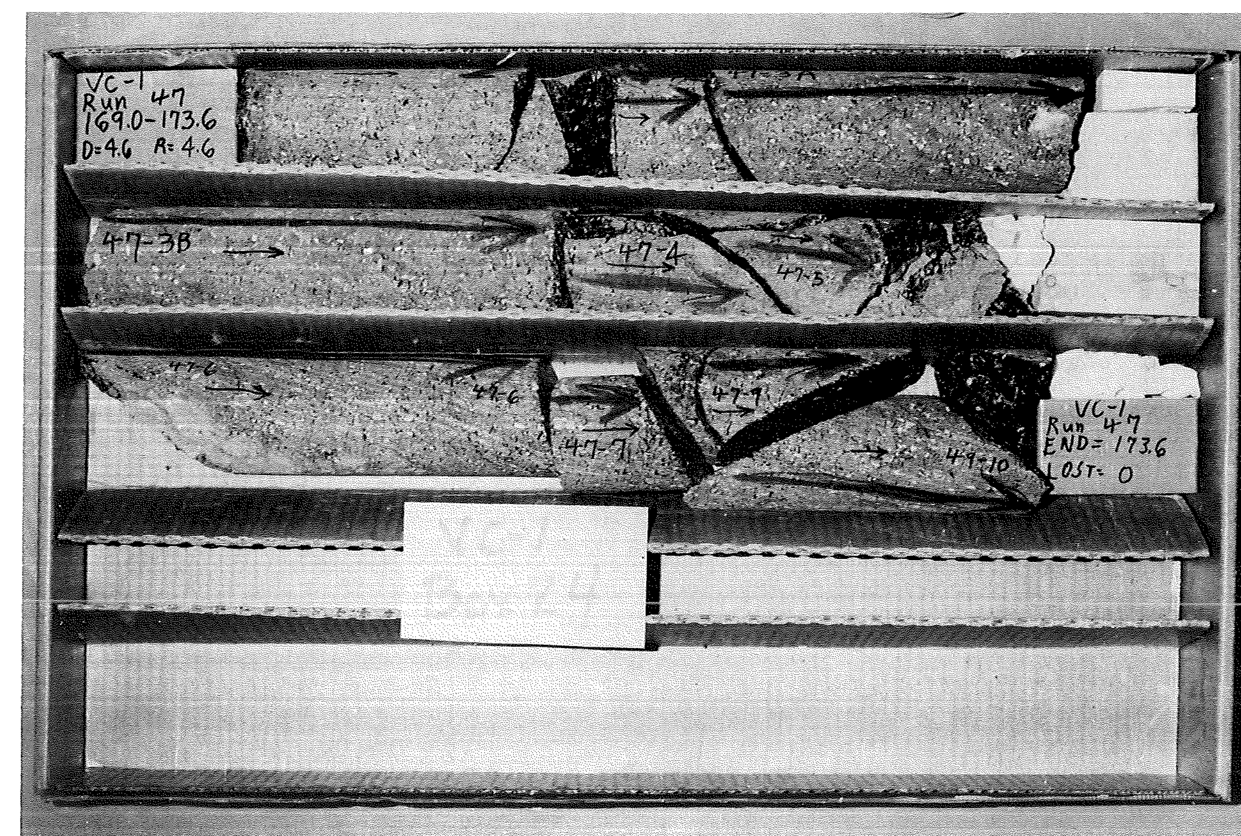

VC-1 Run 41A Bridge 130-131± E core
Sunkist
VC-1 Box 19


VC-1 Run 43 151.3-156.2 D:4.9 R:4.9
VC-1 Run 43 END=156.2 LOST=0
VC-1 Box20

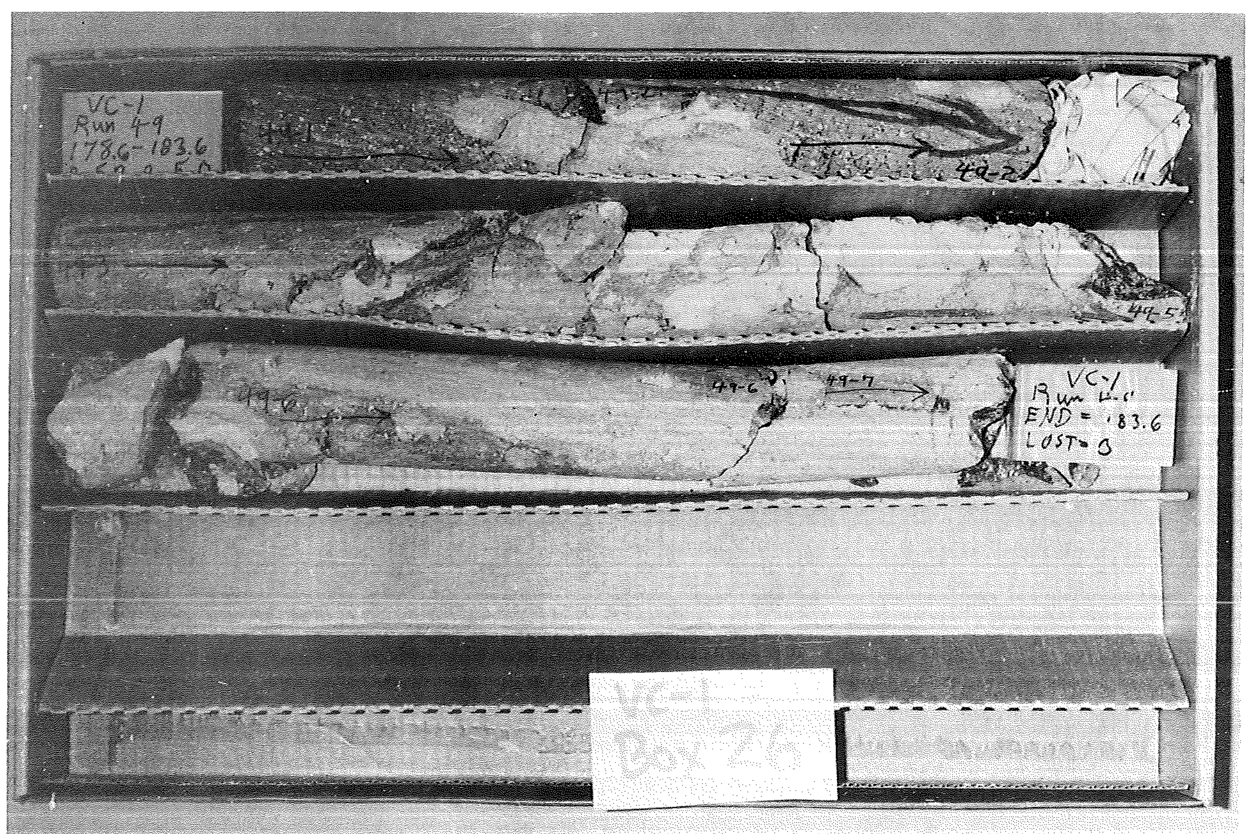

VC-1
Run 44
156.2 - 160.4
D=4.2 R=4.2
44-1
44-2
44-4
44-5
Coca-Cola
44-6
44-8
VC-1
Run 44
END = 160.4
LOST = 0
VC-1
Box 21

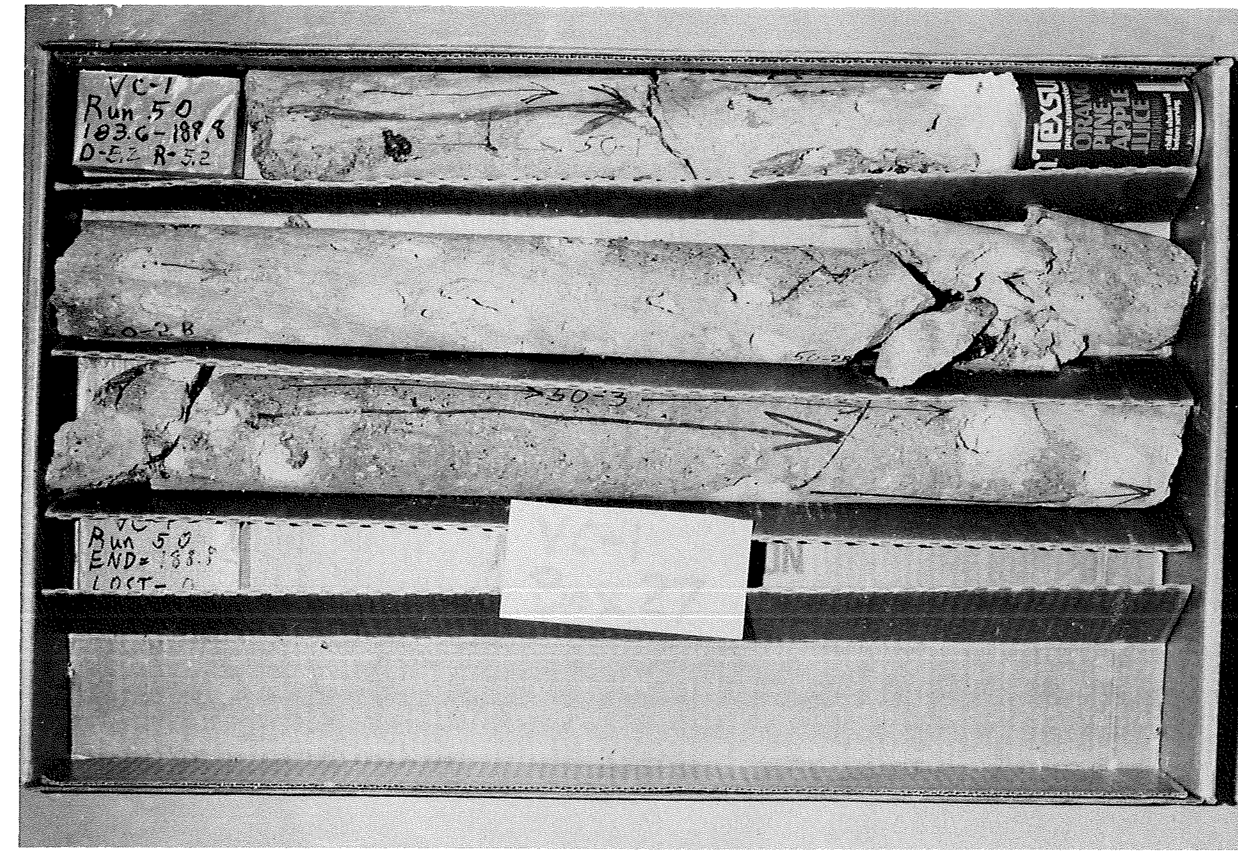

VC-1
Run 45
160.4 - 165.4
D=5.0' R=5.0'
45-1
45-4
45-3
45-5
Texsun
ORANGE
PINE-
APPLE
JUICE
45-7
VC-1
Box 22


VC-1
Run 46
165.4 - 169.0
D=3.6 R=3.6
46-1
46-3
VC-1
Run 46
END = 169.0
LOST = 0
VC-1
Box 23

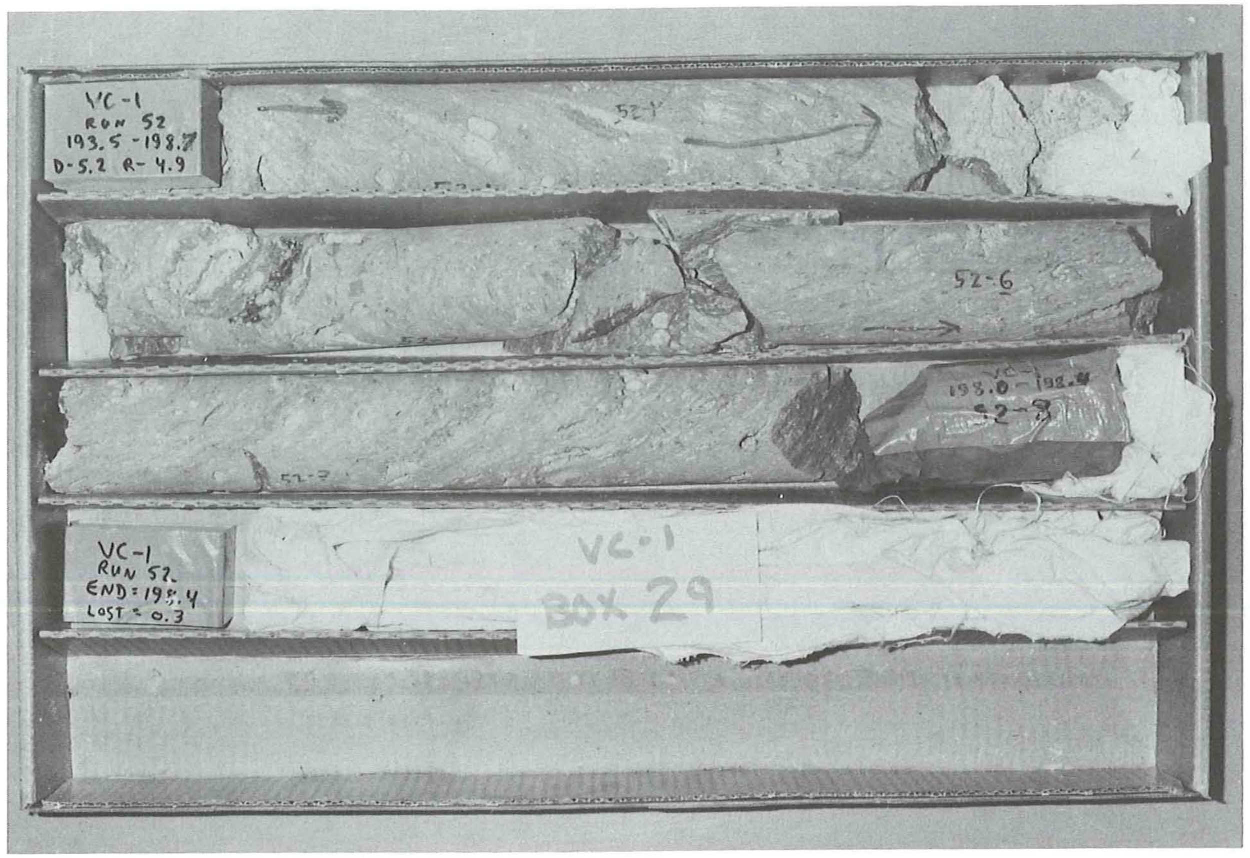

VC-1
Run 47
169.0-173.6
D=4.6 R=4.6
47-3B
47-4
VC-1
Run 47
END = 173.6
LOST = 0


VC-1
Run 48
173.6-178.6
D-5.0 R-5.0
VC-1
Box 25


VC-1
Run 49
178.6-183.6
END = 183.6
LOST = 0
VC-1
Box 26


VC-1
Run 50
183.6-188.8
D-5.2 R-5.2

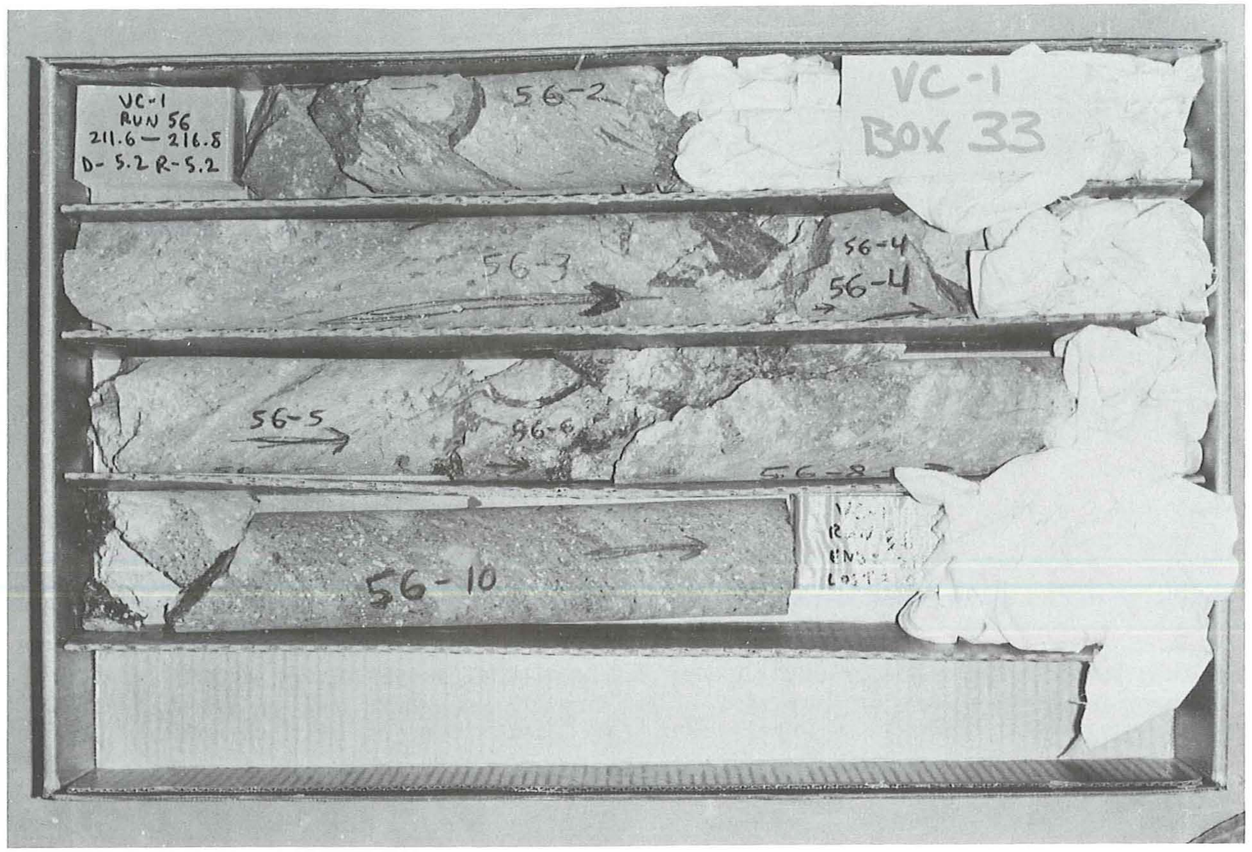

VC-1
Run 51
188.8-193.5
D-4.7 R-4.7
VC-1
Box 28

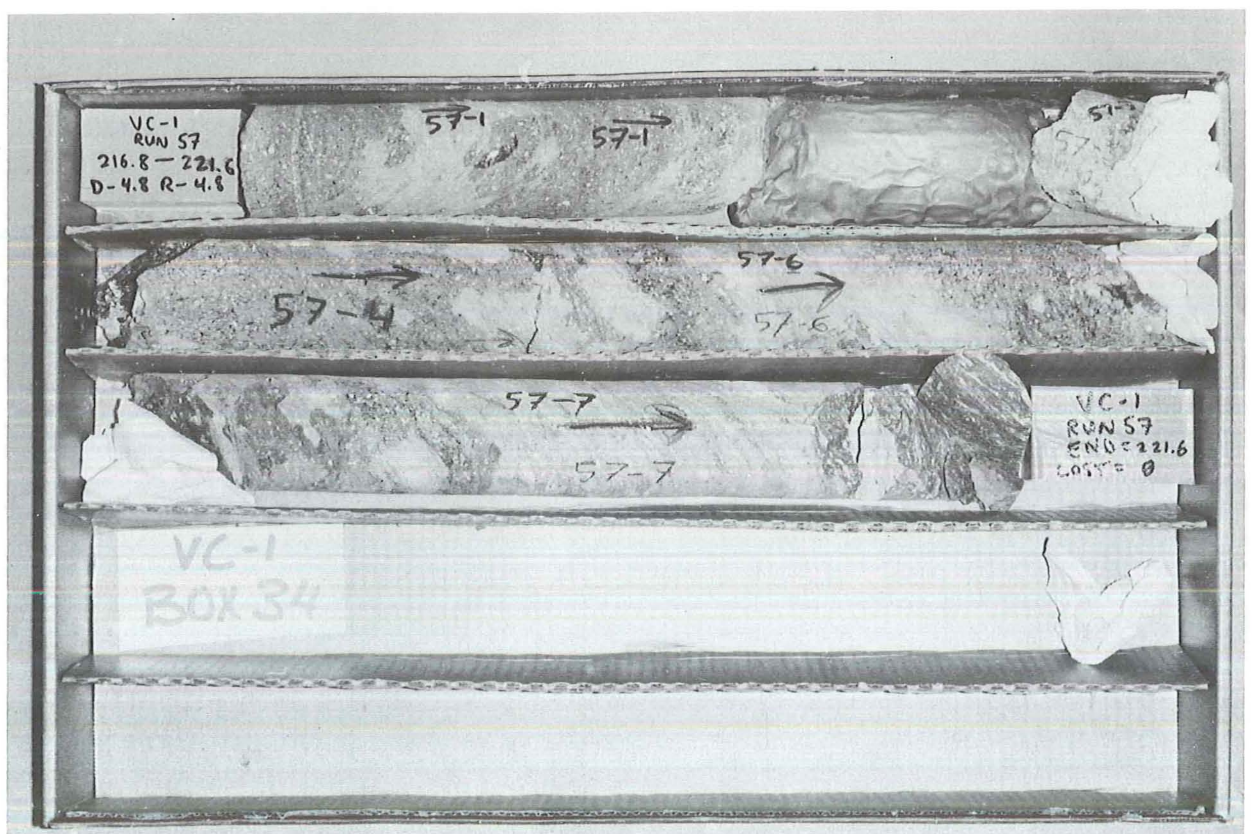

VC-1
RUN 52
52-6
VC-1
BOX 29

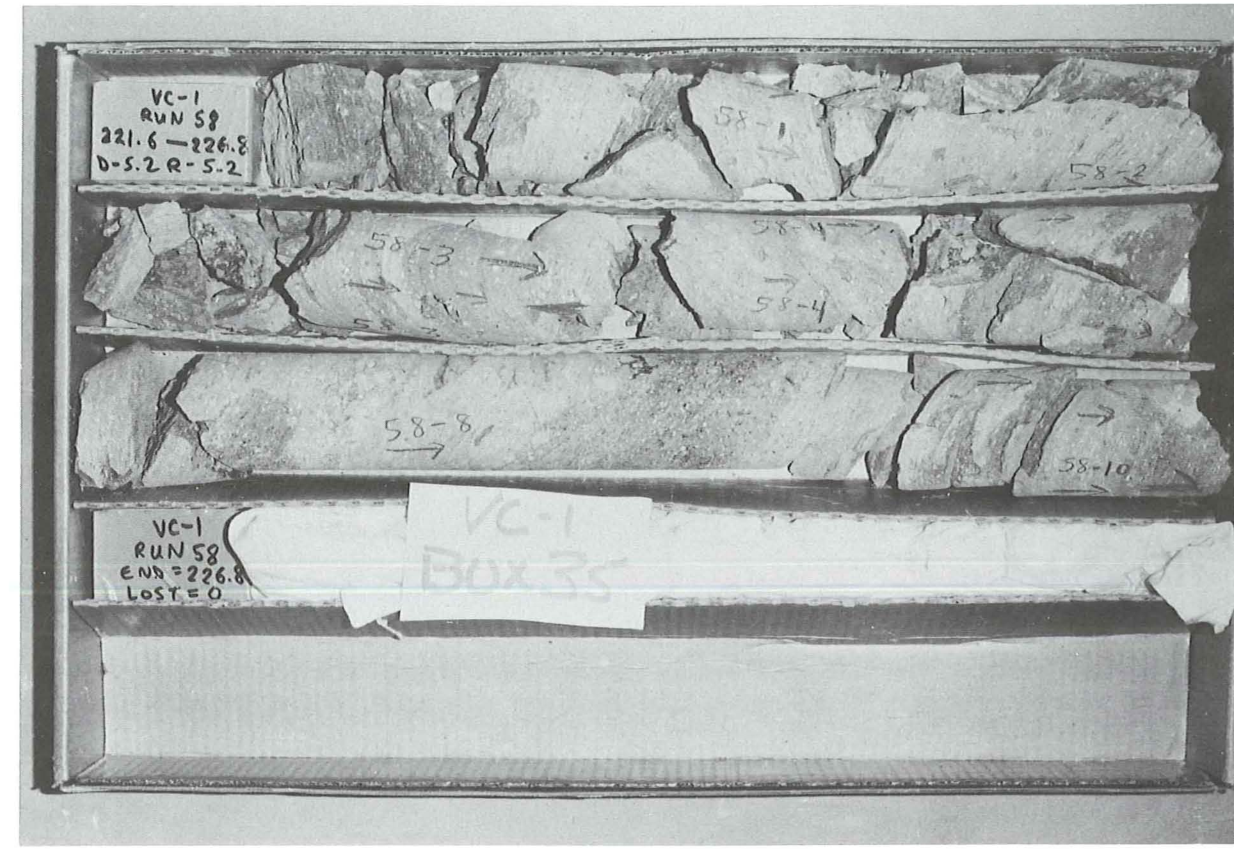

VC-1
RUN 53
53-2
VC-1
Box 30
NO. 17-505 NC DIV.


VC-1
RUN 54
54-1
54-3
54-4
54-6
VC-1
BOX 31


VC-1
RUN 55
206.8-211.6
55-1A
55-1B
55-3
55-4
VC-1
BOX 32
END=211.6
LOST=0


VC-1
RUN 56
211.6—216.8
D-5.2 R-5.2
VC-1
BOX 33
56-2
56-3
56-4
56-5
56-10


VC-1
RUN 57
216.8—221.6
D-4.8 R-4.8
57-1
57-4
57-6
57-7
VC-1
RUN 57
END=221.6
LOST=0
VC-1
BOX 34


VC-1
RUN 58
221.6—226.8
D-5.2 R-5.2
58-3
58-4
58-8
58-10
VC-1
RUN 58
END=226.8
LOST=0
VC-1
BOX 35


VC-1
RUN 59
59-2
59-3
59-4
VC-1
BOX 36

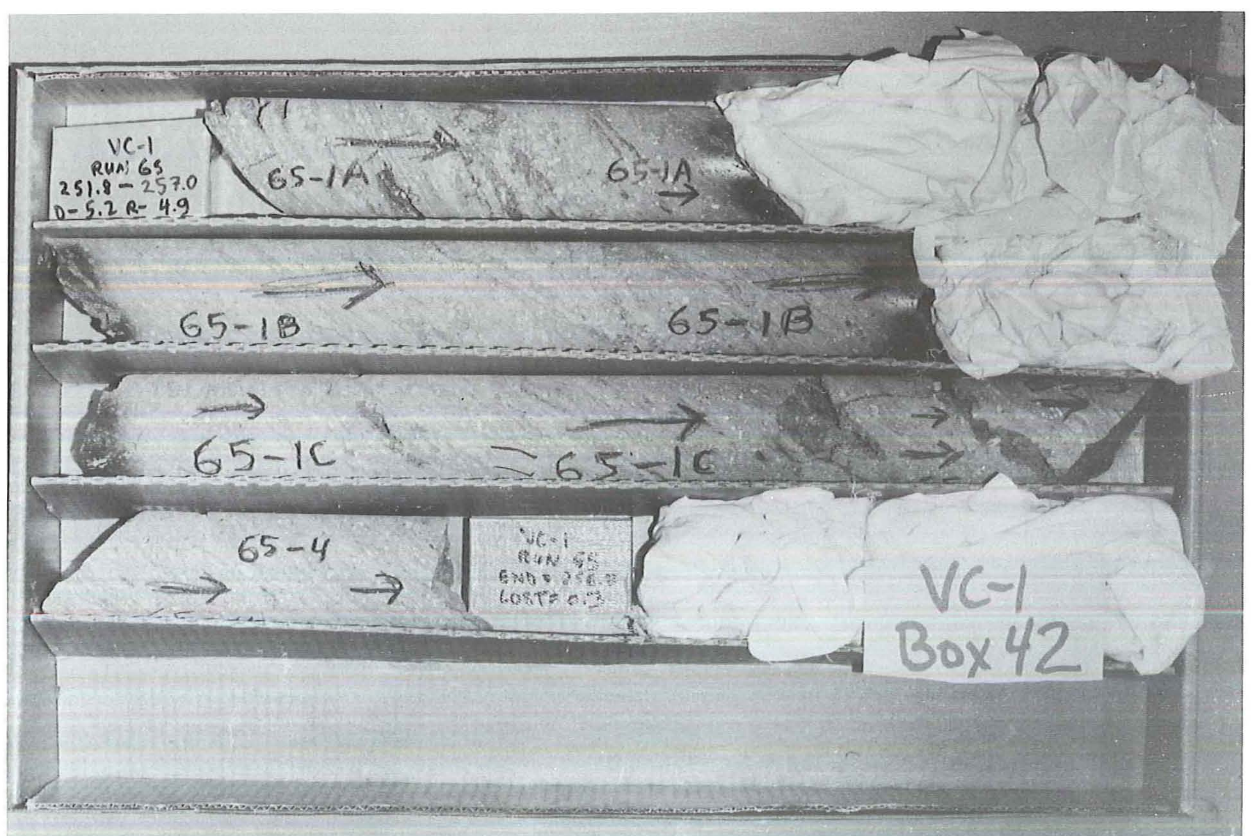

VC-1
RUN 60
230.4 — 235.5
60-1A
60-1C
VC-1
Box 37

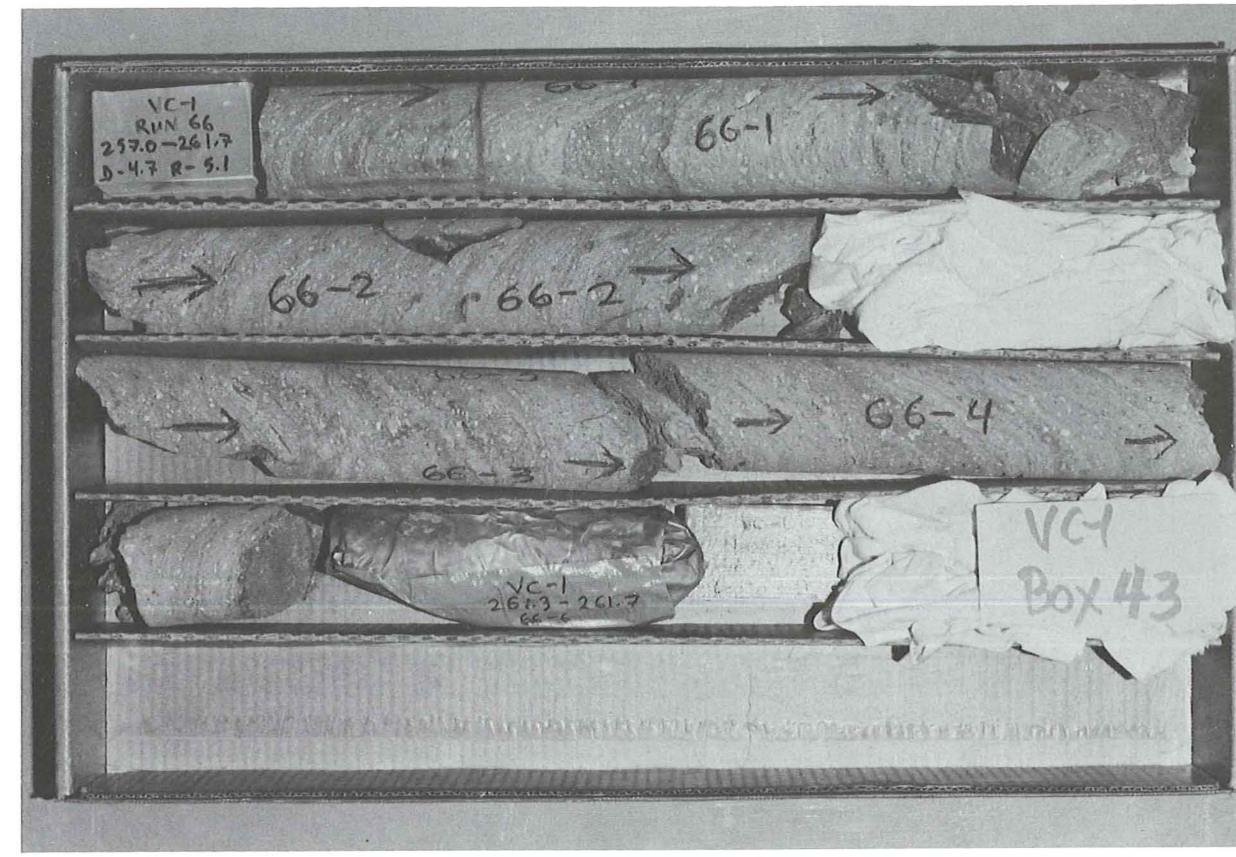

235.5 — 240.0
61-1
61-2A
61-2B
61-2C
VC-1
Box 38


62-1
62-2
62-4
VC-1
Box 39
NO. 17-505 NC DIV.


VC-1
RUN 63
242.5 — 247.0
63-1
63-4
VC-1
RUN 63
END = 246.7
LOST = 0.3
VC-1
Box 40


VC-1
RUN 64
247.0 – 251.8
D-4.8 R-5.0
64-1A
64-1A
64-1B
64-2
64-2
64-3
64-3
64-4
VC-1
Box 41

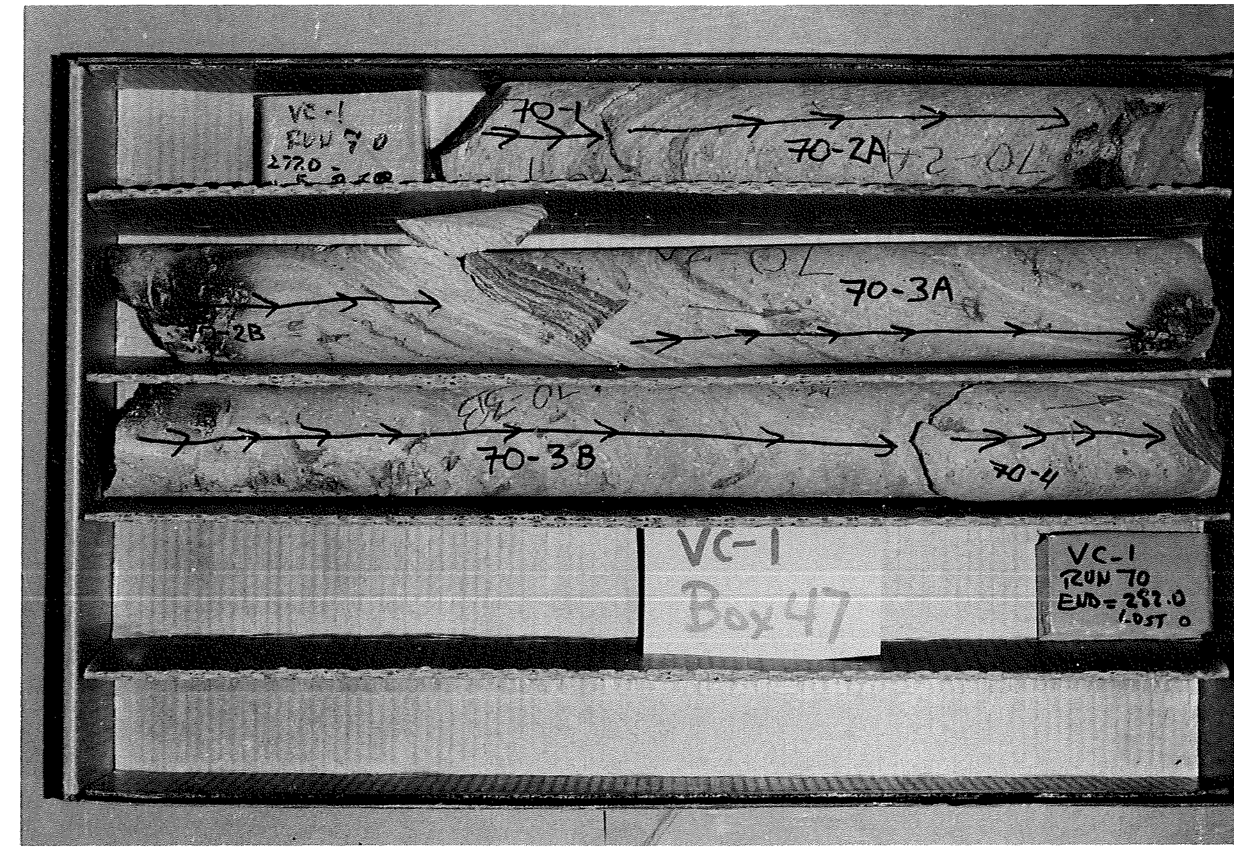

VC-1
RUN 65
251.8 – 257.0
D-5.2 R-4.9
65-1A
65-1A
65-1B
65-1B
65-1C
65-1C
65-4
VC-1
Box 42


VC-1
RUN 66
257.0 – 261.7
D-4.7 R-5.1
66-1
66-2
66-2
66-3
66-4
VC-1
Box 43


VC-1
RUN 67
261.7 – 267.0
D-5.3 R-5.1+
67-1
67-2
67-2
67-3
67-3
67-4
67-4
67-5
VC-1
Box 44

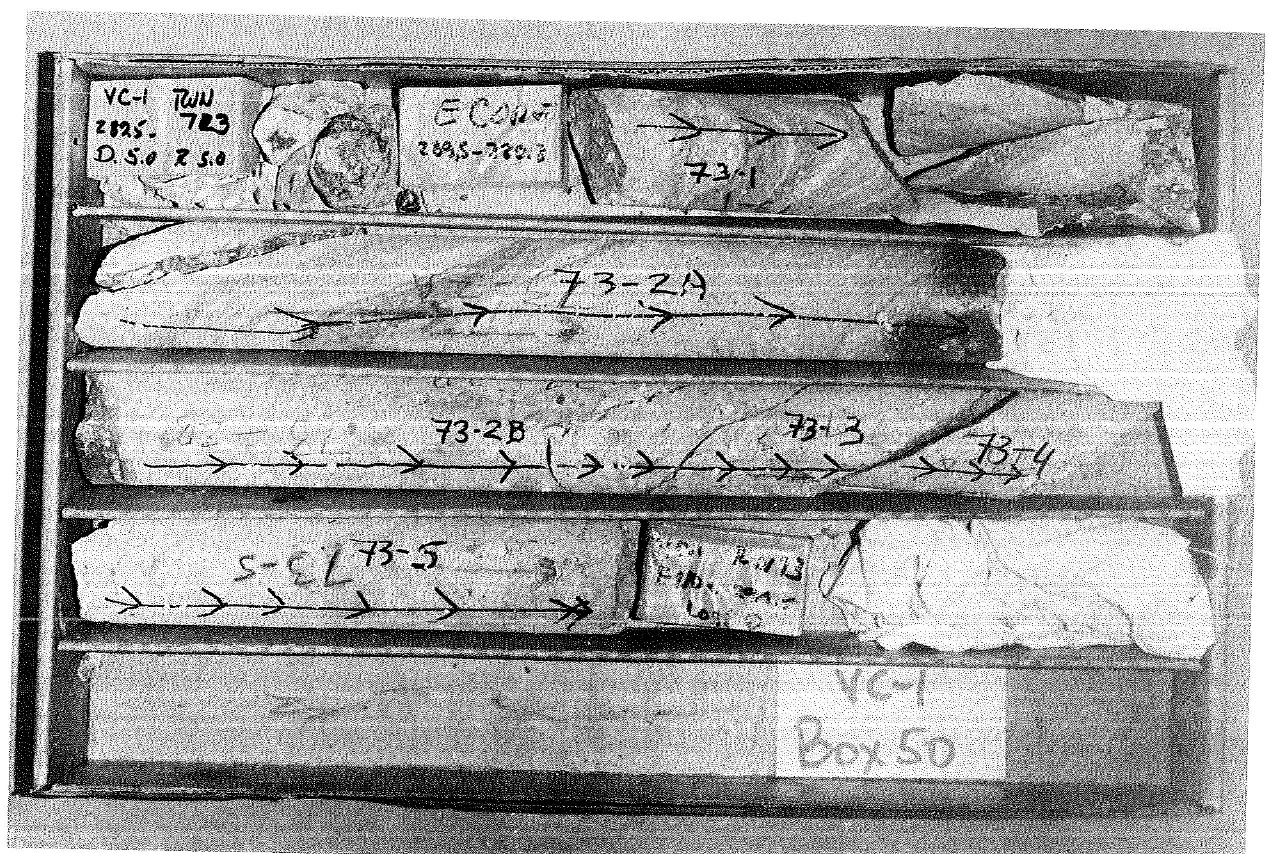

VC-1
Box 45
VC-1
RUN 68
68-2
68-3
68-4
68-5
68-6
68-7


VC-1
Box 46
VC-1
RUN 69
69-1
69-5
69-6
69-7
69-8

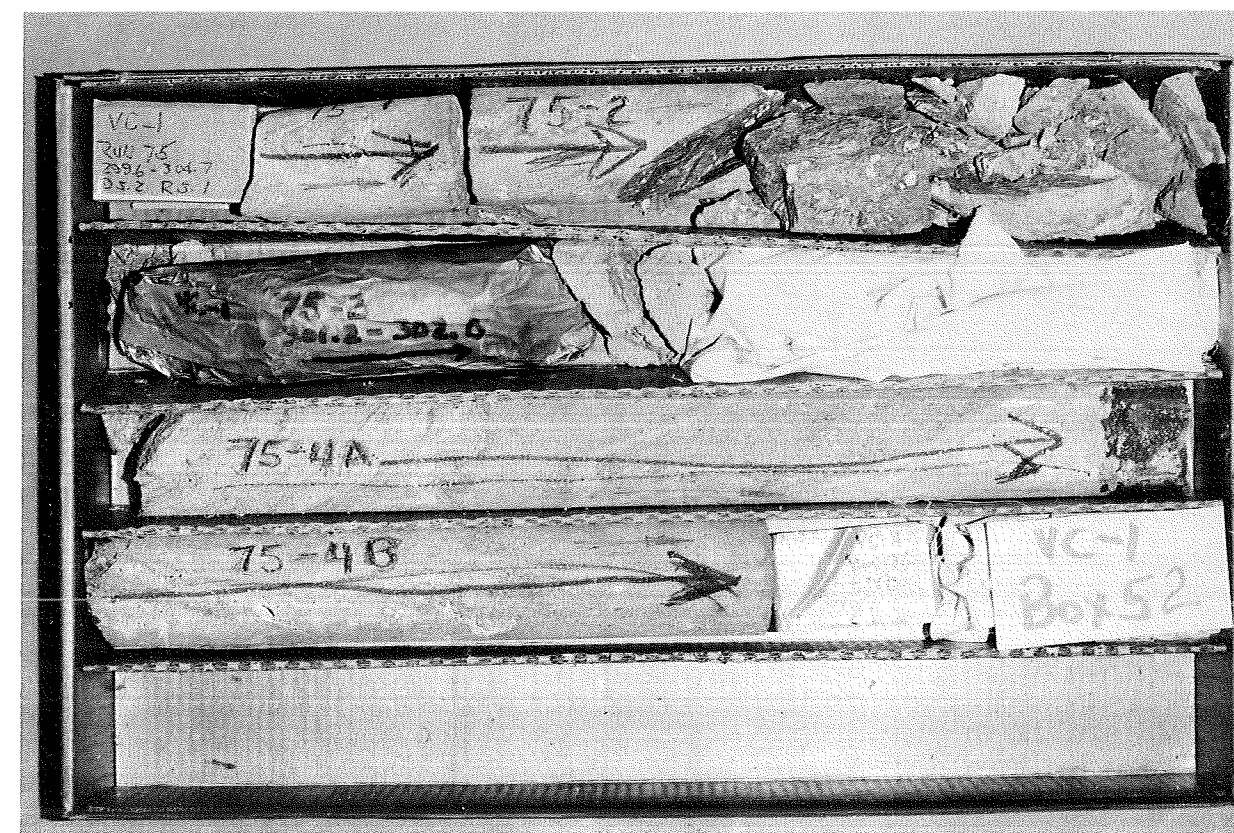

VC-1
Box 47
VC-1
RUN 70
70-1
70-2A
70-3A
70-3B
70-4

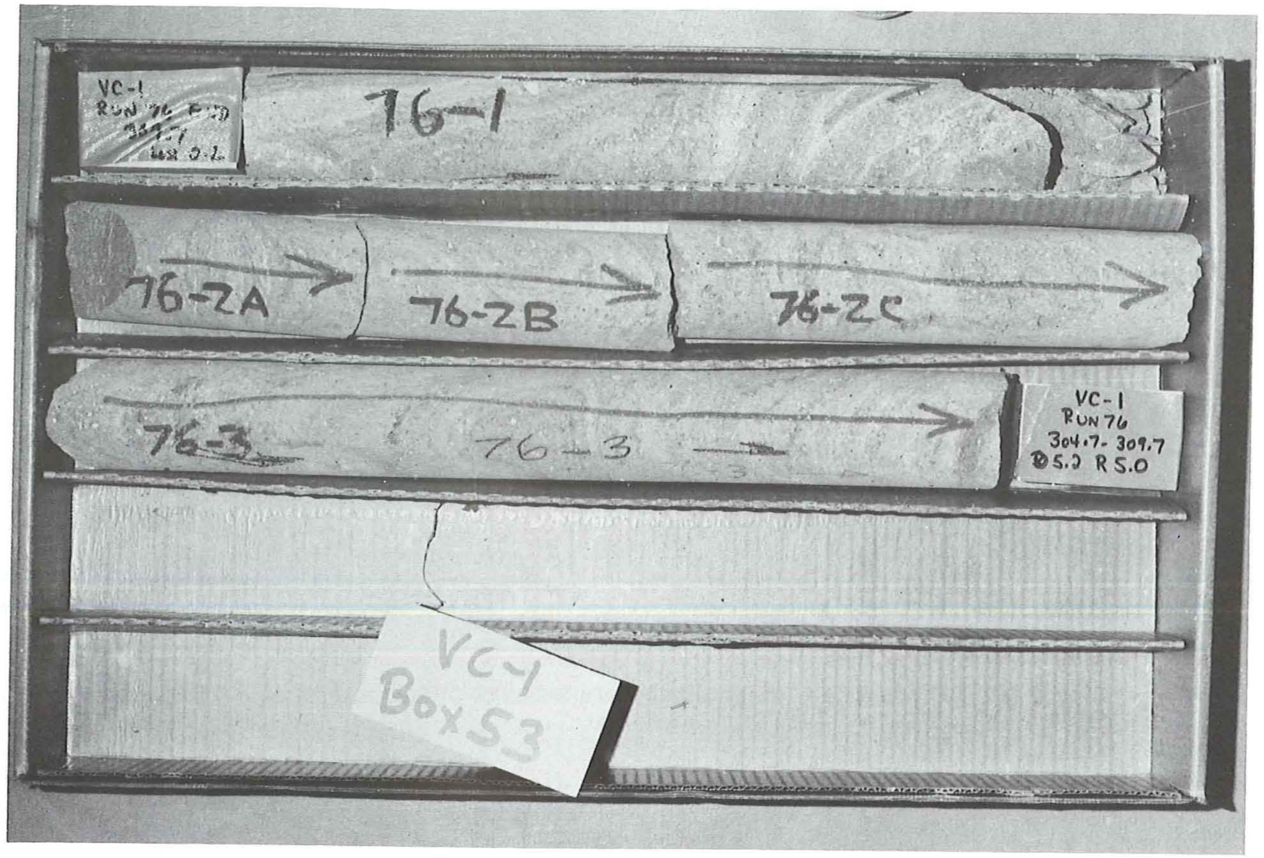

VC-1
Box 48
RUN 71
71-1
71-2

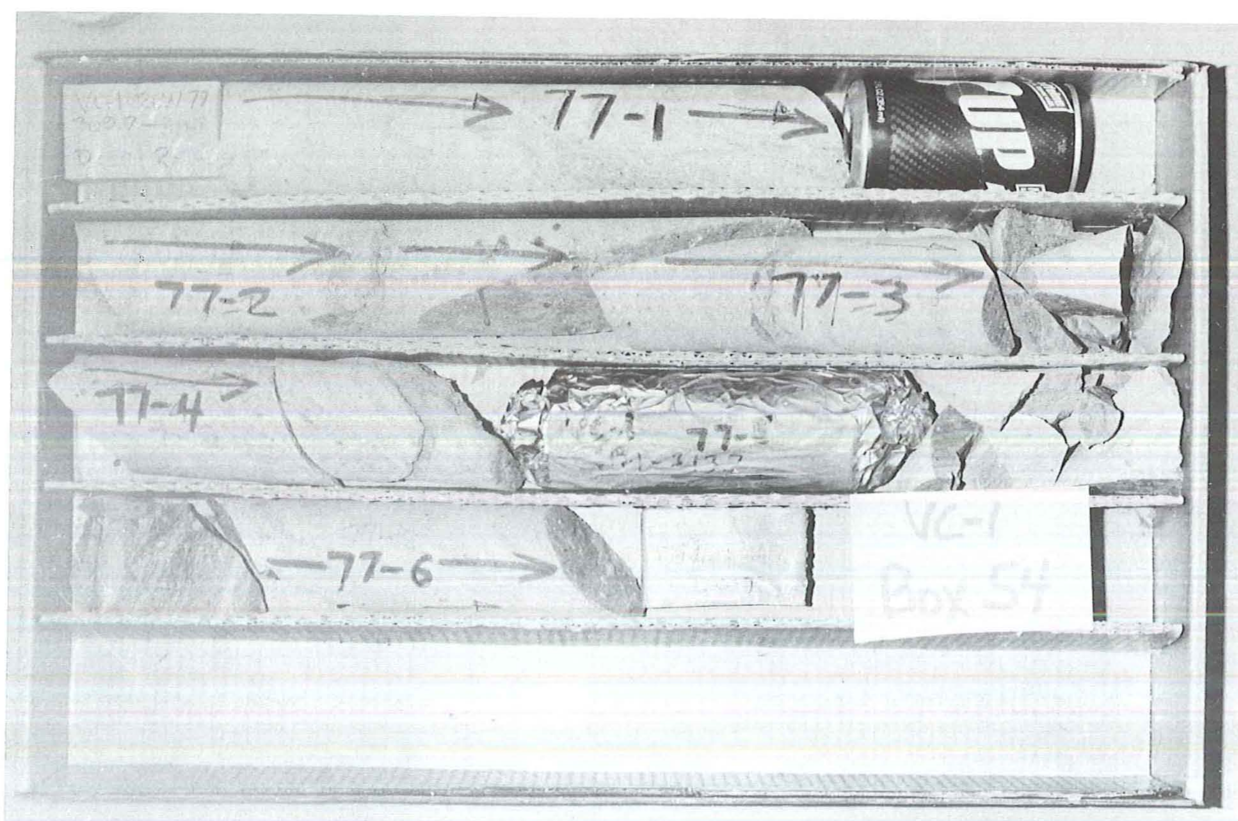

72-1
72-2
72-3
VC-1
RUN 72
END=289.5
LOST=0

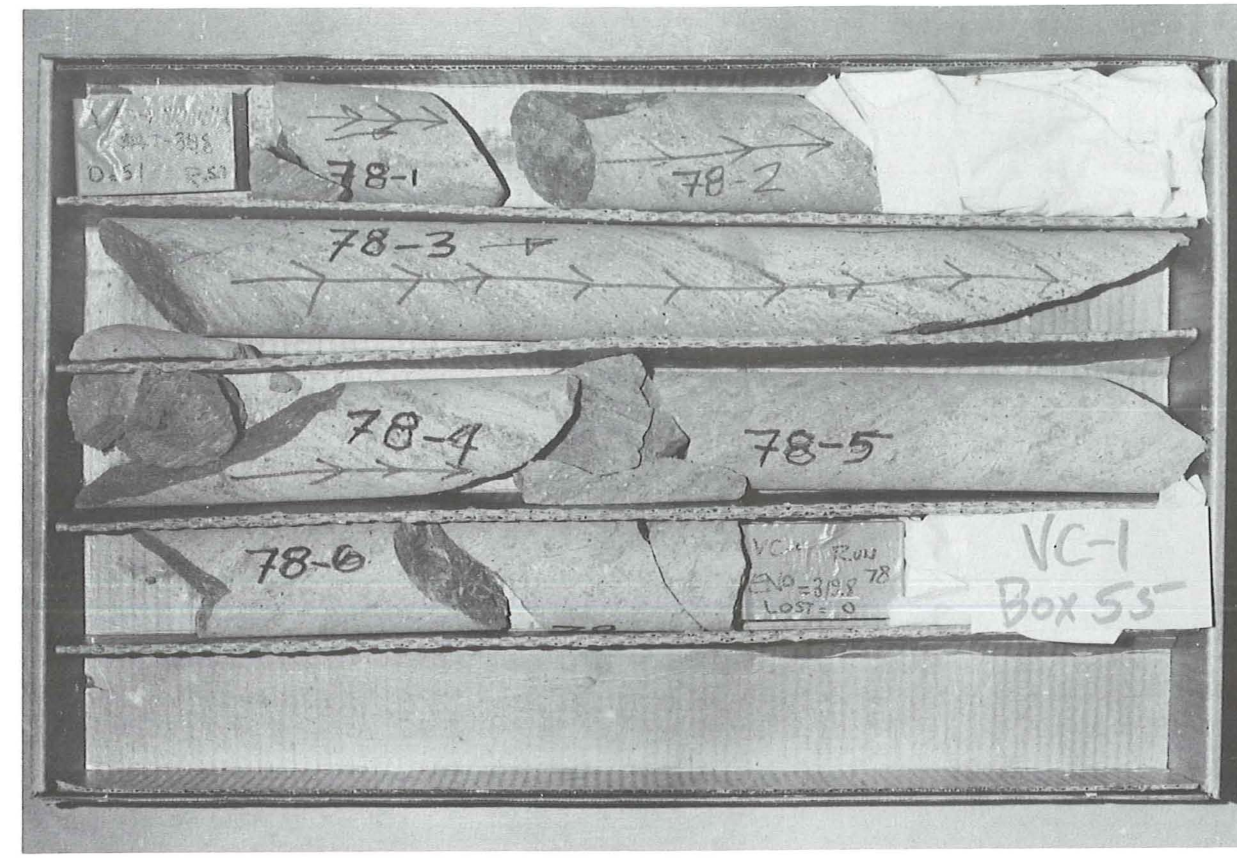

VC-1
RUN 723
73-1
73-2A
73-2B
73-3
73-4
73-5
VC-1
Box 50

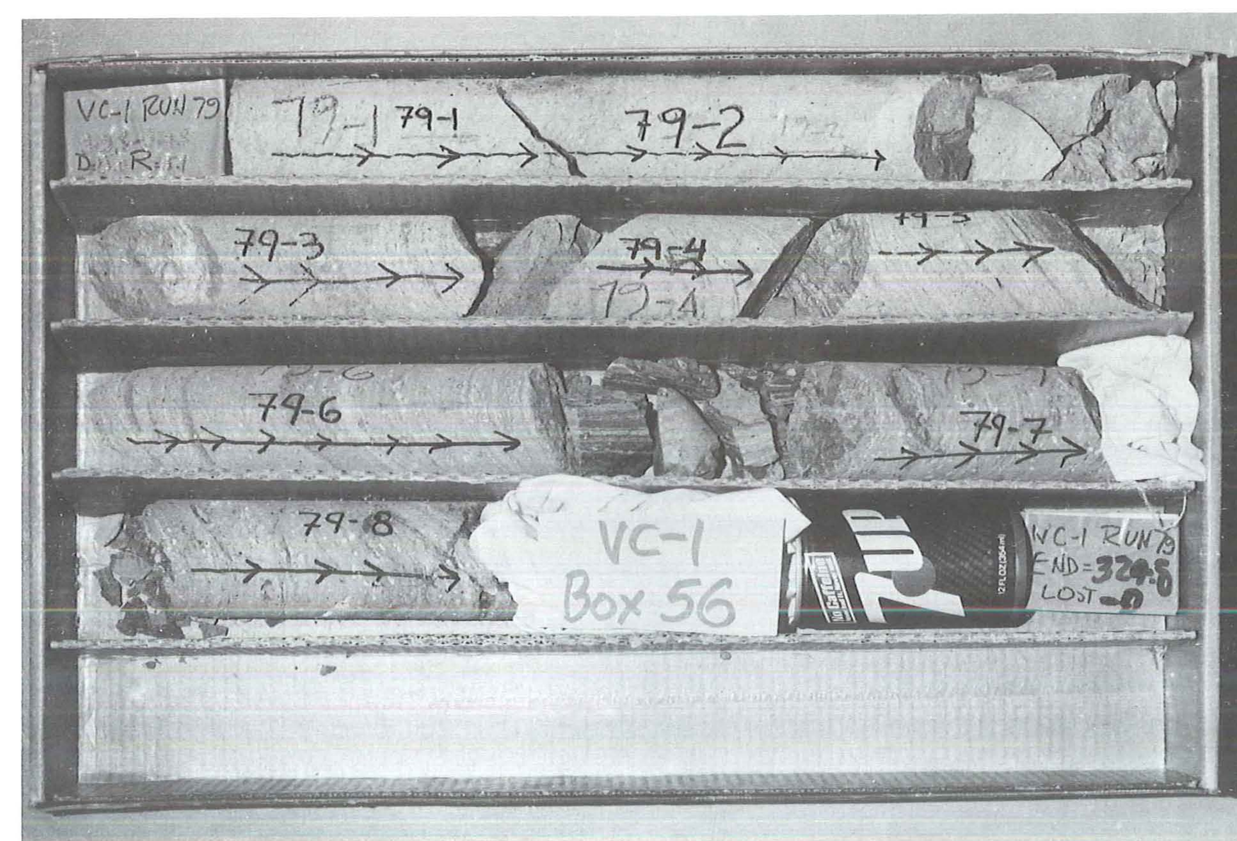

74-1
74-4A
74-4B
VC-1
Box 51


75-2
75-4A
75-4B
VC-1
Box 52


VC-1
76-1
76-2A
76-2B
76-2C
76-3
VC-1
RUN 76
VC-1
Box 53

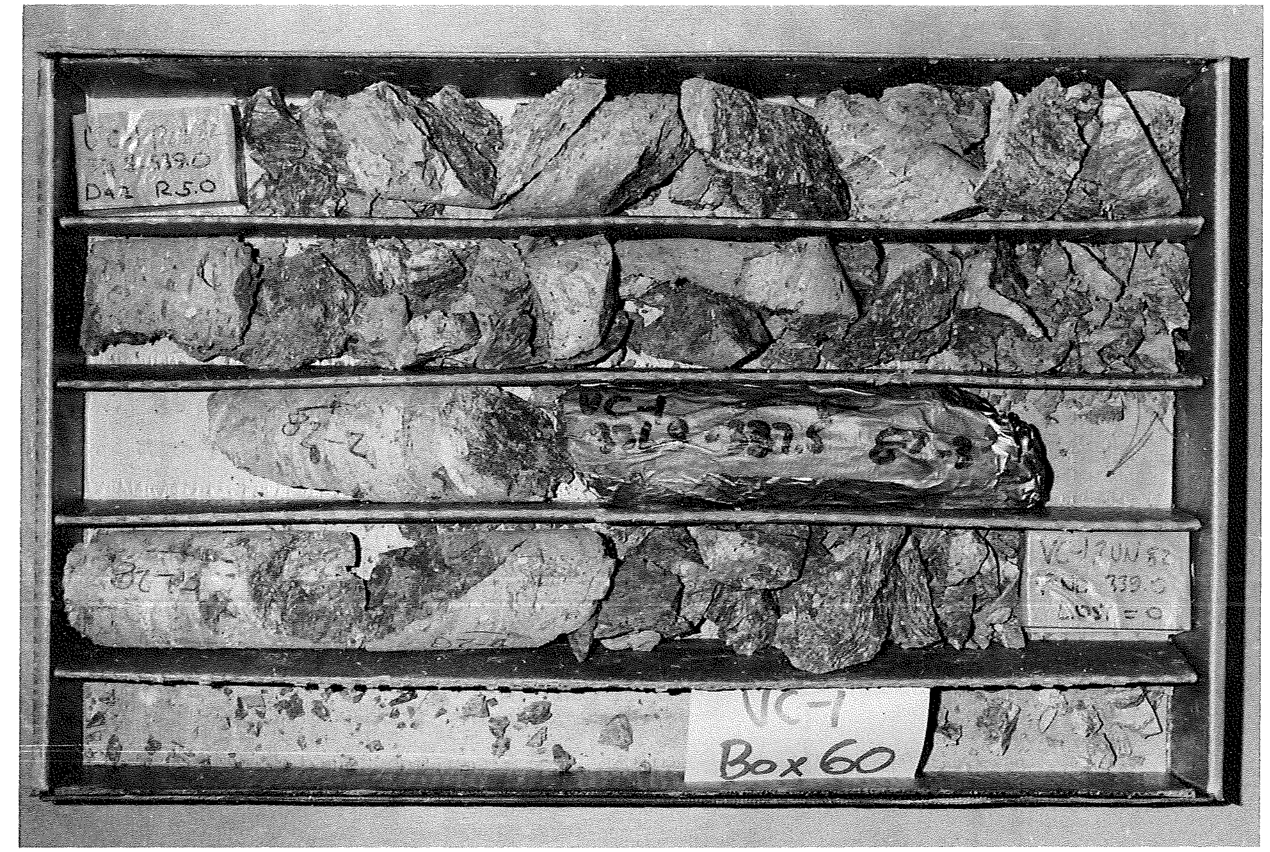

77-1
7UP
77-2
77-3
77-4
77-6
VC-1
Box 54

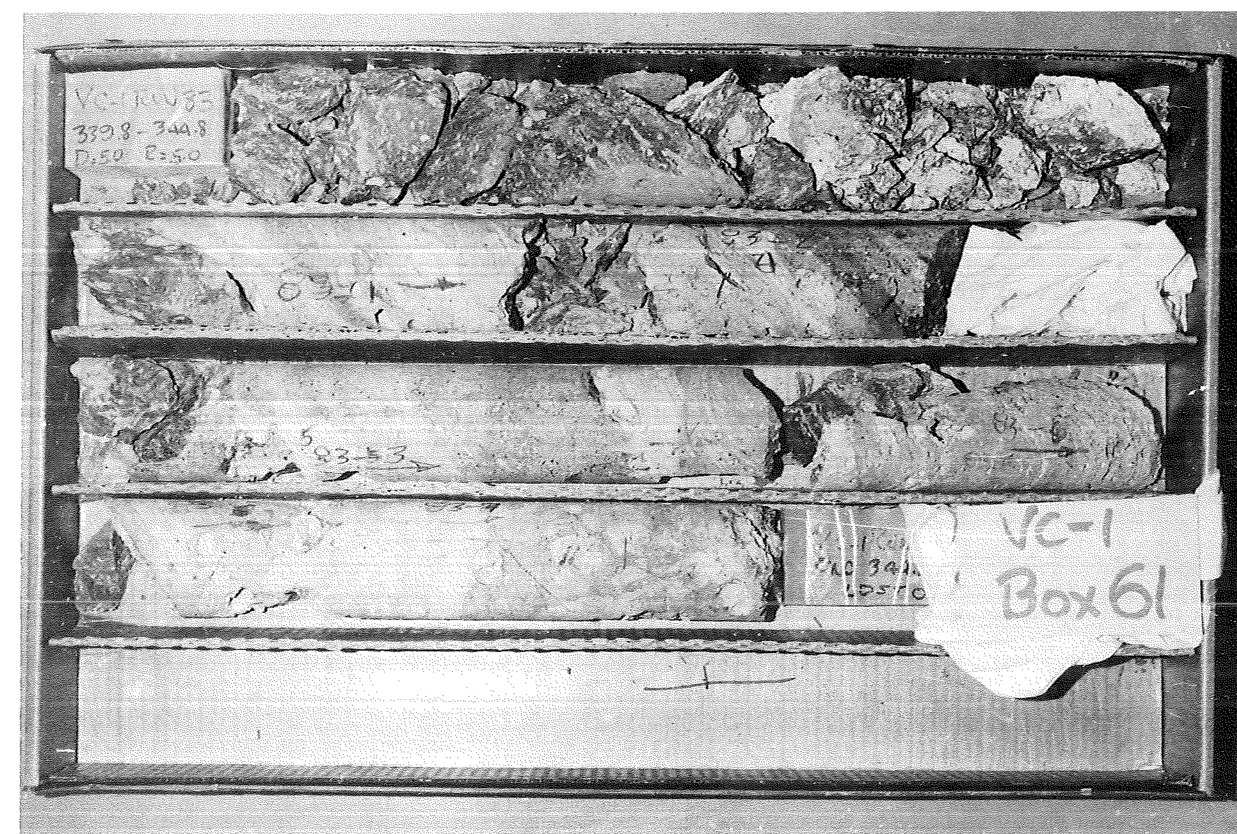

78-1
78-2
78-3
78-4
78-5
78-6
VC-1
Box 55


VC-1 RUN 79
79-1
79-2
79-3
79-4
79-6
79-7
79-8
VC-1
Box 56
7UP


VC-1
Box 57

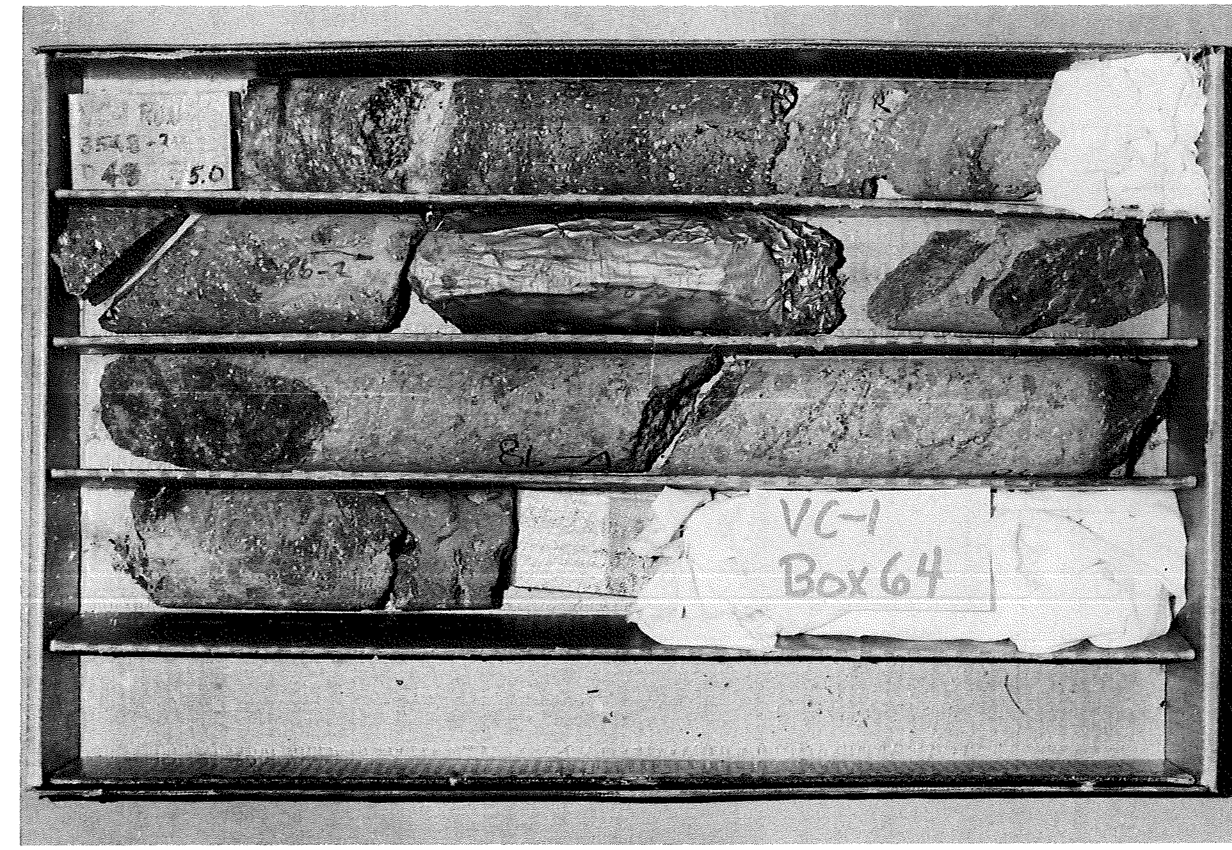

VC-1
Box 59


VC-1
Box 60

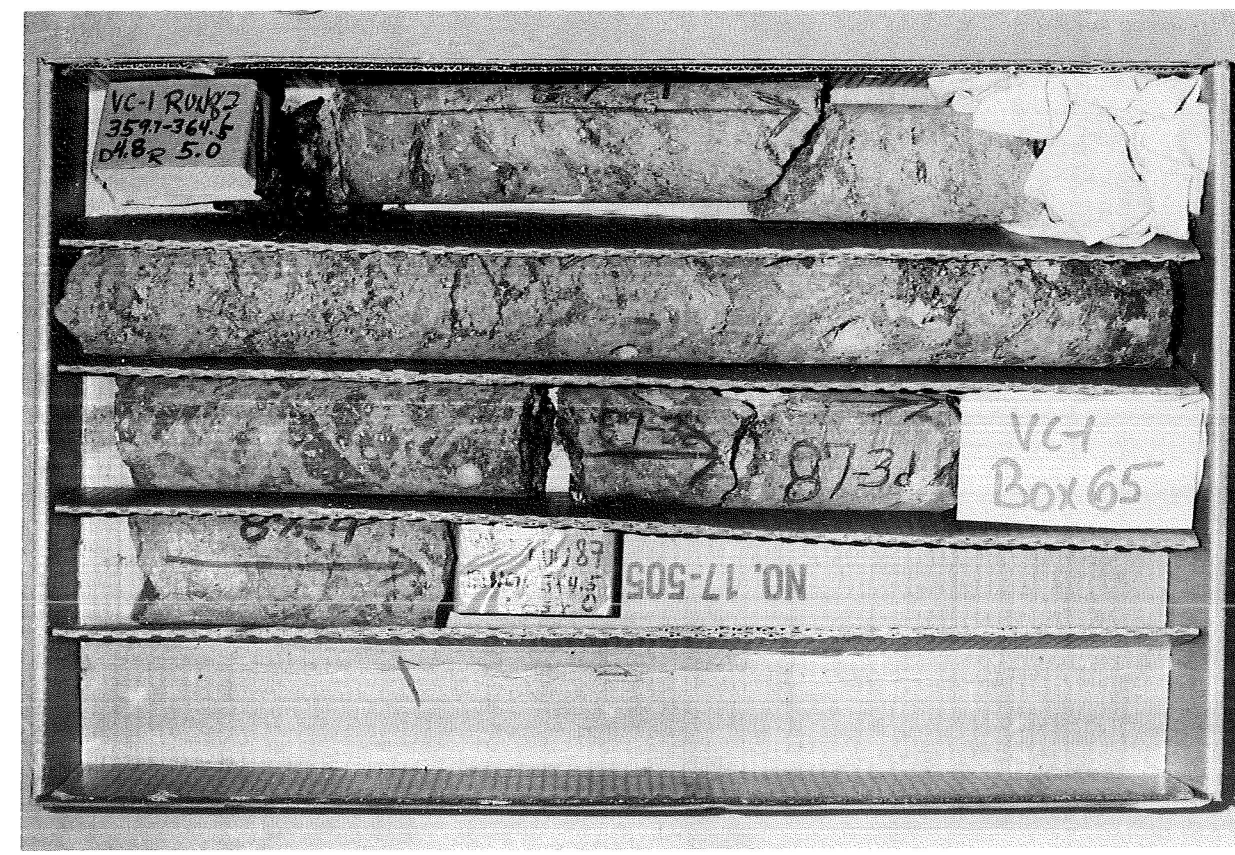

VC-1
Box 61

VC-1
Box 62

VC-1
Box 63



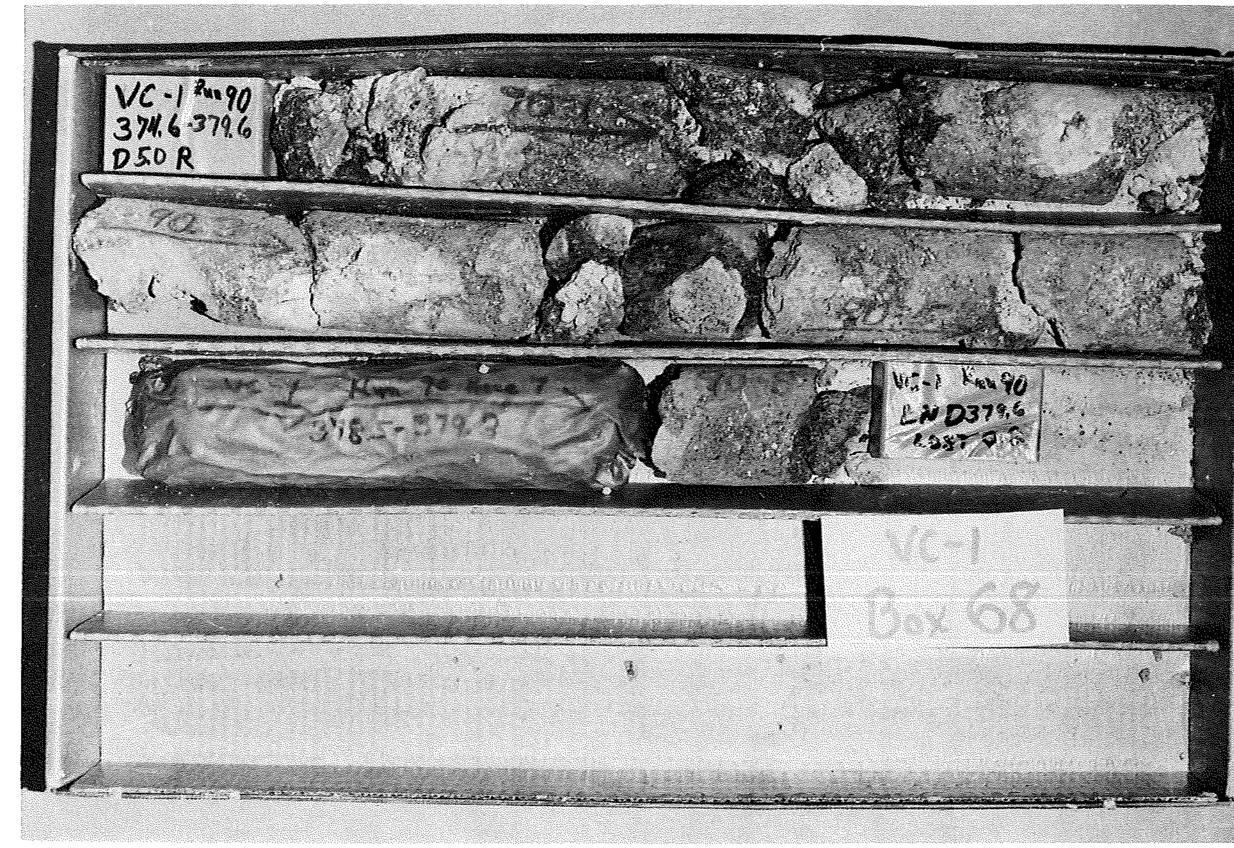
VC-1
Box 64

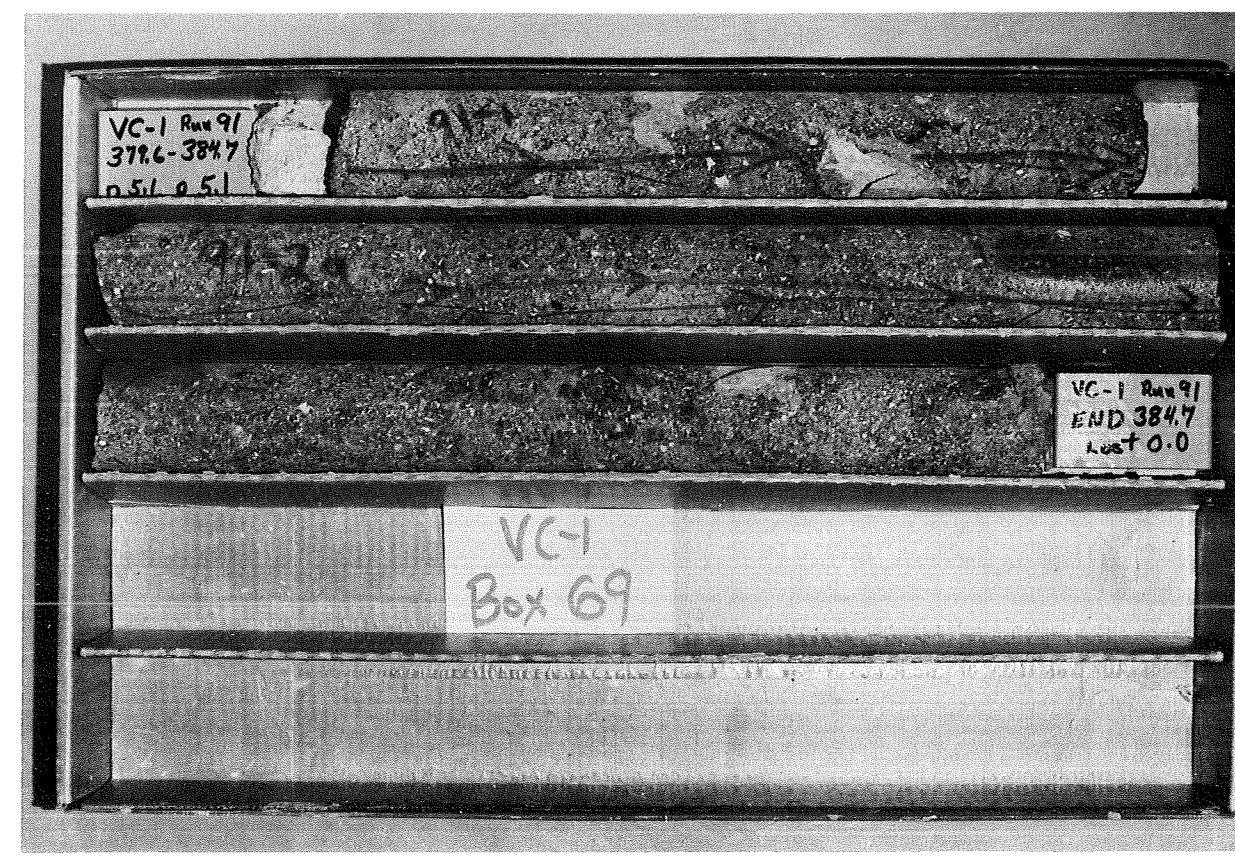


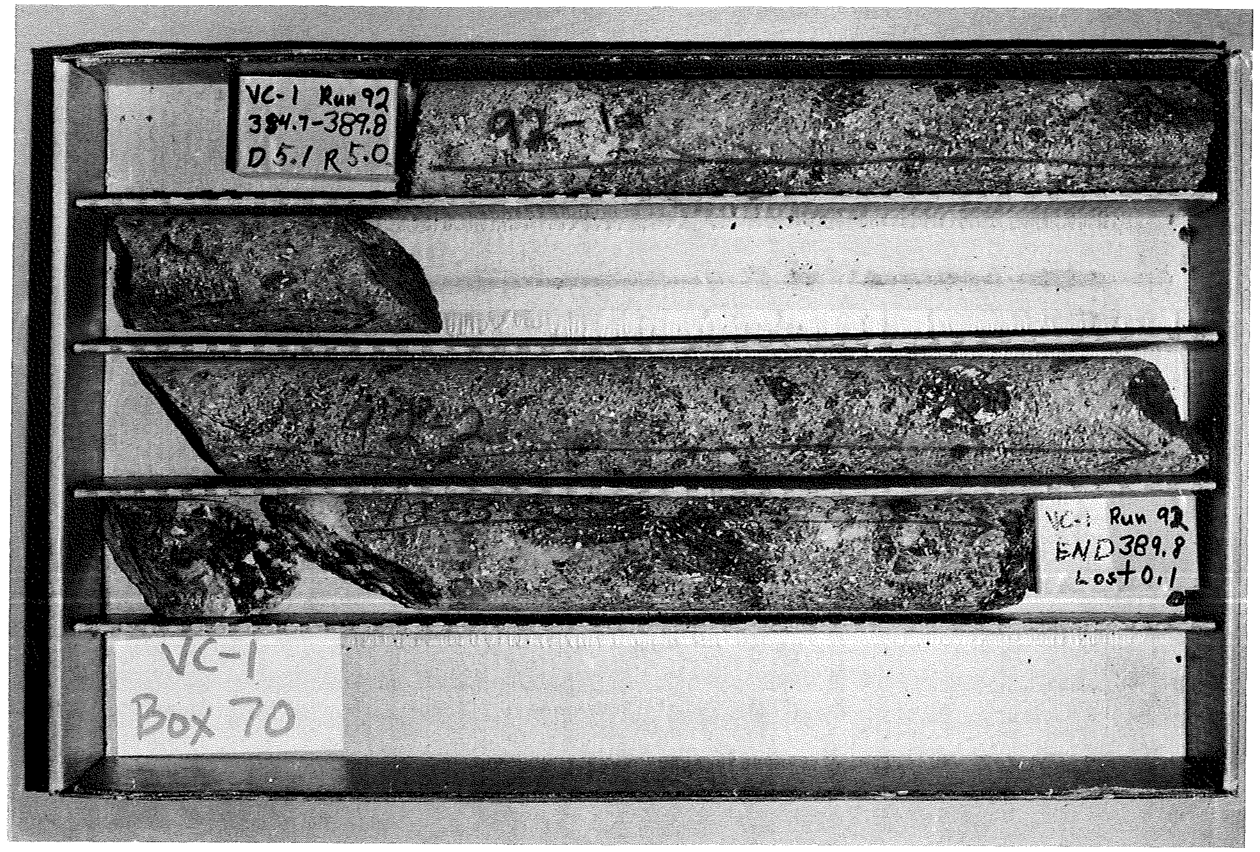
VC-1
Box 65
NO. 17-505

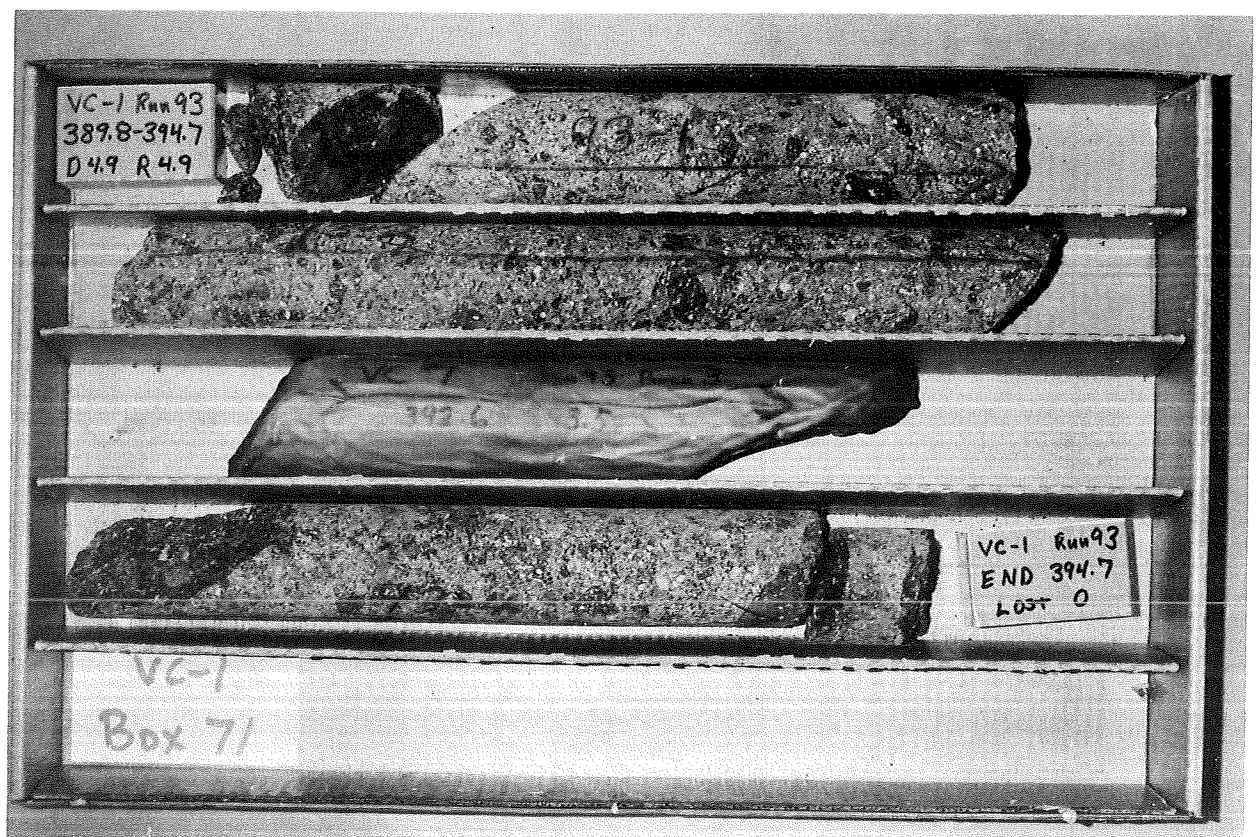

VC-1 Run 88
364.5-369.5
D5 R5
VC-1 Box 66

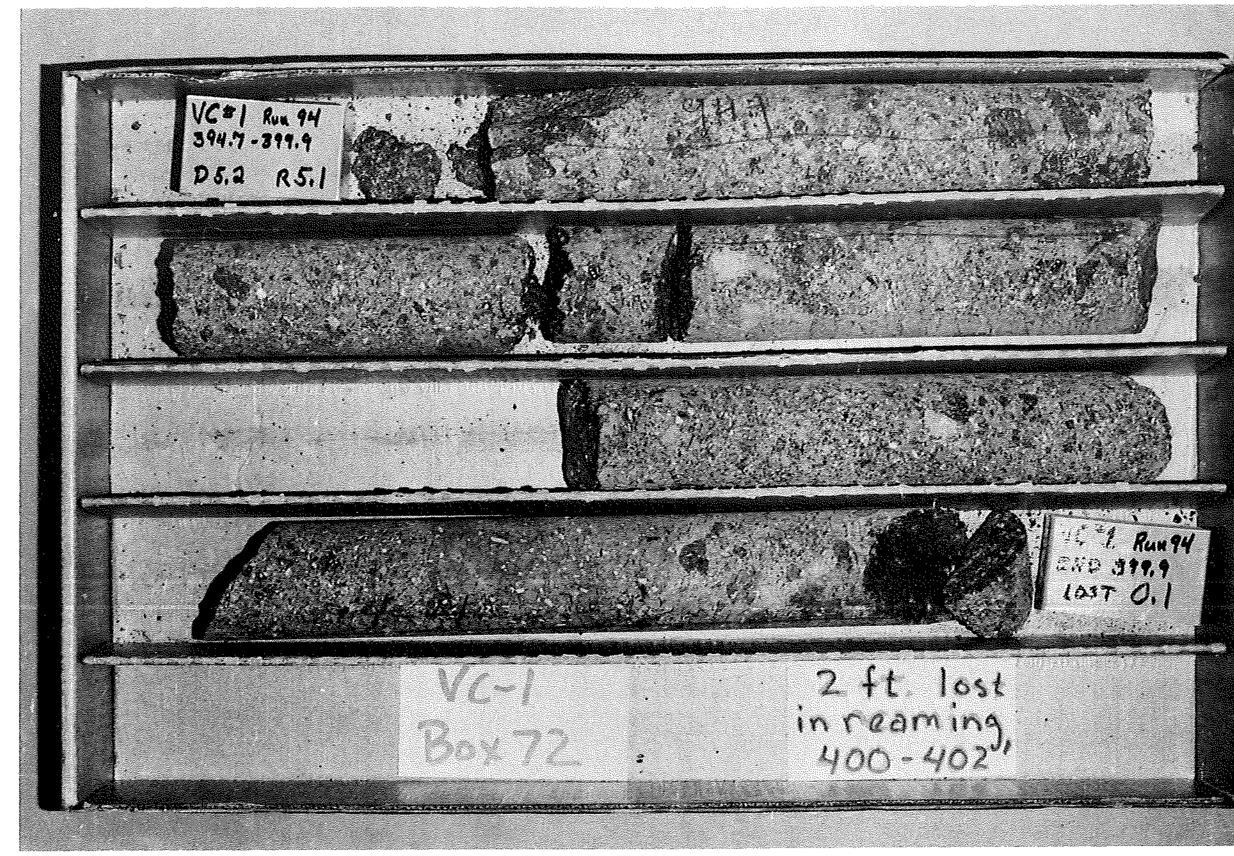

VC-1 Box 67
89-3


VC-1 Run 90
374.6-379.6
D5.0 R
VC-1 Box 68


VC-1 Run 91
379.6-384.7
VC-1 Run 91
END 384.7
Lost 0.0
VC-1 Box 69

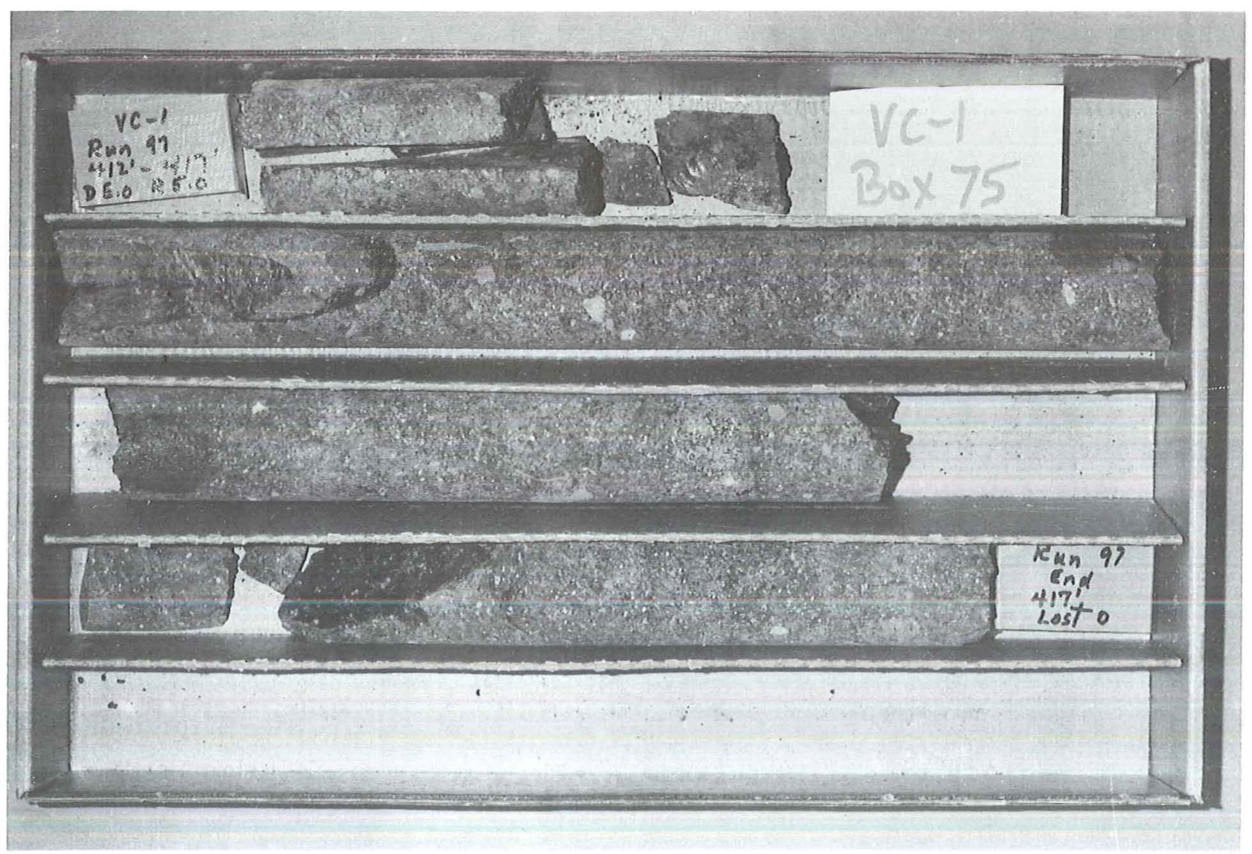

VC-1 Run 92
384.7-389.8
D 5.1 R 5.0
VC-1 Run 92
END 389.8
Lost 0.1
VC-1
Box 70


VC-1 Run 93
389.8-394.7
D 4.9 R 4.9
VC-1 Run 93
END 394.7
Lost 0
VC-1
Box 71

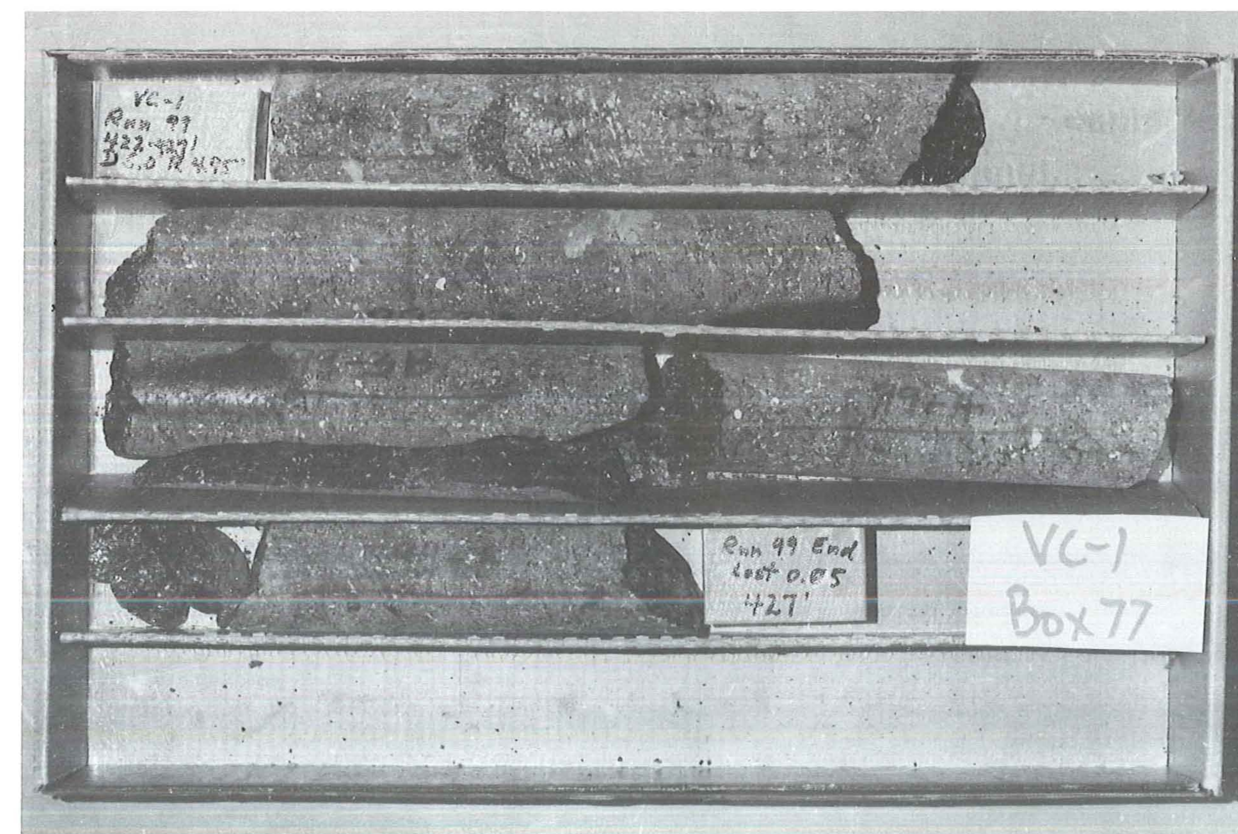

VC#1 Run 94
394.7-399.9
D5.2 R5.1
VC#1 Run 94
END 399.9
LOST 0.1
VC-1
Box 72
2 ft. lost
in reaming
400-402'

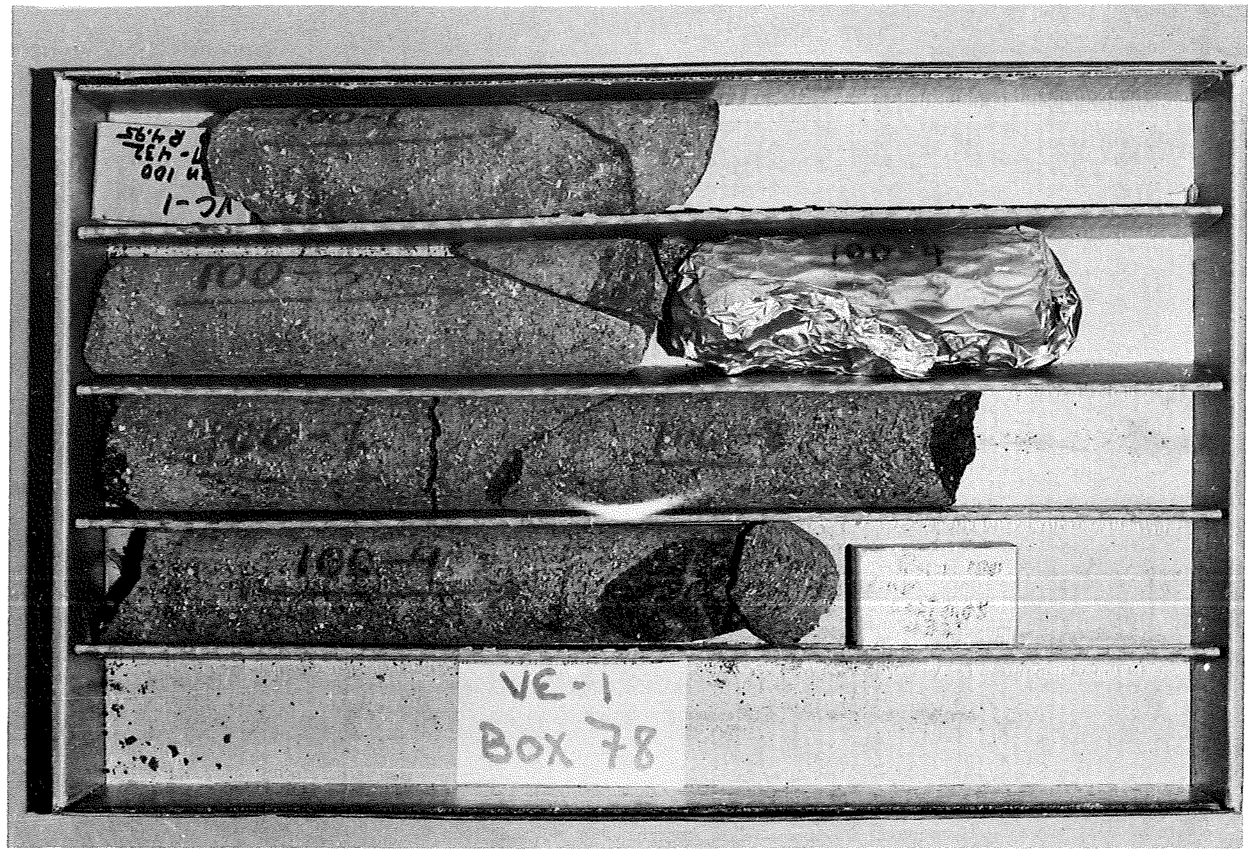

Top VC-1
Run #95
End. Lost .1
407'
VC-1
Box 73
2 ft. lost
in reaming
400-402'


VC-1
Run 96
407-412'
VC-1
Box 74


VC-1
Box 75
Run 97
End
417'
Lost 0


VC-1
Run 98
DS.0 R4.85'
Run 98
End 422
Lost 0.15'
VC-1
Box 76

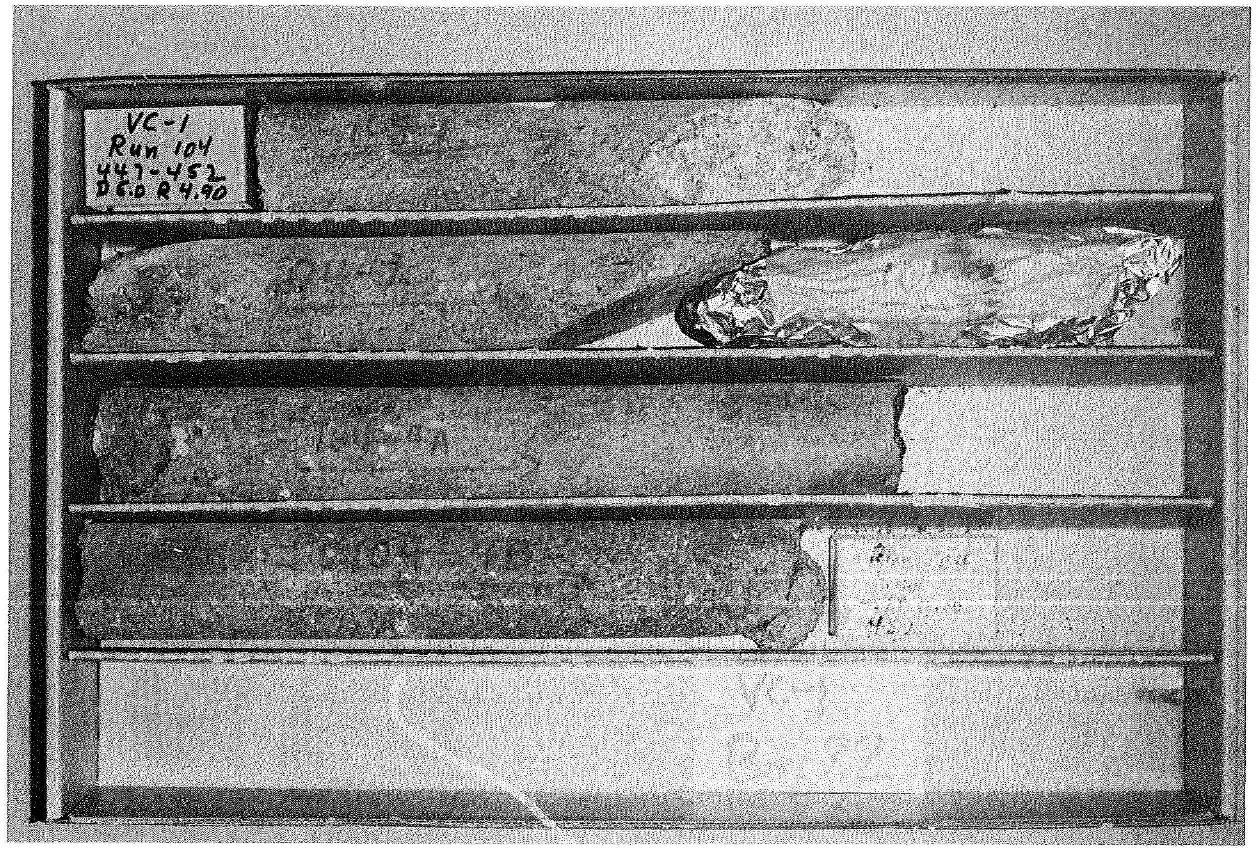

VC-1
Box 77


VC-1
Box 78

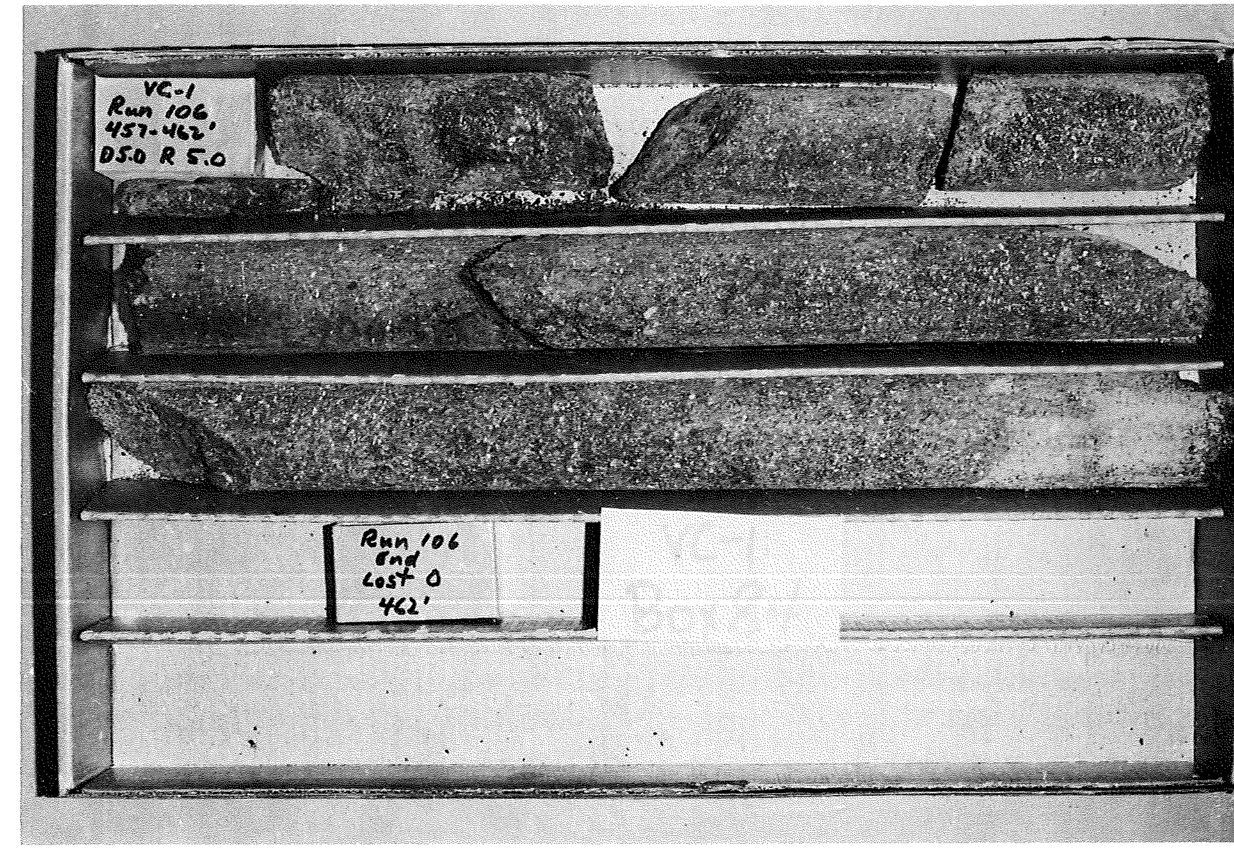

VC-1
Run 101
432-437'
DS.0 R4.95
Run 101
End
Lost .05
437'
VC-1
Box 79


VC-1
Run 102
437-442'
DS.0 R4.95'
VC-1
Box 80

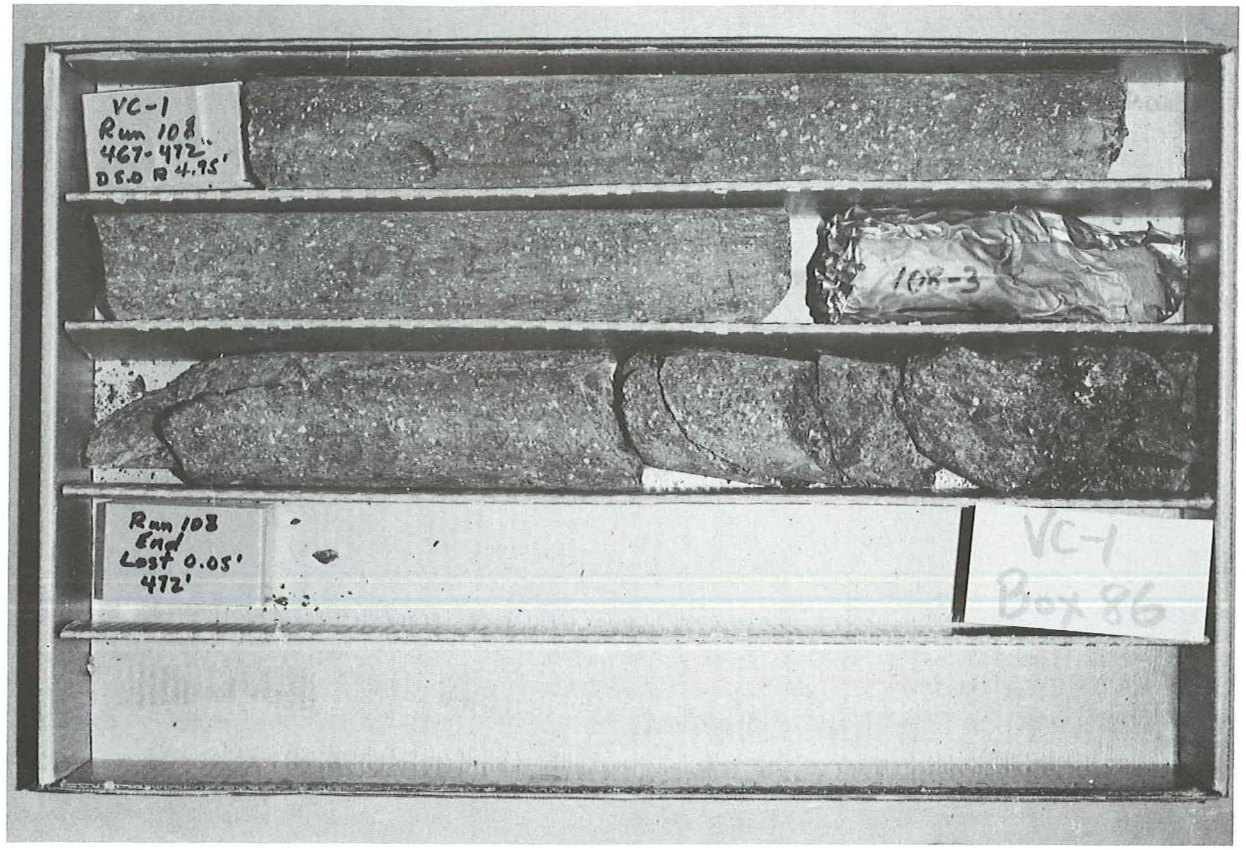

VC-1
Run 103
442-447'
DS.0 R4.95'
VC-1
Box 81

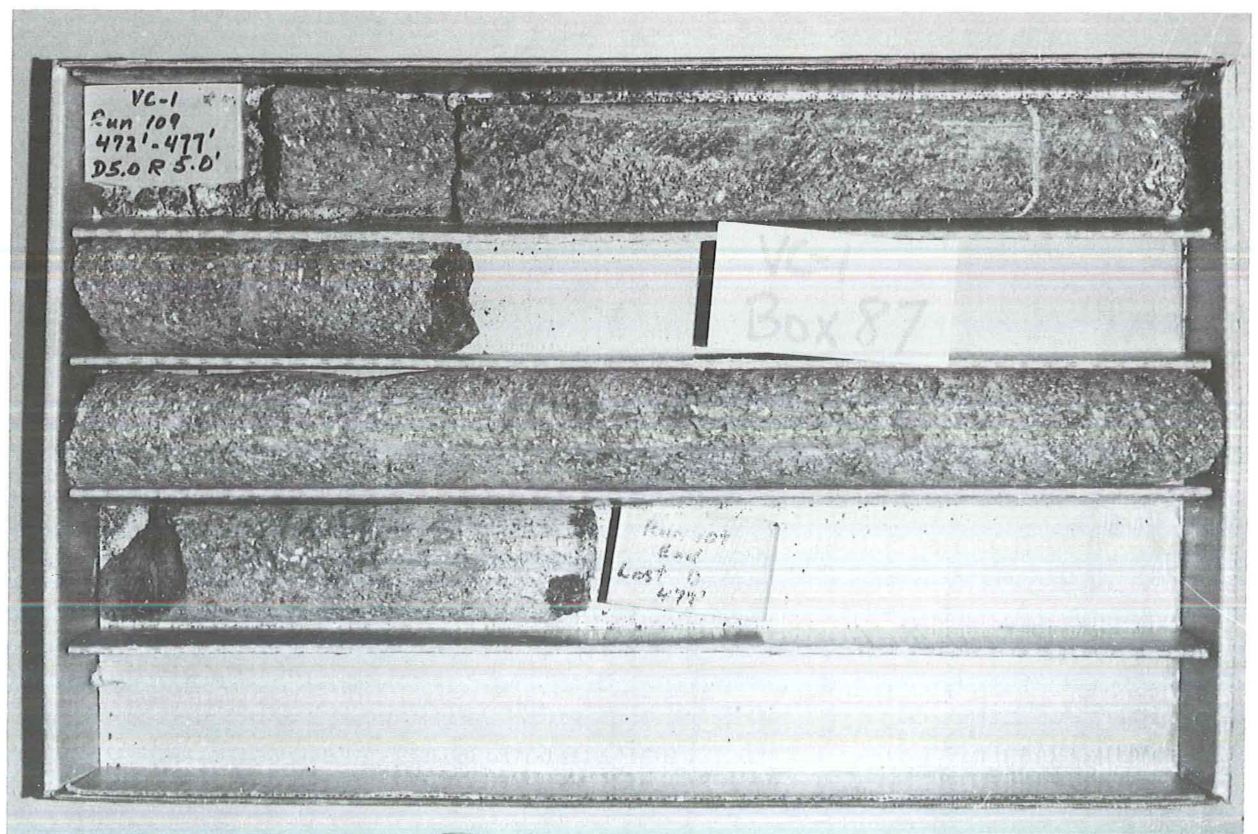

VC-1
Run 104
447-452
D5.0 R 4.90
VC-1
Box 82

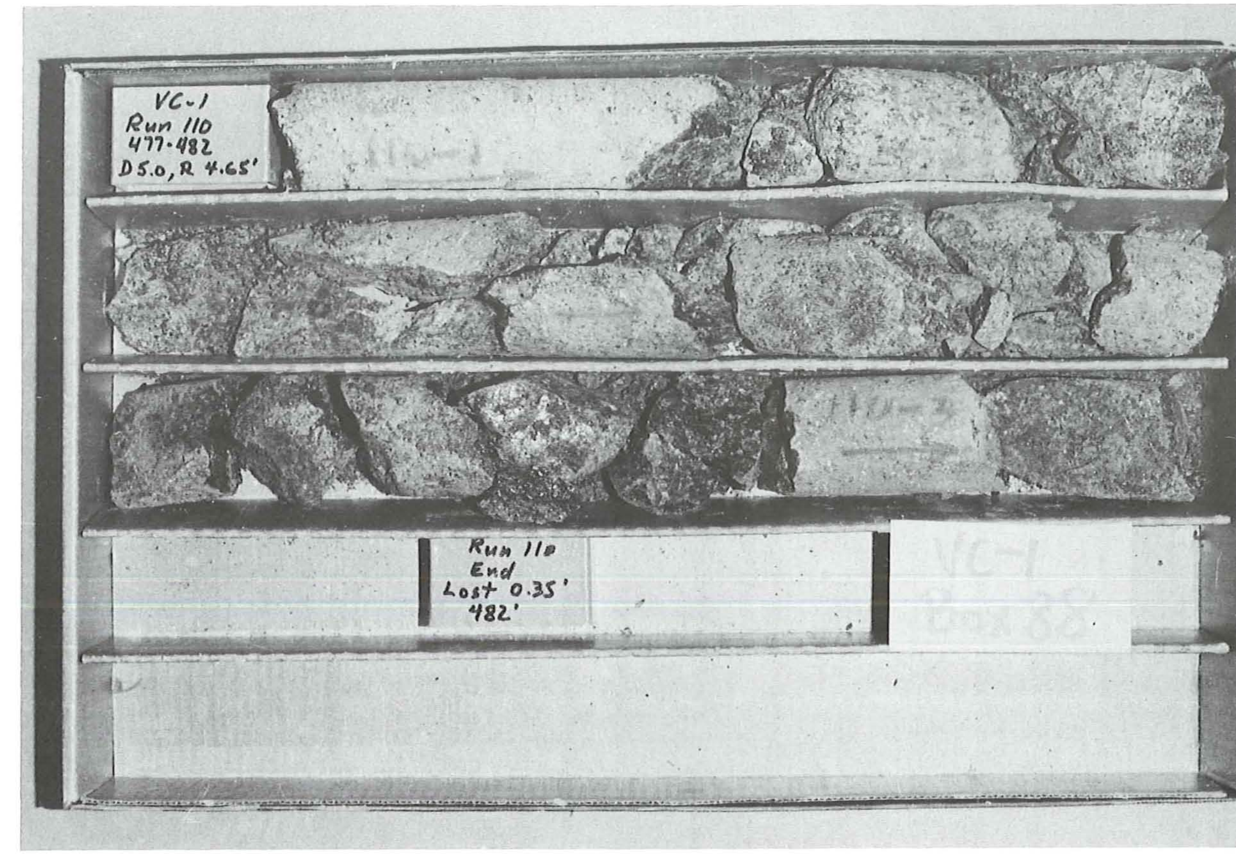

VC-1
Run 105
452-457
D5.0 R 4.95
Run 105
End
Lost 0.05
457
VC-1
Box 83

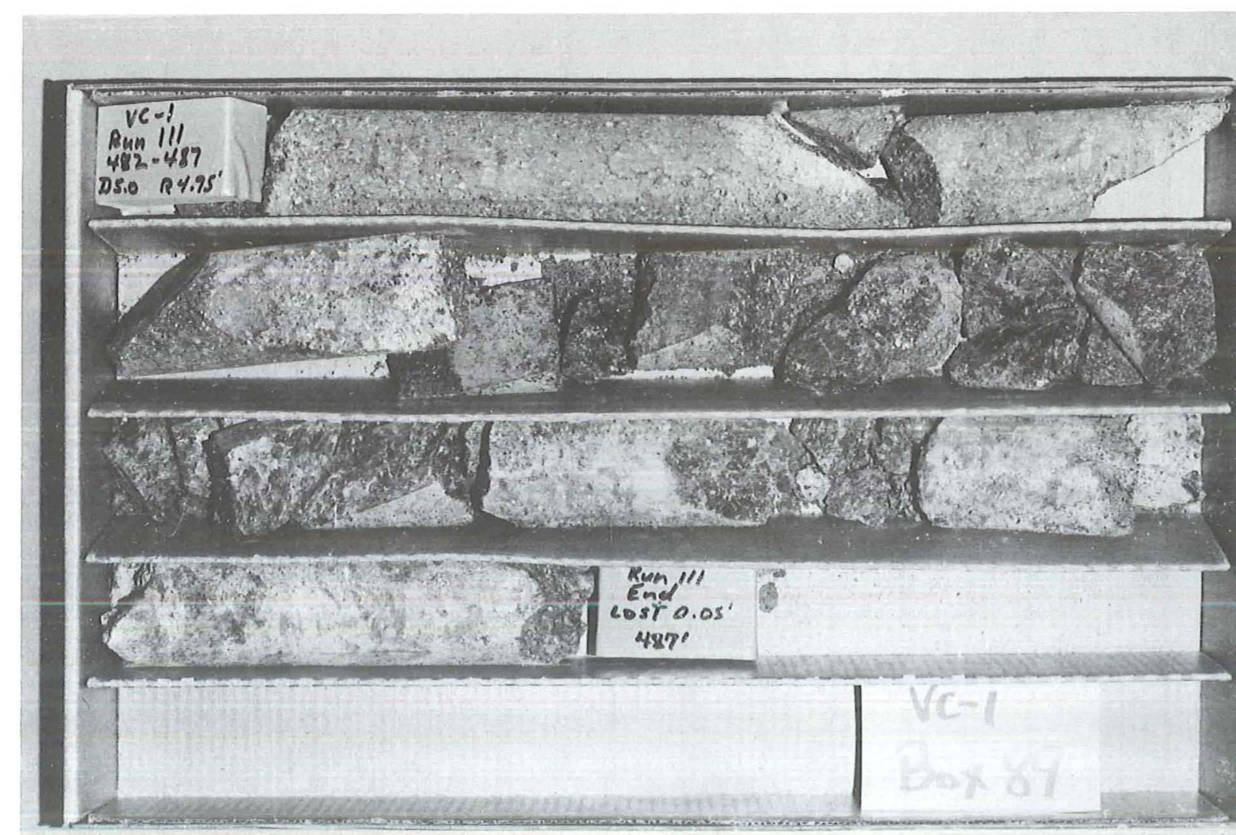

VC-1
Run 106
457-462'
D5.0 R 5.0
Run 106
End
Lost 0
462'
VC-1
Box 84


Run 107
End
Lost 0.10'
467'
VC-1
Box 85

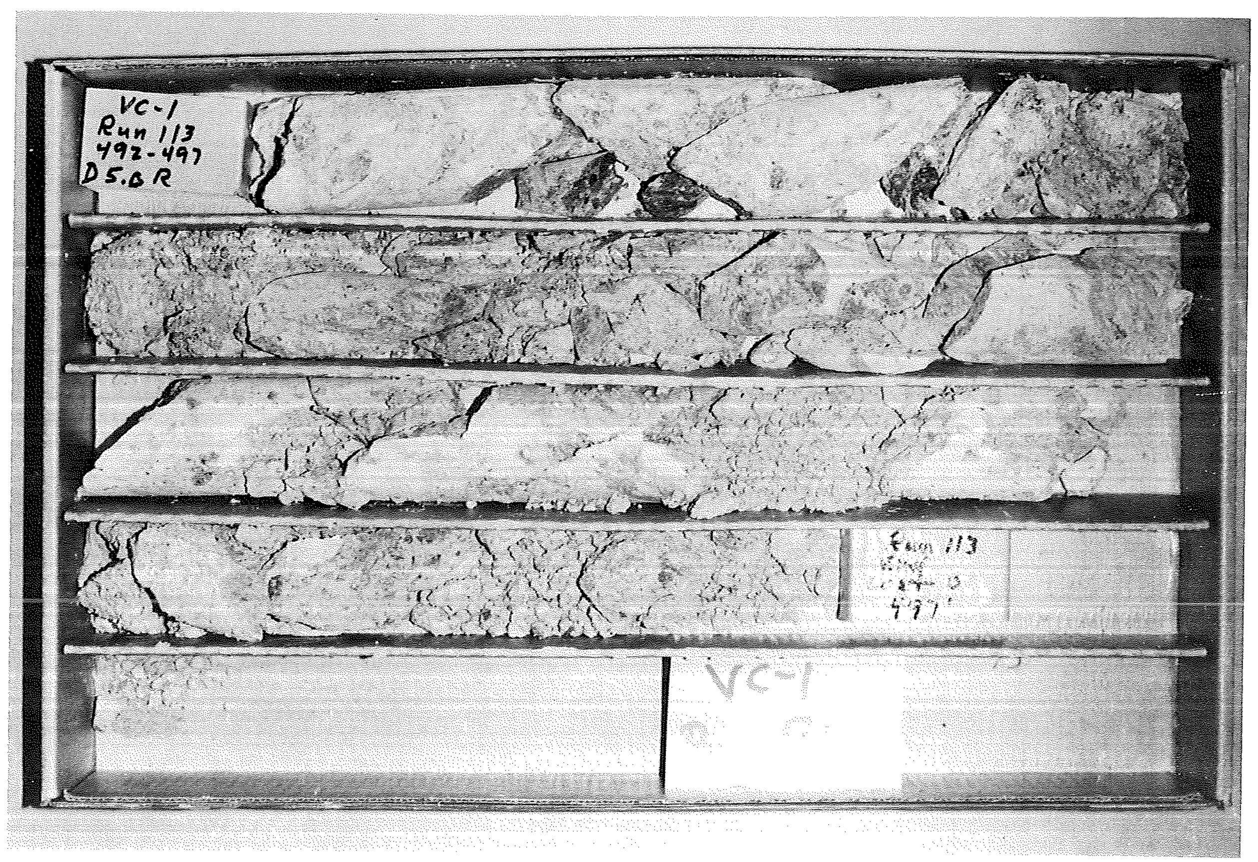

VC-1
Run 108
467-472
DS.0 R 4.95'
Run 108
End
Lost 0.05'
472'
VC-1
Box 86


VC-1
Run 109
472'-477'
DS.0 R 5.0'
VC-1
Box 87


VC-1
Run 110
477-482
DS.0, R 4.65'
Run 110
End
Lost 0.35'
482'
VC-1
Box 88


VC-1
Run 111
482-487
DS.0 R 4.95'
Run 111
End
Lost 0.05'
487'

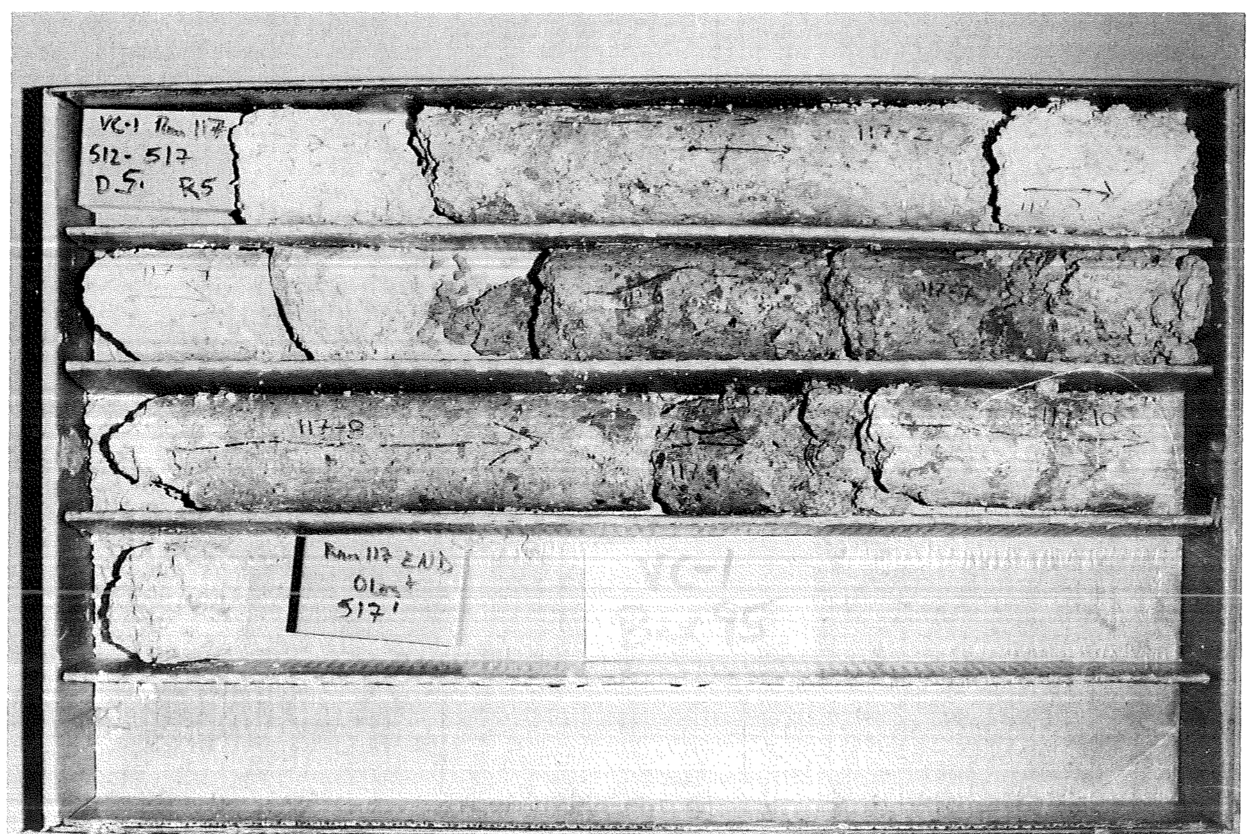

VC-1
Run 112'
487-492'
D 5.0; R 4.90'
Run 112
End
Lost 0.10'
492'
VC-1
Box 90


VC-1
Run 113
492-497
D 5.0 R
Run 113
VC-1


VC-1
Run 114
497-502'
D 5.0; R 5.0
Run 114
End
Lost 0
502'
VC-1
Box 92


VC-1
Run 115
End
Lost 0.50'
507'
VC-1

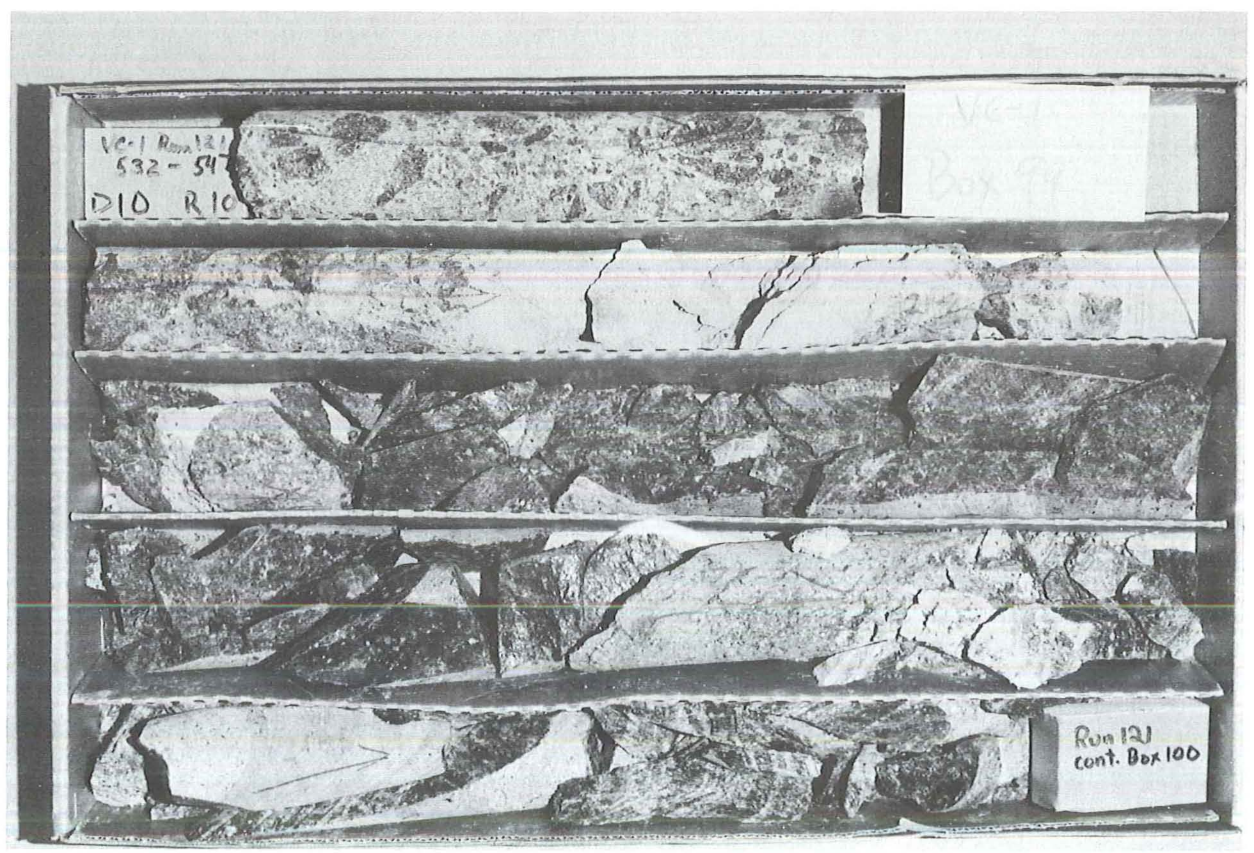

VC-1 Box 94
Run 116 END
512'

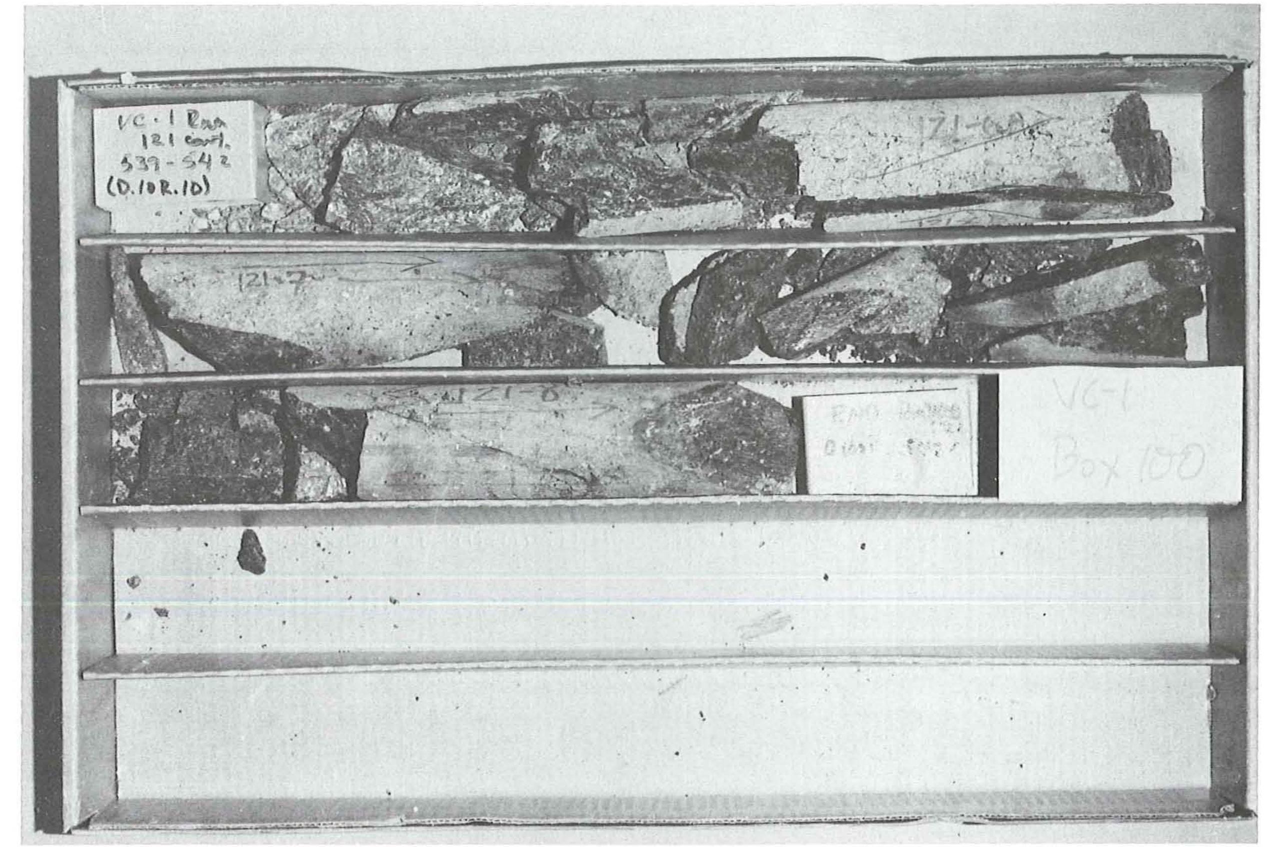

VC-1 Run 117
512 - 517
D 5' R 5
Run 117 END
517'

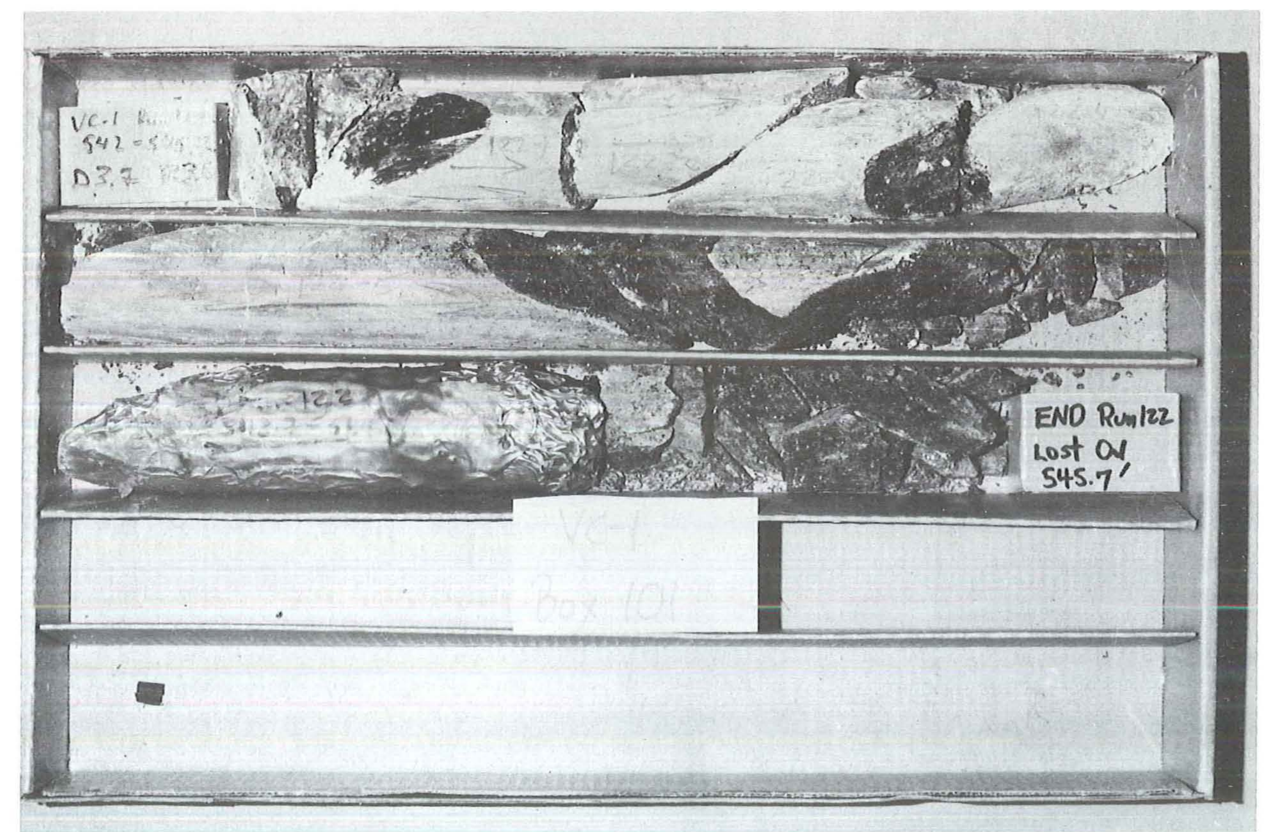

VC-1 Box 96
Run 118 End
522

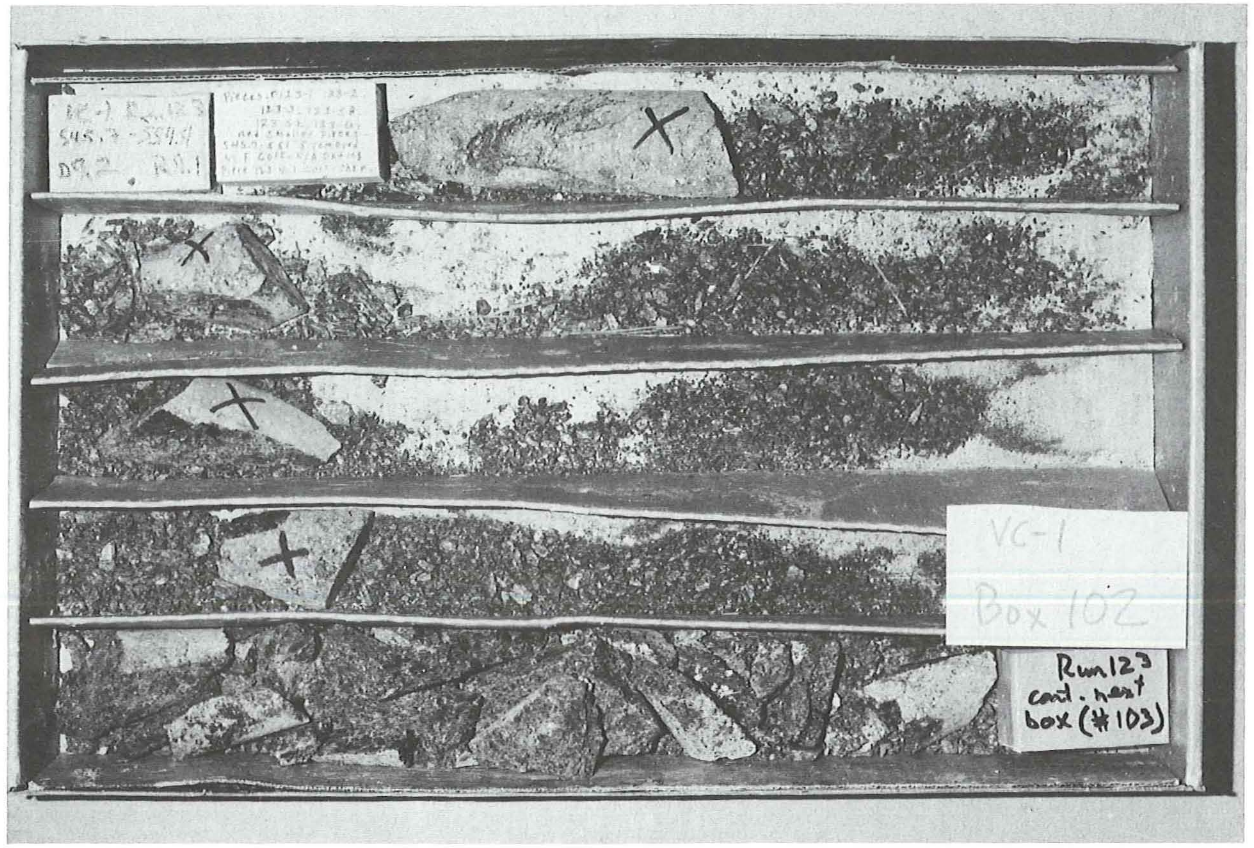

VC-1 Run 119
522 - 527
D5 R5
VC-1 Box 97
Run 119 END
0 Lost
527'

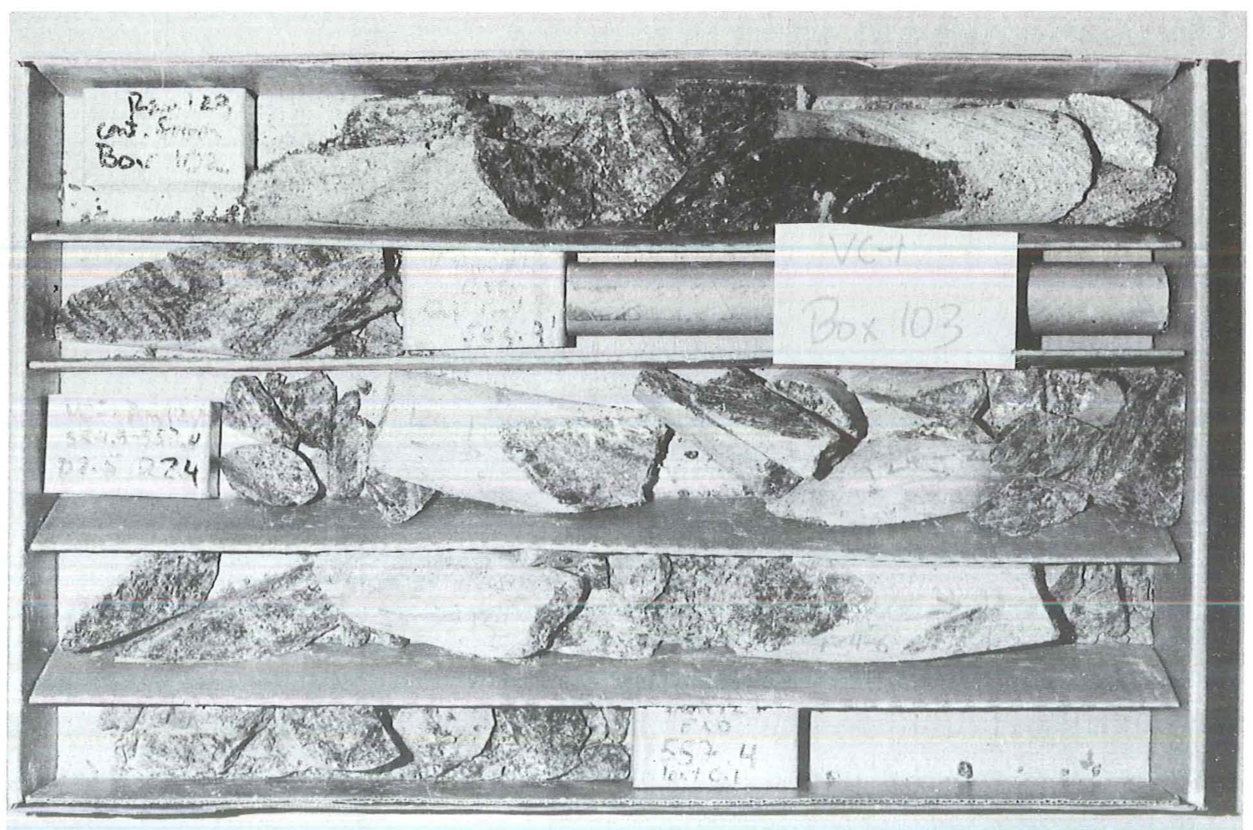

VC-1 Box 98

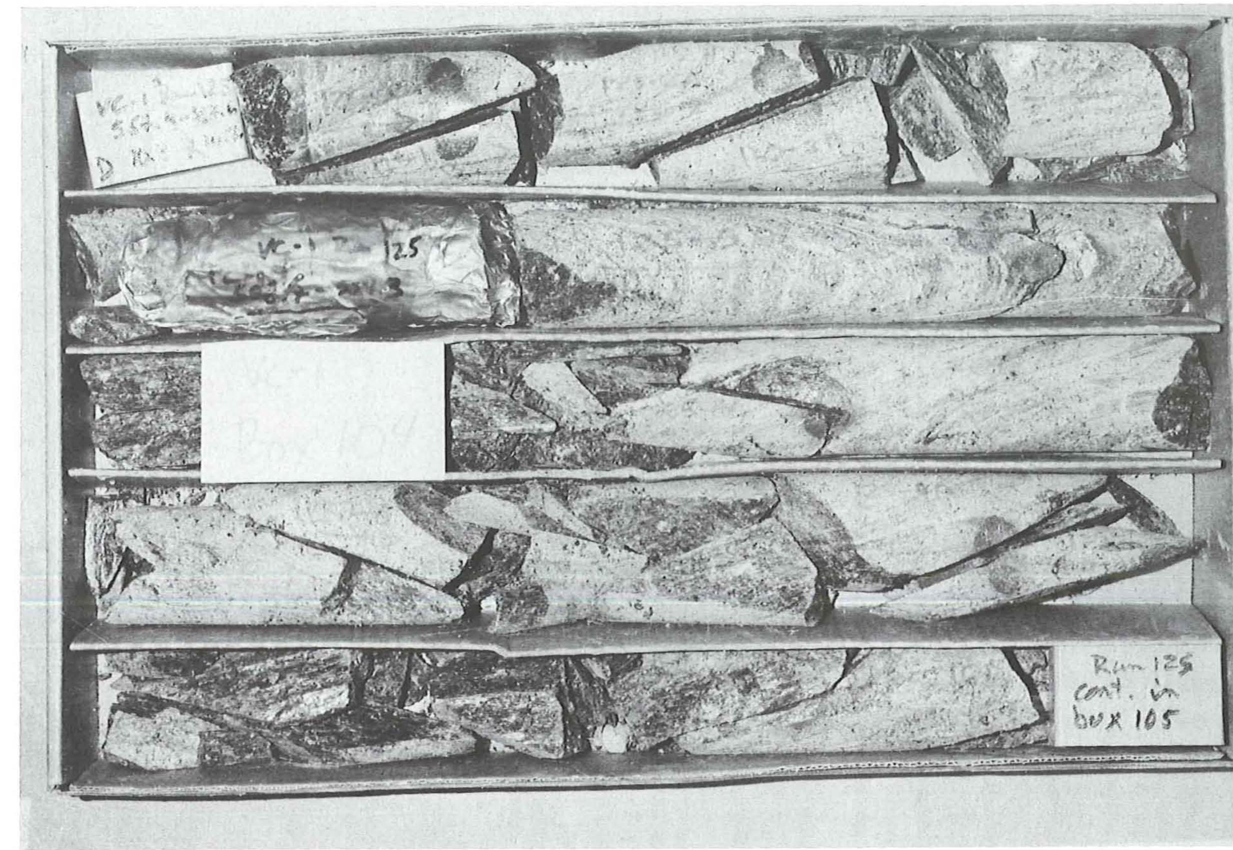

Run 121
cont. Box 100

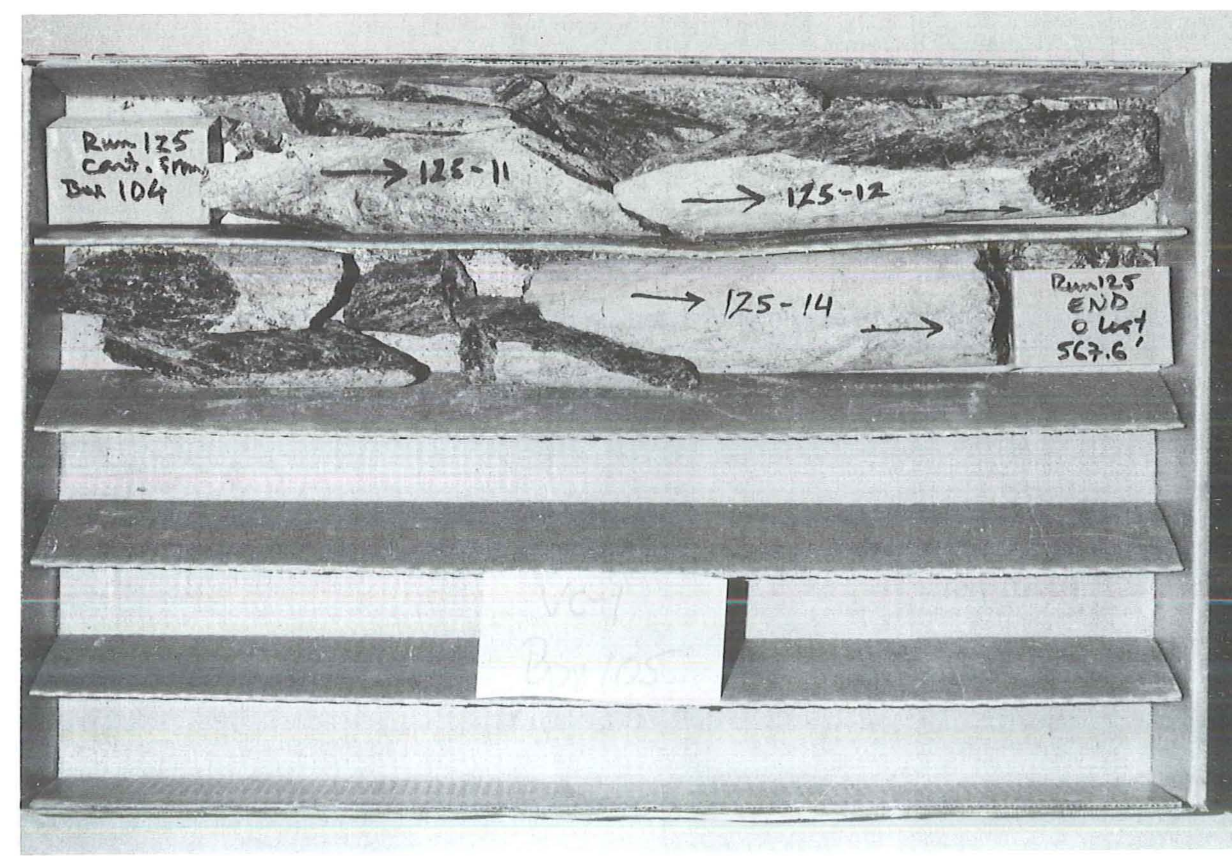

VC-1
Box 100

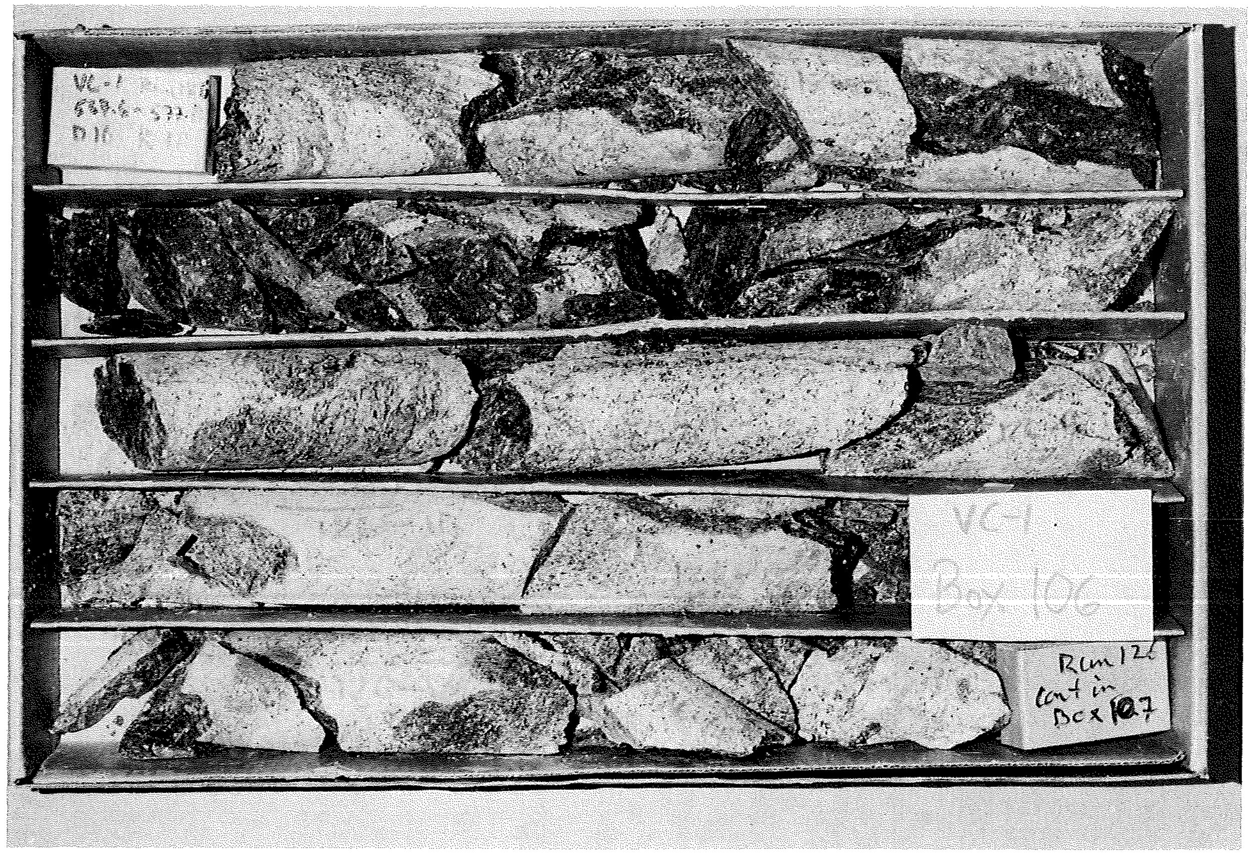

END Run 122
Lost 0.1
545.7'

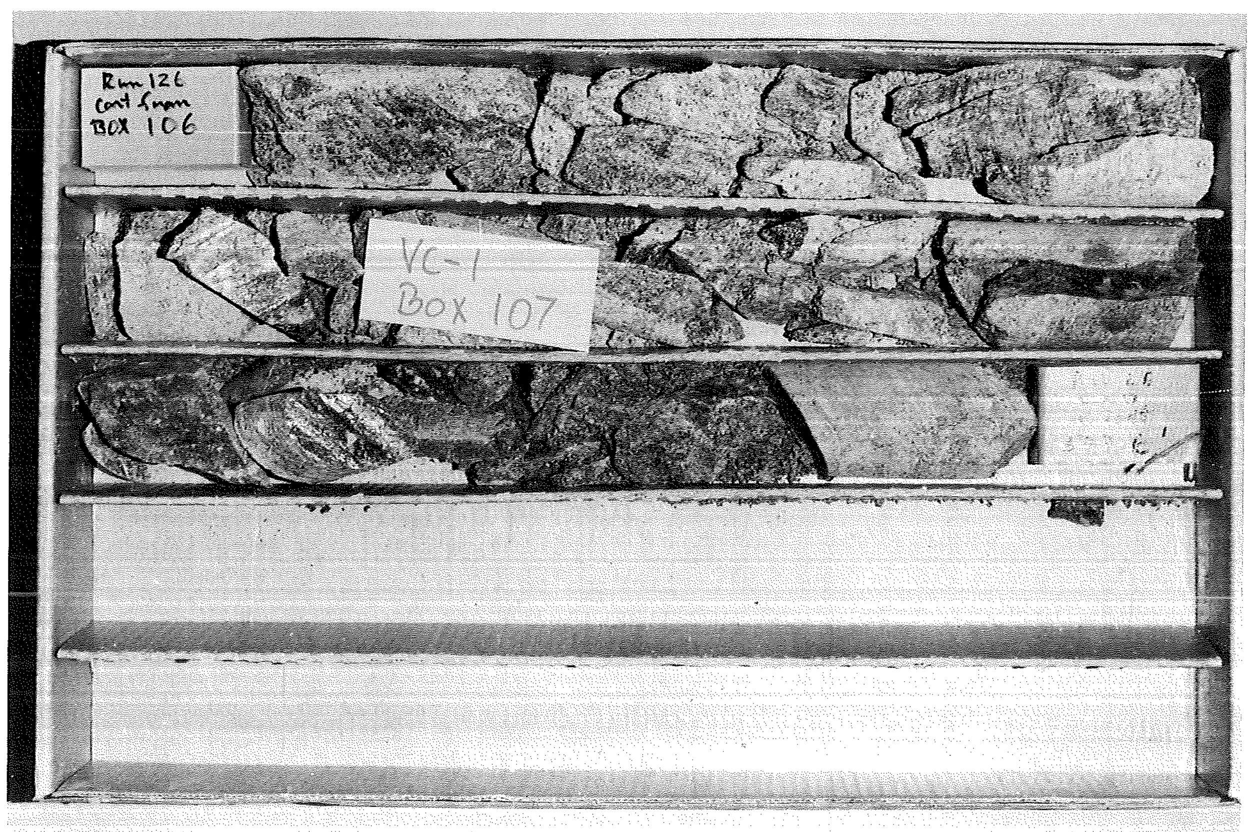

VC-1
Box 102
Run 123
cont. next
box (#103)

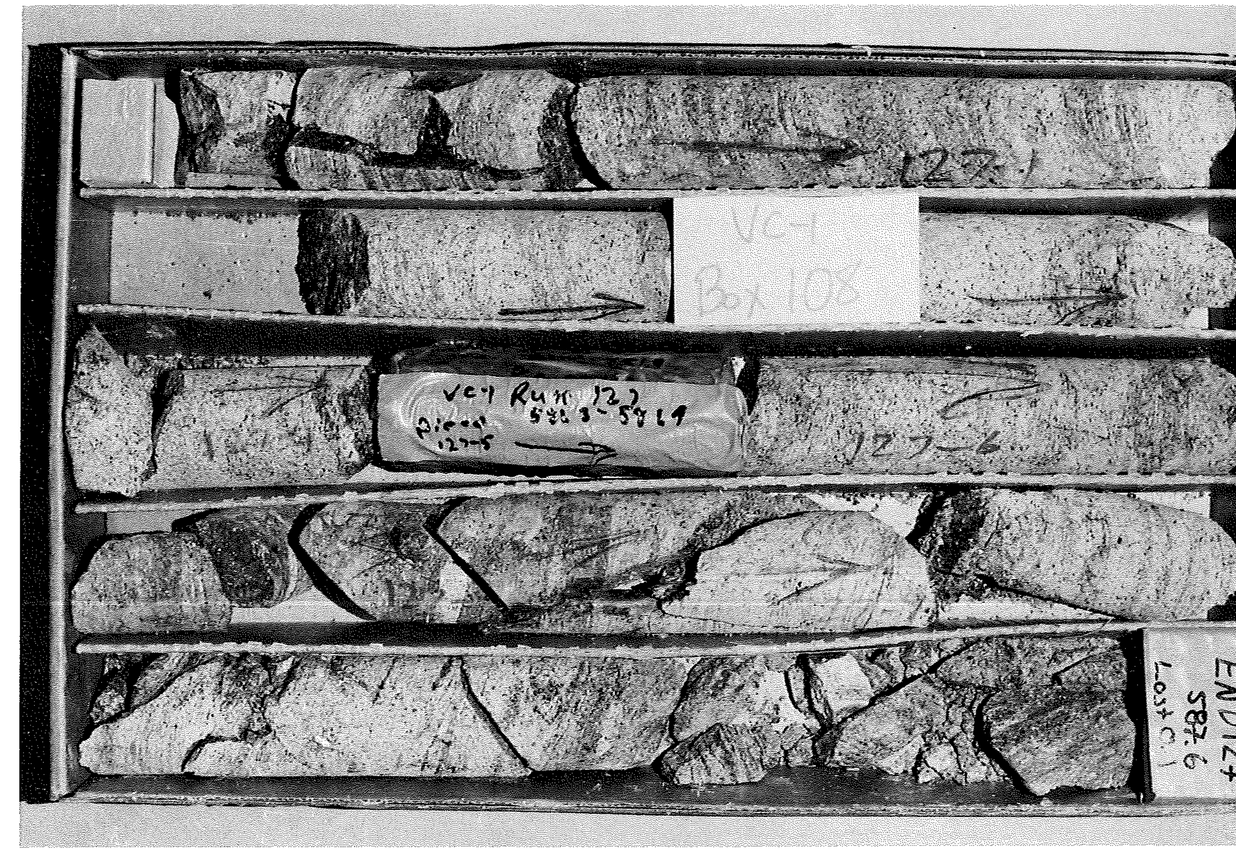

VC-1
Box 103

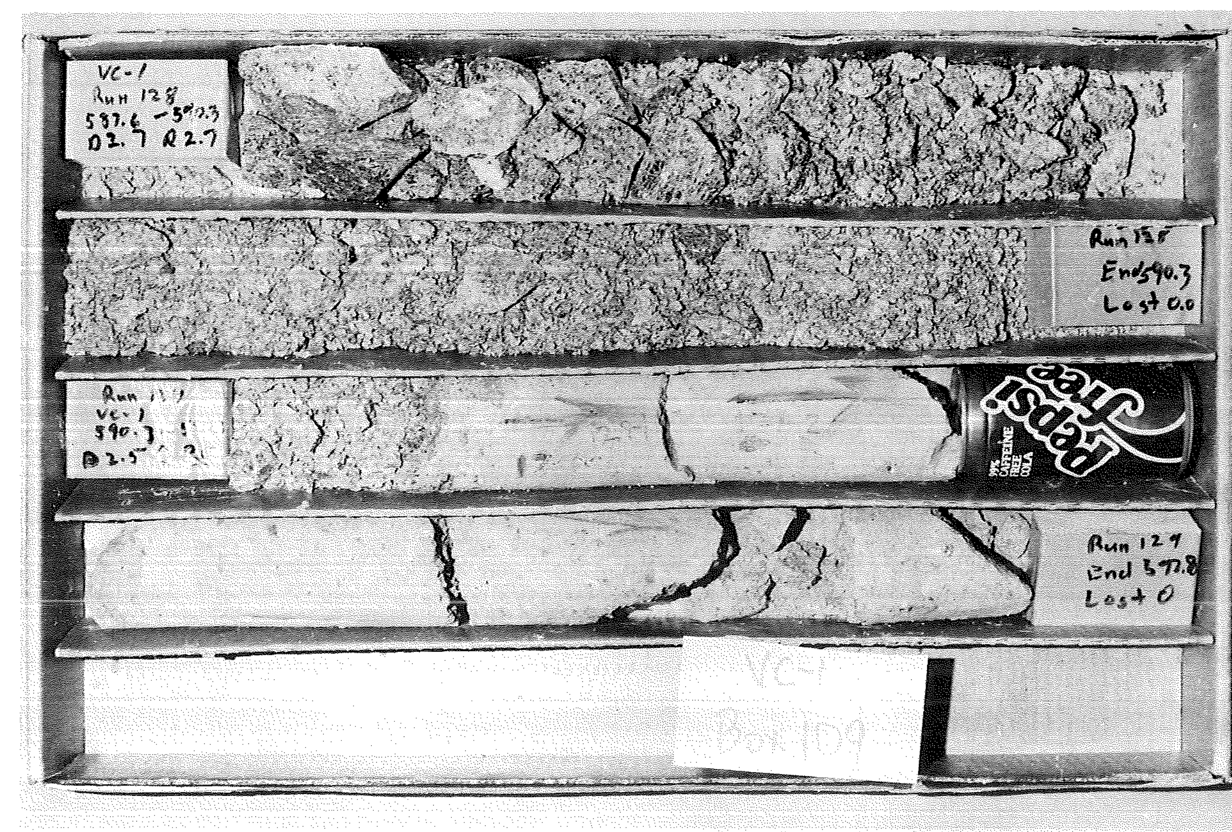

VC-1
Box 104
Run 125
cont. in
box 105

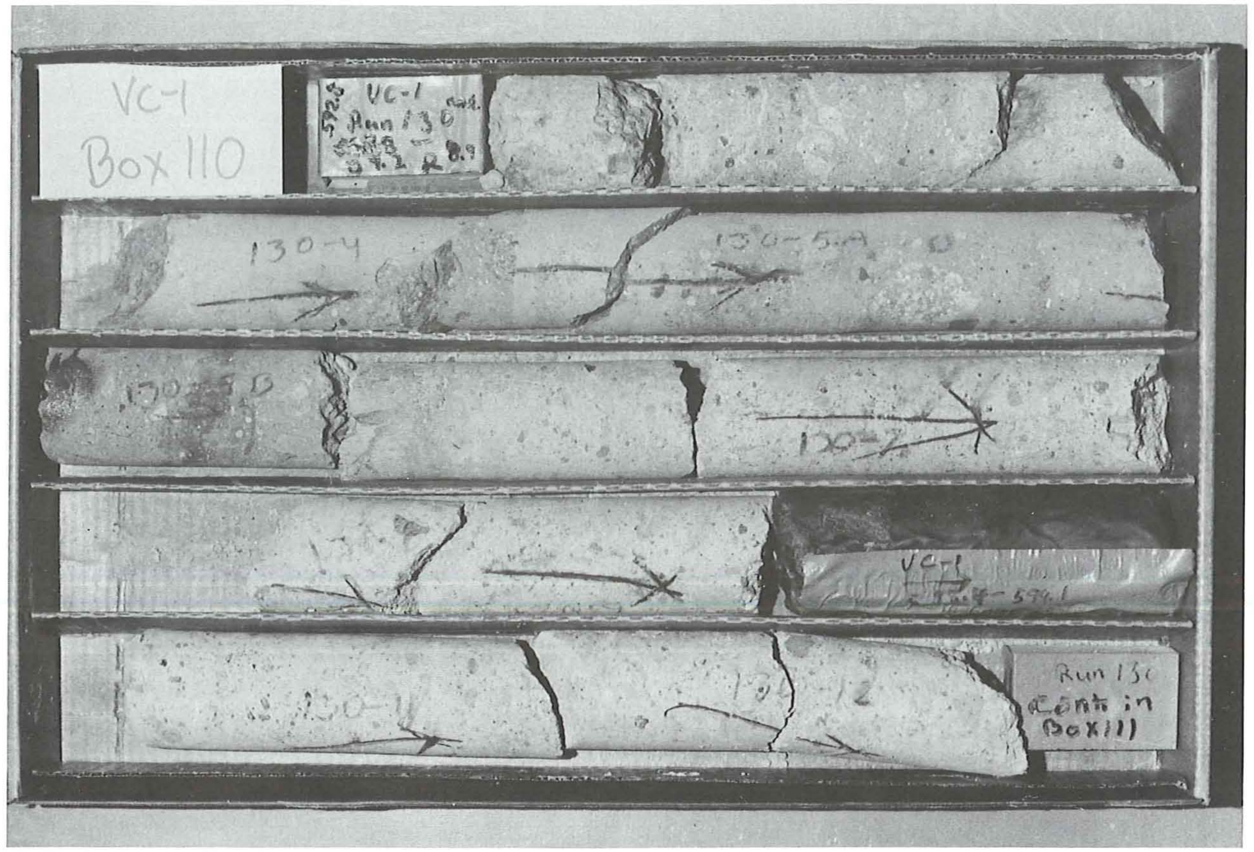

Run 125
cont. from
Box 104
→ 125-11
→ 125-12
→ 125-14
Run 125
END
0 Lost
567.6'
VC-1
Box 105

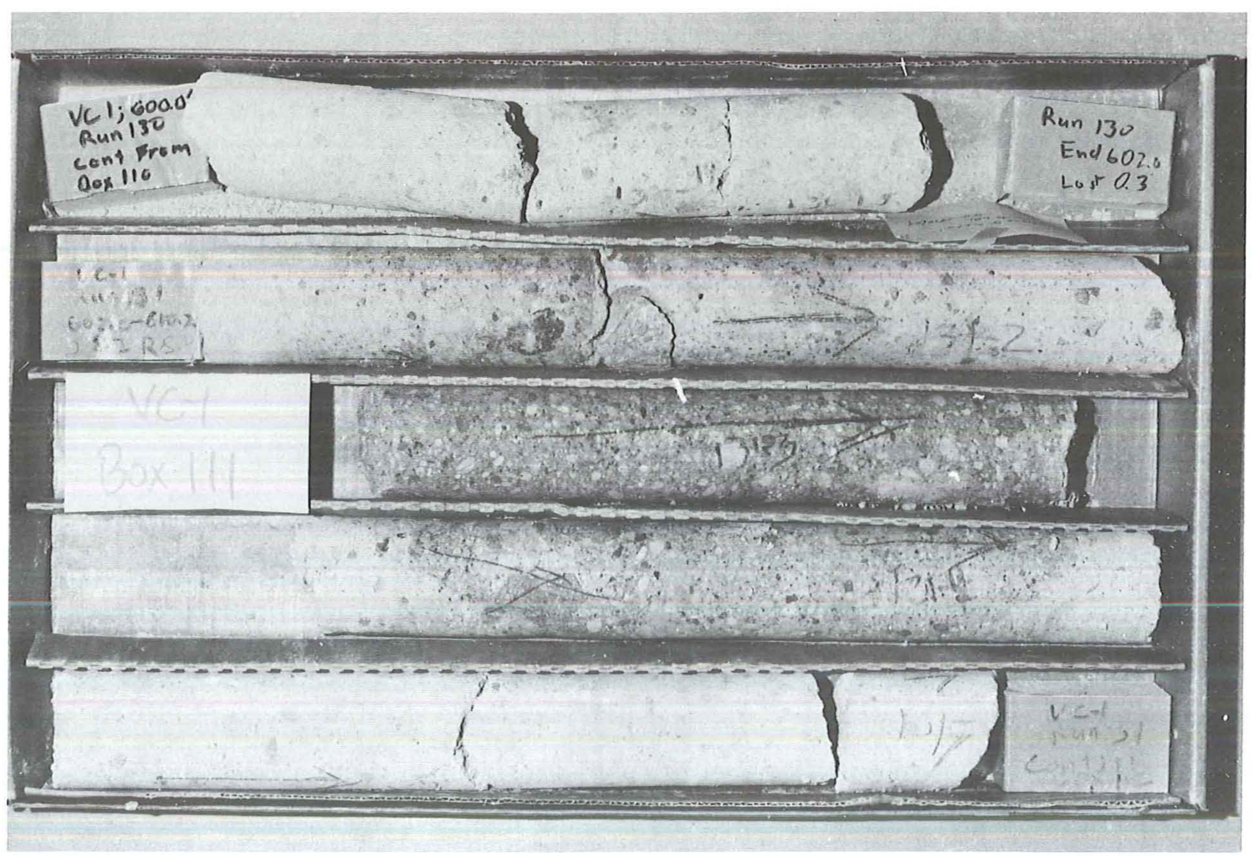

VC-1
Box 106
Run 126
cont in
Box 107

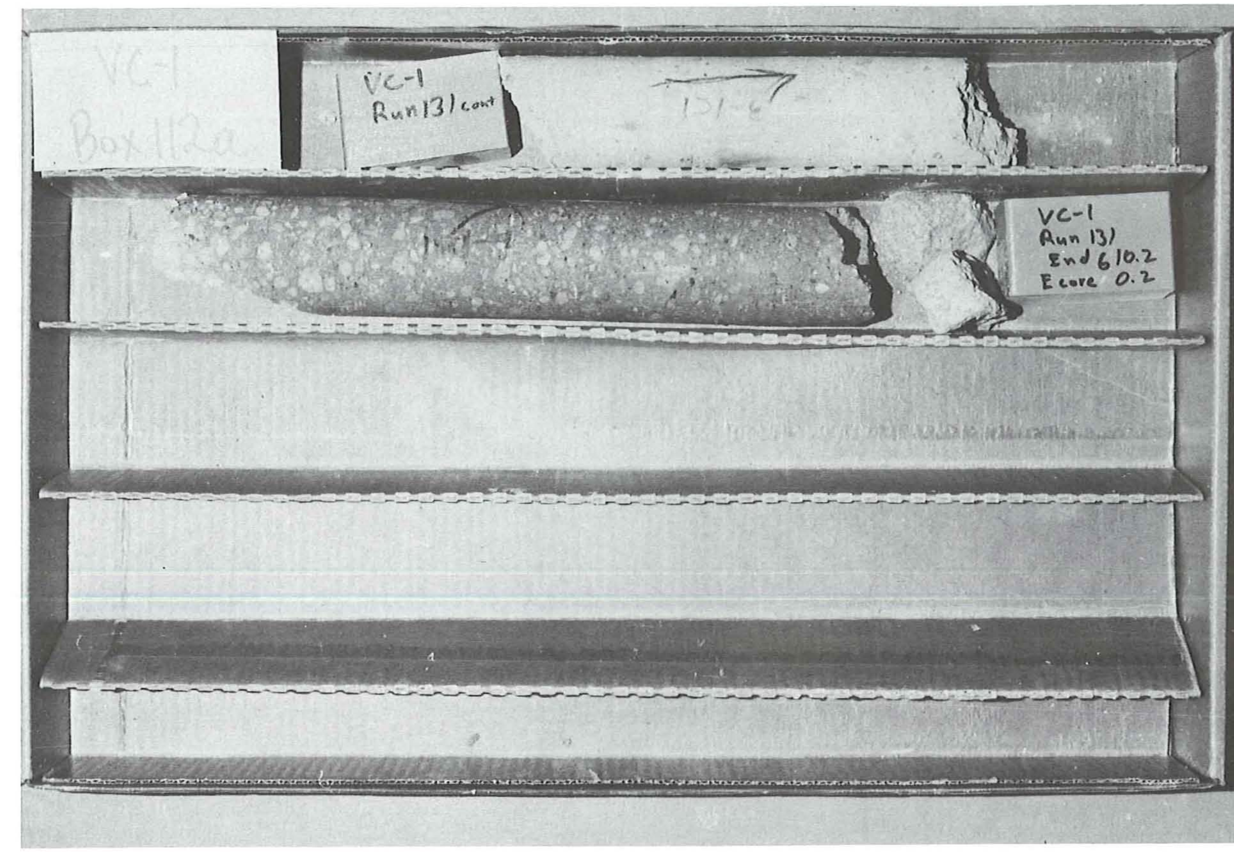

Run 126
cont from
Box 106
VC-1
Box 107

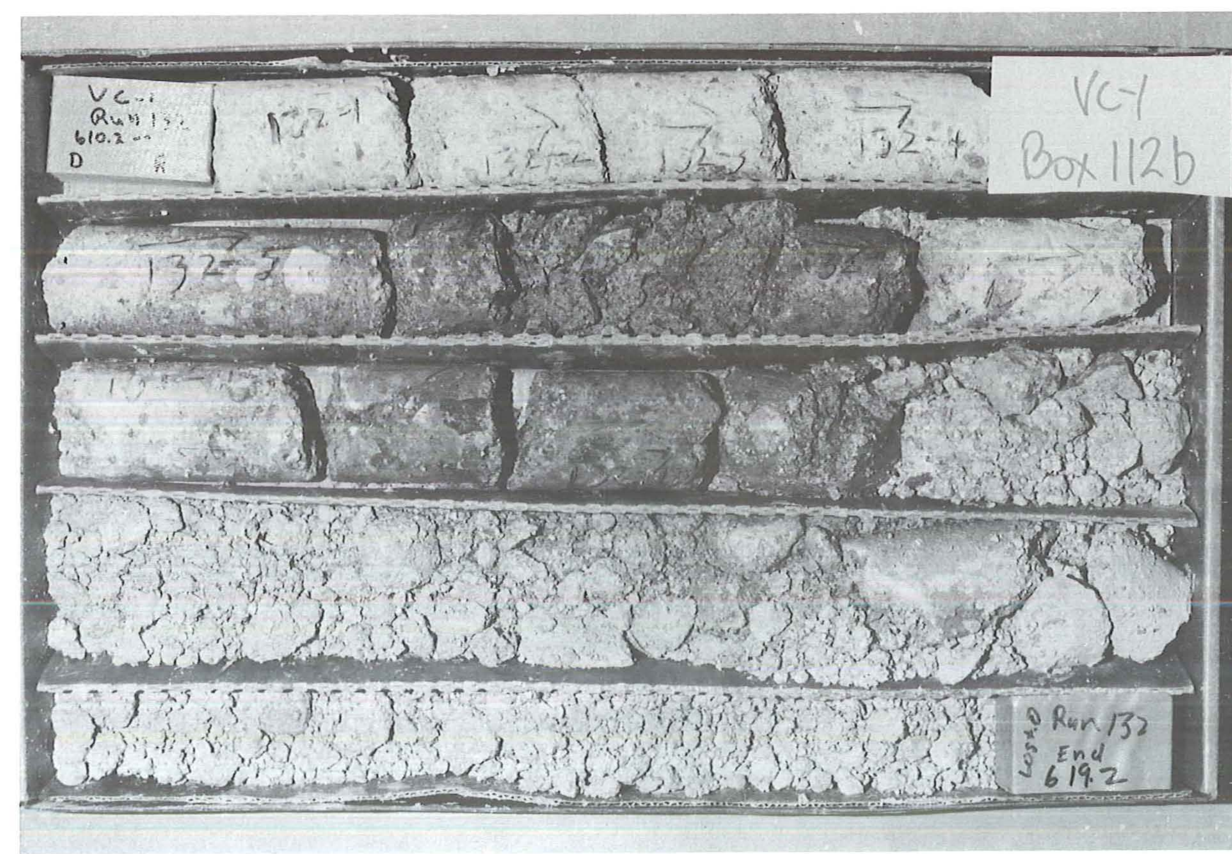

VC-1
Box 108

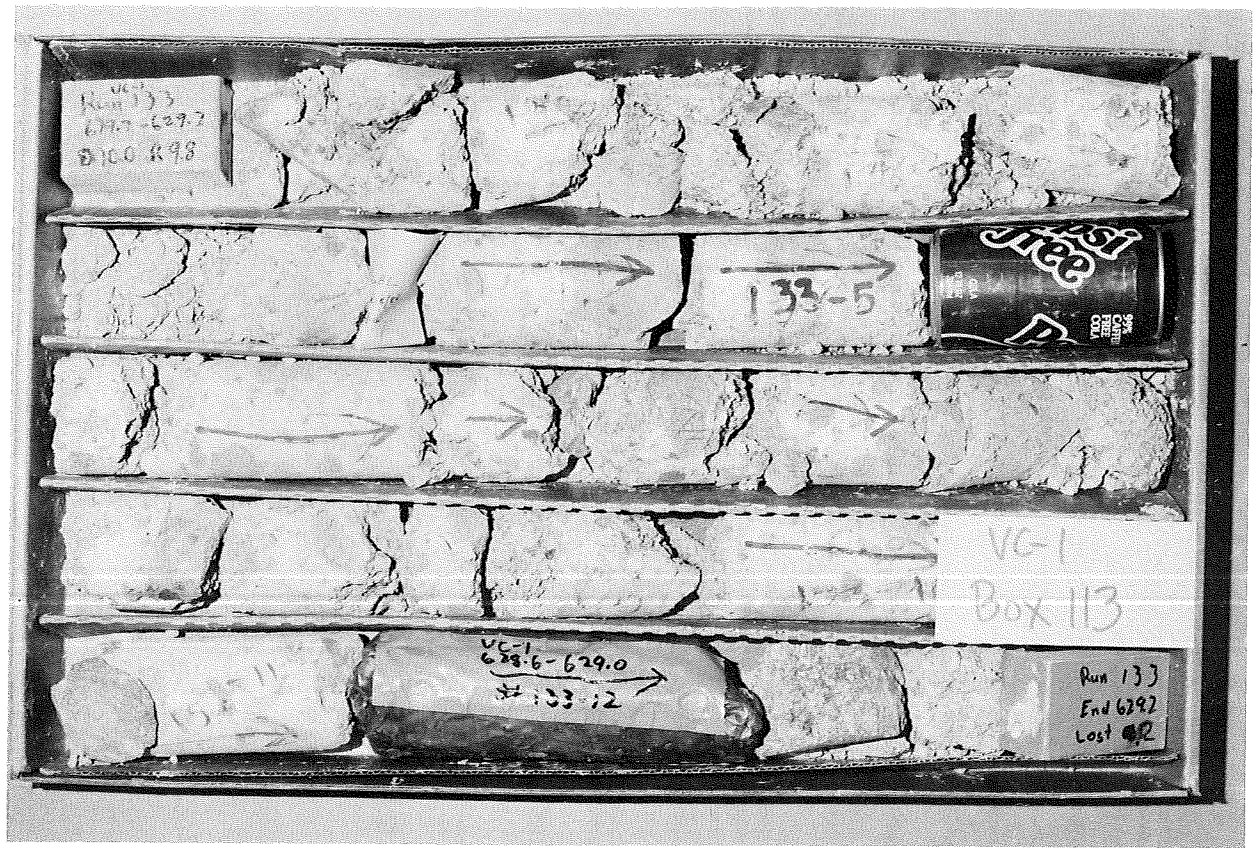

VC-1
Box 109


VC-1
Box 110
Run 130
Cont in
Box 111


Run 130
End 602.0
VC-1
Box 111

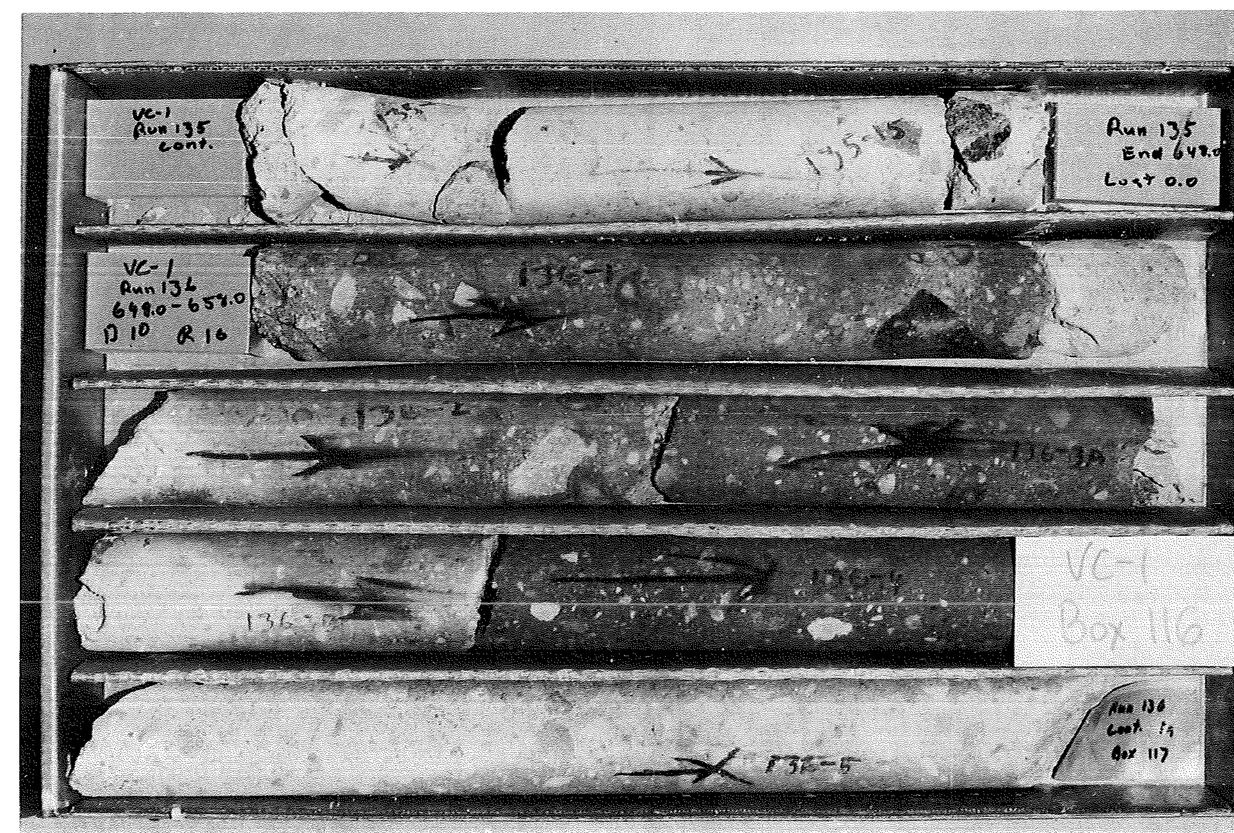

VC-1
Box 112a
VC-1
Run 131 cont
VC-1
Run 131
End 610.2
E core 0.2

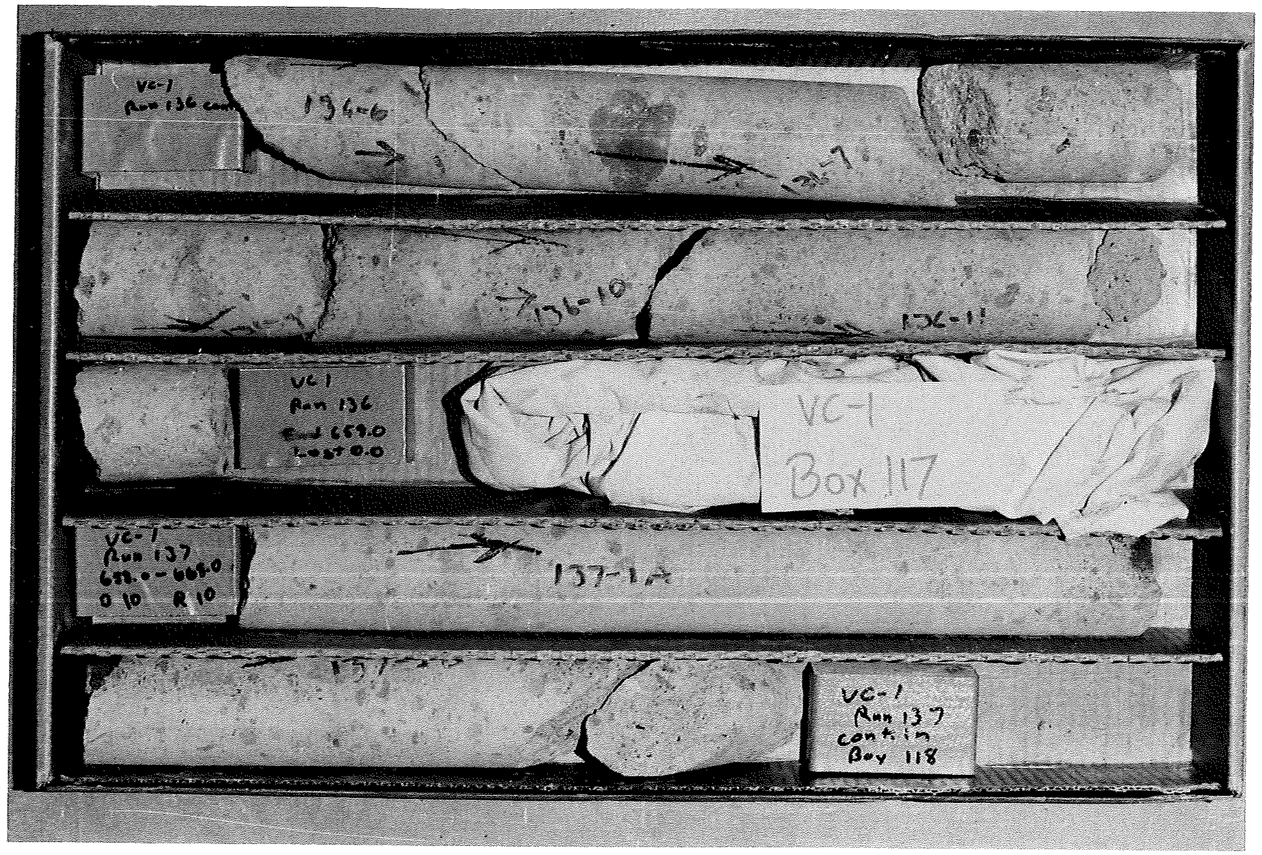

VC-1
Box 112b
Run 132
End
619.2

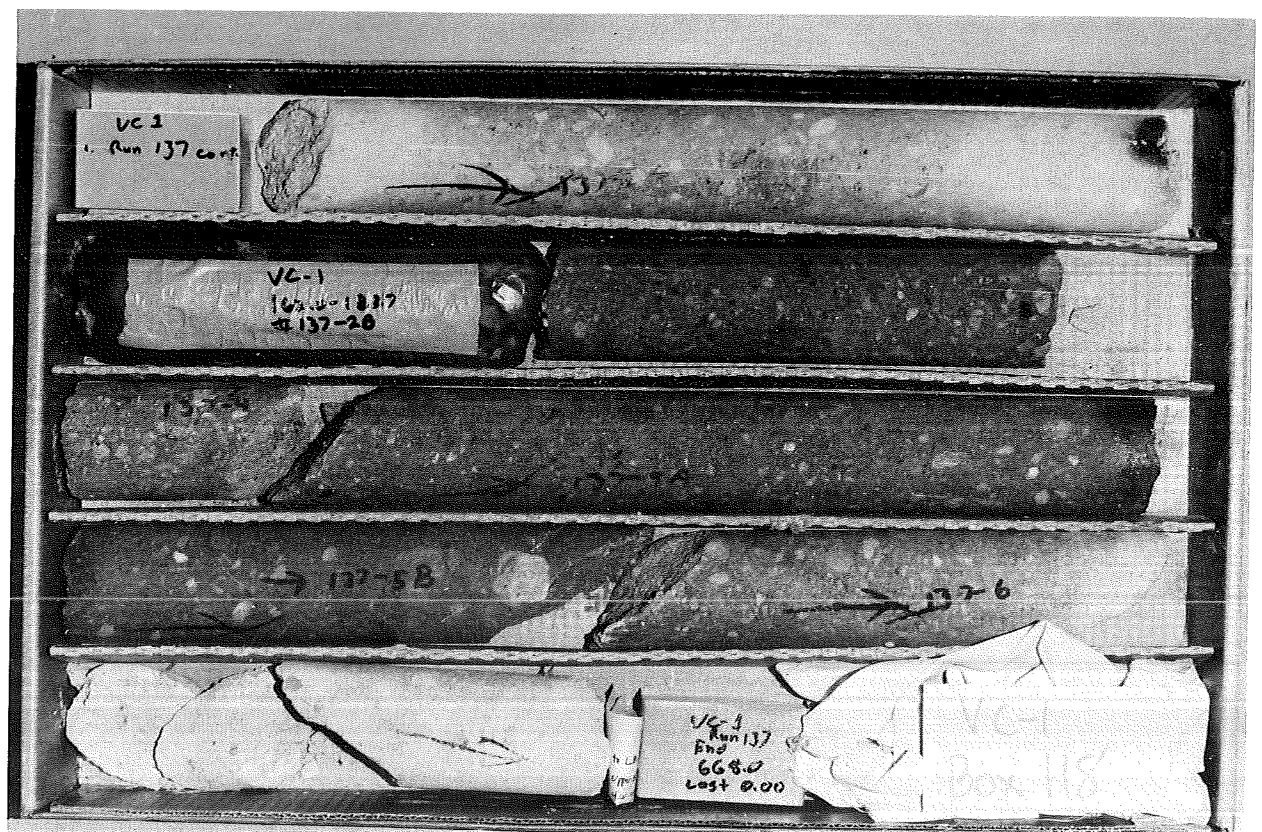

VC-1
Box 113
133-5

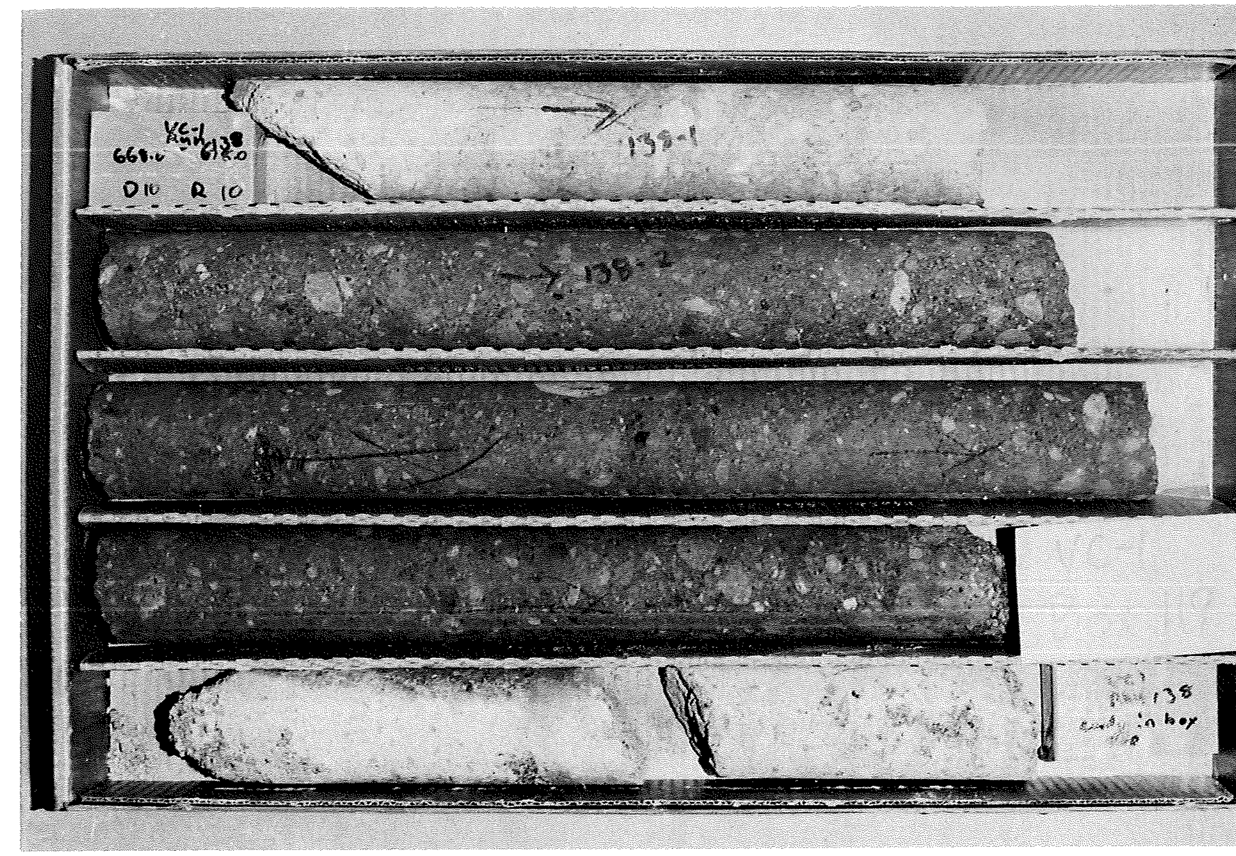

VC-1
Box 114


VC-1
Box 115


VC-1
Box 116

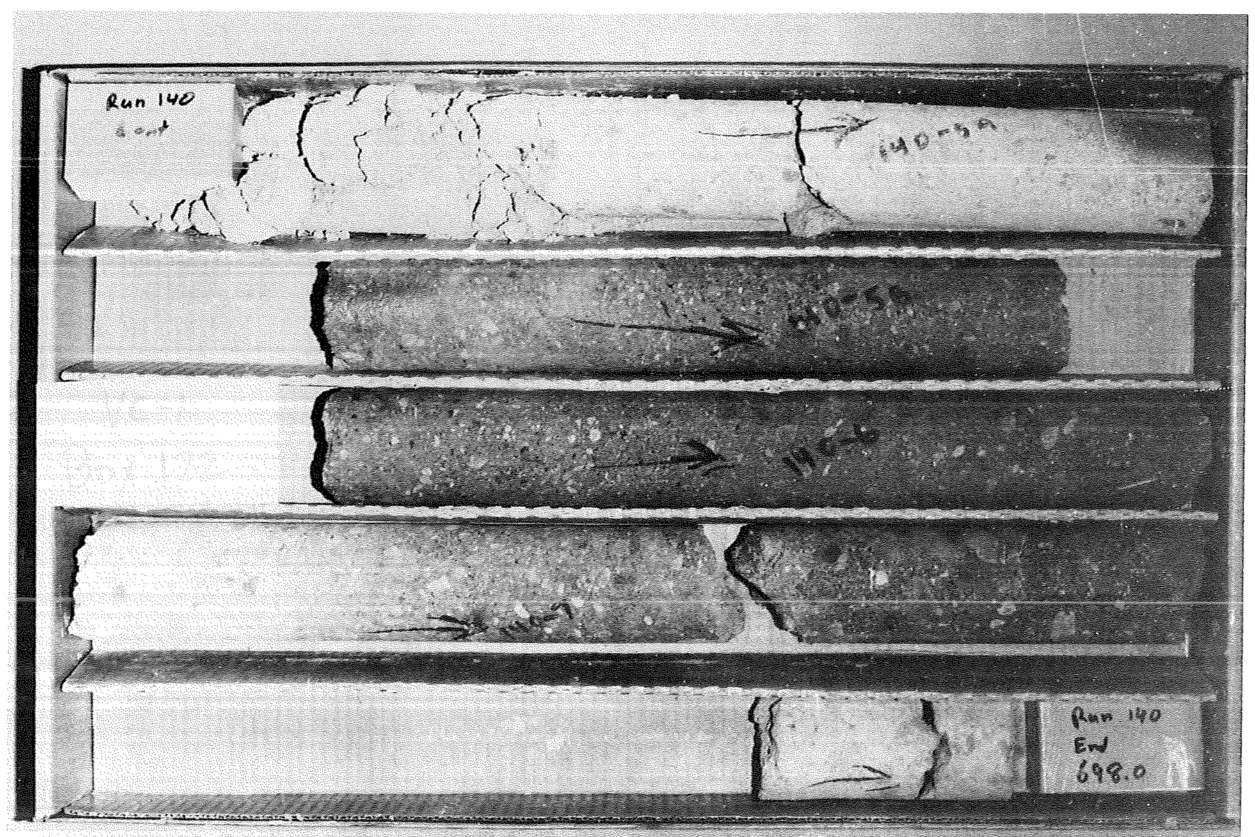

VC-1
Run 136
VC-1
Box 117
VC-1
Run 137
137-1A
VC-1
Run 137
cont in
Box 118

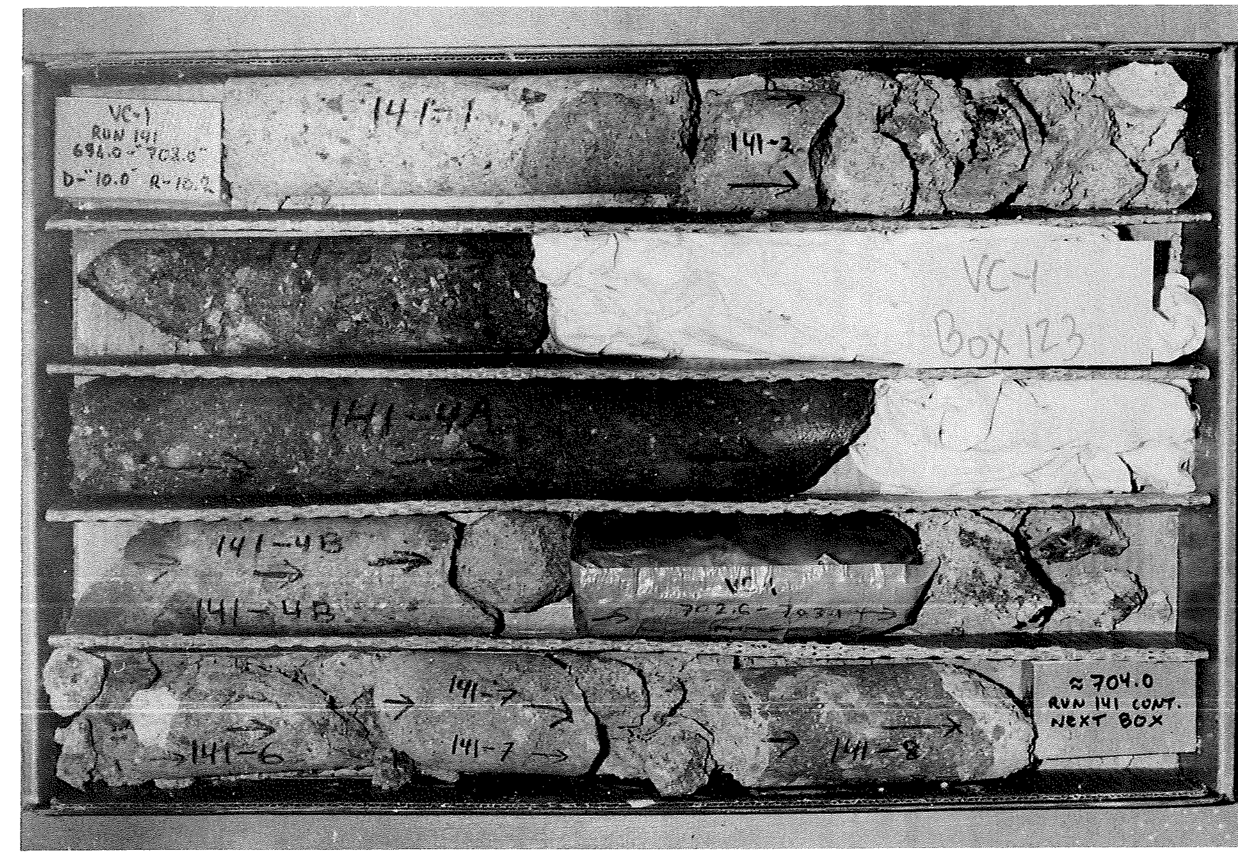

VC 1
Run 137 cont
VC-1
VC-1
Box 118

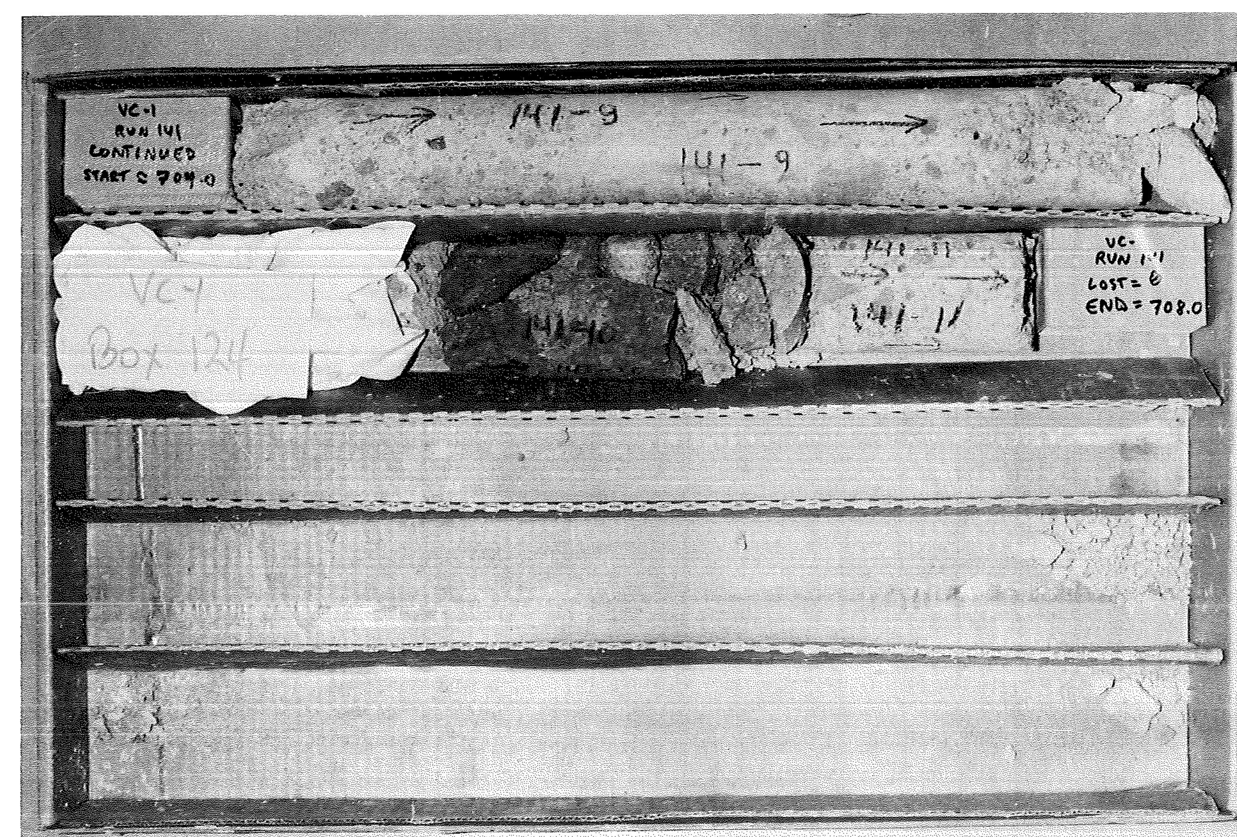

VC-1
D 10 R 10
Run 138


Run 138
End
Lost 0.00
VC-1
Run 139
D 10 R 10
Run 139
Cont in Box
121

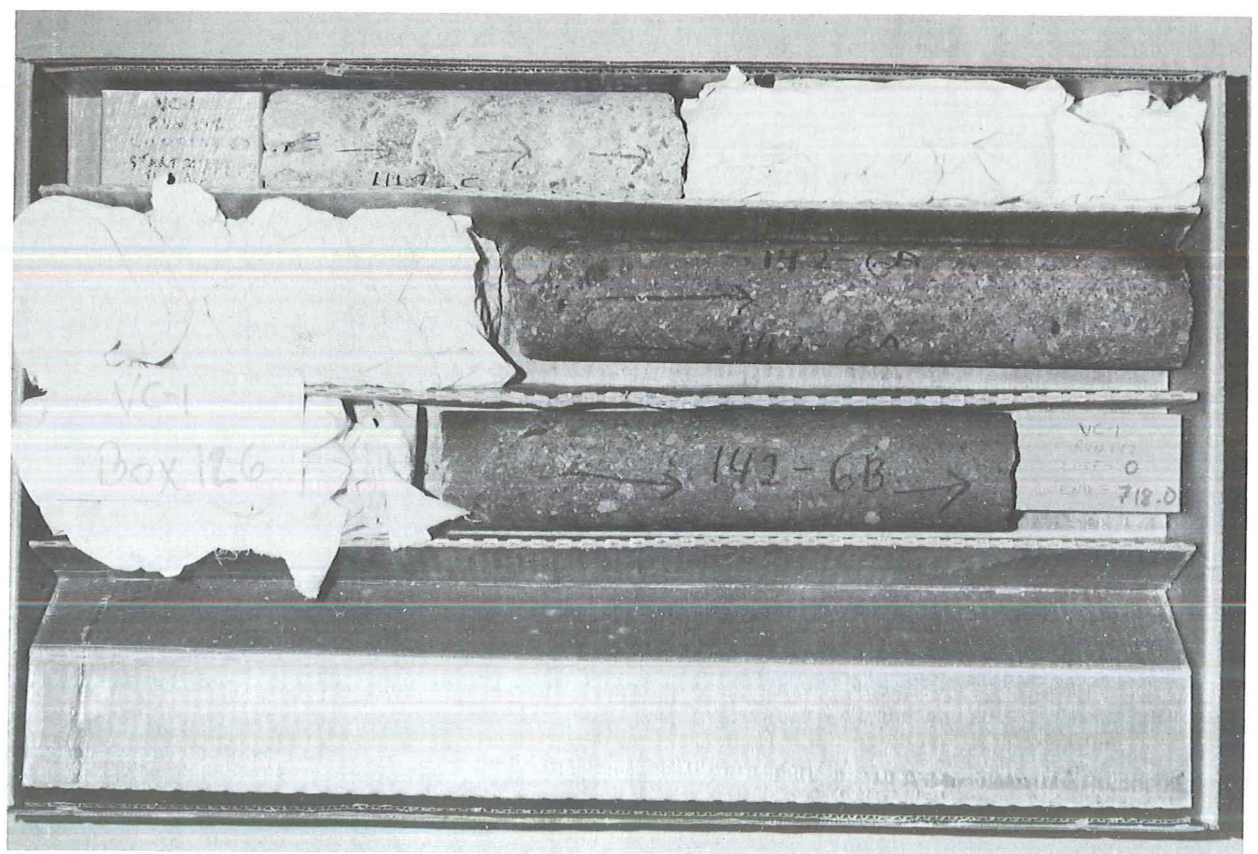

Run 139 cont.
VC-1 Box 121
Run 140 Cont. in Box 122

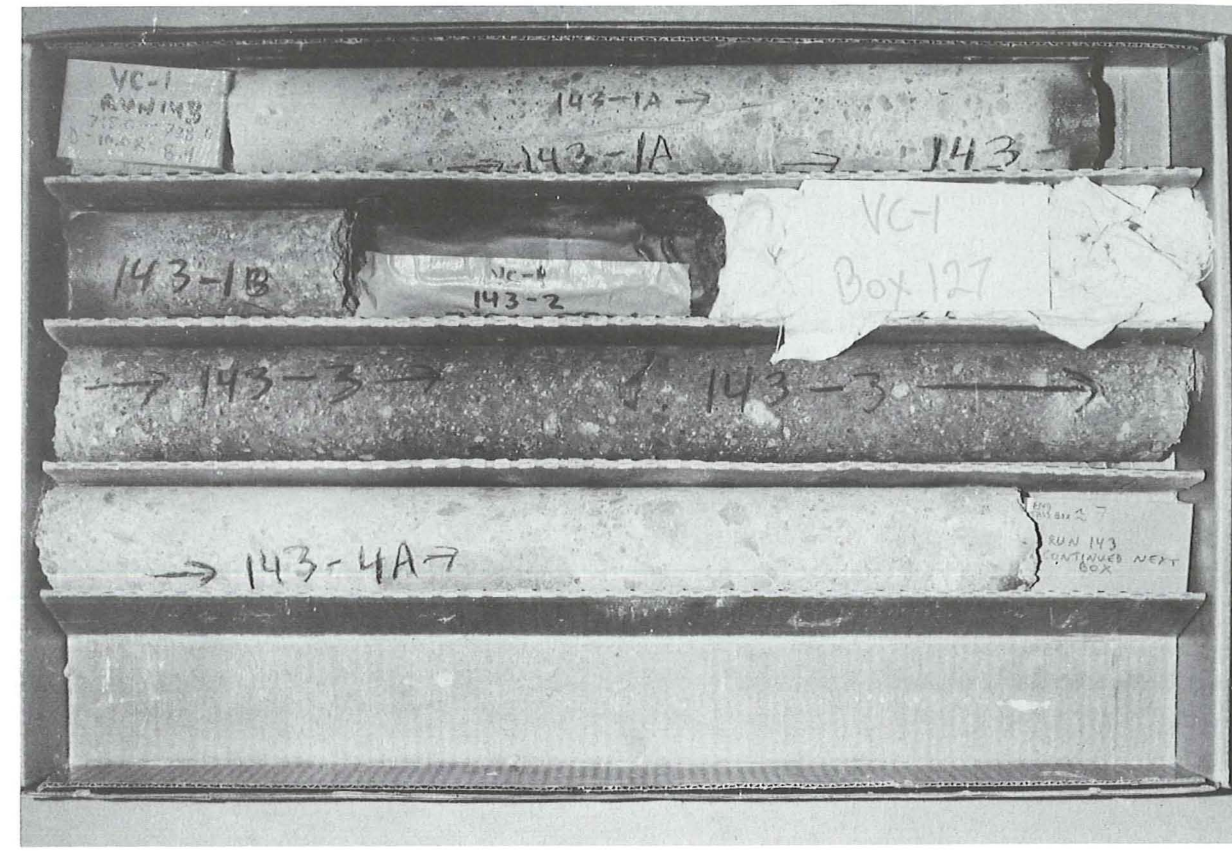

Run 140
Run 140 End 698.0

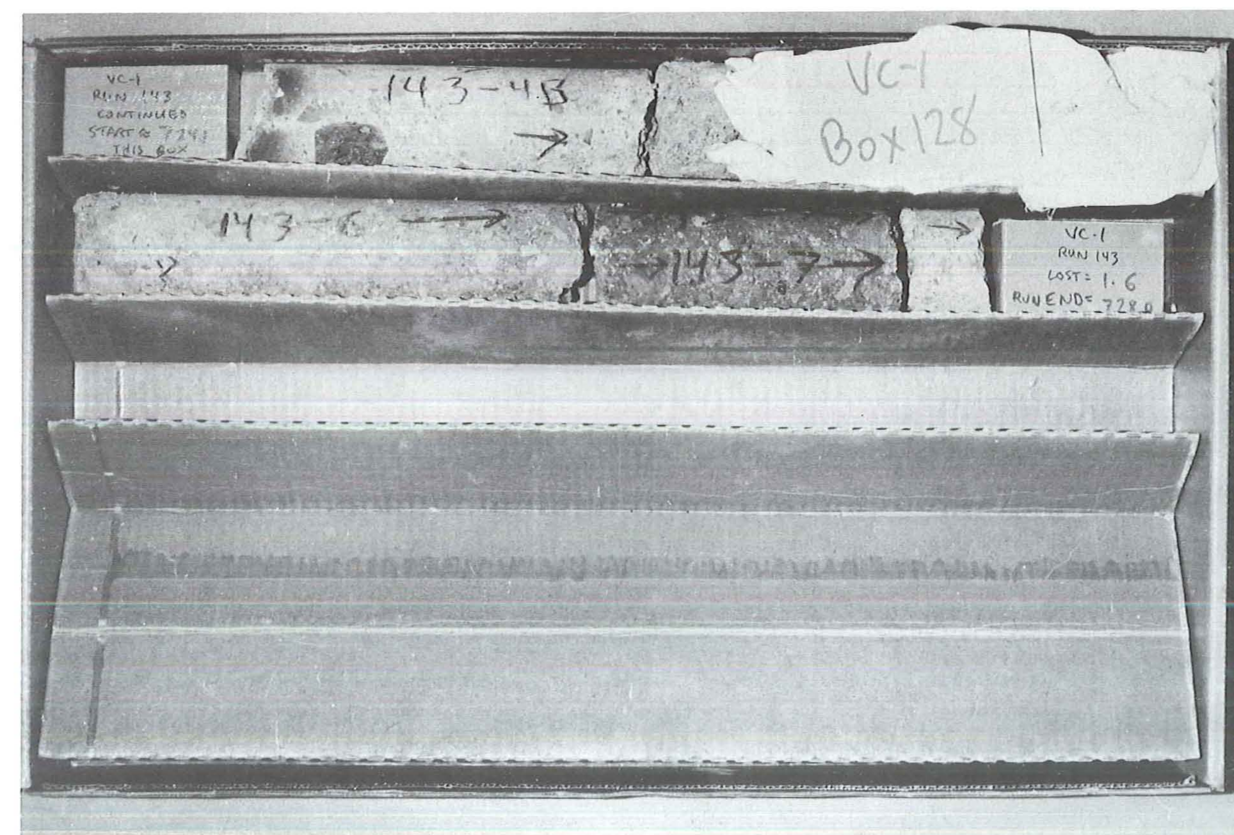

VC-1 Box 123
≈ 704.0 RUN 141 CONT. NEXT BOX


VC-1 RUN 141 CONTINUED START ≈ 704.0
VC-1 Box 124


142-3A
142-3B
142-4
RUN 142
CONTINUED NEXT
BOX
VC-1
Box 125


142-6B
VC-1
Box 126
718.0


VC-1
143-1A
143-1B
143-2
VC-1
Box 127
143-3
143-4A
RUN 143
CONTINUED NEXT
BOX

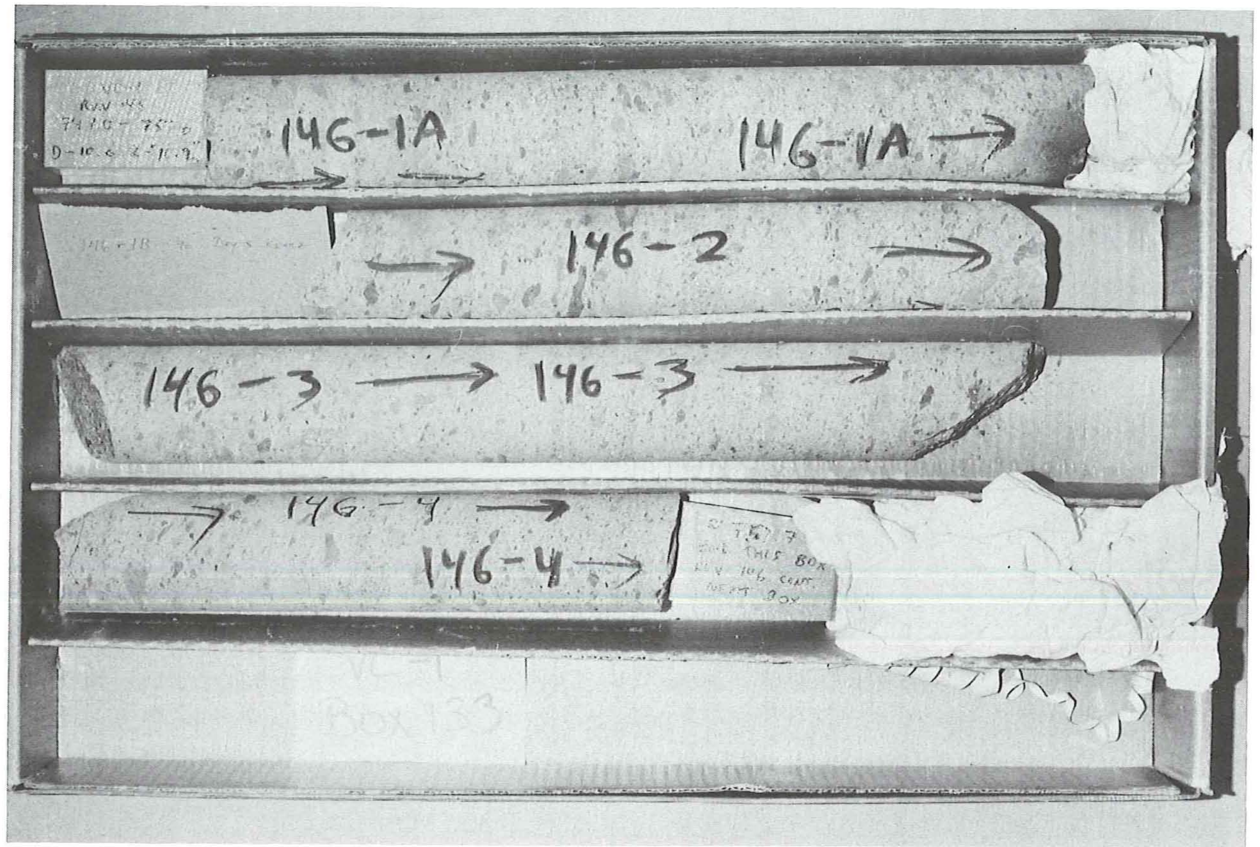

143-4B
VC-1
Box 128
VC-1
RUN 143
LOST = 1.6

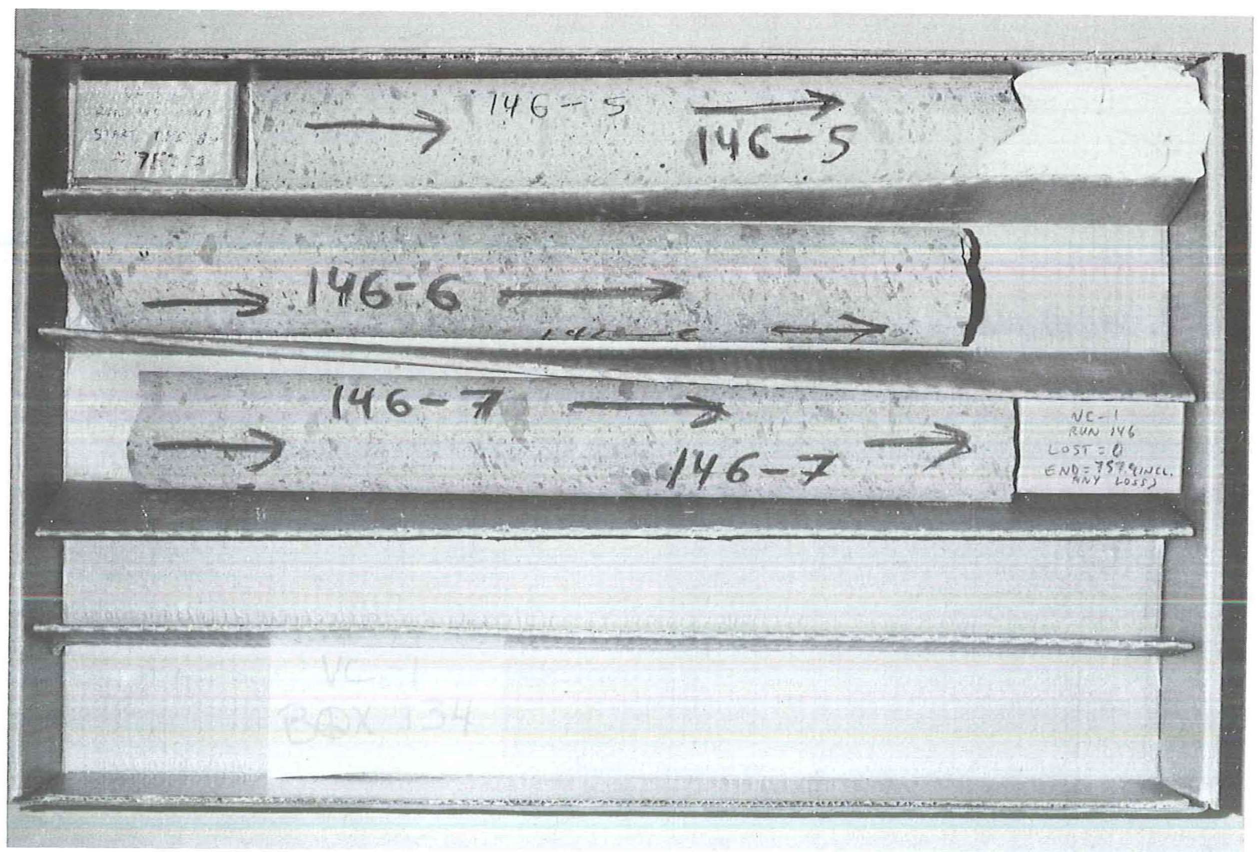

144-1
144-3
144-4
144-6
144-7
144-8
144-9
VC-1
Box 129

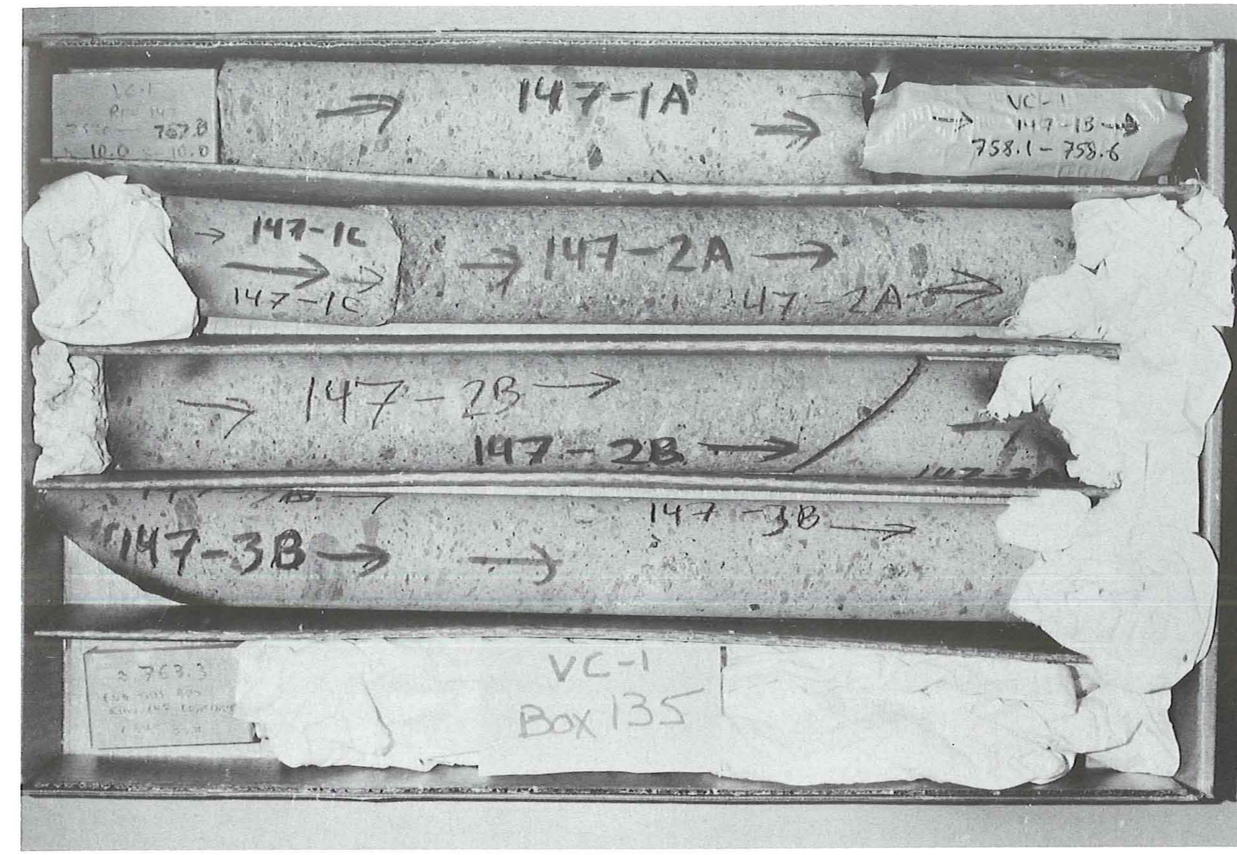

144 10
144-12
144-18
VC-1
Box 130

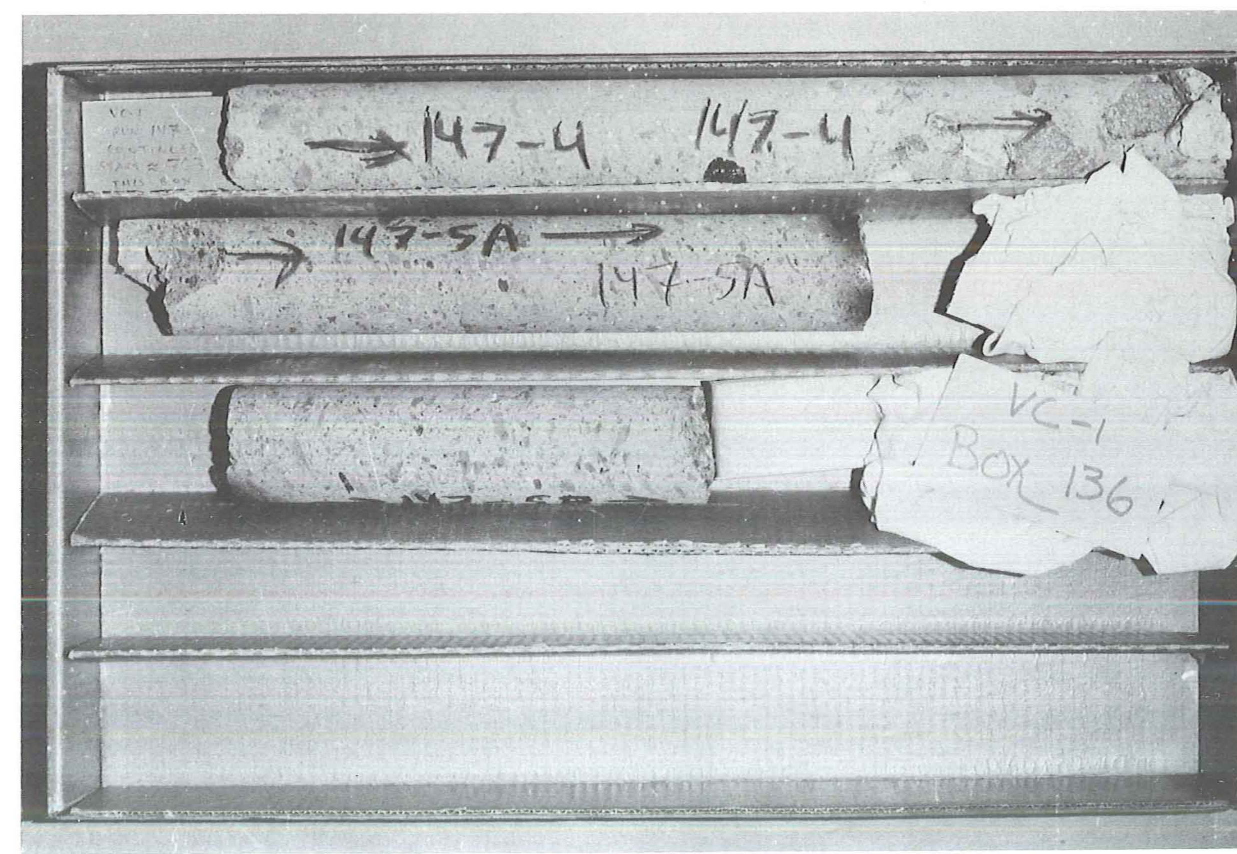

145-1A
145-1B
145-1C
145-3
145-2B
END THIS BOX
VC-1
Box 131

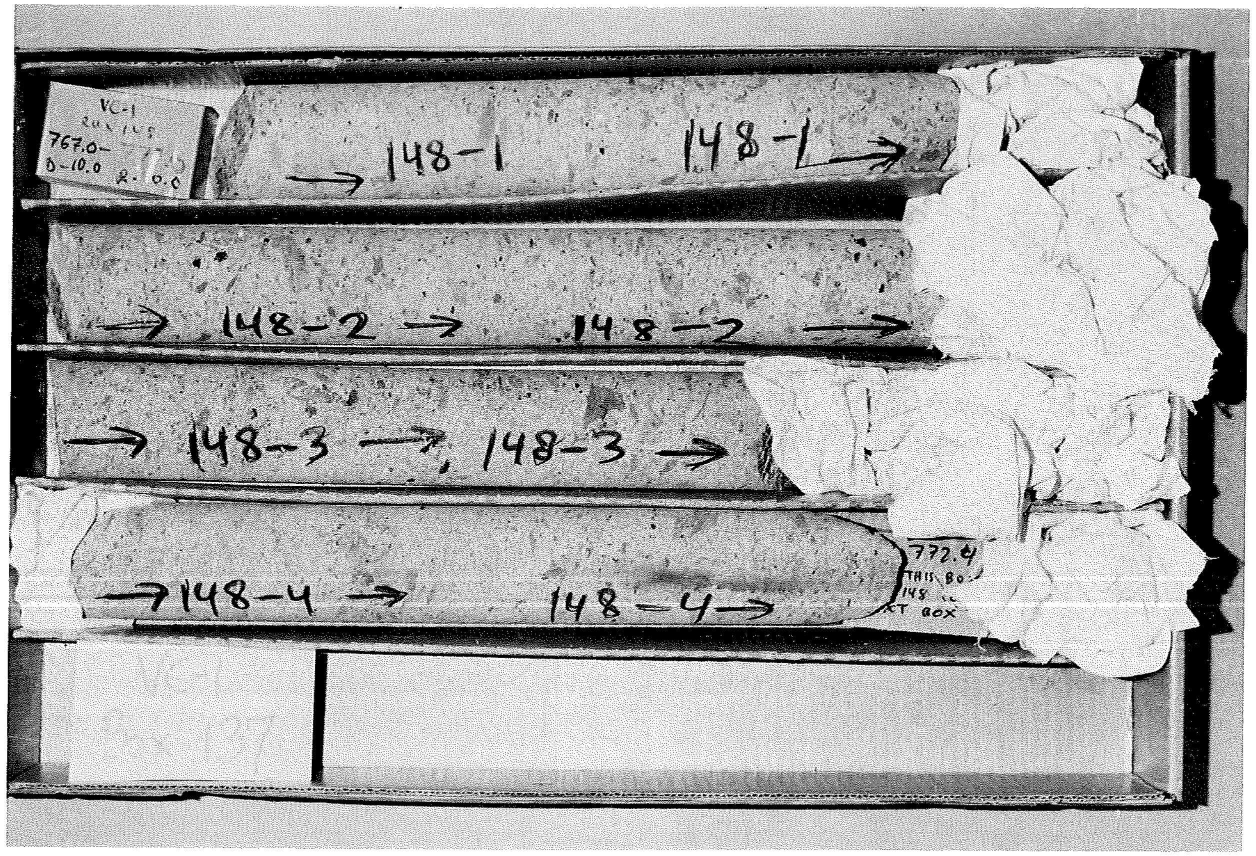

145-4
145-5
145-8
VC-1
RUN 145
VC-1
Box 132

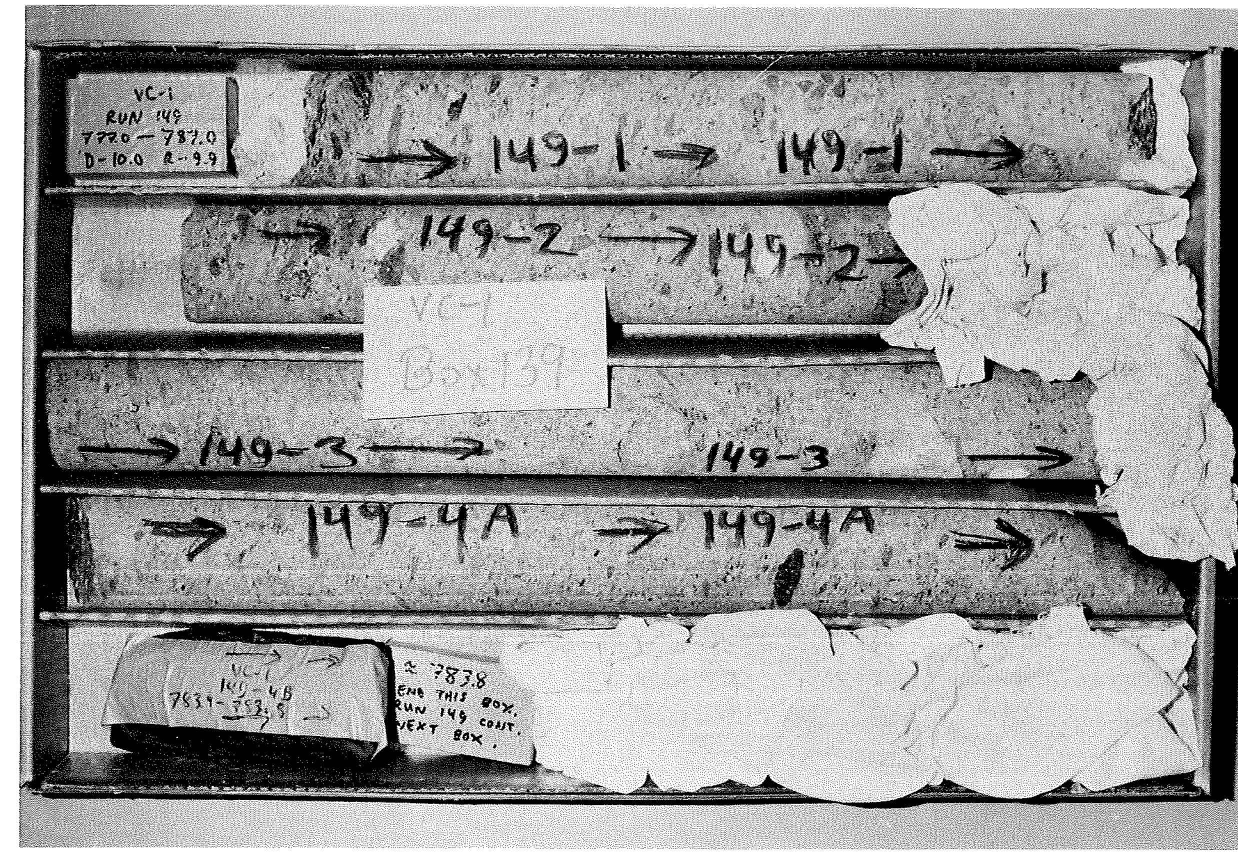

146-1A
146-1A
146-2
146-3
146-3
146-4
146-4
VC-1
BOX 133

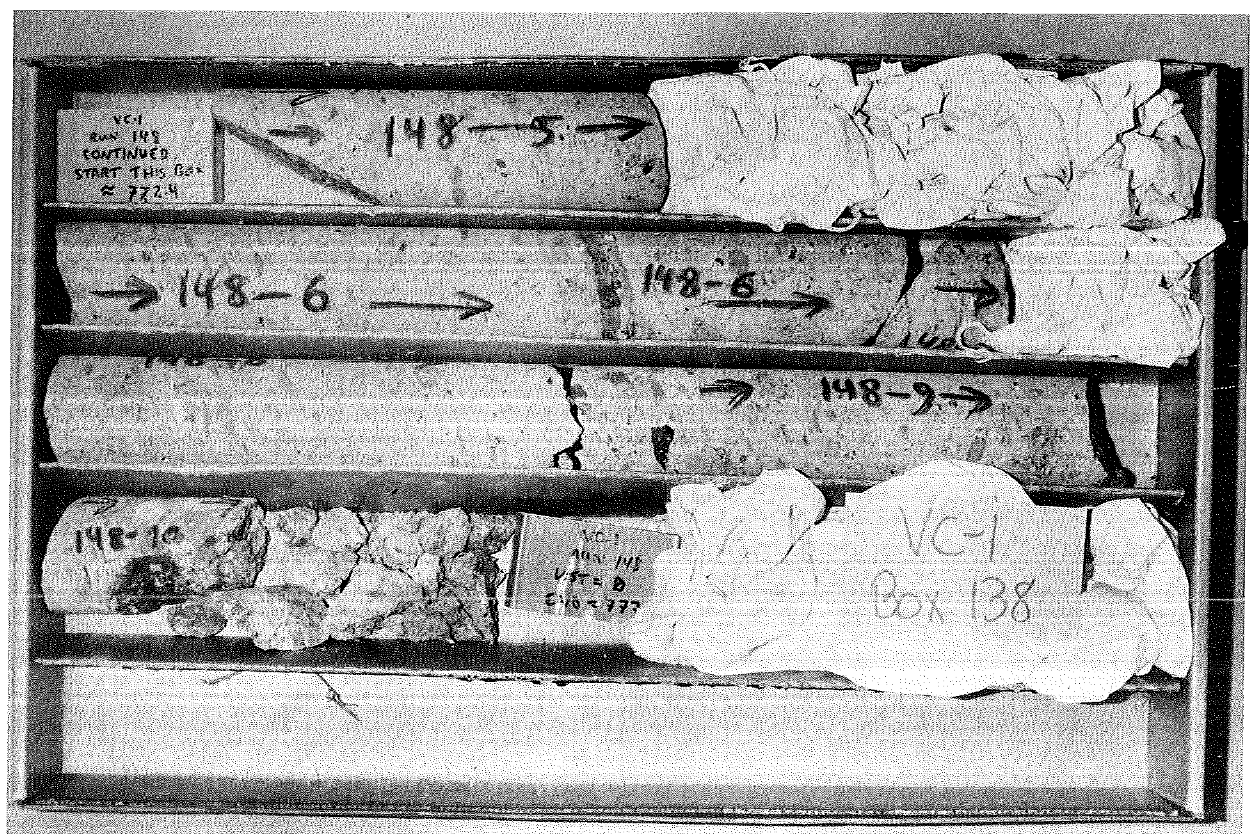

146-5
146-5
146-6
146-7
146-7
VC-1
RUN 146
LOST: 0
END=757.9 (INCL. ANY LOSS)
VC-1
BOX 134

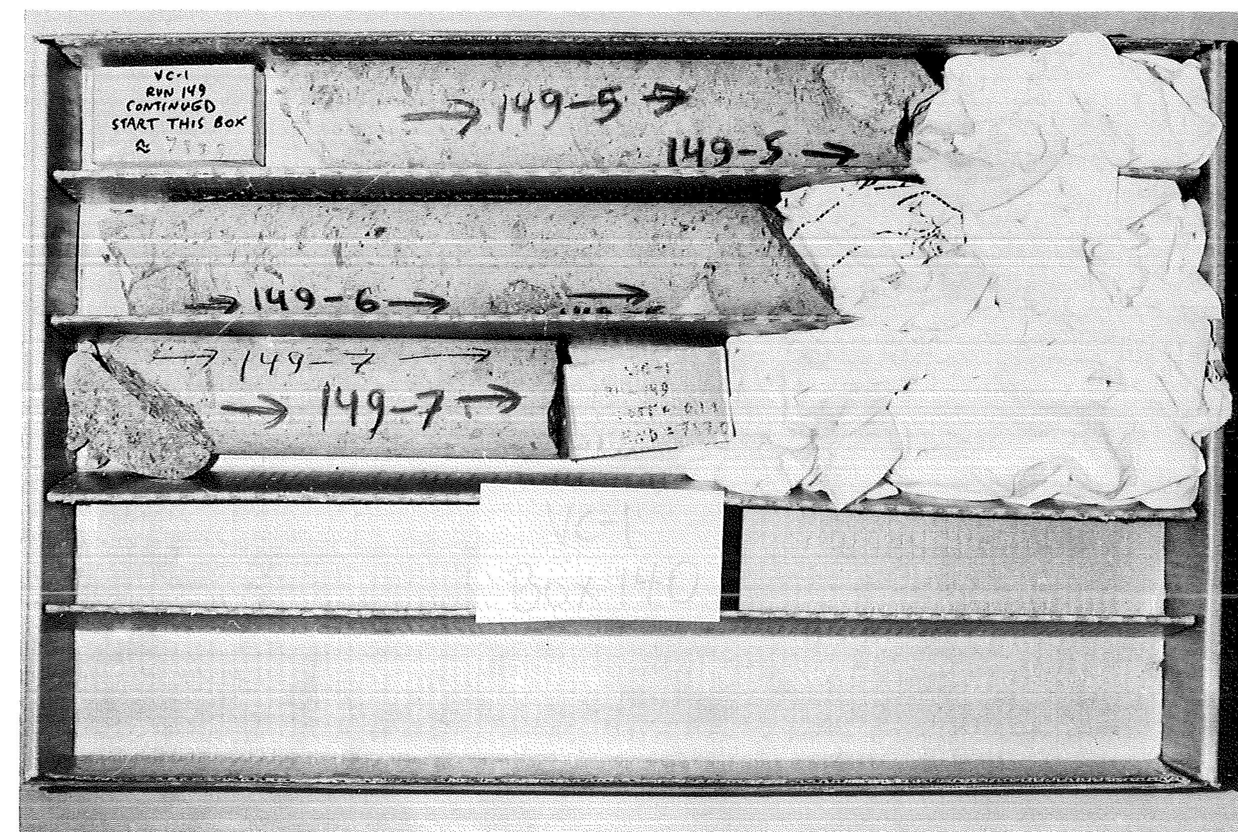

147-1A
VC-1
147-1B
758.1 - 758.6
147-1C
147-2A
147-2B
147-2B
147-3B
147-3B
VC-1
Box 135

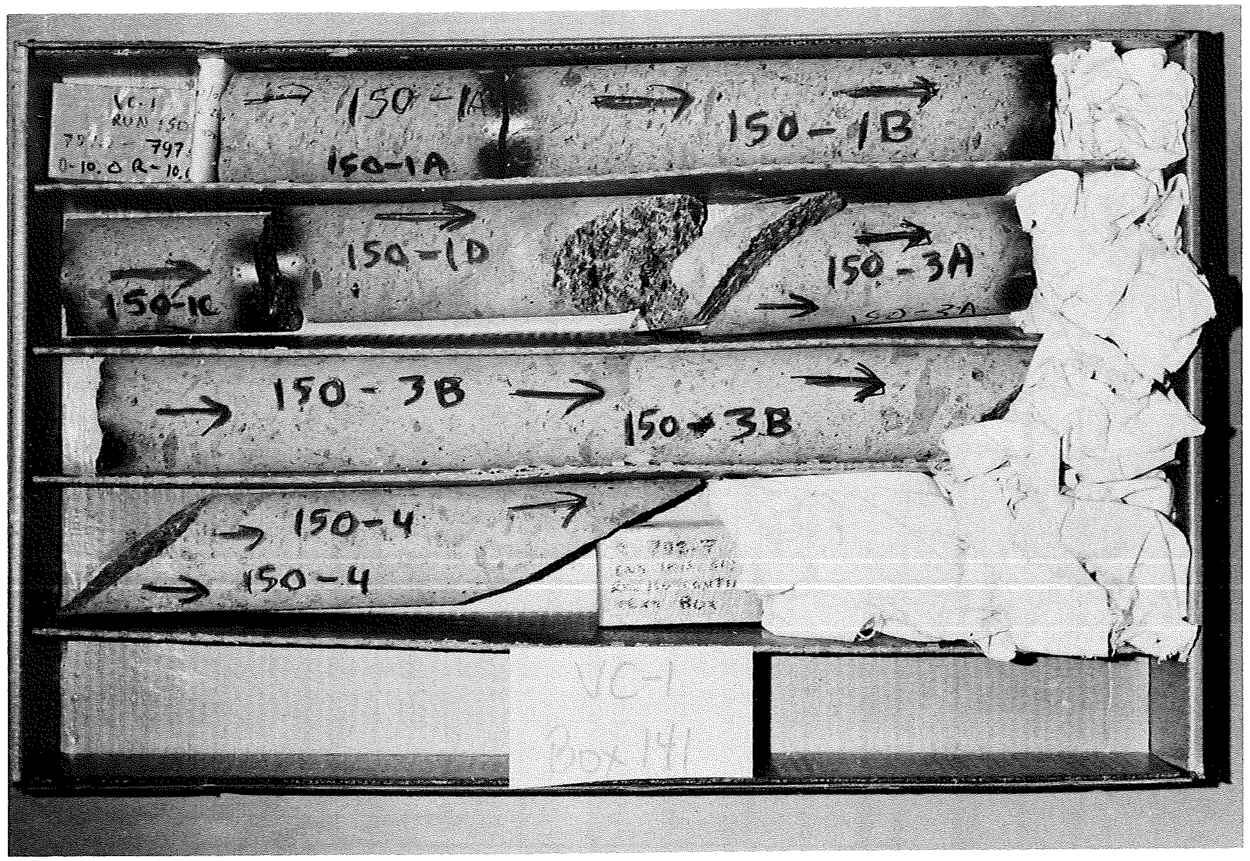

147-4
147-4
147-5A
147-5A
VC-1
Box 136


148-1
148-2
148-3
148-4


VC-1
RUN 149
149-1
149-2
VC-1
Box 139
149-3
149-4A

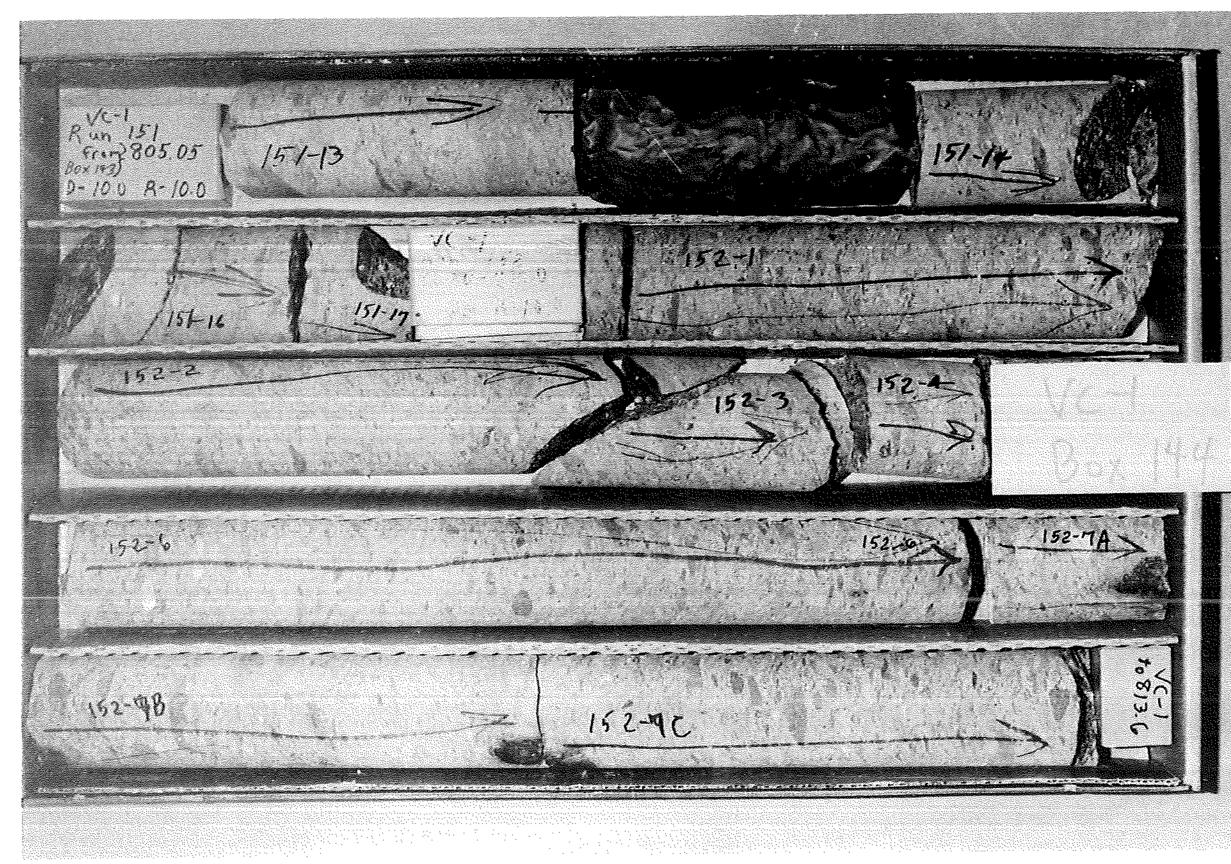

148-5
148-6
148-9
148-10
VC-1
Box 138

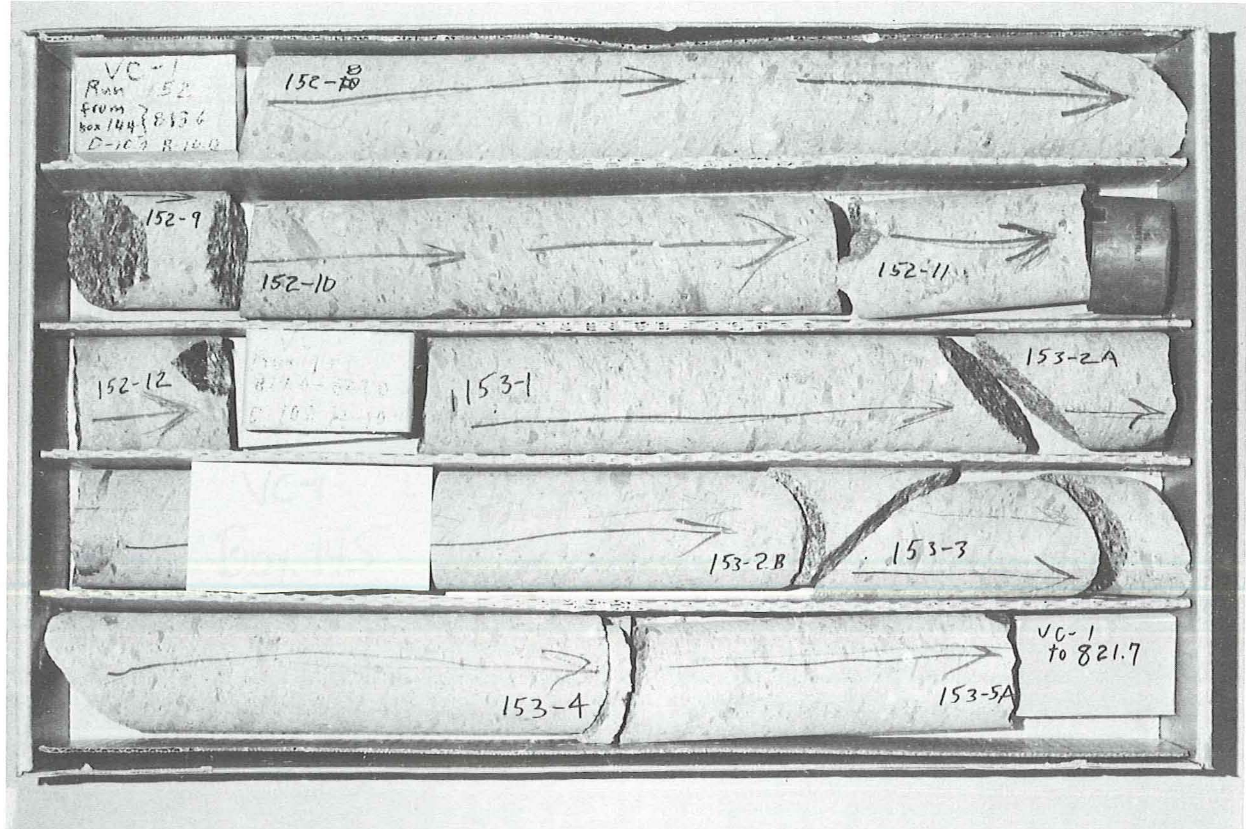

VC-1
RUN 149
CONTINUED
START THIS BOX
149-5
149-6
149-7
VC-1
Box 140

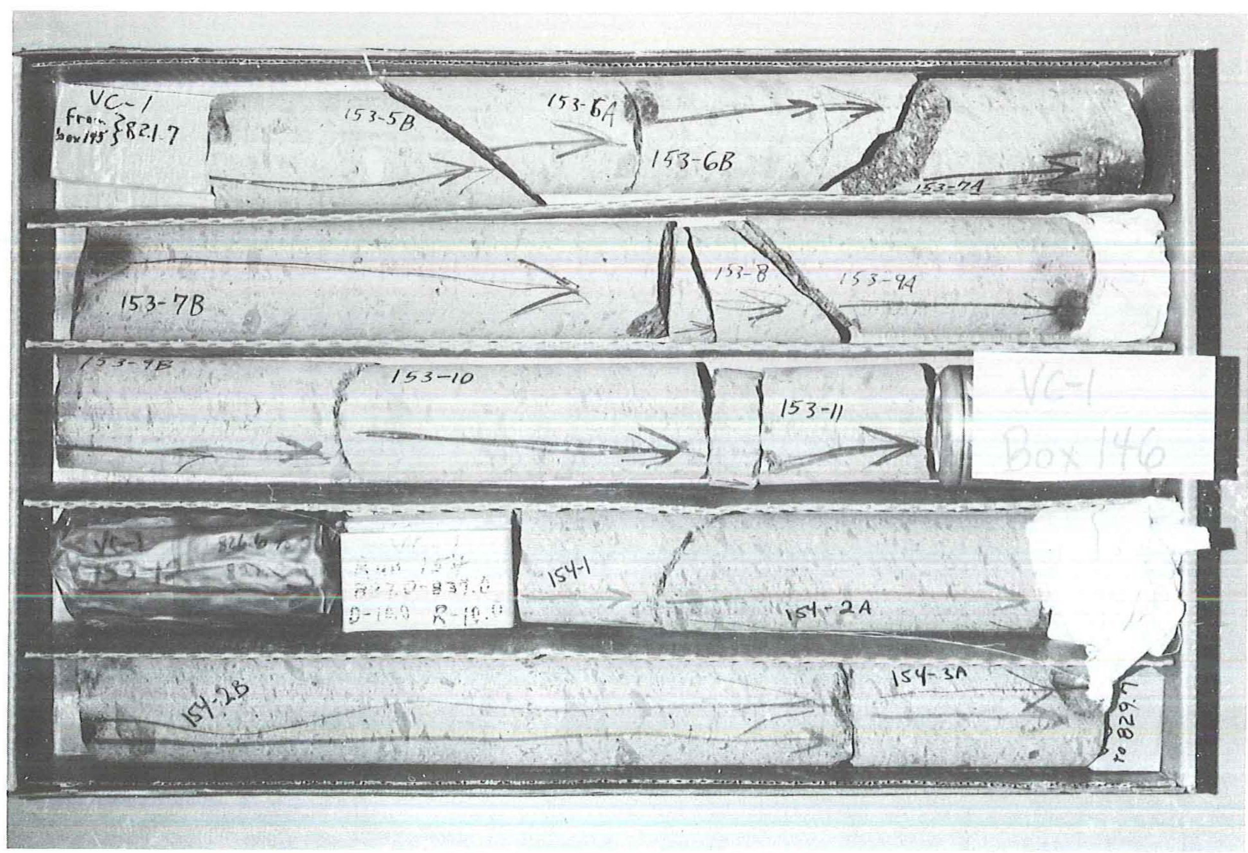

150-1B
150-1A
150-1D
150-3A
150-3B
150-4
VC-1
Box 141


150-5
150-6
150-7
VC-1
Box 142

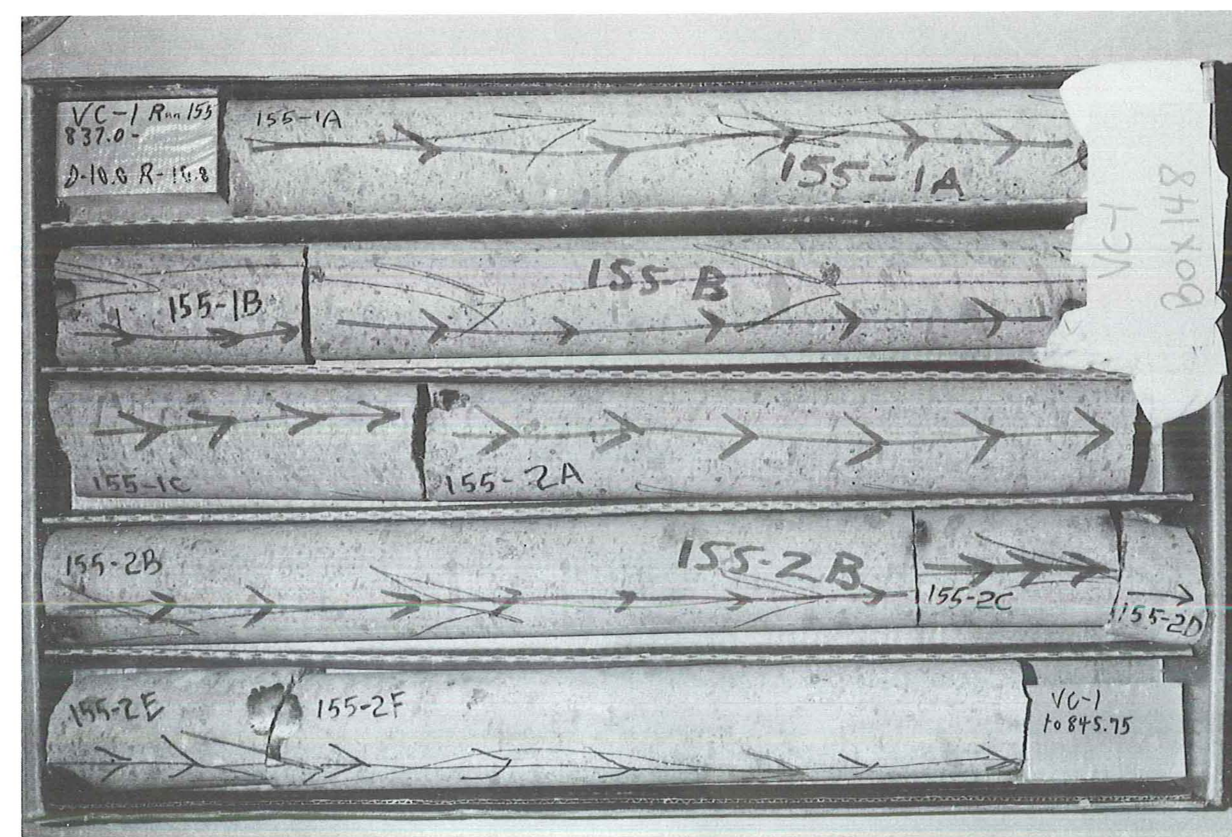

VC-1
797.0-807.0
Sprite
151-3
151-4
VC-1
Box 143
151-9A
151-8
151-9B
151-10
151-11
151-12
VC-1
Run 151
to 805.05

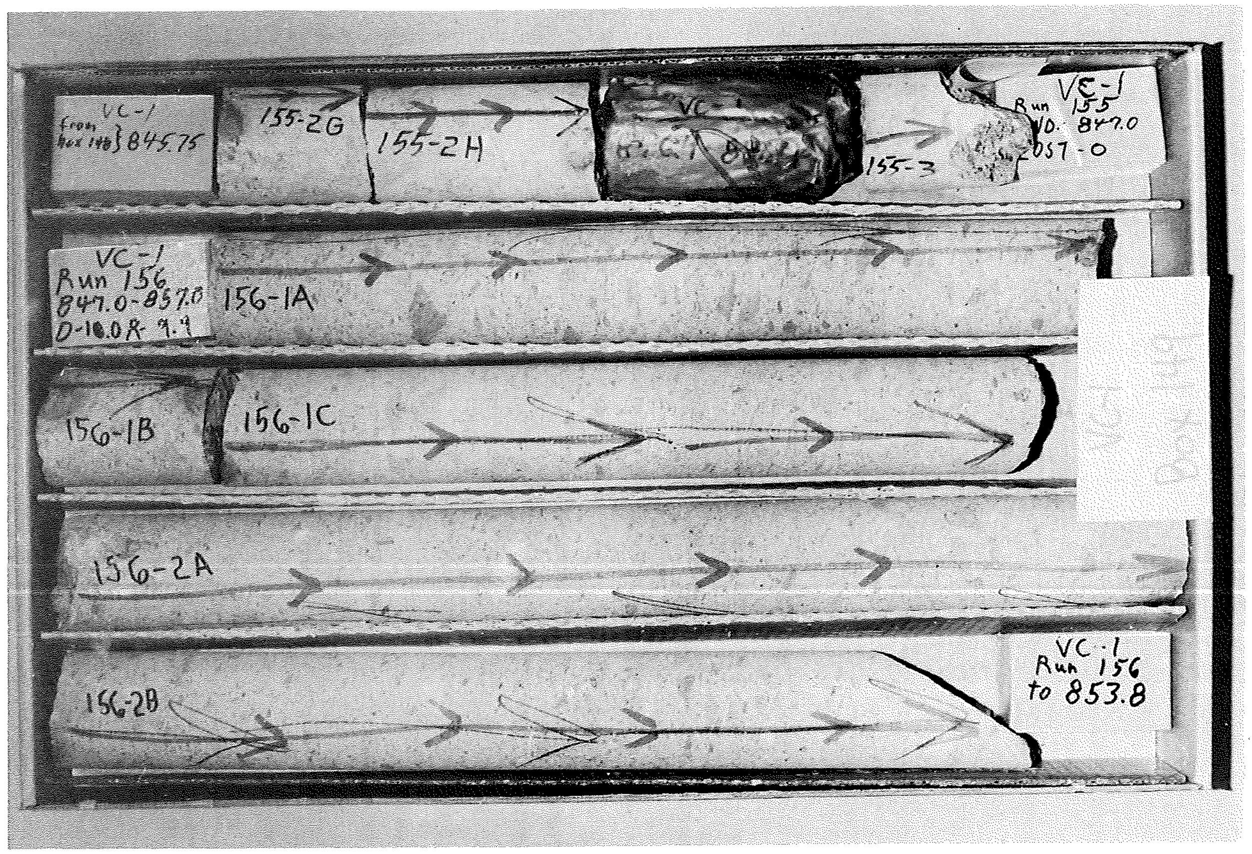

VC-1
Run 151
from 805.05
151-13
151-14
151-16
152-1
152-2
152-3
152-4
VC-1
Box 144
152-6
152-7A
152-9C

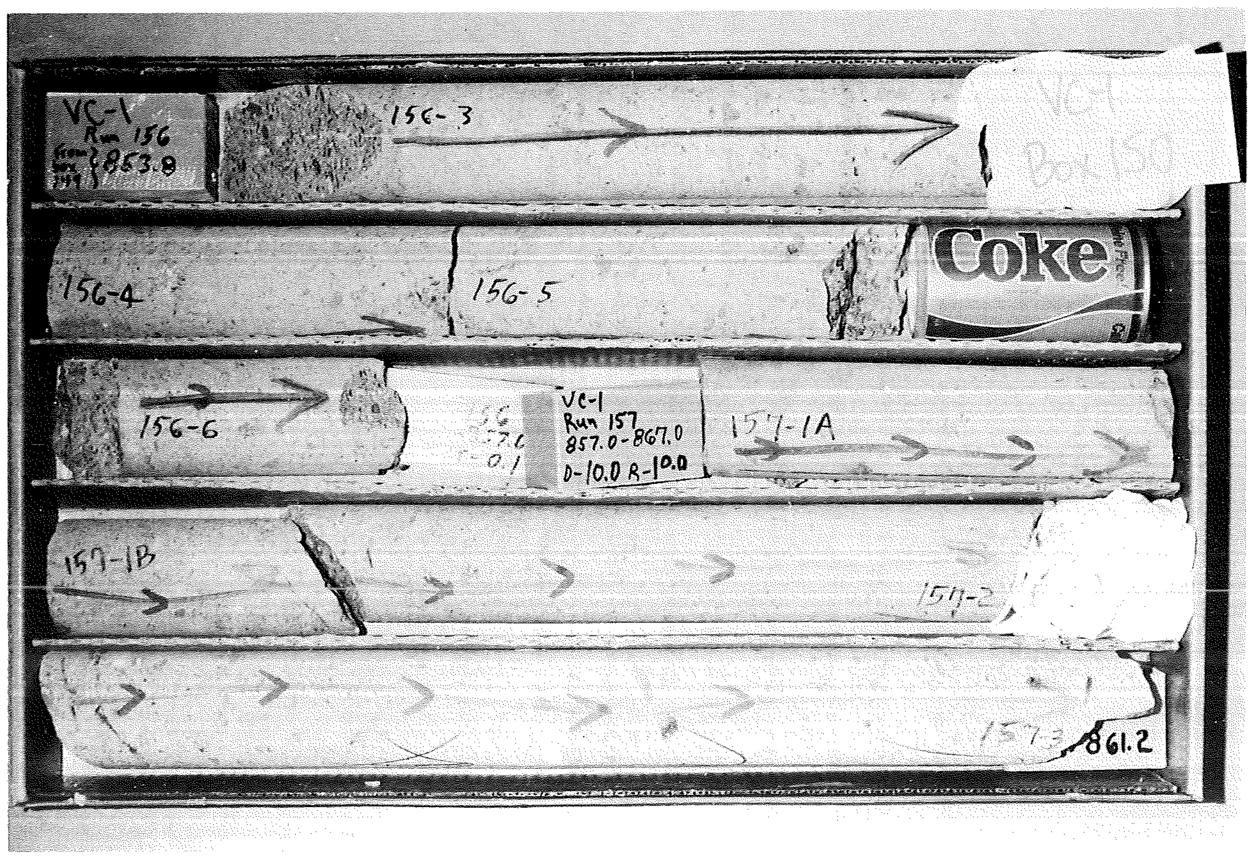


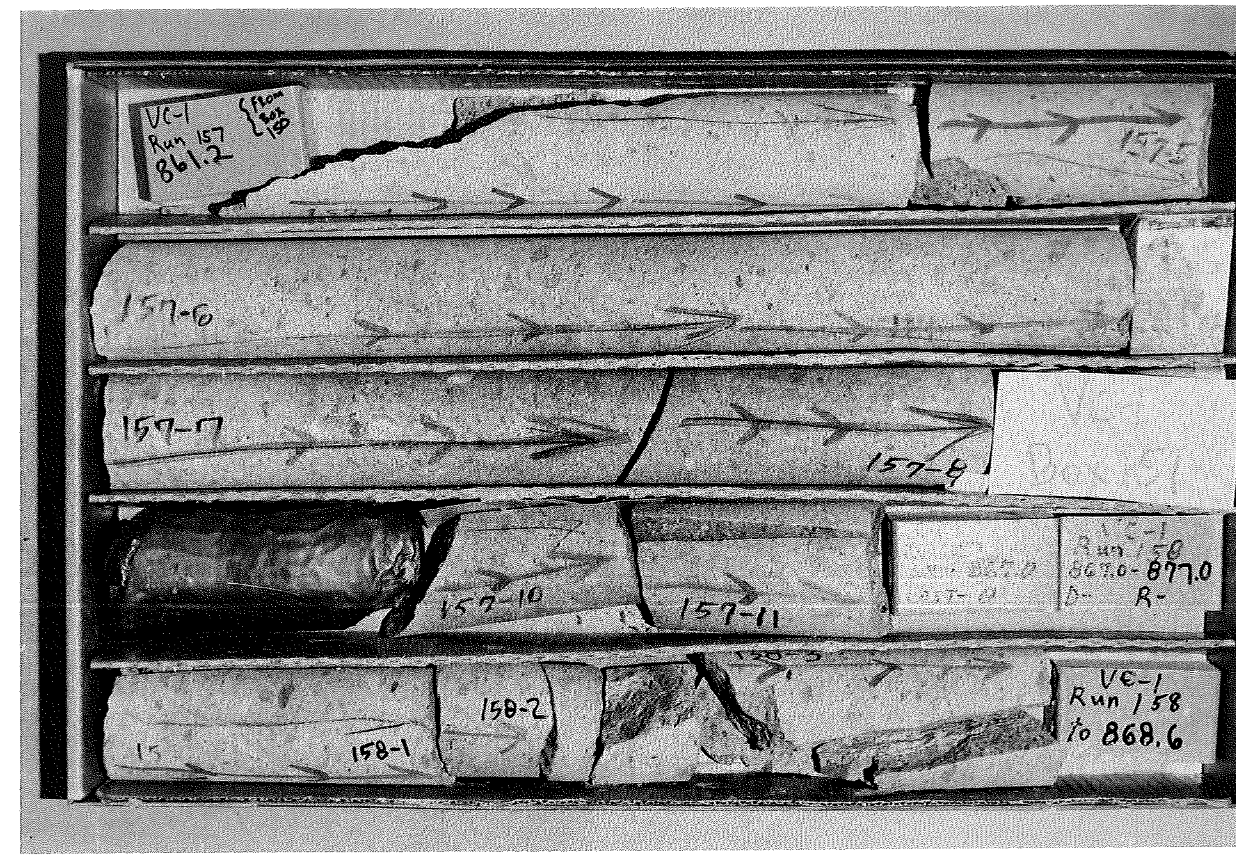

VC-1
Box 146

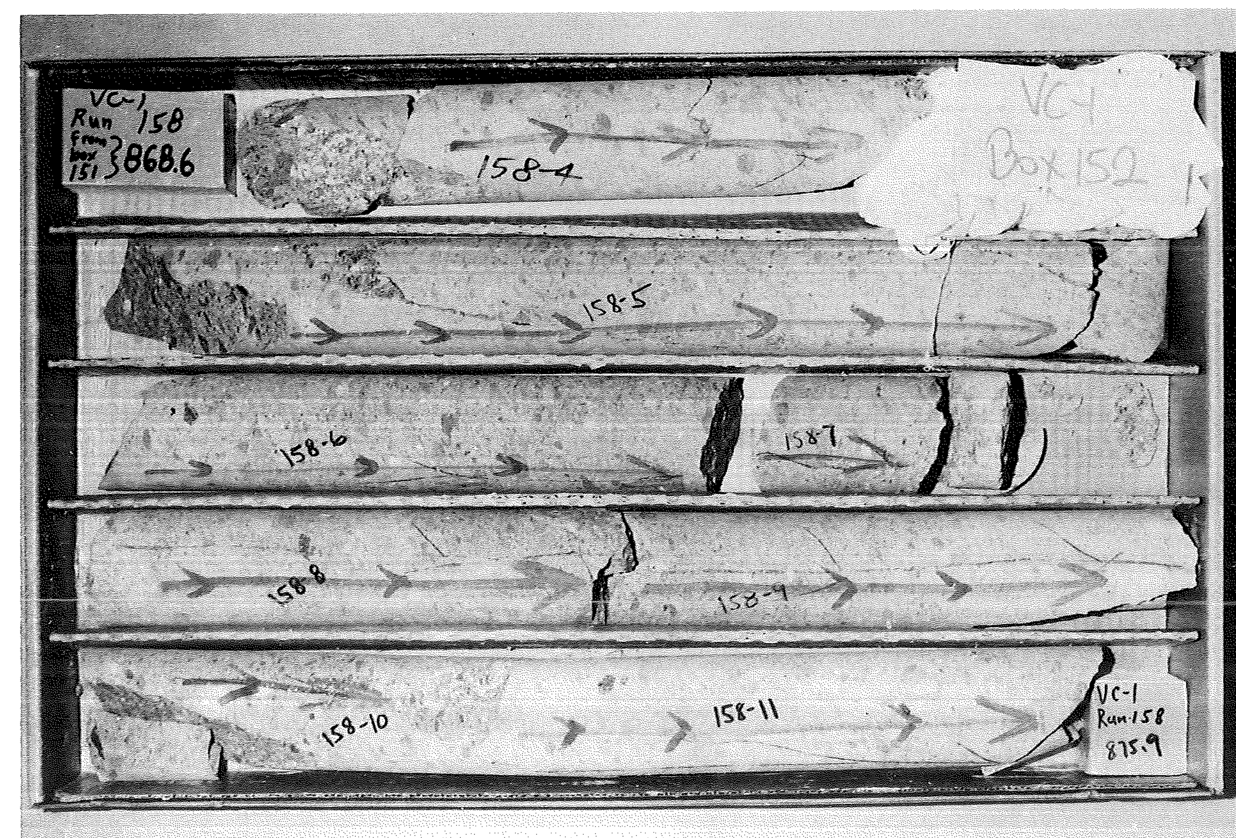

VC-1
Box 147

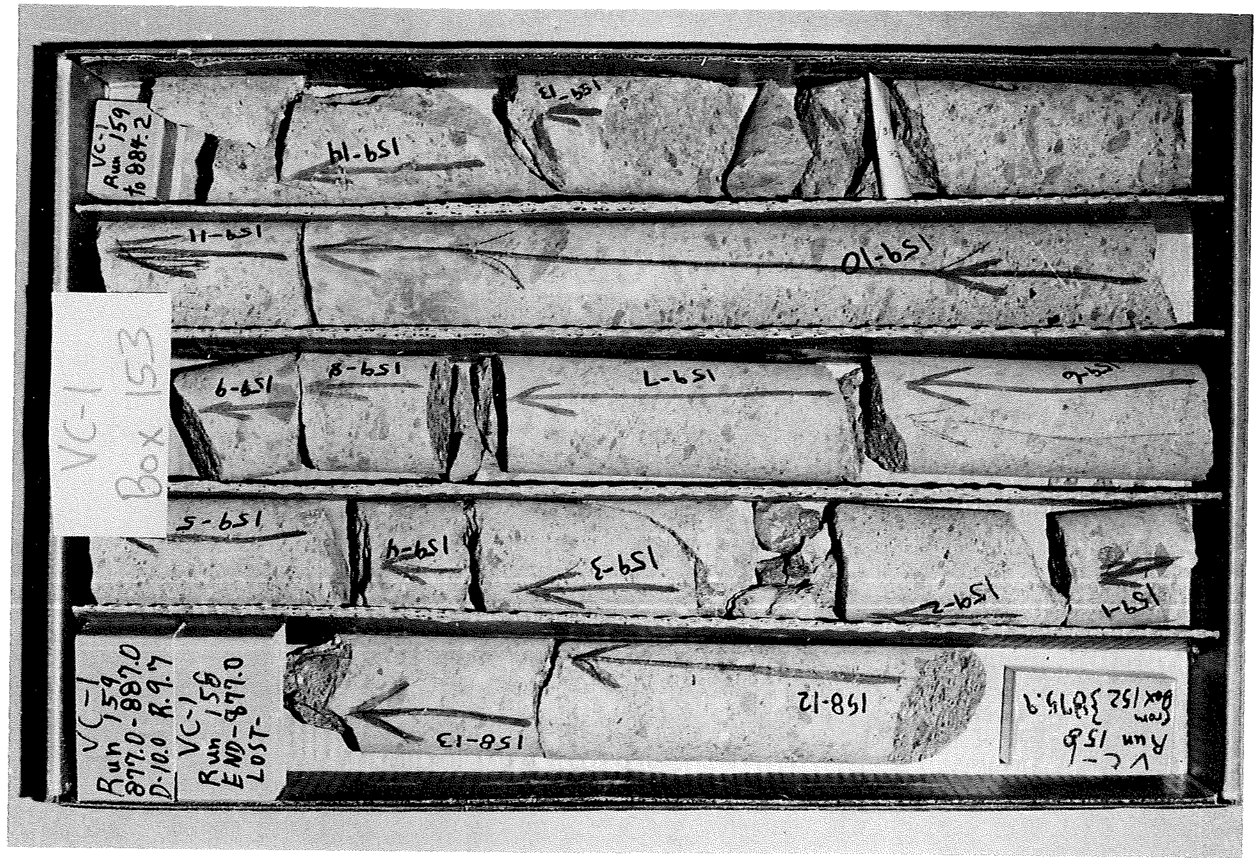

VC-1
Box 148

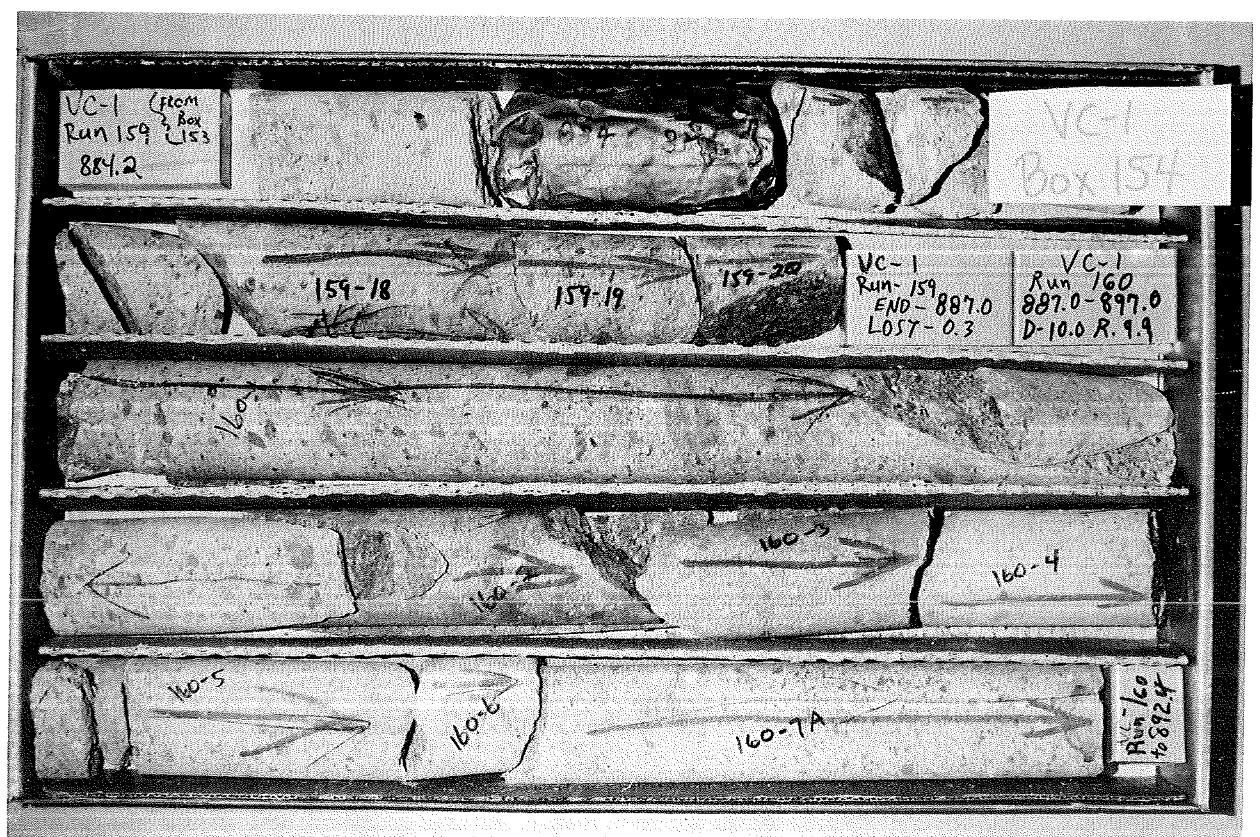

155-2G
155-2H
155-3
VC-1
Run 156
847.0-857.0
156-1A
156-1B
156-1C
156-2A
156-2B
VC-1
Run 156
to 853.8

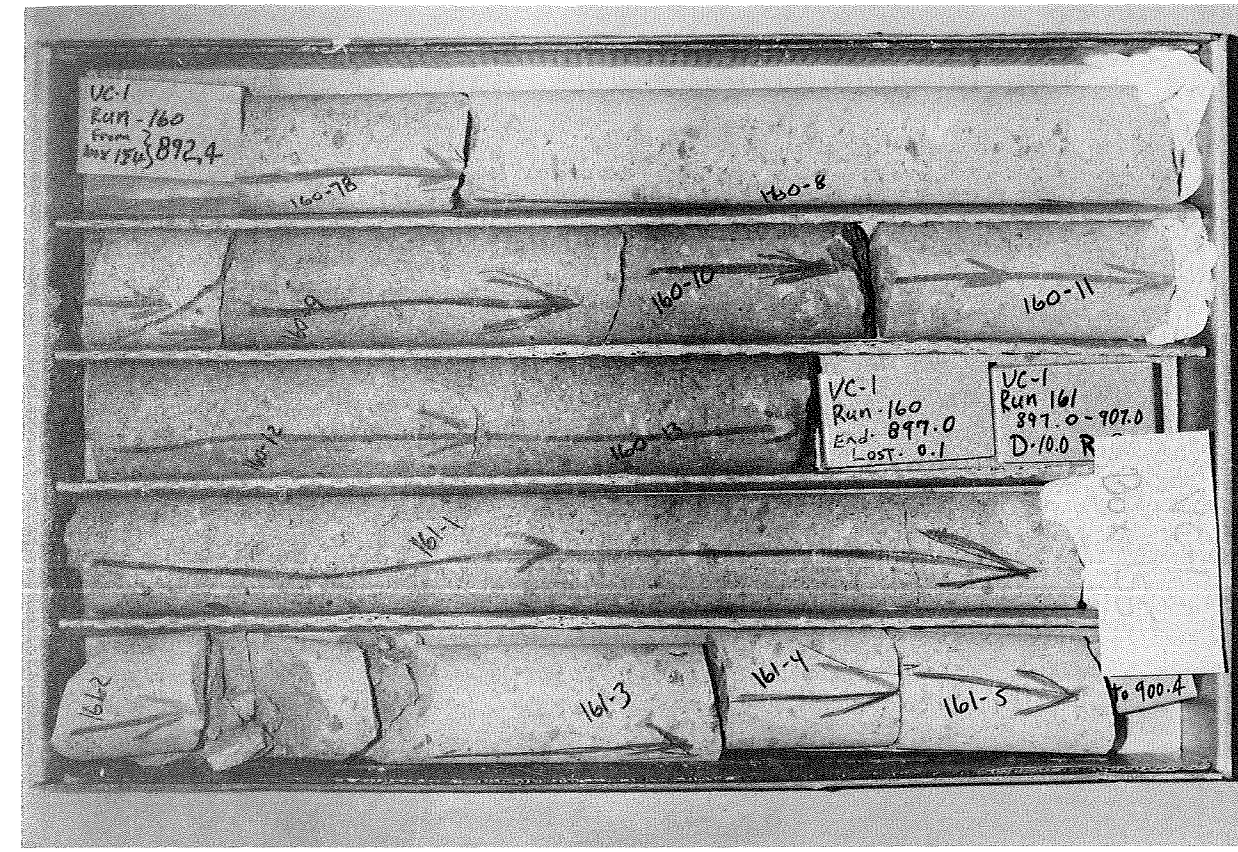

VC-1
Run 156
853.8
156-3
VC-1
Box 150
156-4
156-5
Coke
156-6
VC-1
Run 157
857.0-867.0
D-10.0 R-10.0
157-1A
157-1B
861.2


VC-1
Run 157
861.2
157-6
157-7
157-8
VC-1
Box 151
157-10
157-11
Run 158
867.0-877.0
158-1
158-2
VC-1
Run 158
to 868.6

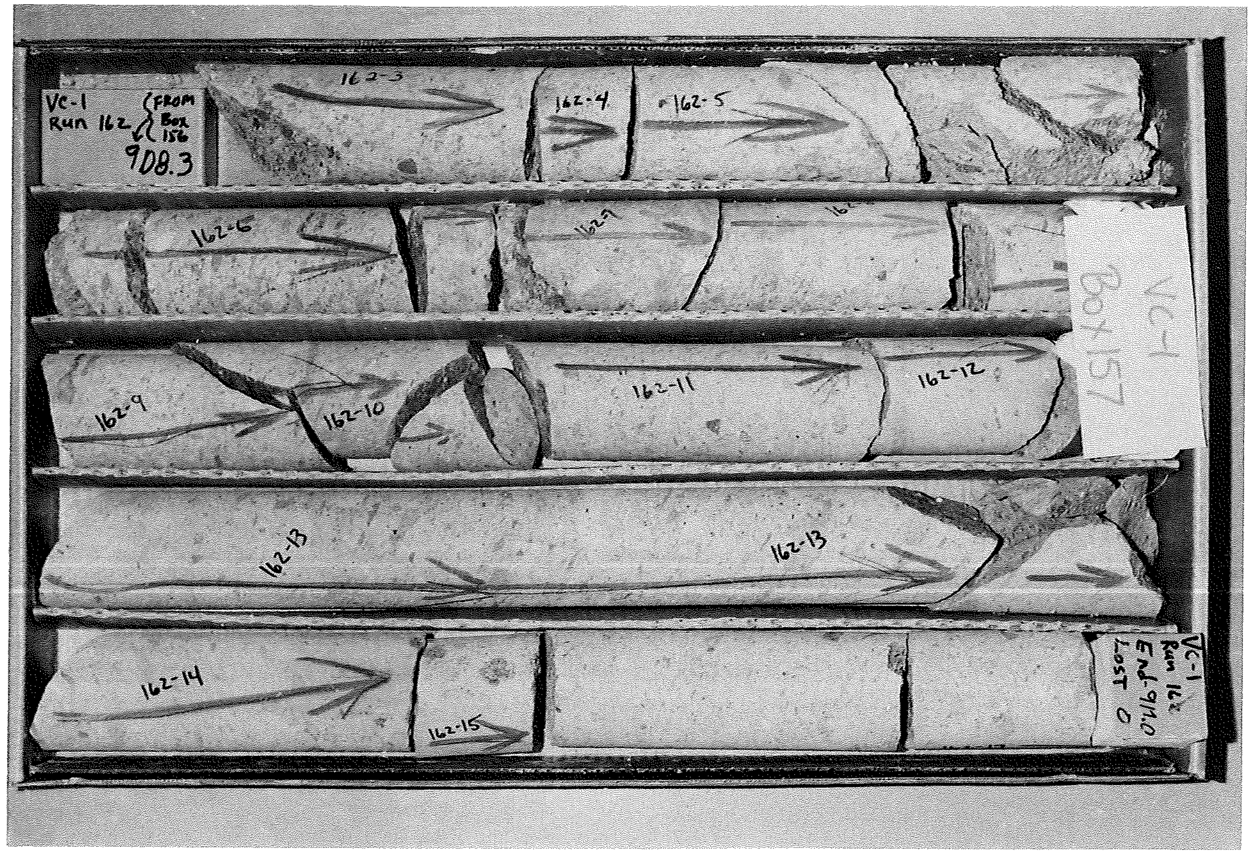

VC-1
Run 158
868.6
158-4
VC-1
Box 152
158-5
158-6
158-8
158-9
158-10
158-11
VC-1
Run 158
875.9


VC-1
Box 153

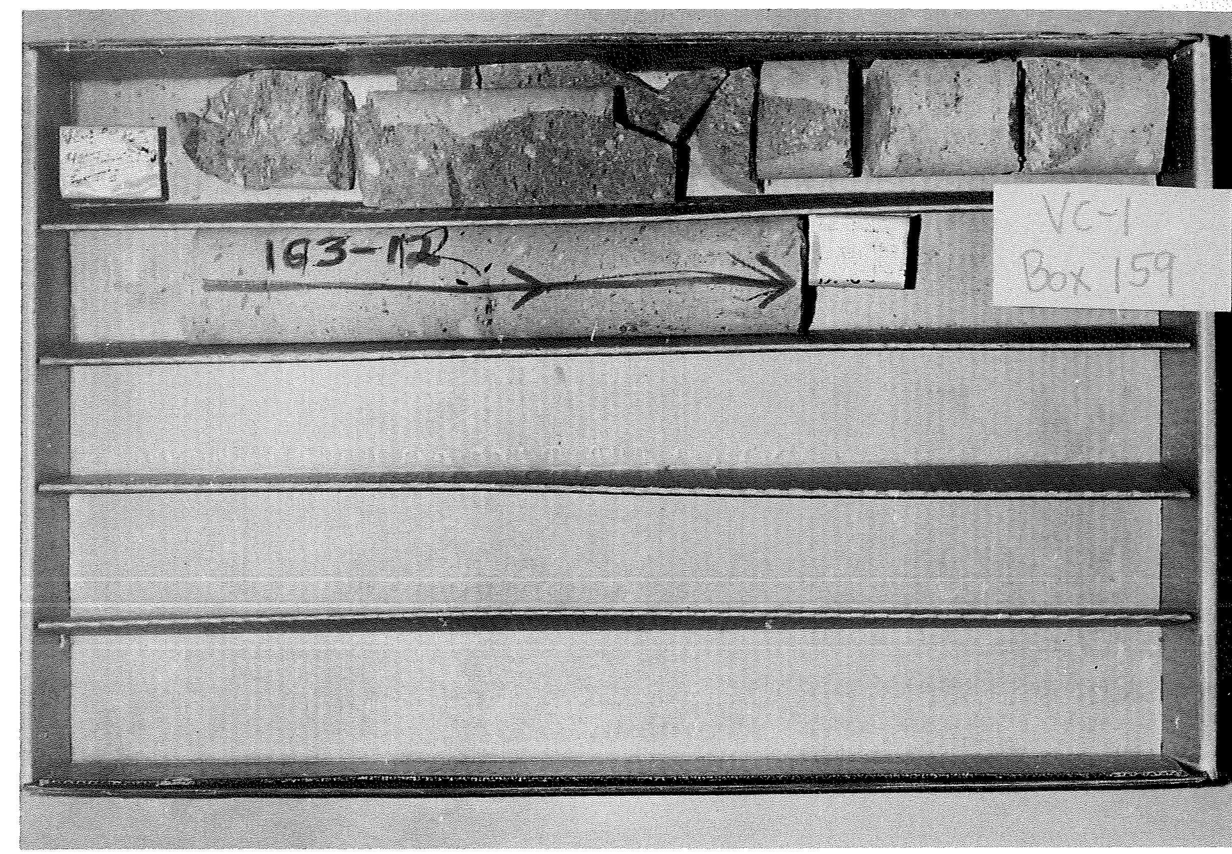

VC-1
Box 154
VC-1 Run 159 END- 887.0 LOST- 0.3
VC-1 Run 160 887.0-897.0 D-10.0 R.9.9


VC-1 Run-160 End- 897.0 Lost- 0.1
VC-1 Run 161 897.0-907.0


VC-1
Box 156


VC-1 Run 162 (FROM Box 156 908.3
VC-1 Box 157
VC-1 Run 162 End 911.0 Lost 0

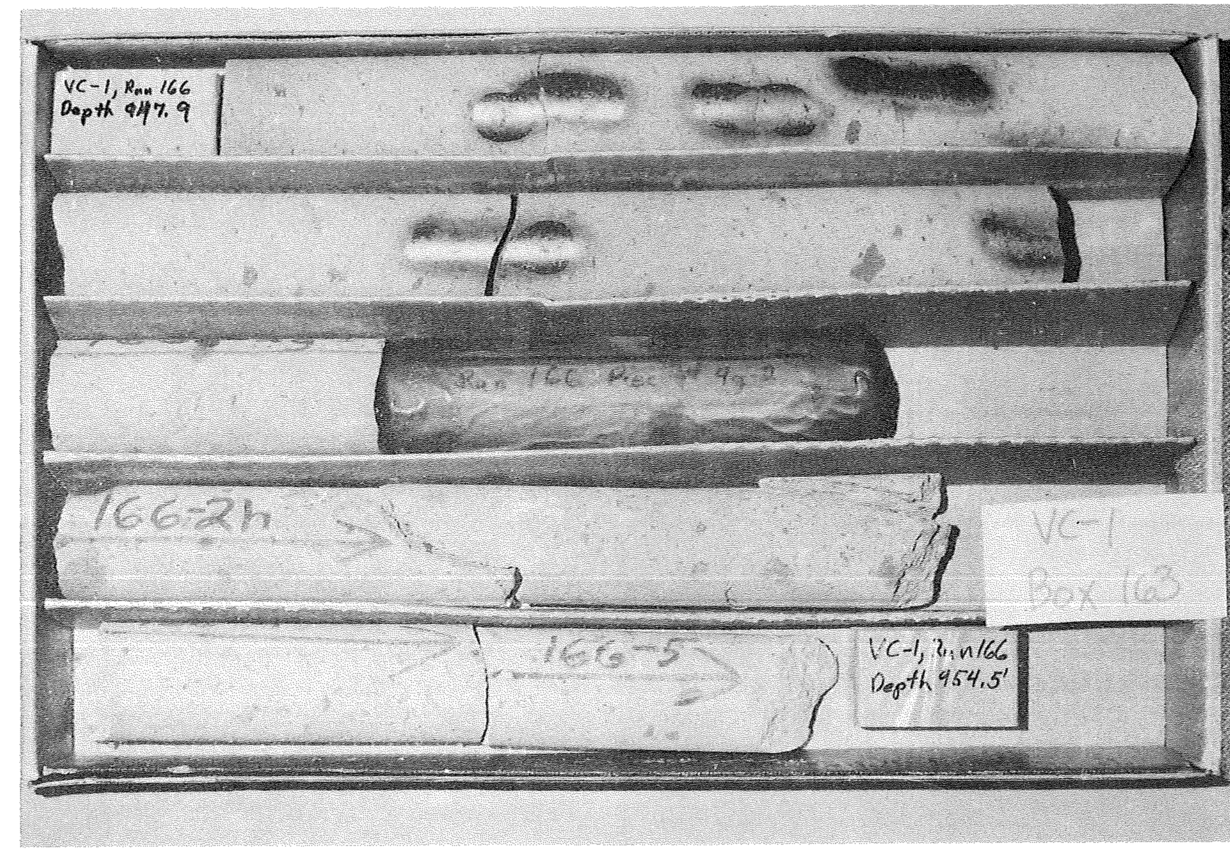

163-1
VC-1 919.5-920.5
163-3
163-4
VC-1 Box 158
163-8
VC-1 Run 163 Depth 924.6'

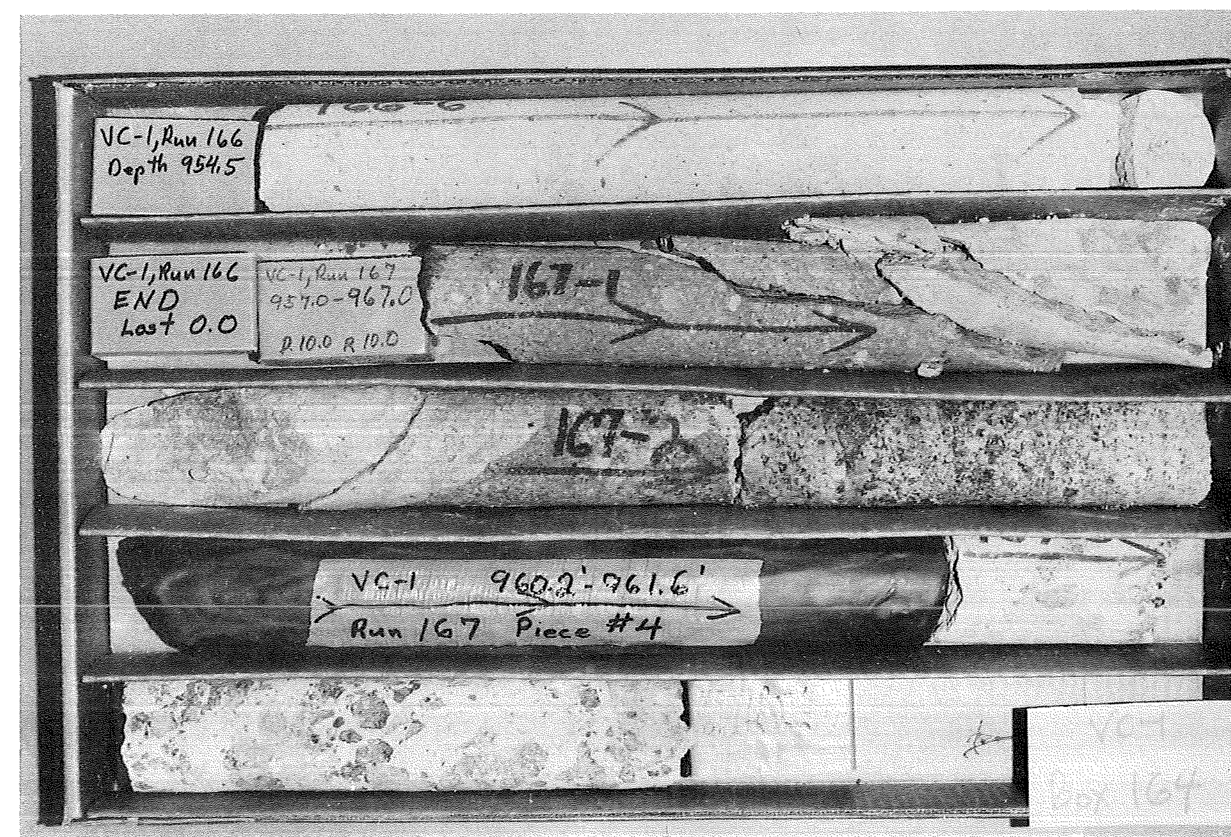

163-12
VC-1 Box 159

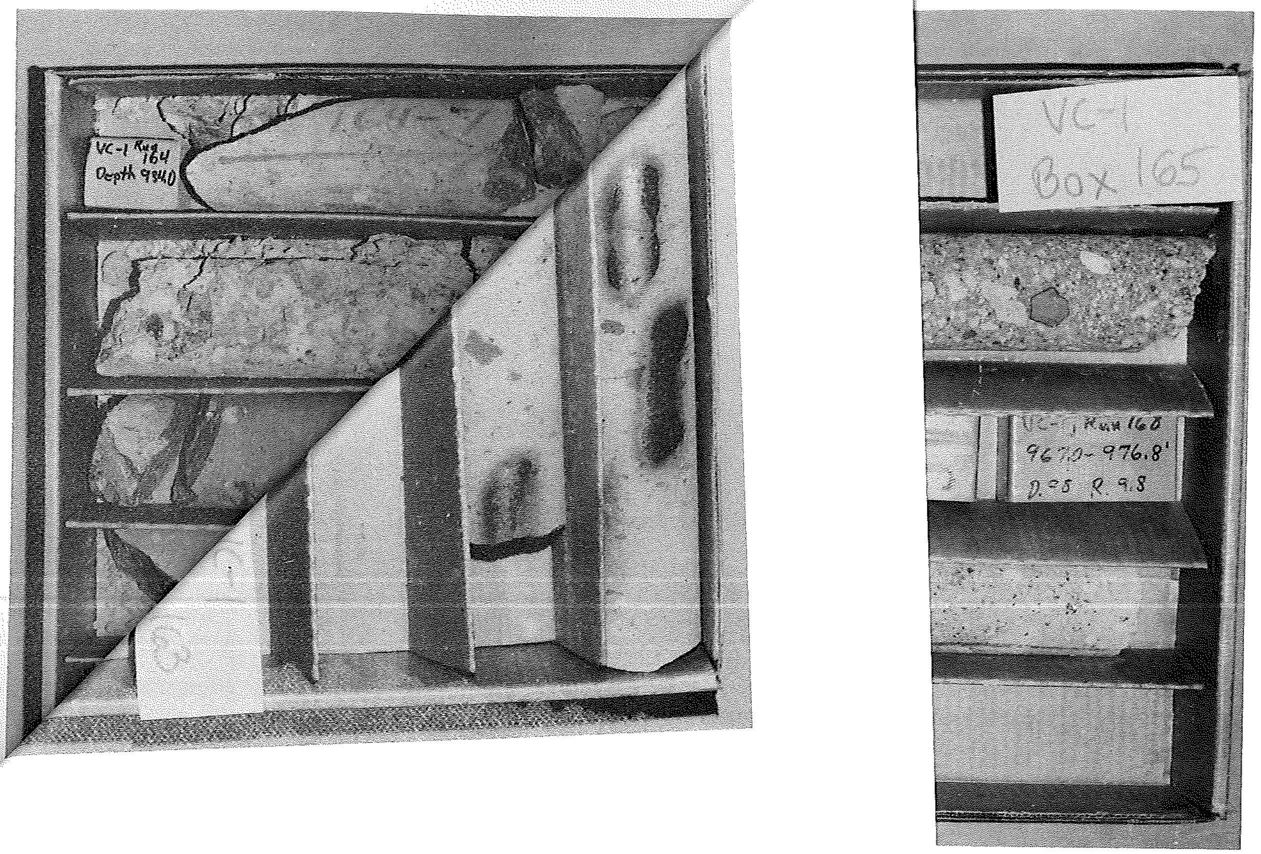

VC-1 928.4'-929.8'
Run 164 Piece #2
VC-1 Box 160
VC-1 Run 164 Depth 934.0


165-3
VC-1
Box 161
VC-1, Run 165
Depth 941.3
VC-1 940.3'-941.3'

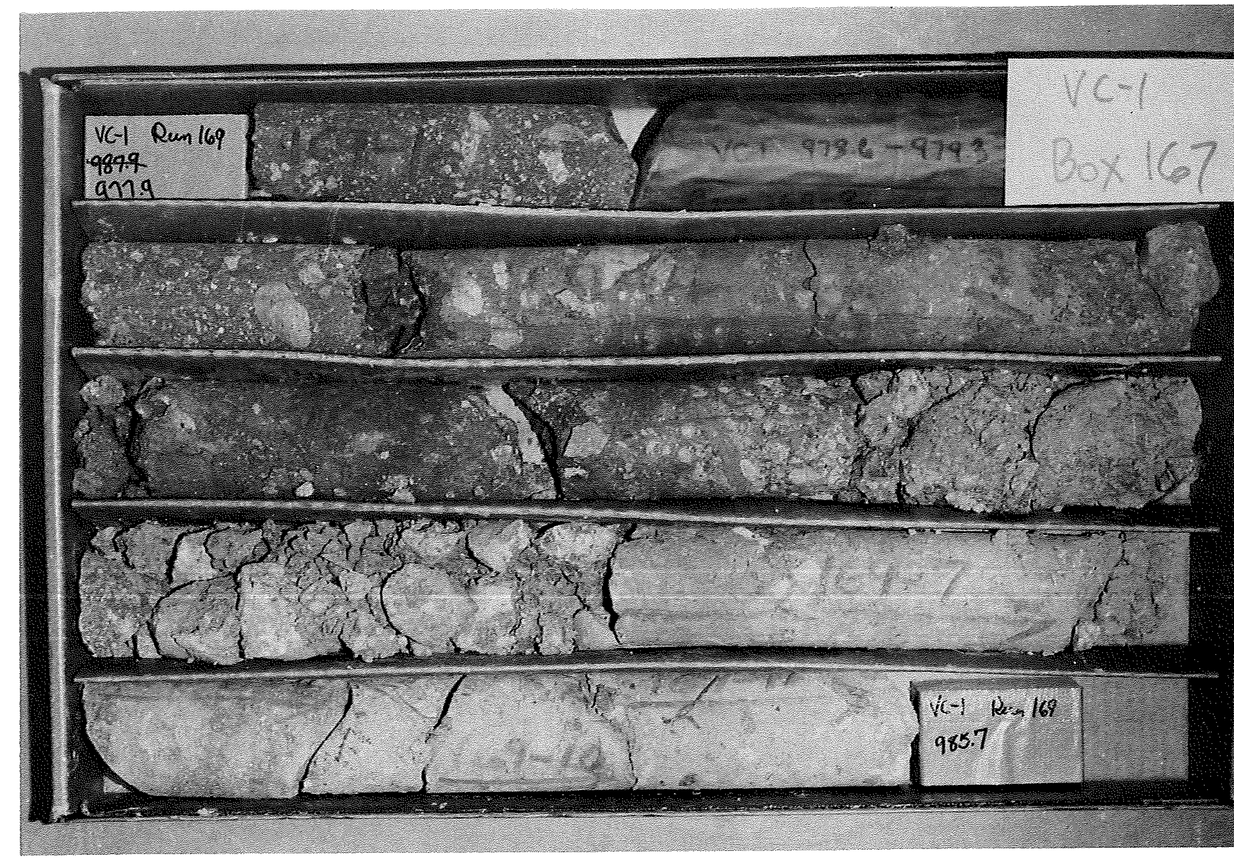

VC-1, Run 165
Depth 941.3
165-5
VC-1
Box 162
165-7
165-9
VC-1, Run 165
END
D.10.0 R 10.0
VC-1 Run 166
947.0-957.0
D10.0 R 10.0
VC-1, Run 166
Depth 947.9'


VC-1, Run 166
Depth 947.9
166-2h
VC-1
Box 163
166-5
VC-1, Run 166
Depth 954.5'


VC-1, Run 166
Depth 954.5
VC-1, Run 166
END
Lost 0.0
VC-1, Run 167
957.0-967.0
D 10.0 R 10.0
167-1
VC-1 960.2'-961.6'
Run 167 Piece #4
Box 164


VC-1
Box 165
VC-1, Run 168
967.0-976.8'

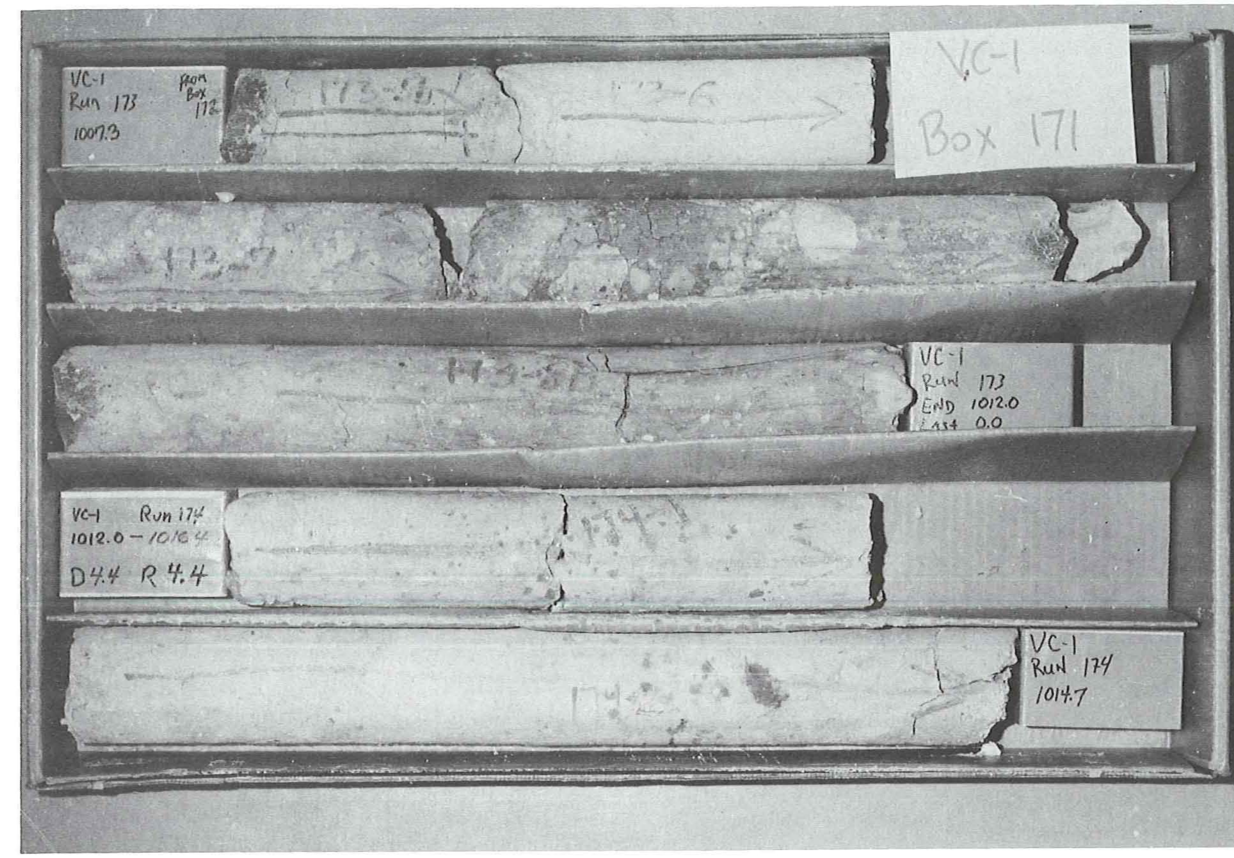

VC-1, Run 168
Depth 969.9
168-2a
VC-1
Box 166
VC-1 975.5-976.6'
Piece 168-3d
VC-1, Run 169
976.8-987.0
D.10.2 R.10.2
VC-1, Run 169
977.9


VC-1 Run 169
977.9
VC-1
Box 167
VC-1 Run 169
985.7

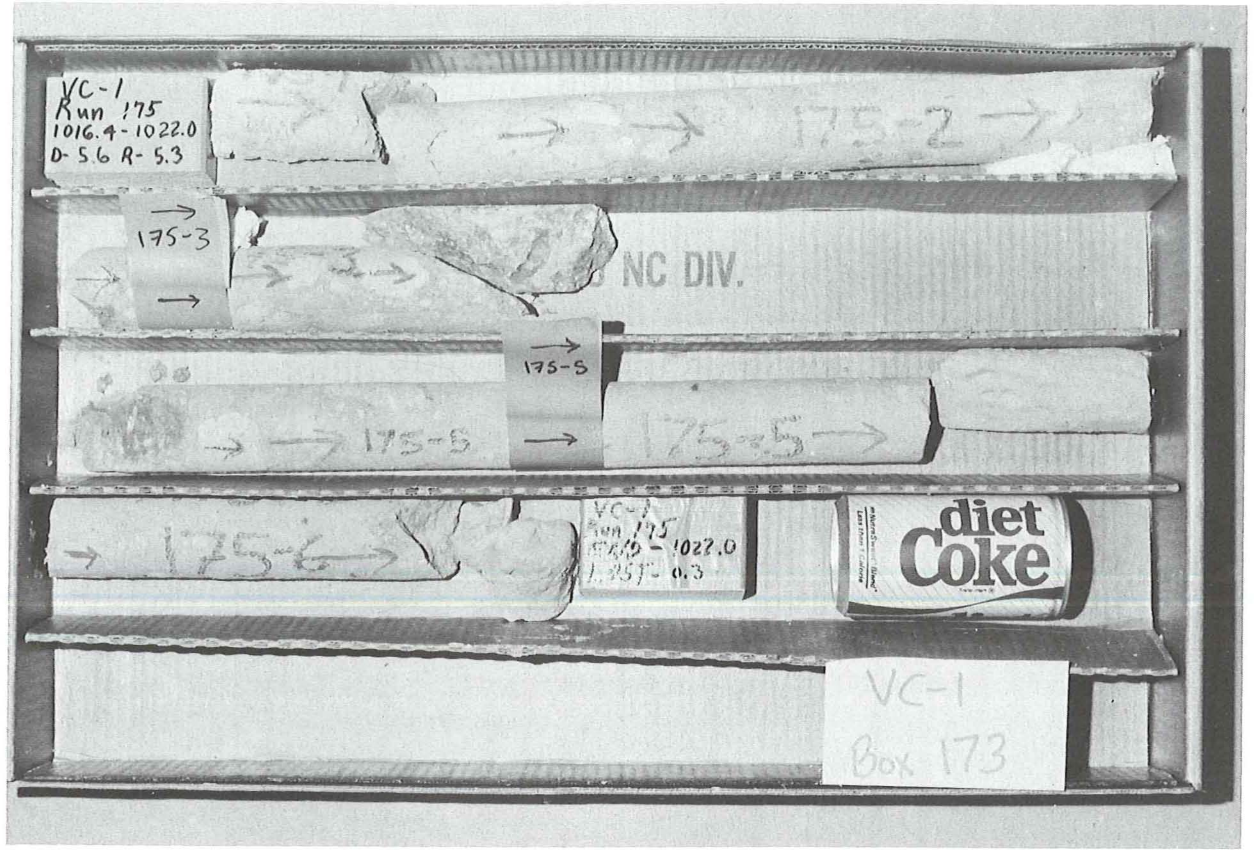

VC-1 Run 169
END
VC-1, Run 170
VC-1
Box 168
170-8
170-9
VC-1 Run 170

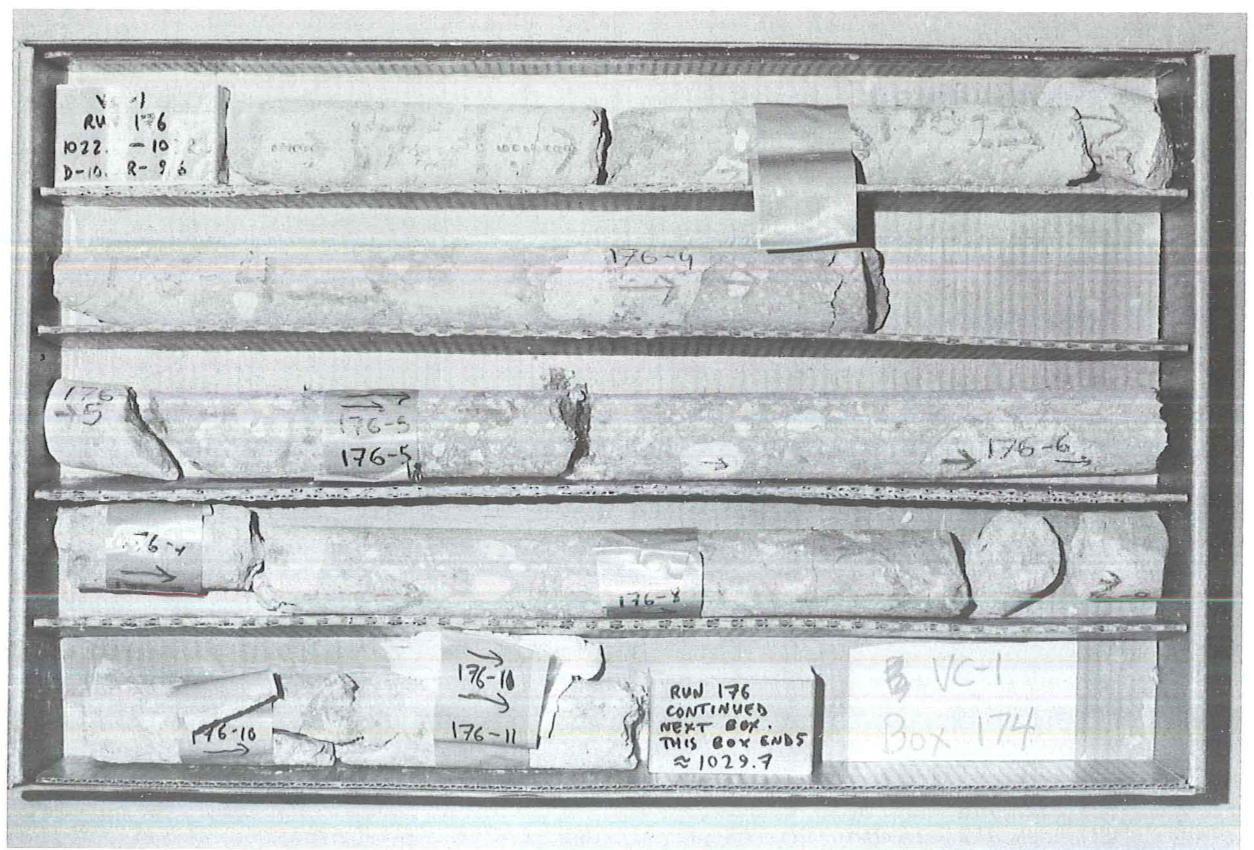

VC-1
Box 169
VC-1 Run 171
1000.8

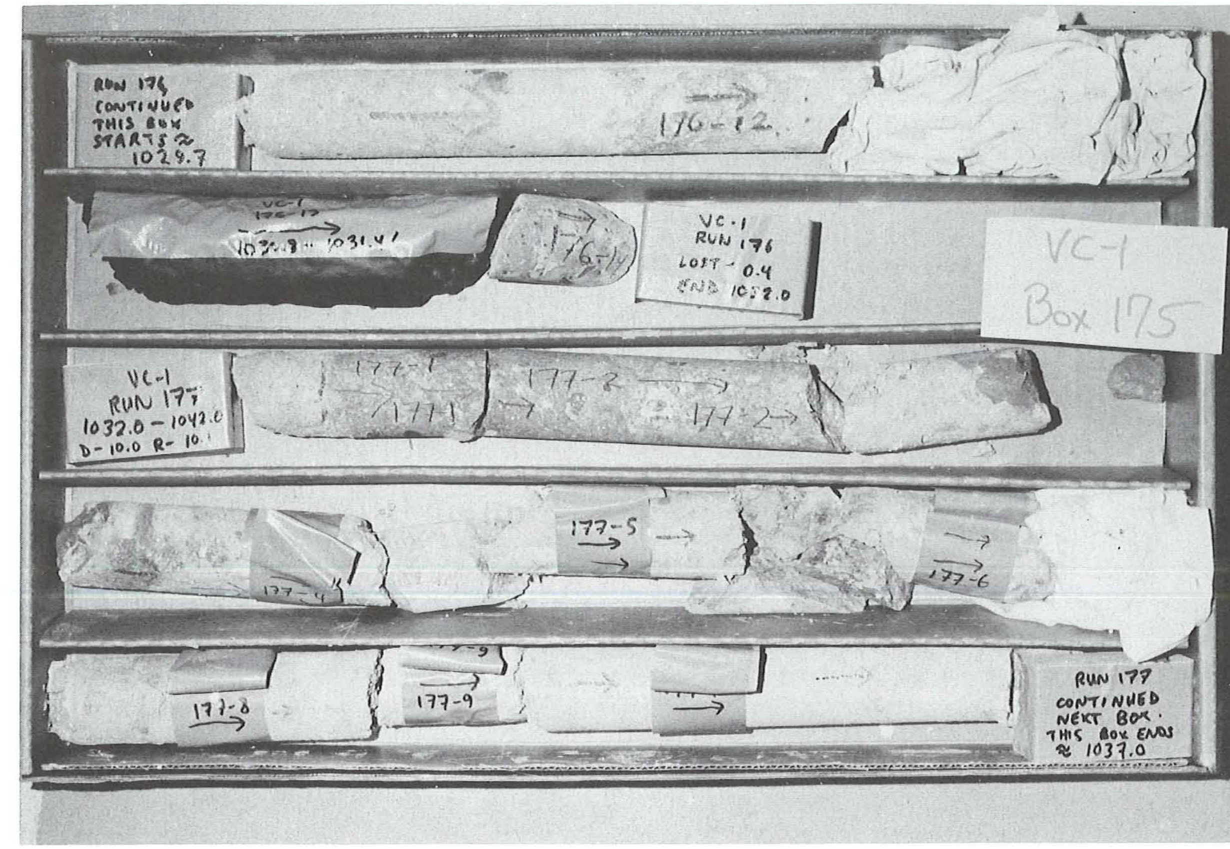

VC-1
Box 170
VC-1 Run 171
1000.8
VC-1 Run 171
END 1003.8
Lost 0.4
VC-1 Run 173
1005.9

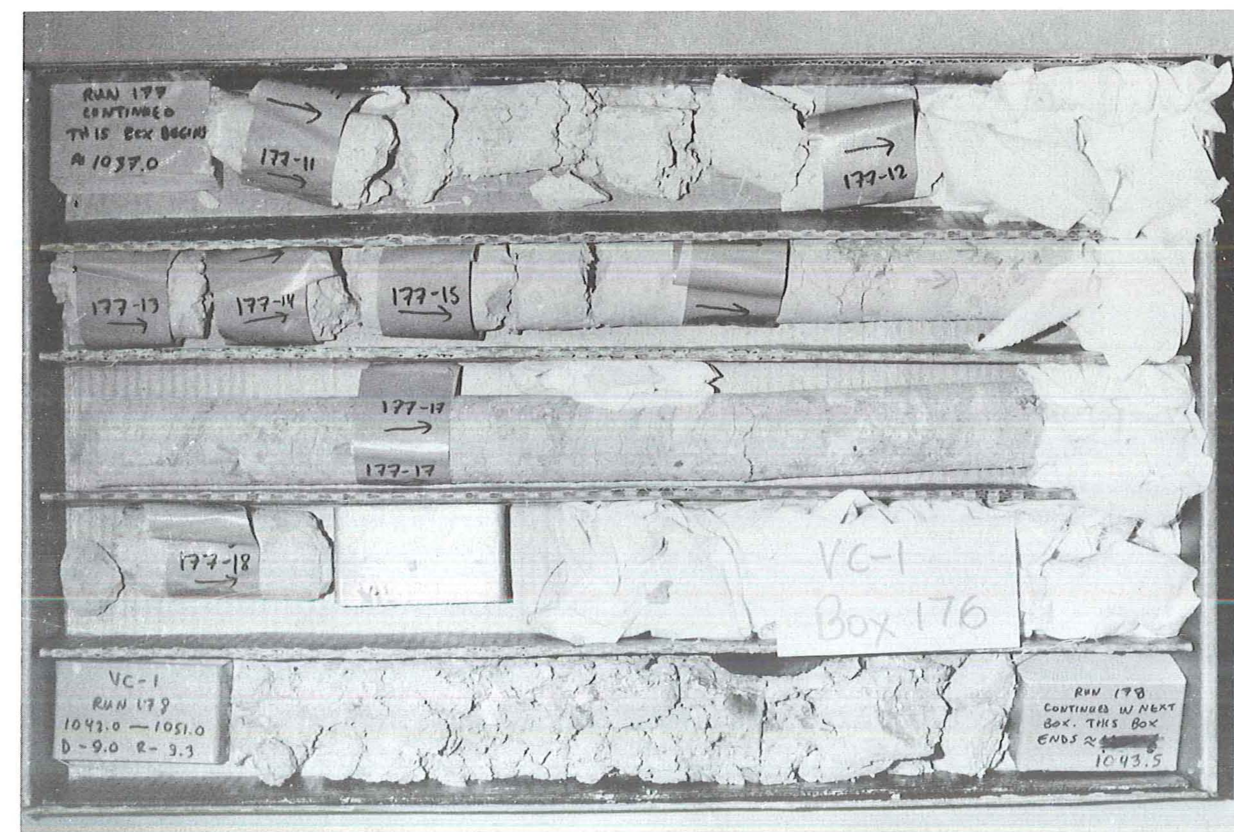

VC-1
Box 171
VC-1
Run 173
1007.3
VC-1
Run 173
END 1012.0
Lost 0.0
VC-1 Run 174
1012.0 – 1016.4
D4.4 R4.4
VC-1
Run 174
1014.7

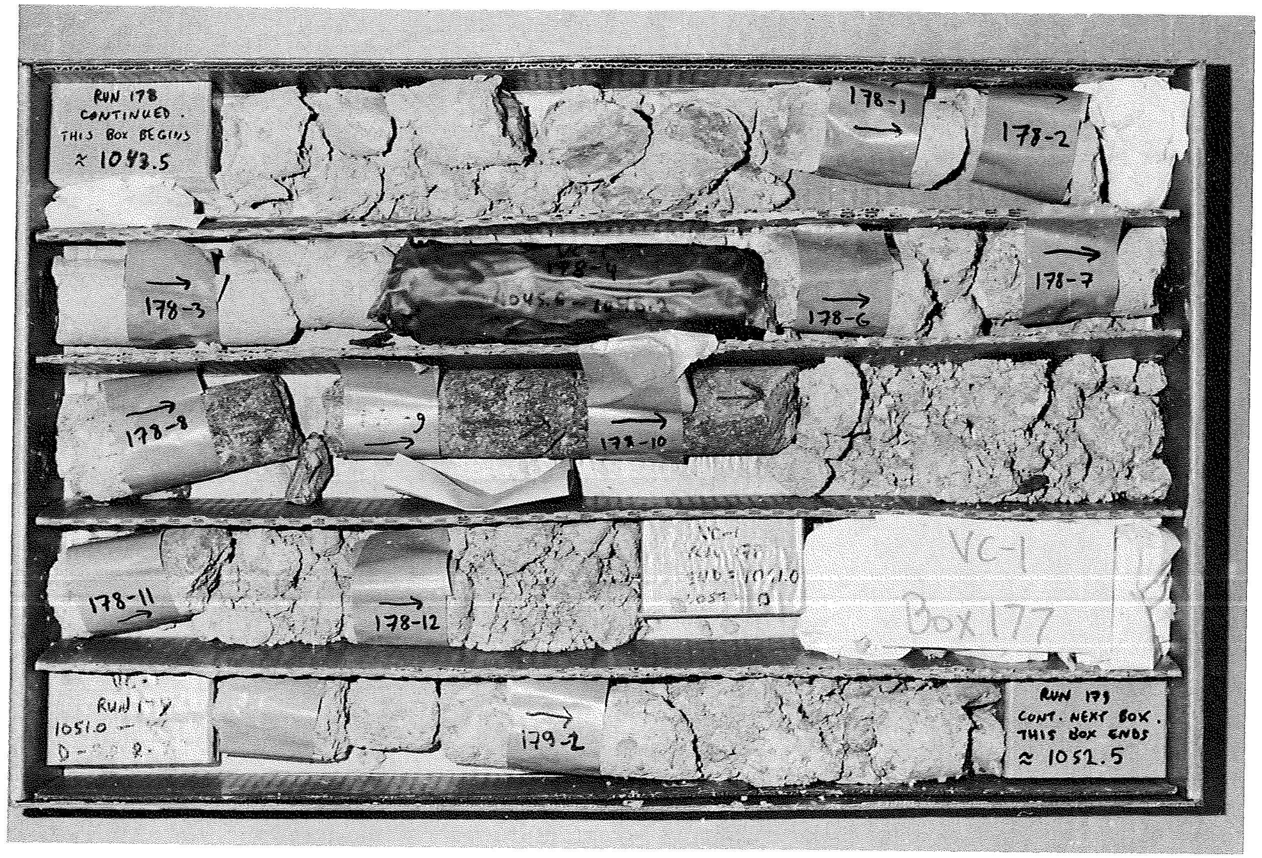

VC-1
Box 172
VC-1 Run 174
1014.7
VC-1
Run 174
End 1016.4
CEMENT

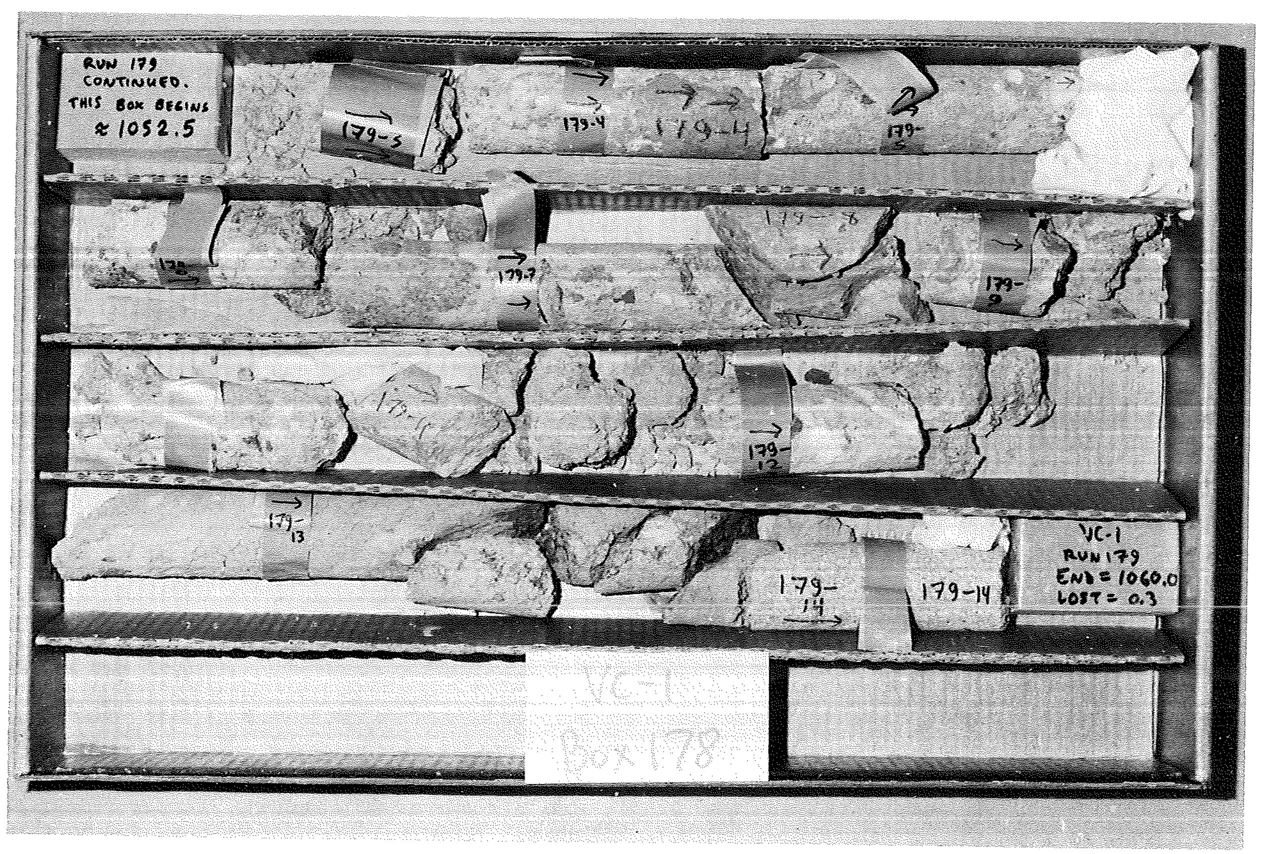

VC-1
Run 175
1016.4-1022.0
D-5.6 R-5.3
175-2
175-3
NC DIV.
175-5
175-6
diet
Coke
VC-1
Box 173

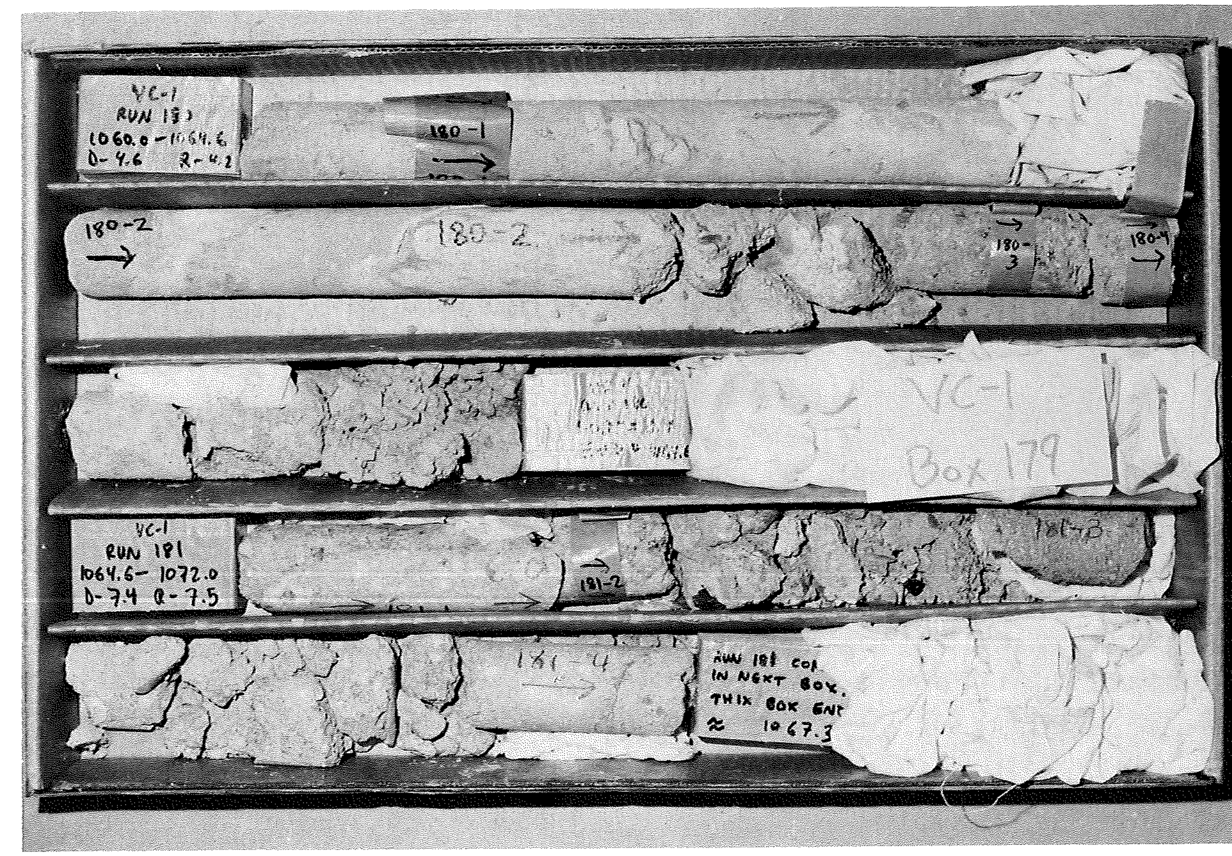

176-4
176-5
176-6
176-10
176-11
RUN 176
CONTINUED
NEXT BOX.
THIS BOX ENDS
≈1029.7
VC-1
Box 174

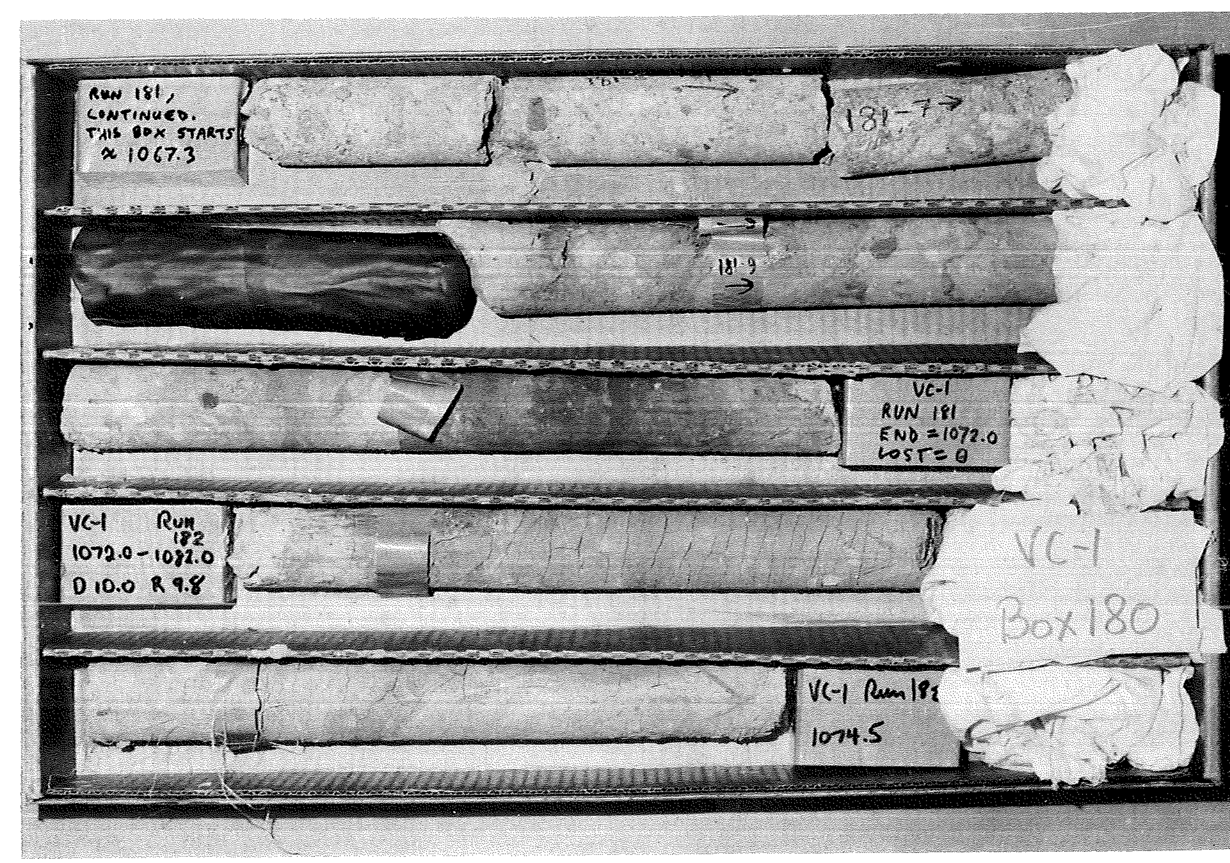

RUN 176
CONTINUED
THIS BOX
STARTS ≈
1029.7
VC-1
RUN 176
LOST - 0.4
END 1032.0
VC-1
Box 175
177-2
177-5
177-6
177-8
177-9
RUN 177
CONTINUED
NEXT BOX.
THIS BOX ENDS
≈ 1037.0

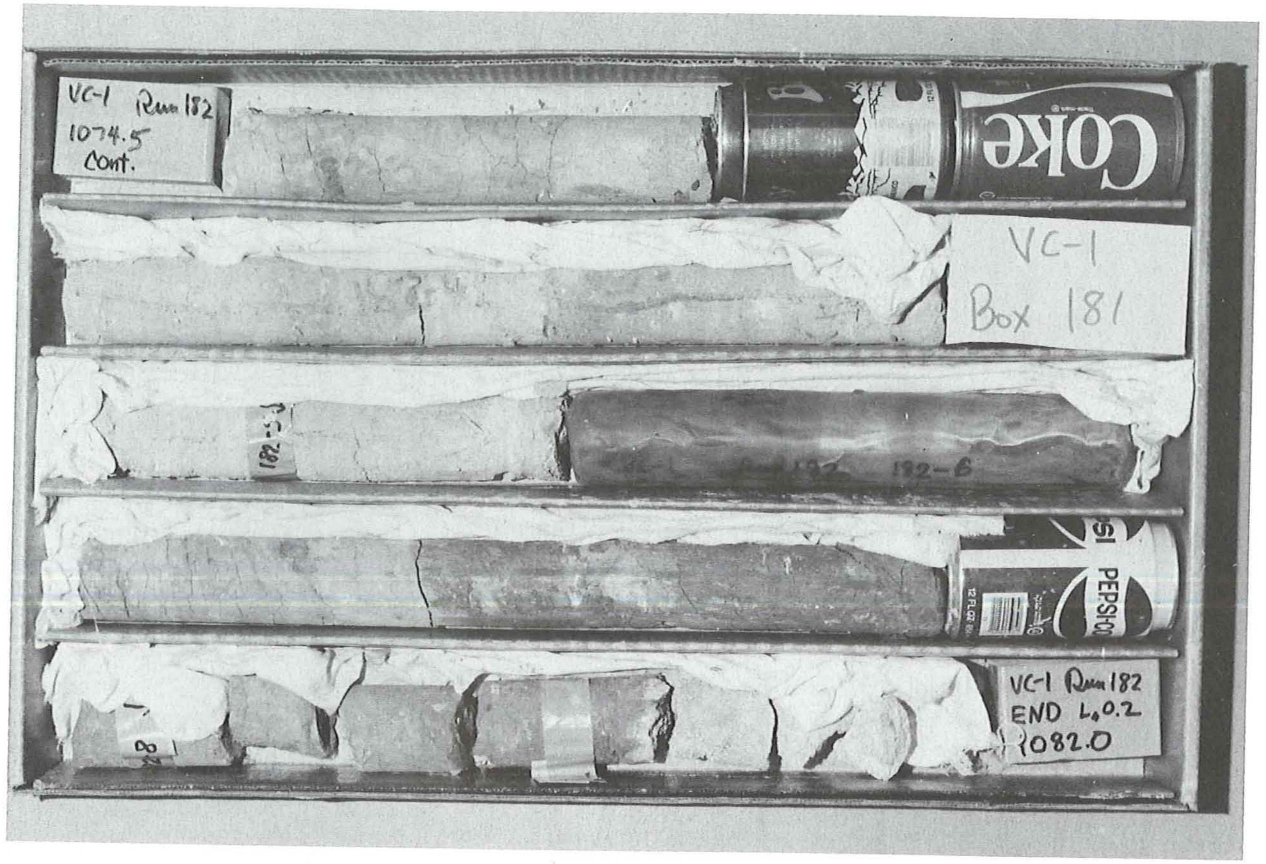

RUN 177
CONTINUED
THIS BOX BEGINS
≈1037.0
177-11
177-12
177-13
177-14
177-15
177-17
177-18
VC-1
Box 176
VC-1
RUN 178
1042.0 — 1051.0
D-9.0 R-9.3

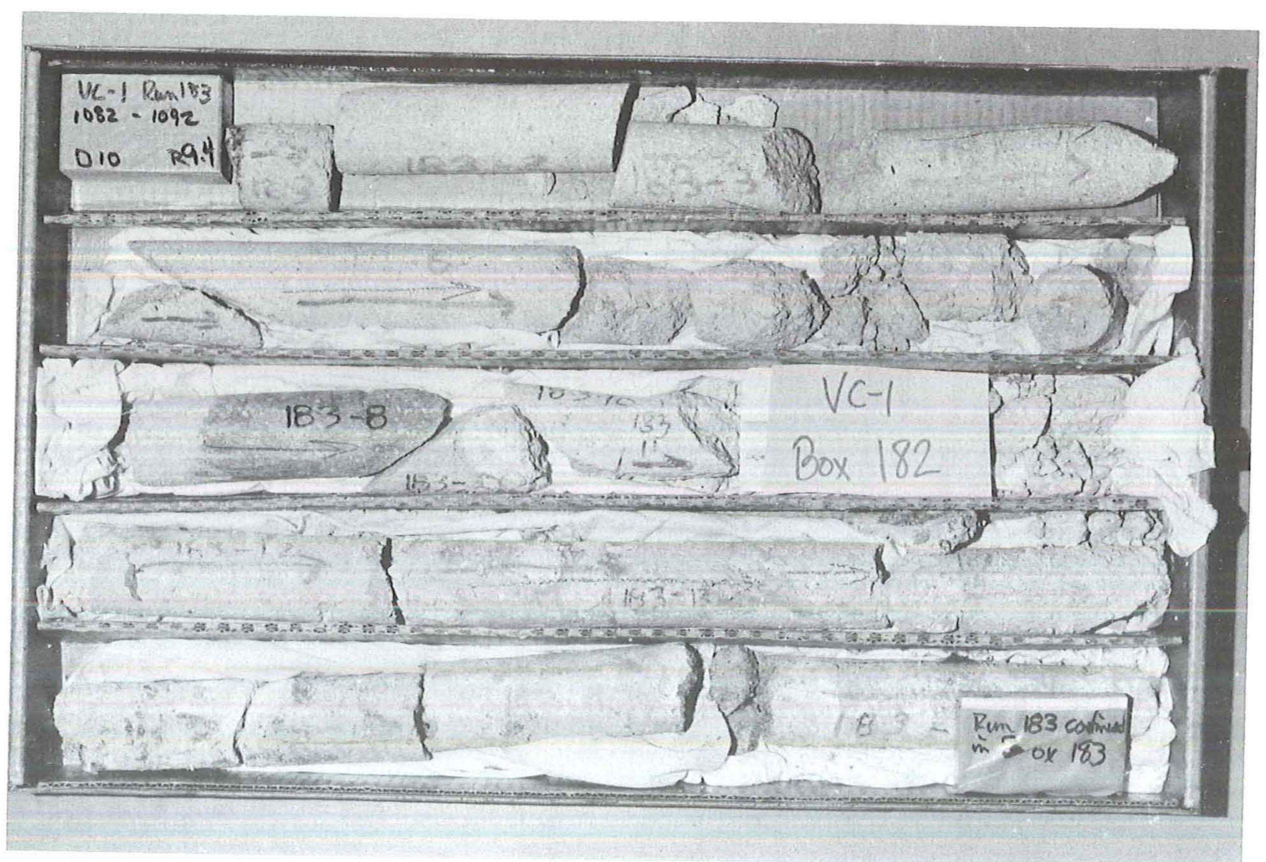

RUN 178 CONTINUED. THIS BOX BEGINS ≈ 1043.5
178-1
178-2
178-3
178-6
178-7
178-8
178-10
178-11
178-12
VC-1
Box 177
179-2
RUN 179 CONT. NEXT BOX. THIS BOX ENDS ≈ 1052.5

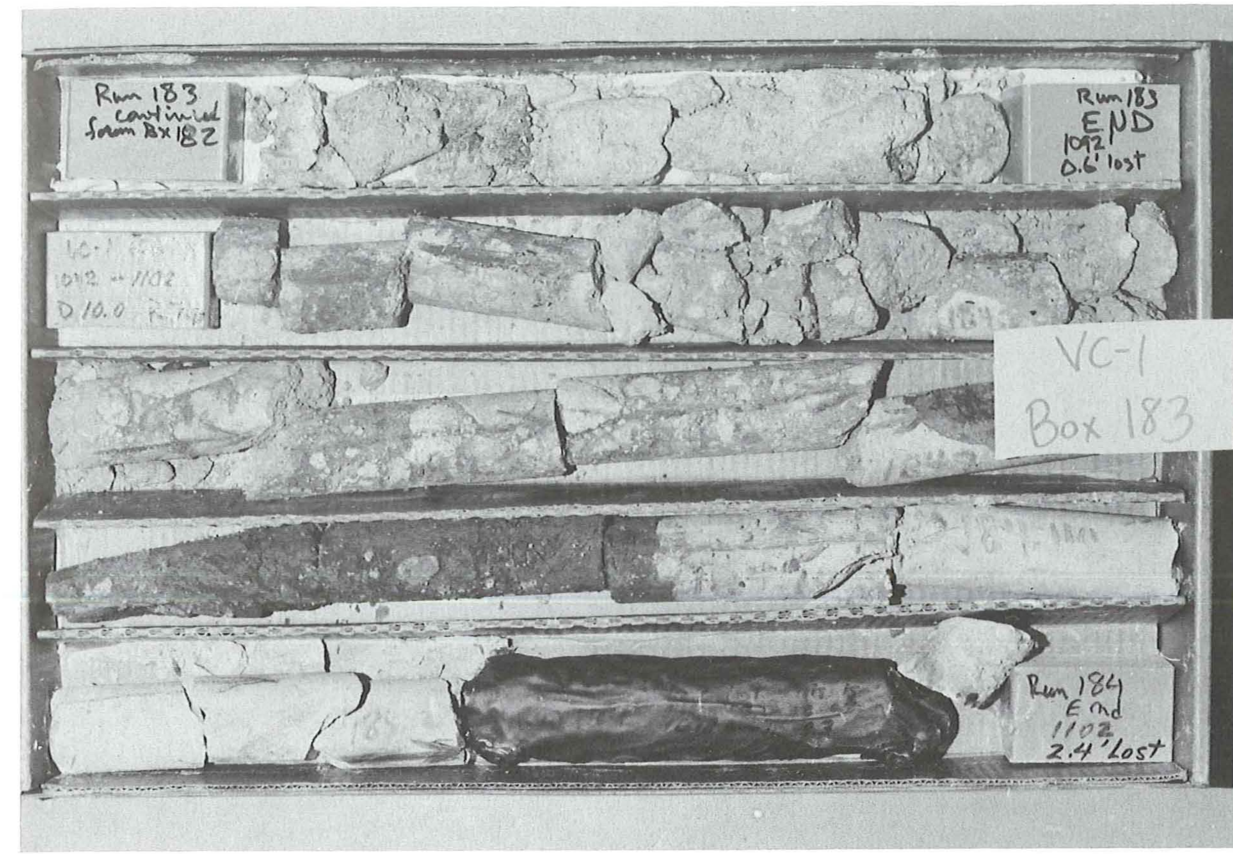

RUN 179 CONTINUED. THIS BOX BEGINS ≈ 1052.5
179-5
179-4
179-13
179-14
VC-1 RUN 179 END = 1060.0 LOST = 0.3
VC-1
Box 178

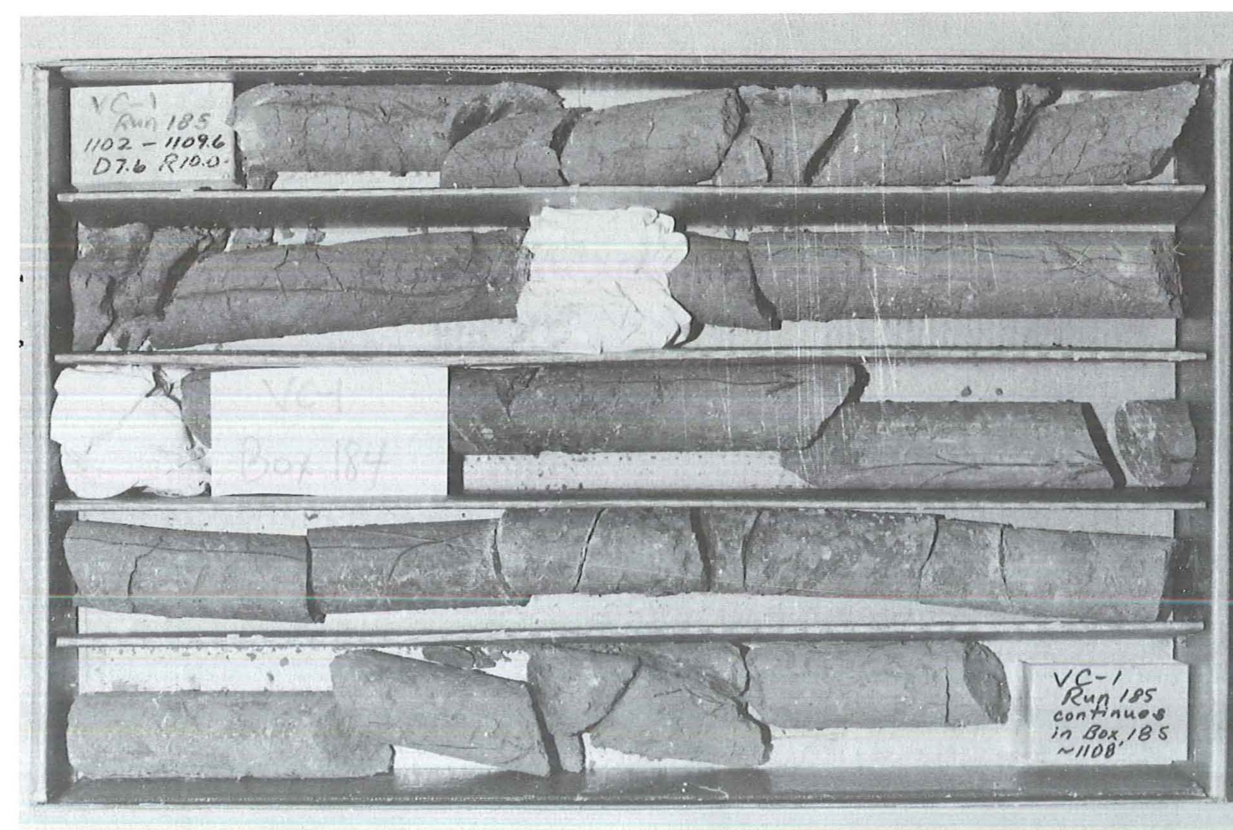

180-1
180-2
VC-1
Box 179
RUN 181 1064.6 - 1072.0 D-7.4 R-7.5
181-2
181-4

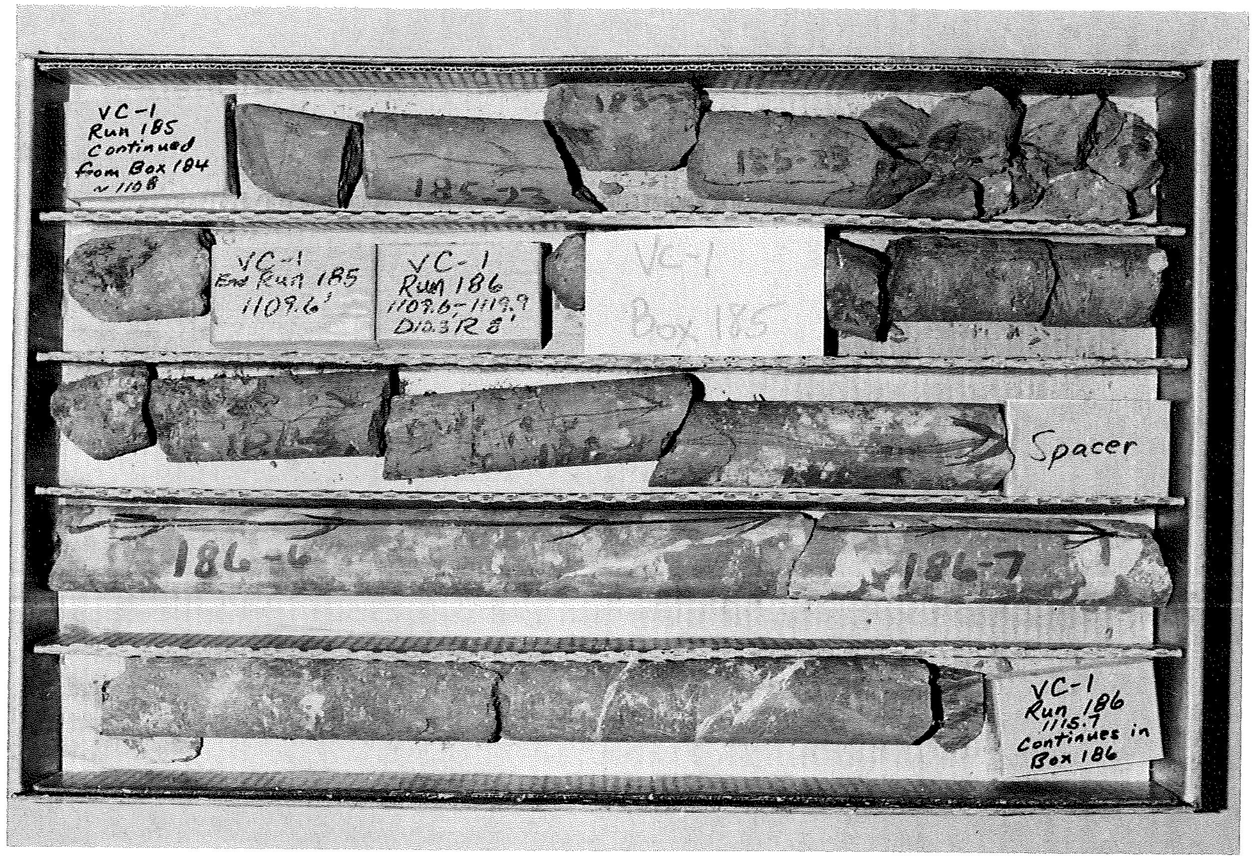

RUN 181, CONTINUED. THIS BOX STARTS ≈ 1067.3
181-7
181-9
VC-1 RUN 181 END = 1072.0 LOST = 0
VC-1 RUN 182 1072.0 - 1082.0 D 10.0 R 9.8
VC-1
Box 180
1074.5

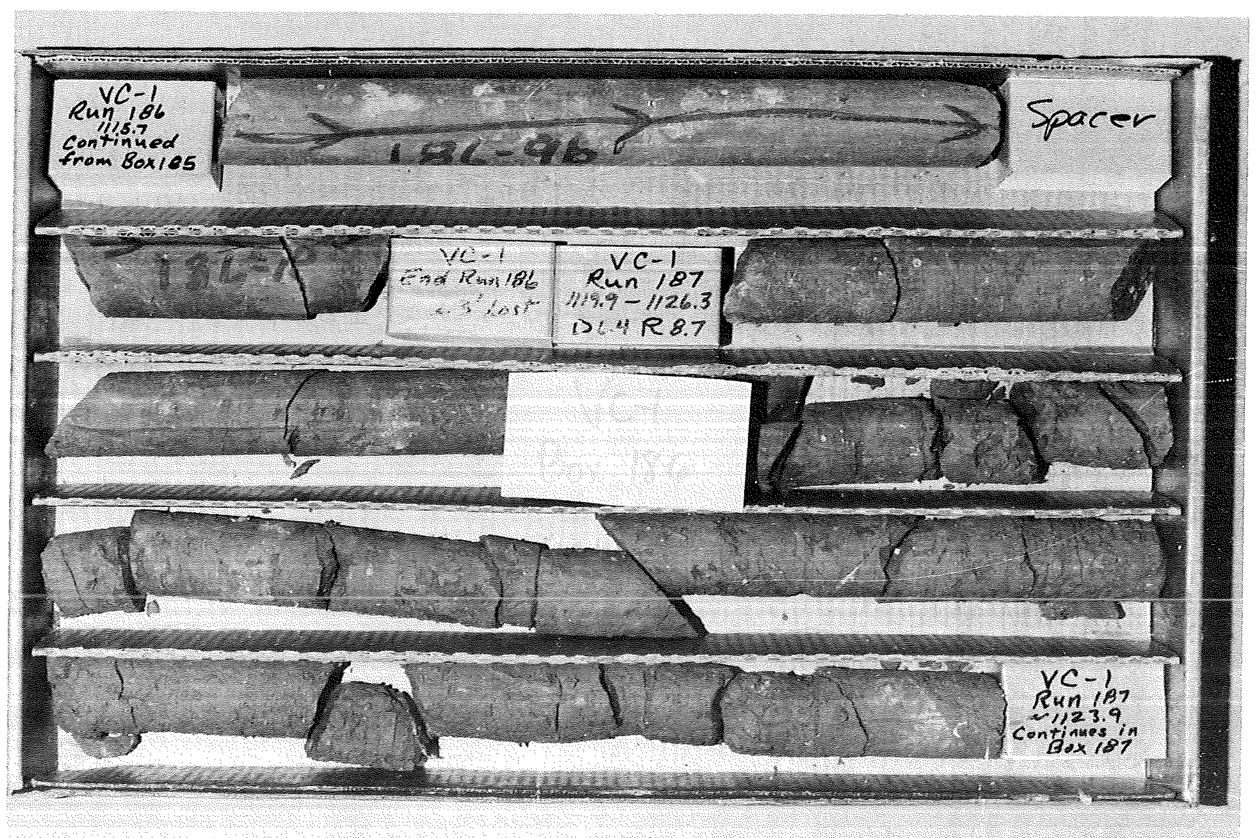

VC-1 Run 182
1074.5
Cont.
Coke
VC-1
Box 181
VC-1 Run 182
END L.0.2
1082.0

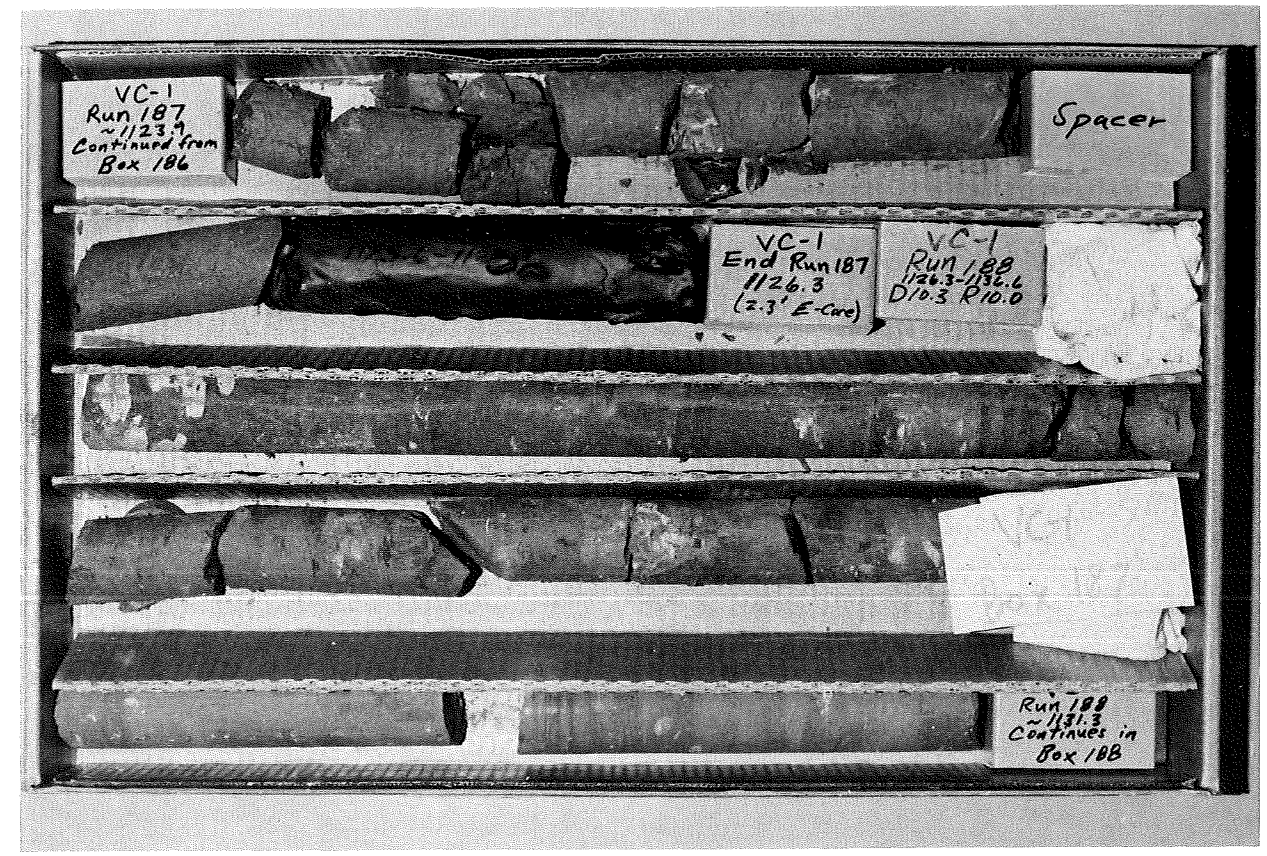

VC-1 Run 183
1082 - 1092
D10 R9.4
183-8
VC-1
Box 182
Run 183 continued
in Box 183

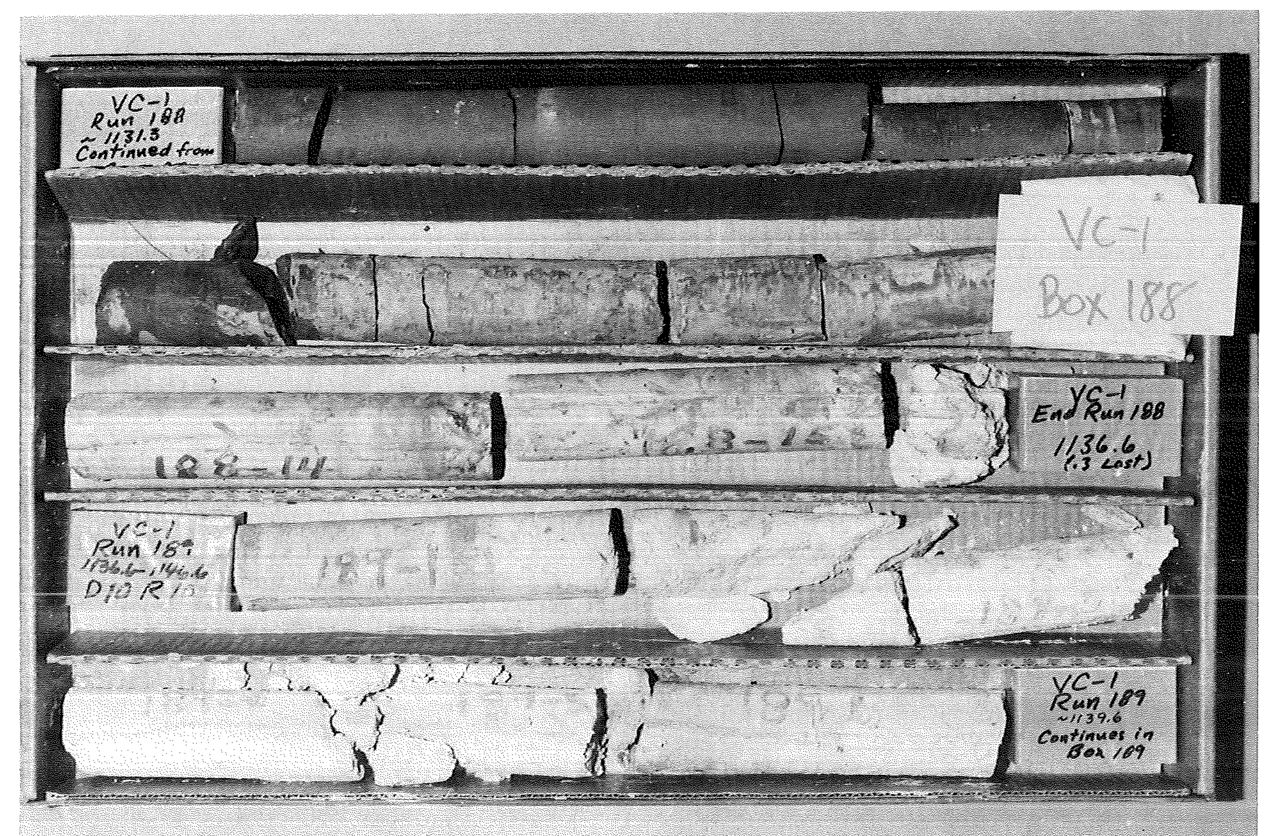

Run 183
continued
from Bx 182
Run 183
END
1092
0.6' lost
VC-1
Box 183
Run 184
End
1102
2.4' Lost

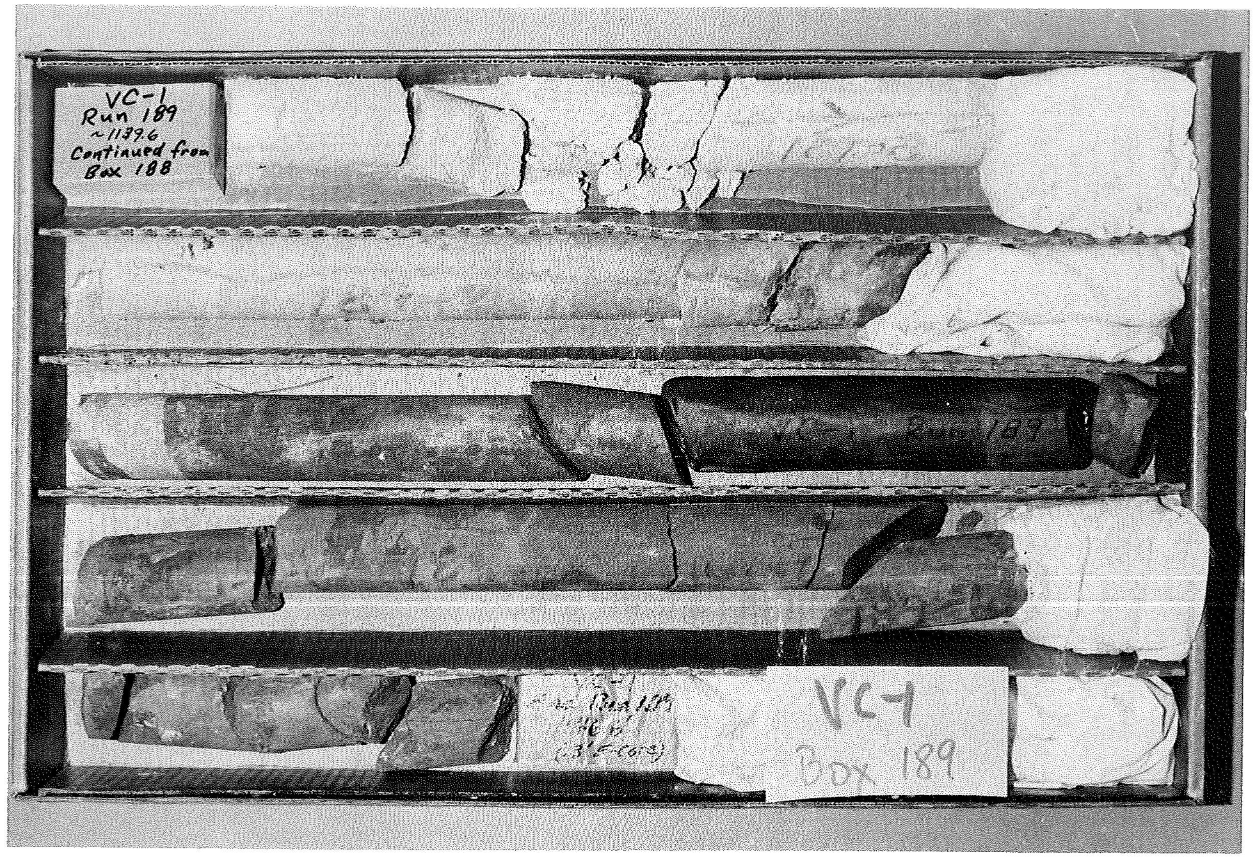

VC-1
Run 185
1102 – 1109.6
D7.6 R10.0
VC-1
Box 184
VC-1
Run 185
continues
in Box 185
~1108'

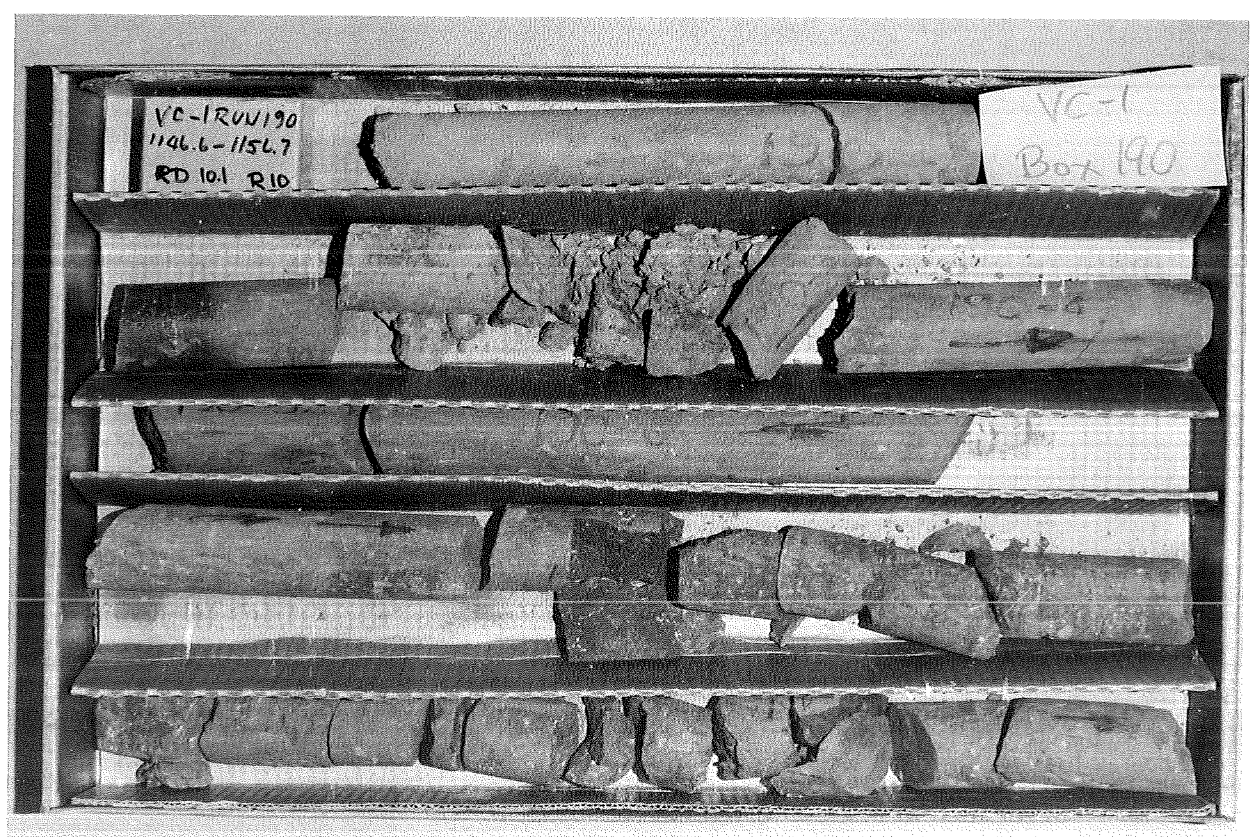

VC-1 Run 185 Continued from Box 184 ~1108
VC-1 End Run 185 1109.6'
VC-1 Run 186 1109.6–1119.9 D10.3 R8'
VC-1 Box 185
Spacer
VC-1 Run 186 ~1115.7 Continues in Box 186

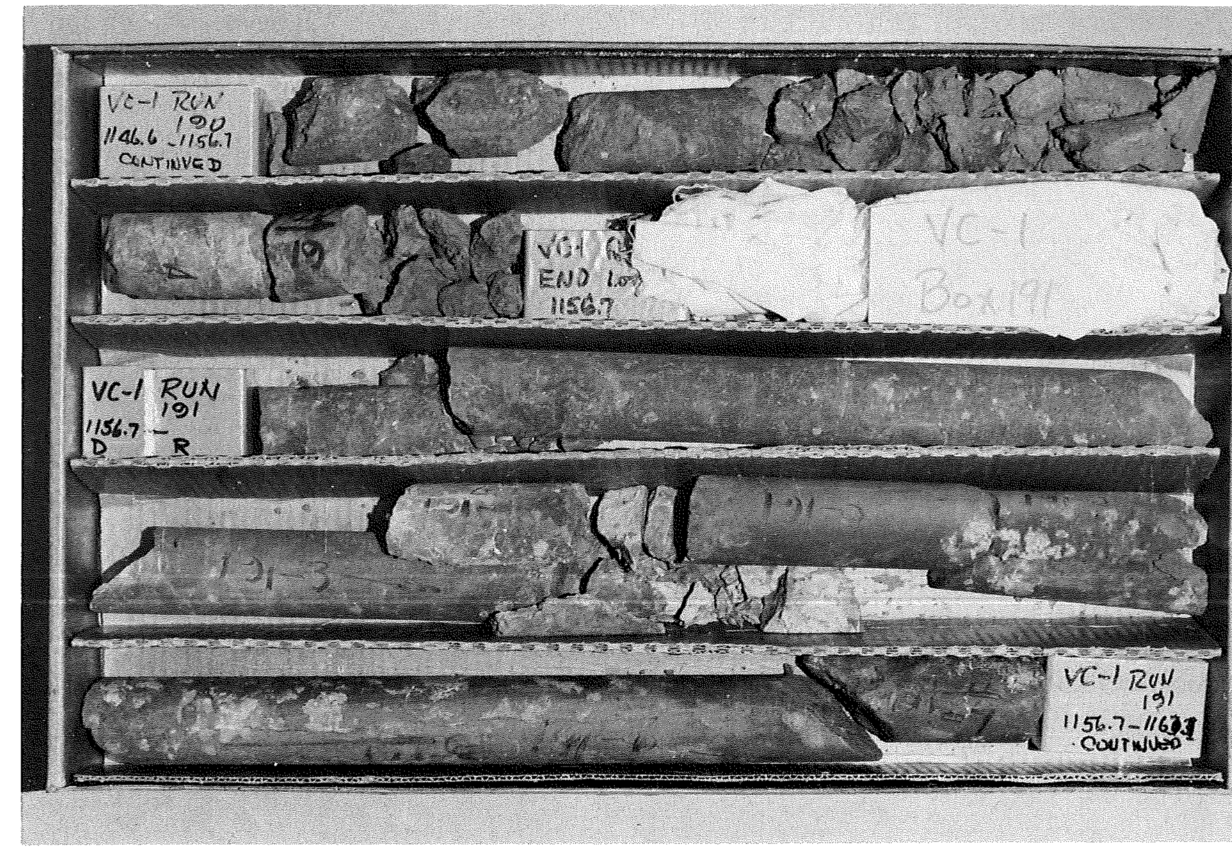

VC-1 Run 186 1115.7 Continued from Box 185
Spacer
VC-1 End Run 186 .3' Lost
VC-1 Run 187 1119.9 – 1126.3 D6.4 R8.7
VC-1 Box 186
VC-1 Run 187 ~1123.9 Continues in Box 187

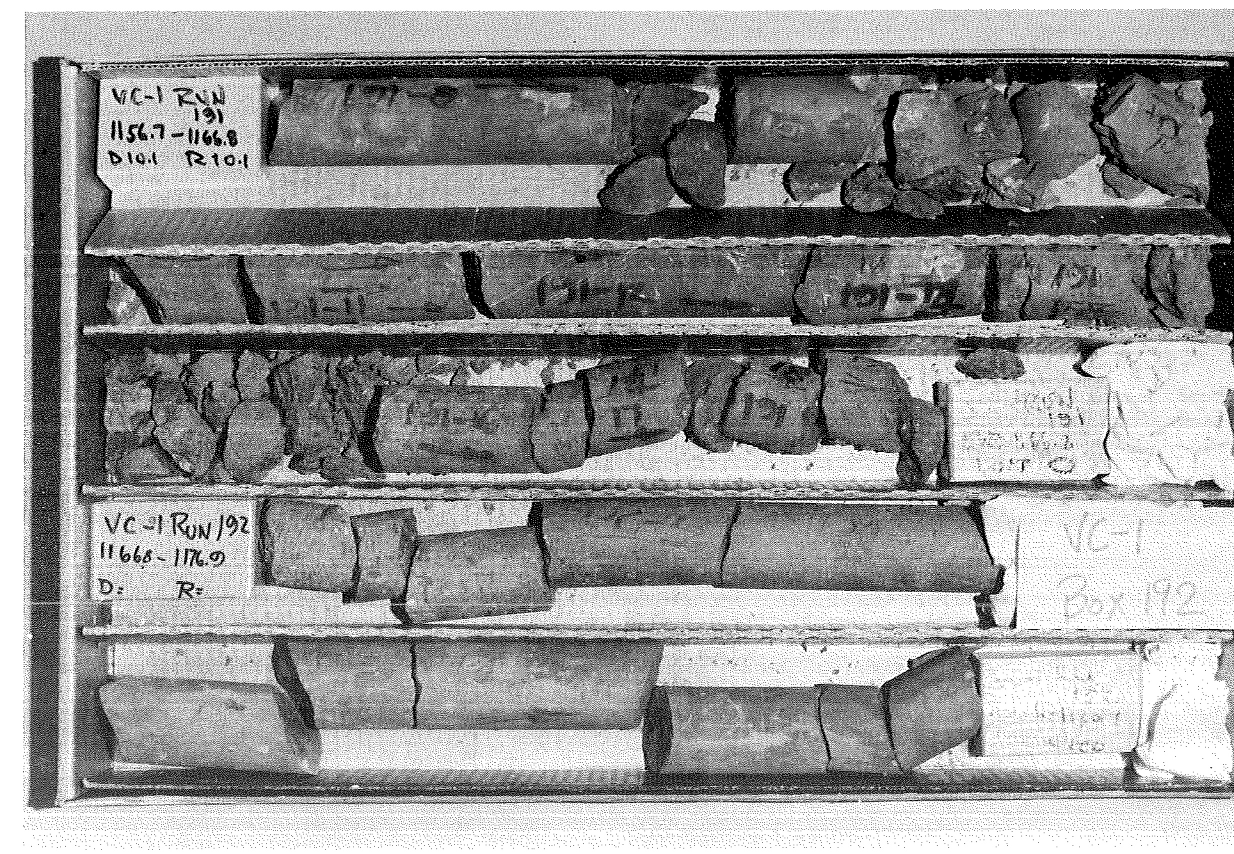

VC-1 Run 187 ~1123.9 Continued from Box 186
Spacer
VC-1 End Run 187 1126.3 (2.3' E-Core)
VC-1 Run 188 1126.3–1136.6 D10.3 R10.0
VC-1 Box 187
Run 188 ~1131.3 Continues in Box 188

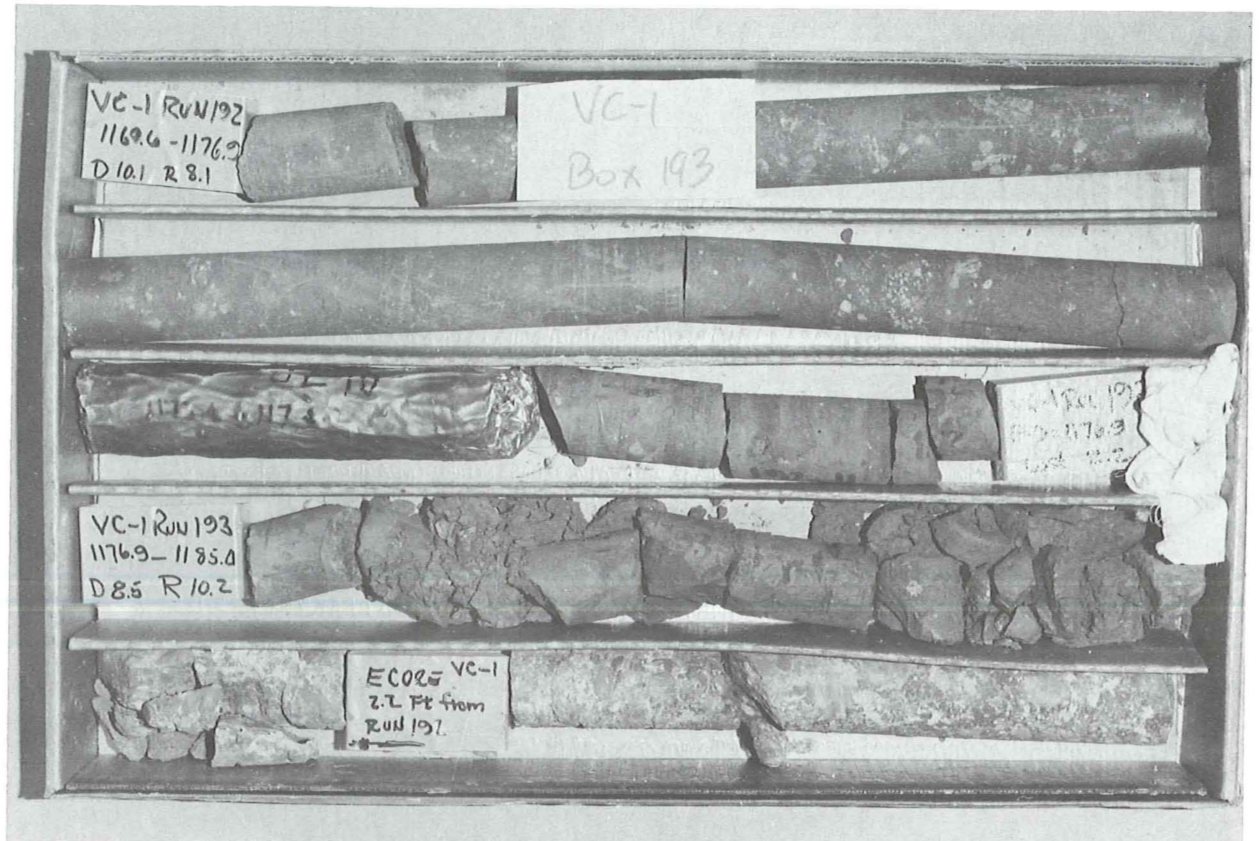

VC-1 Run 188 ~1131.3 Continued from
VC-1 Box 188
VC-1 End Run 188 1136.6 (.3 Lost)
VC-1 Run 189 1136.6–1146.6 D10 R10
VC-1 Run 189 ~1139.6 Continues in Box 189

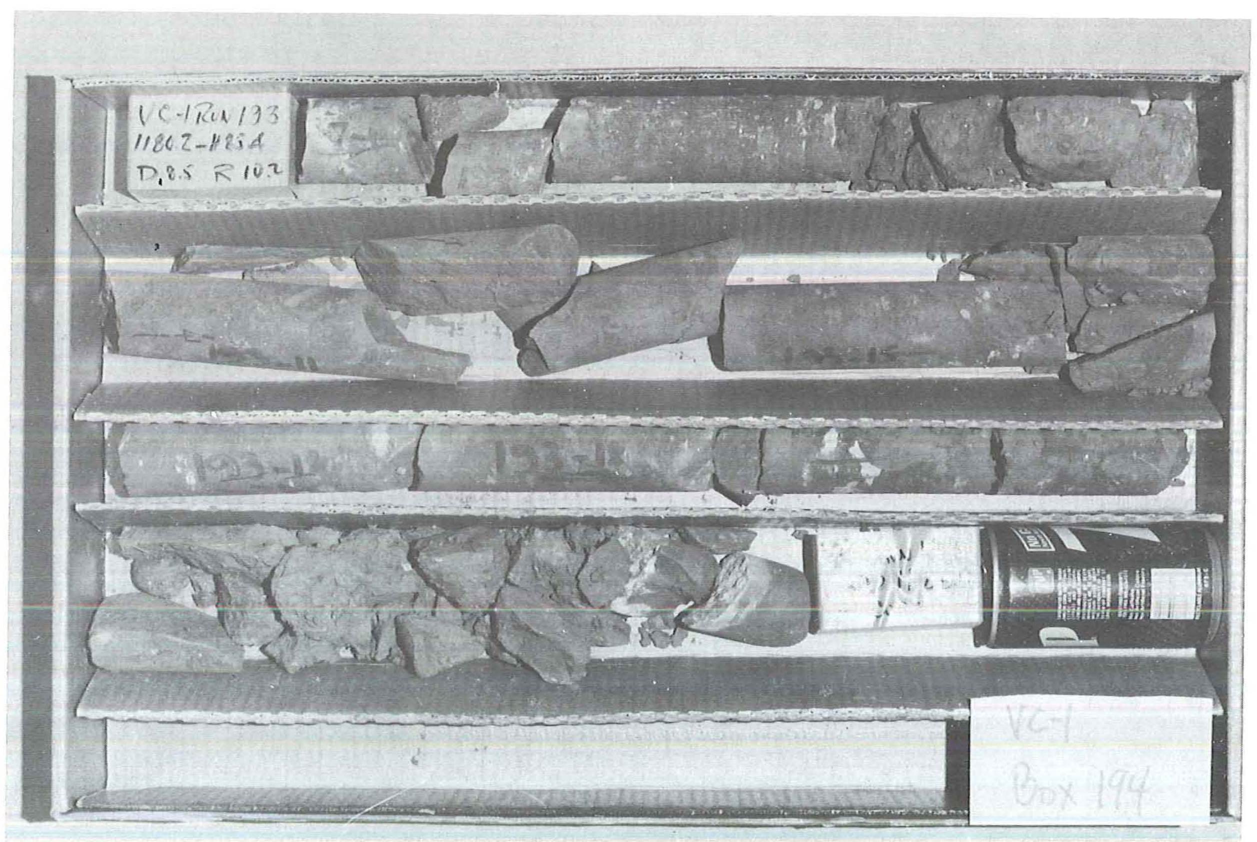

VC-1 Run 189 ~1139.6 Continued from Box 188
VC-1 Box 189


VC-1 RUN 190 1146.6-1156.7 RD 10.1 R10
VC-1 Box 190


VC-1 RUN 190 1146.6-1156.7 CONTINUED
VC-1 Box 191
VC-1 RUN 191 1156.7- D R


VC-1 RUN 191 1156.7-1166.8 D10.1 R10.1
VC-1 RUN 192 1166.8-1176.9 D: R:
VC-1 Box 192


VC-1 RUN 192
1169.6 - 1176.9
D 10.1 R 8.1
VC-1
Box 193
VC-1 RUN 193
1176.9 - 1185.0
D 8.5 R 10.2
E CORE VC-1
2.2 Ft from
RUN 192

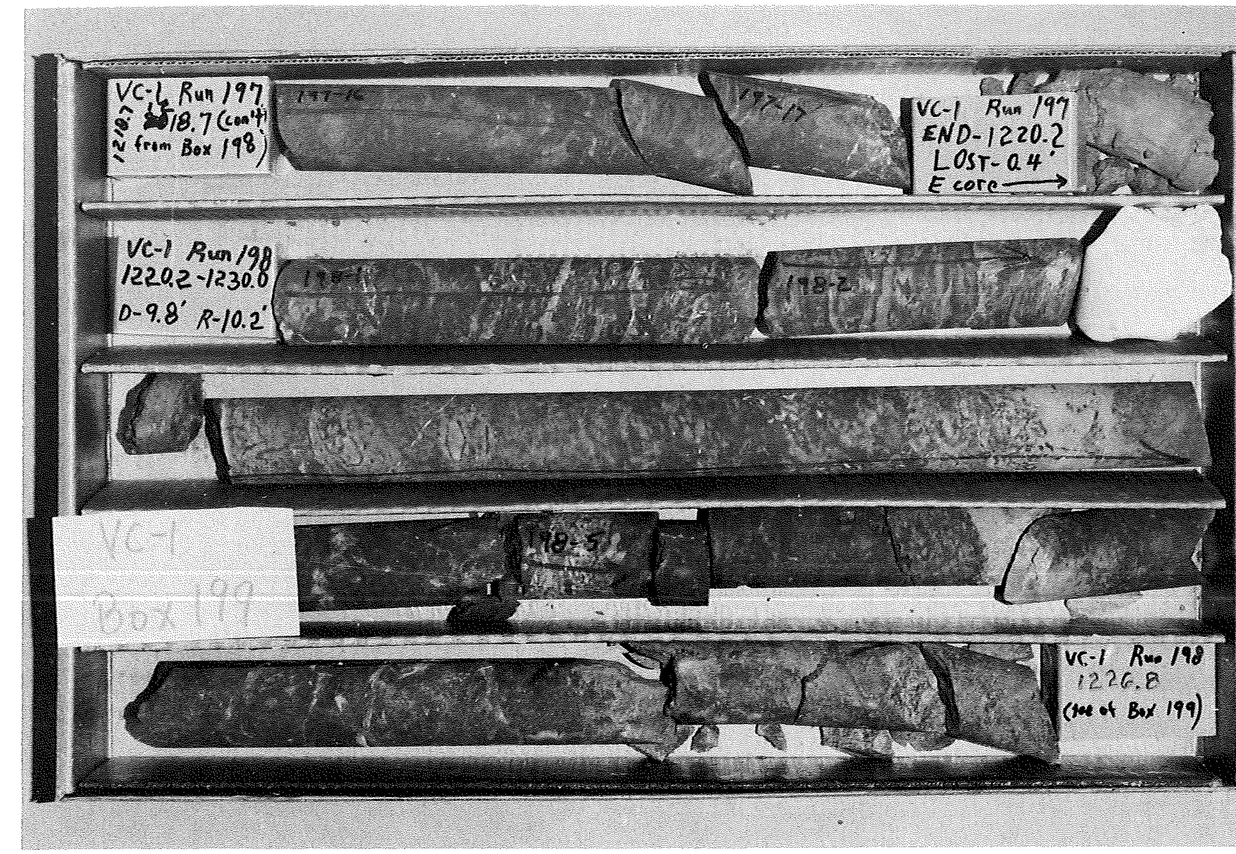

VC-1
Box 194

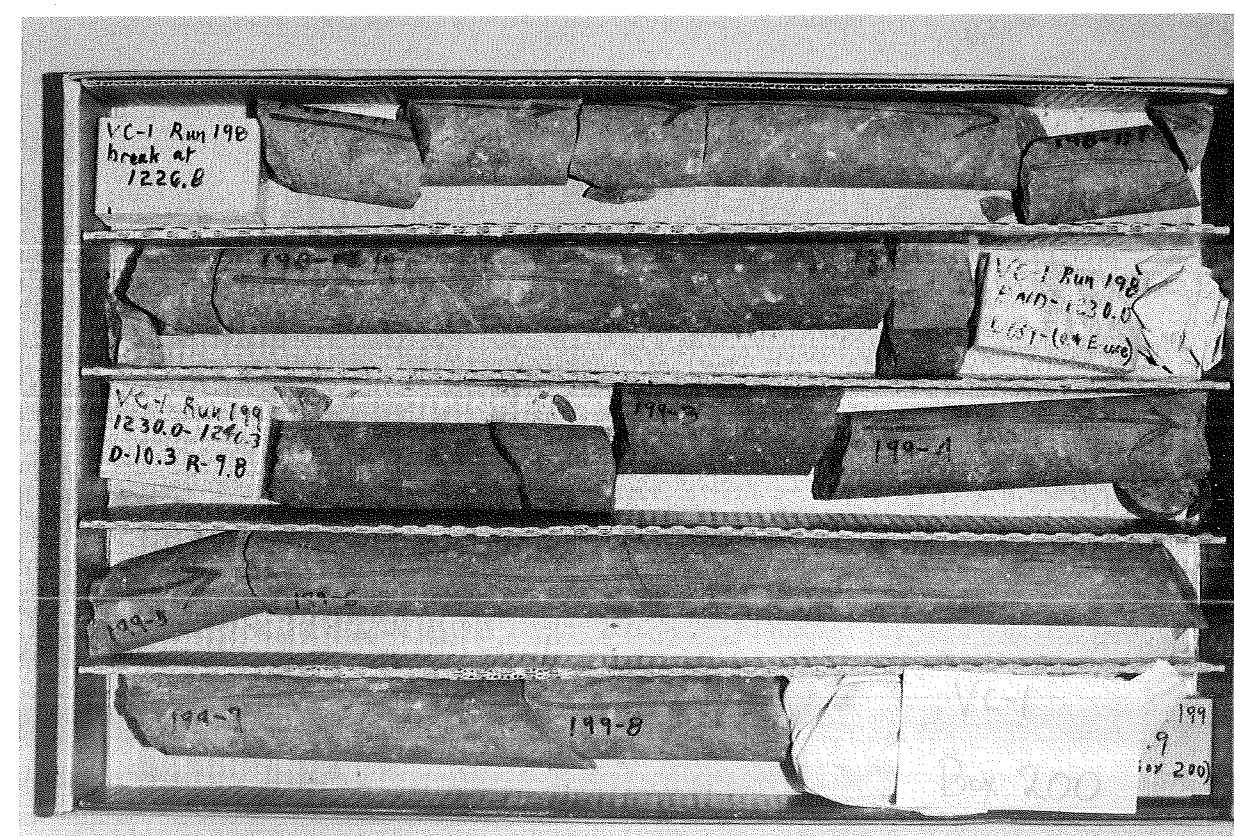

VC-1
Box 195

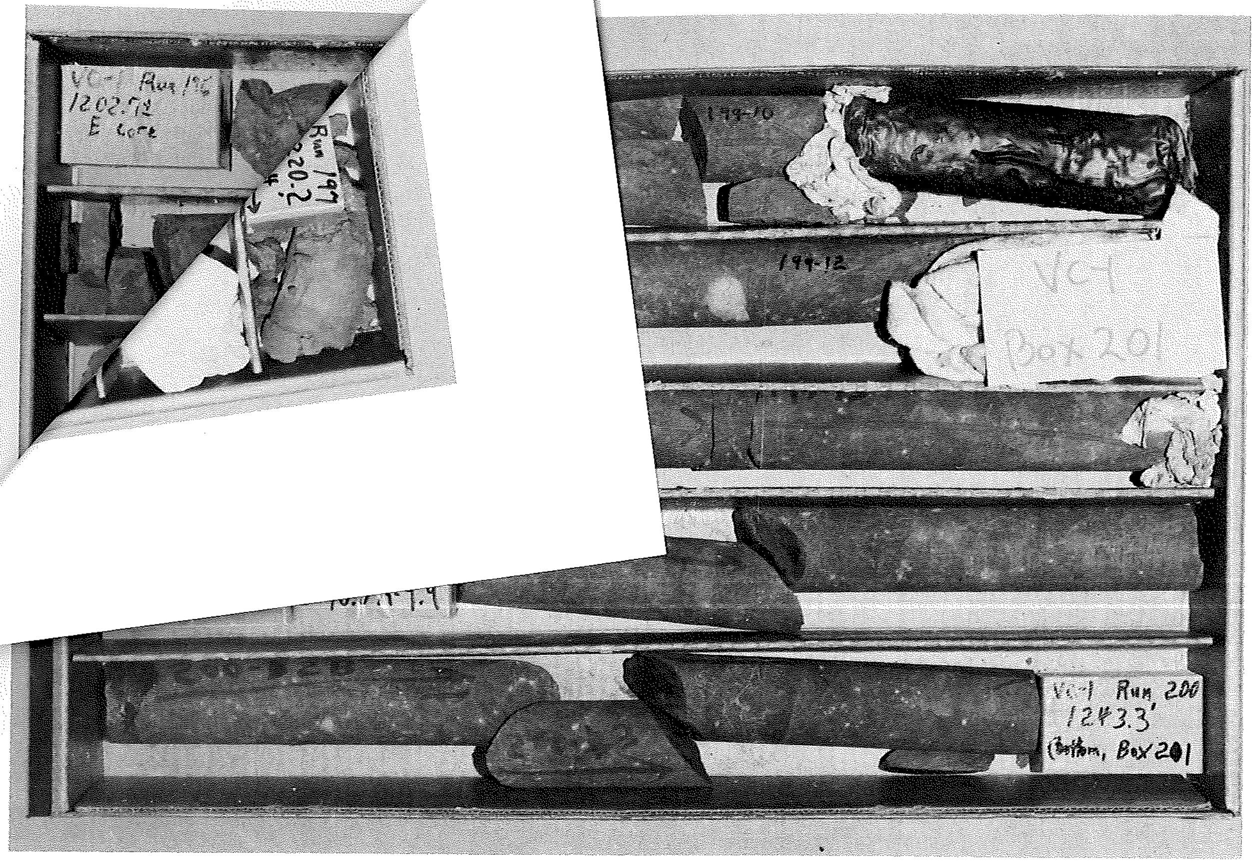

END - 1205.0
LOST - 4.8
VC-1
Box 196
VC-1 Run 196
1202.7 ±
E core

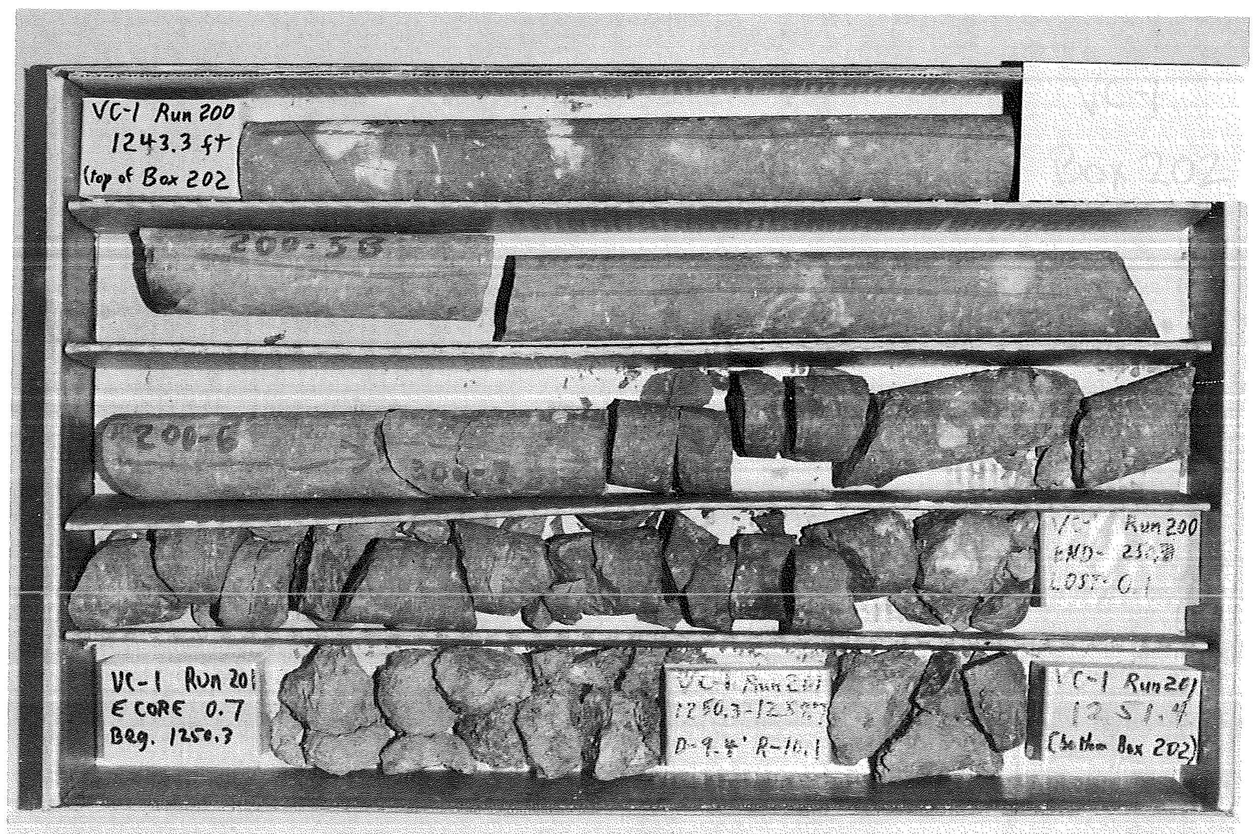

VC-1
Box 197

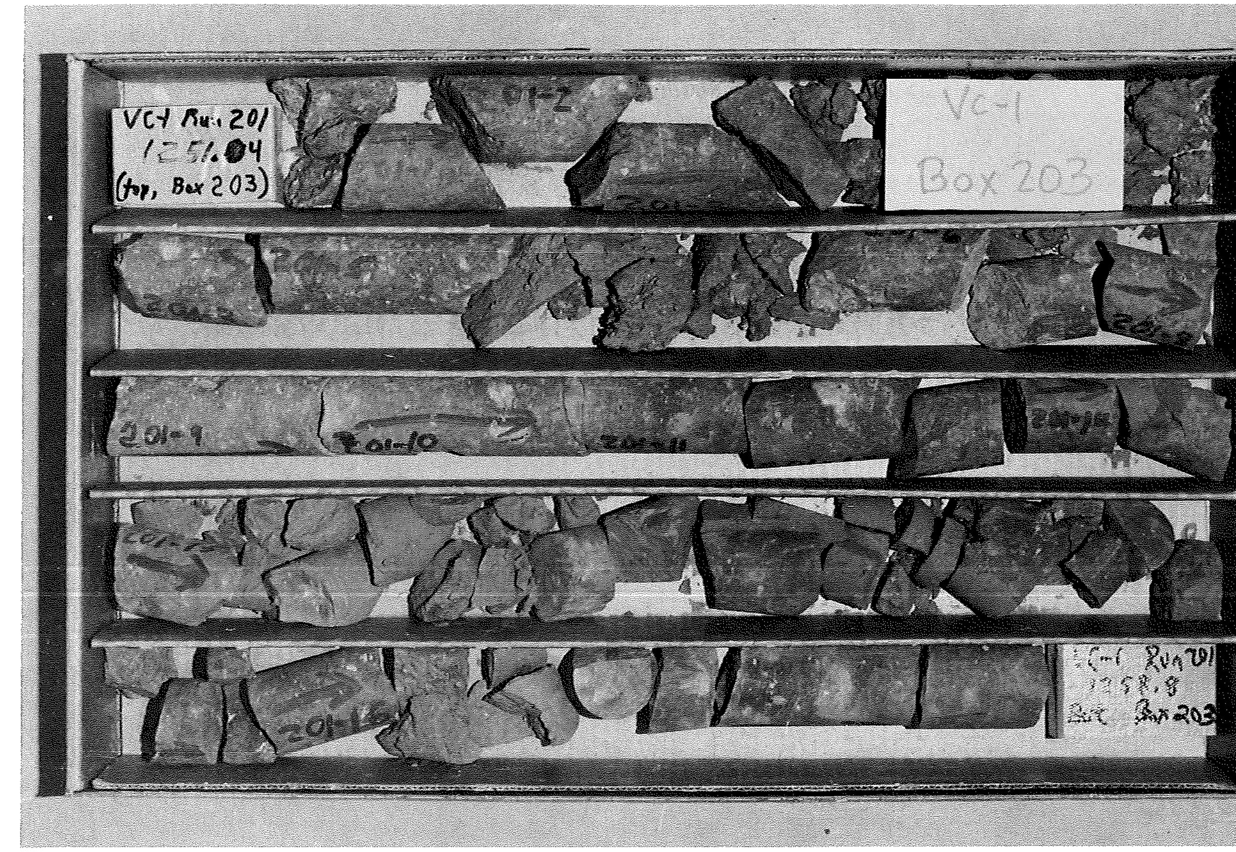

VC-1 Run 197
1210.0-1220.2
D.-10.2 R. 9.8
VC-1
Box 198


VC-1 Run 197
END-1220.2
LOST-0.4'
E core
VC-1 Run 198
1220.2-1230.0
D-9.8' R-10.2'
VC-1
Box 199
VC-1 Run 198
1226.8
(top of Box 199)

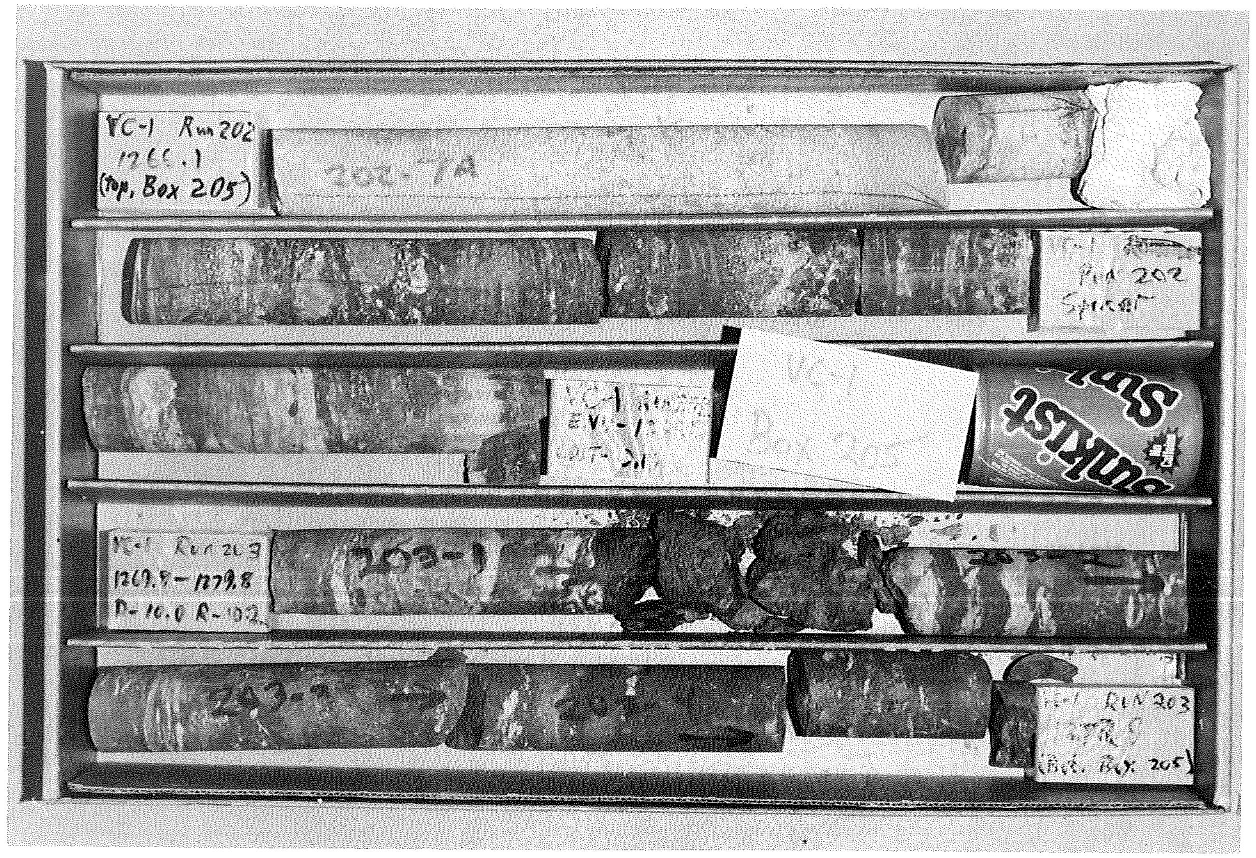

VC-1 Run 198
break at
1226.8
VC-1 Run 199
1230.0-1240.3
D-10.3 R-9.8
VC-1
Box 200


VC-1 Run 196
1202.92
E core
VC-1
Box 201
VC-1 Run 200
1243.3'
(Bottom, Box 201)


VC-1 Run 200
1243.3 ft
(Top of Box 202)
VC-1
Box 202
VC-1 Run 201
E CORE 0.7
Beg. 1250.3
VC-1 Run 201
1251.4
(Bottom Box 202)

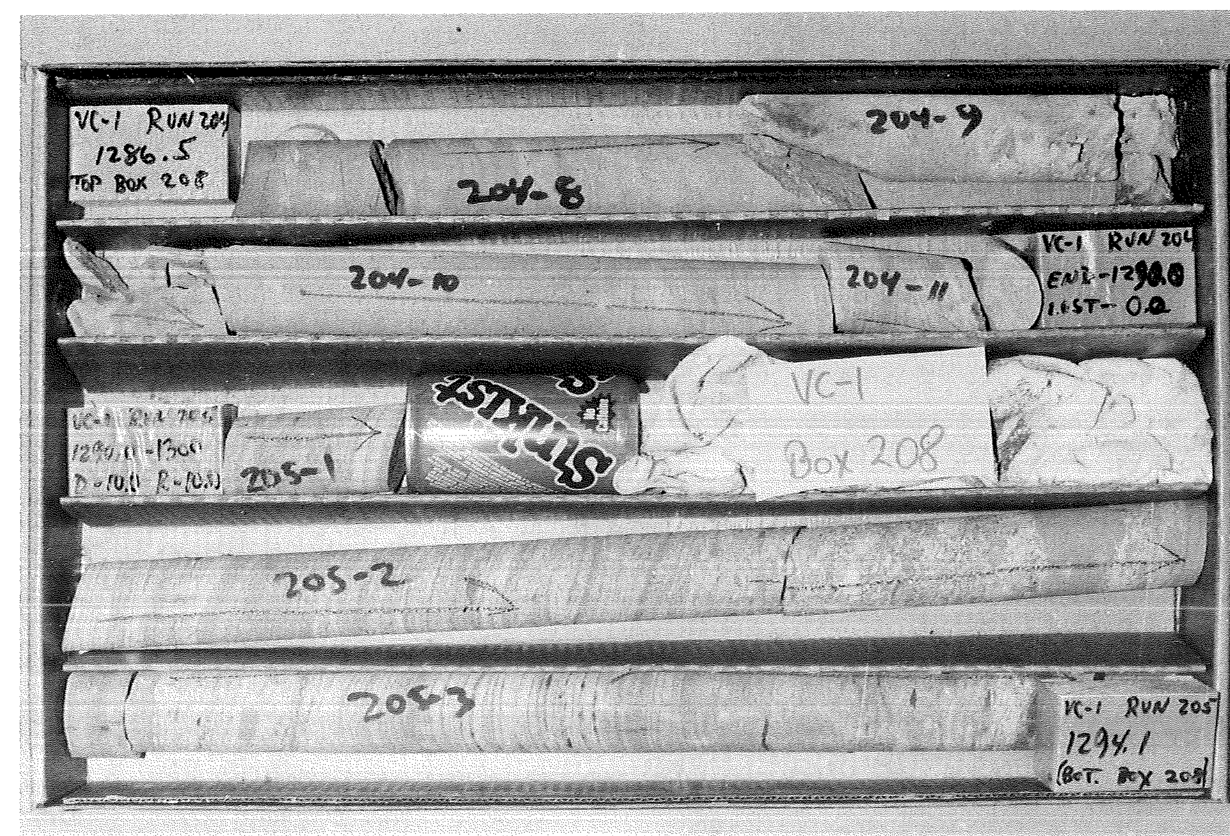

VC-1 Run 201
1251.04
(Top, Box 203)
VC-1
Box 203


VC-1 Run 201
1258.8
(Top, Box 204)
VC-1
Box 204
VC-1 RUN 202
1266.1
Bot. Box 204


VC-1 Run 202
(Top, Box 205)
202-7A
VC-1
Box 205
Sunkist
VC-1 Run 203
203-1
VC-1 RUN 203
(Bot. Box 205)

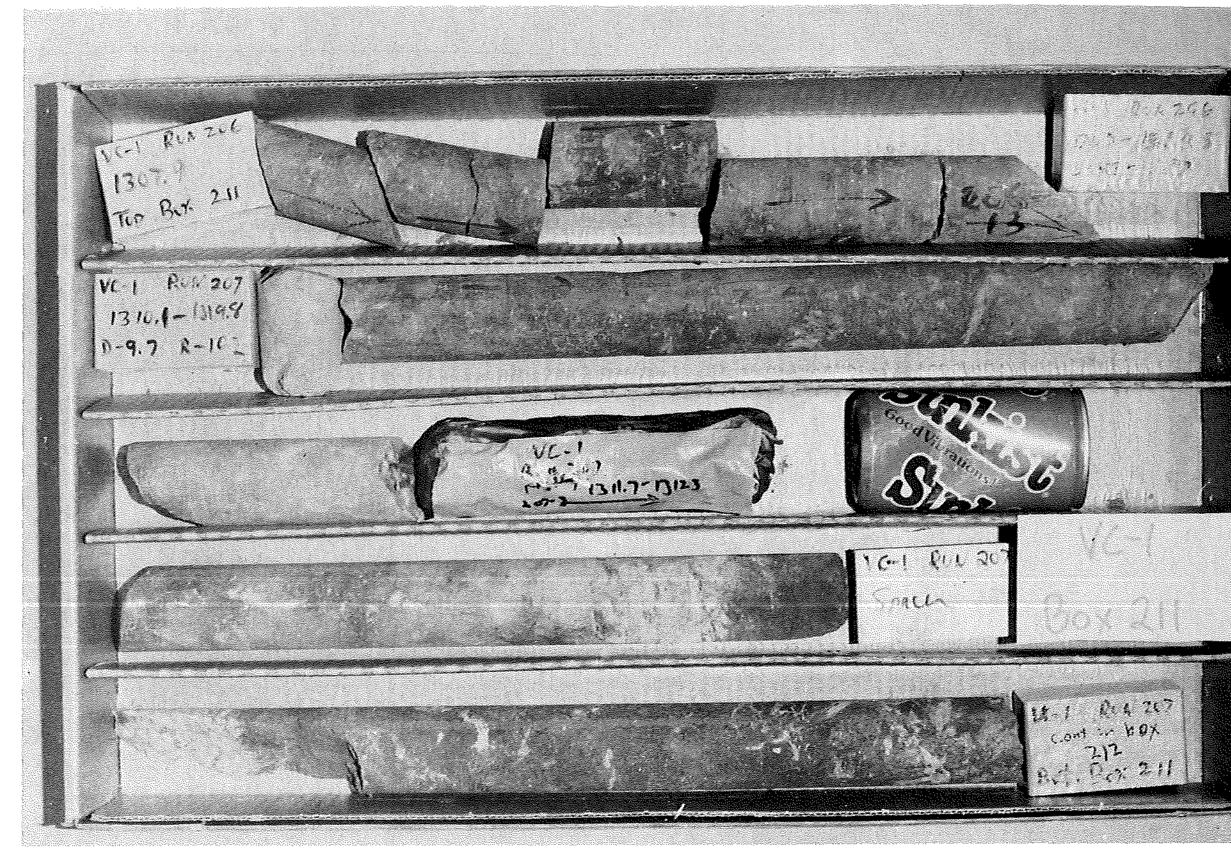

VC-1 Run 203
Top Box 206
203-20
VC-1 Run 203
LOST-0.

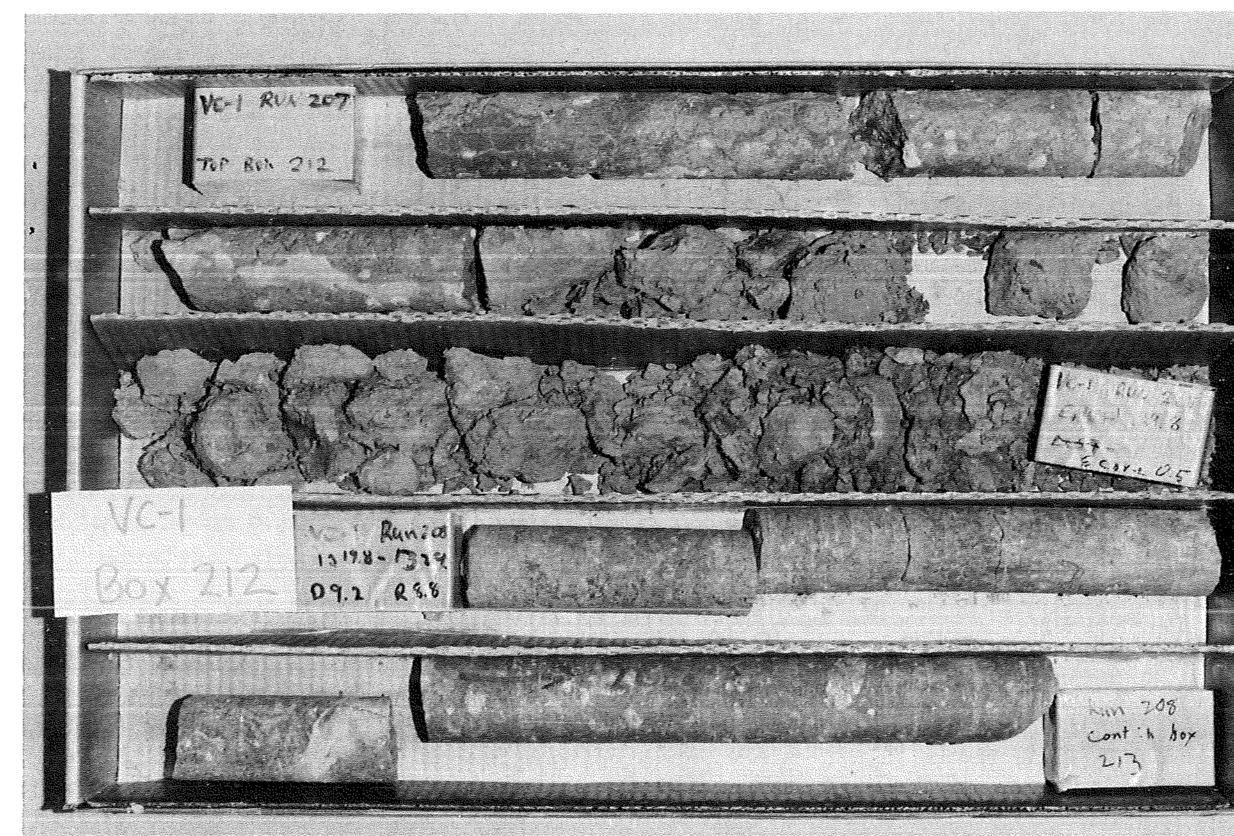

VC-1 Run 204
1279.8
TOP OF Box 207
VC-1
Box 207
204-4
204-5
204-6

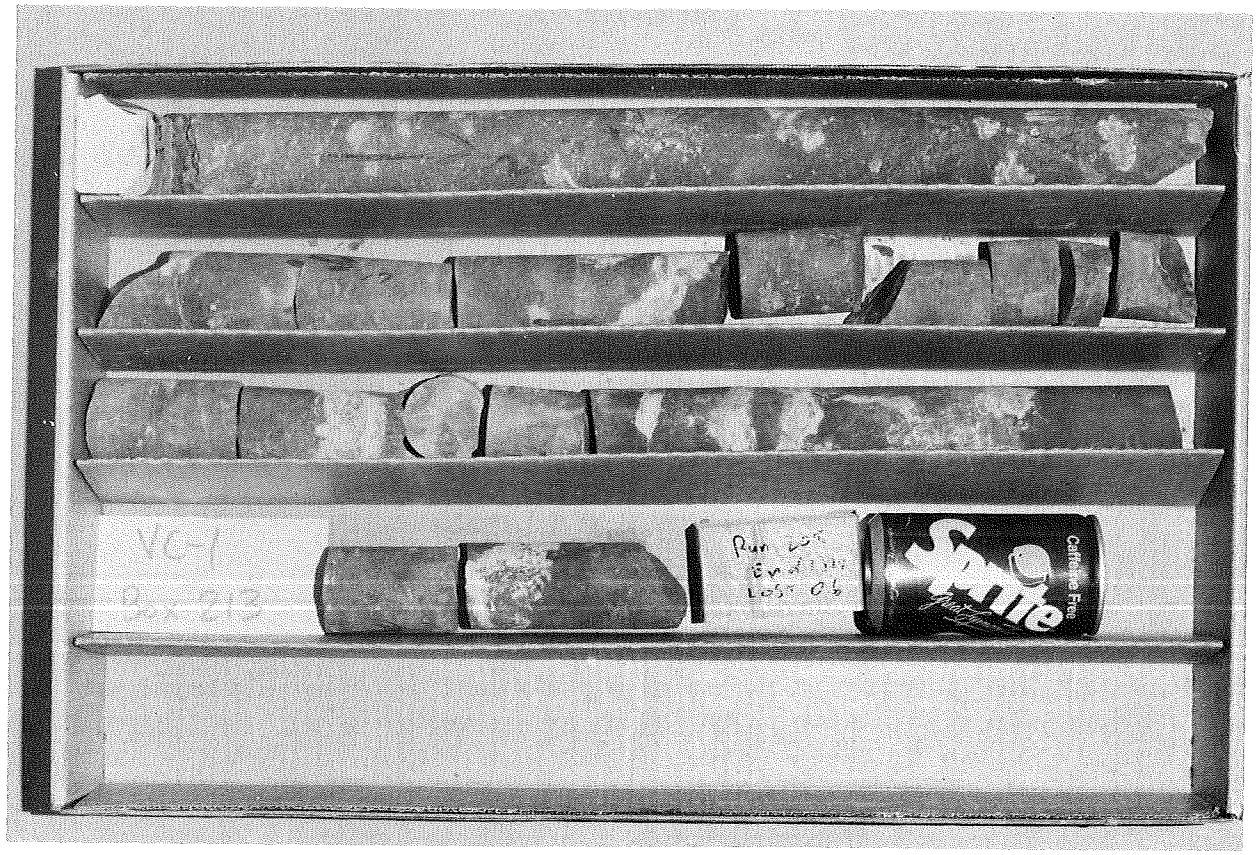

VC-1 RUN 204
1286.5
TOP Box 208
204-8
204-9
204-10
204-11
VC-1 RUN 204
Sunkist
205-1
VC-1
Box 208
205-2
VC-1 RUN 205
1294.1
(BOT. Box 208)


VC-1 RUN 205
1294.1
TOP BOX 209
205-8A
VC-1
Box 209
205-10

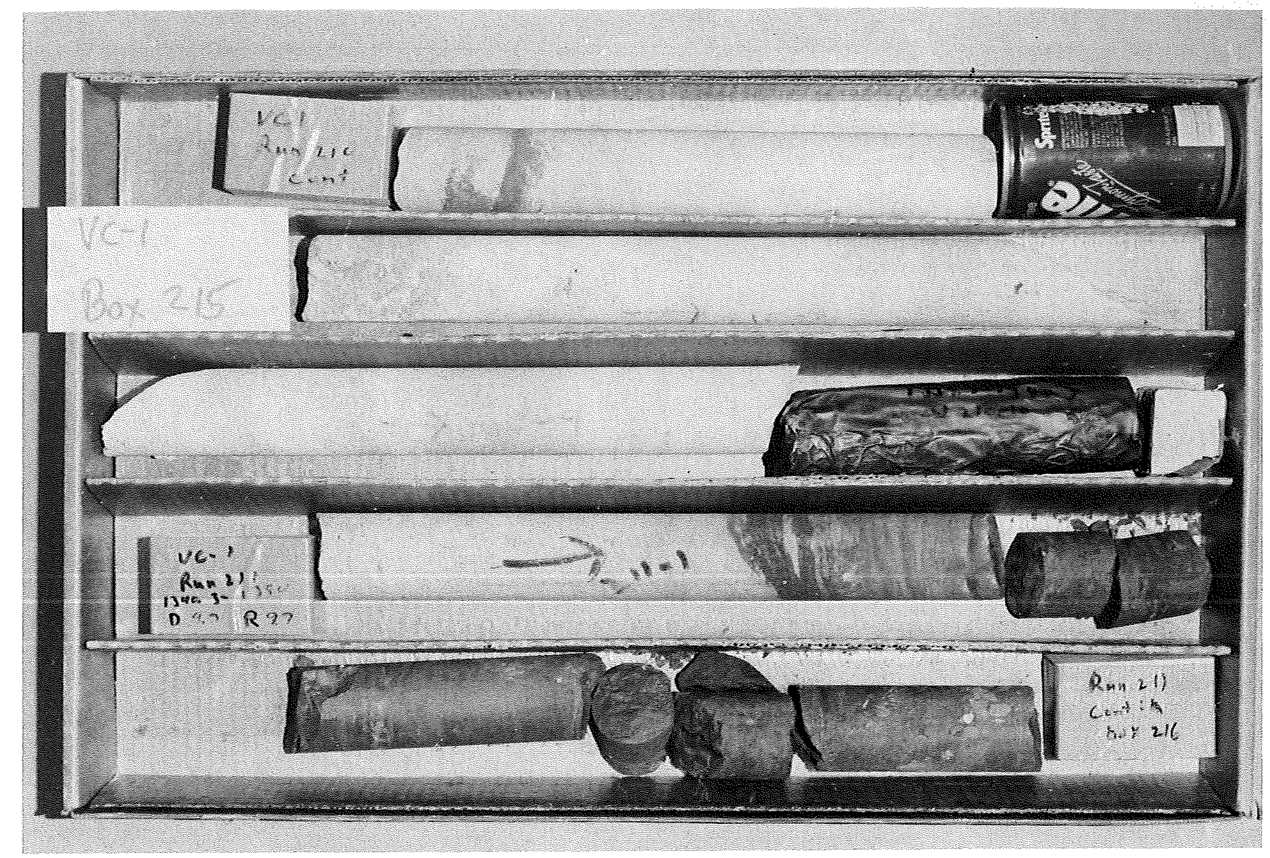

VC-1
Box 210


VC-1 RUN 206
1307.9
Top Box 211
VC-1
Box 211


VC-1 RUN 207
TOP BOX 212
VC-1
Box 212
Run 208
Cont in box
213

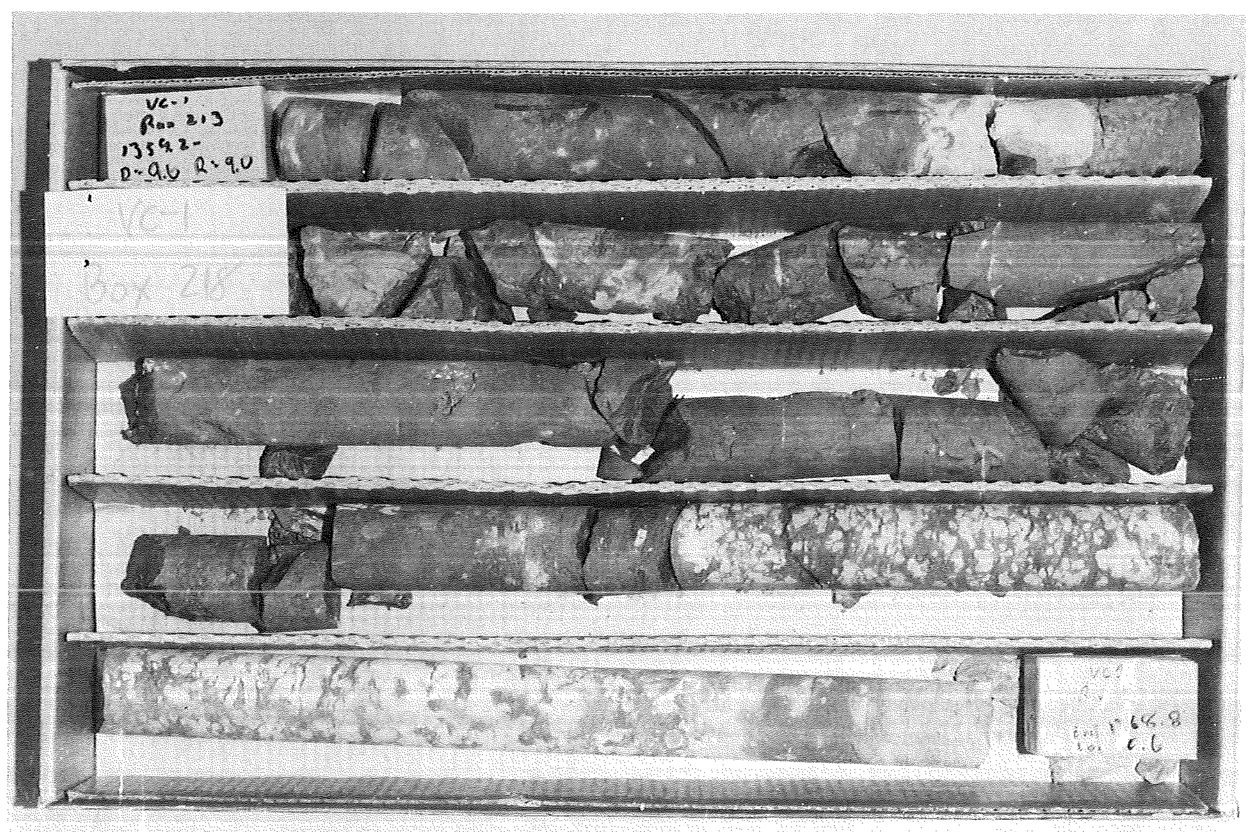

VC-1
Box 213
Sprite
Caffeine Free

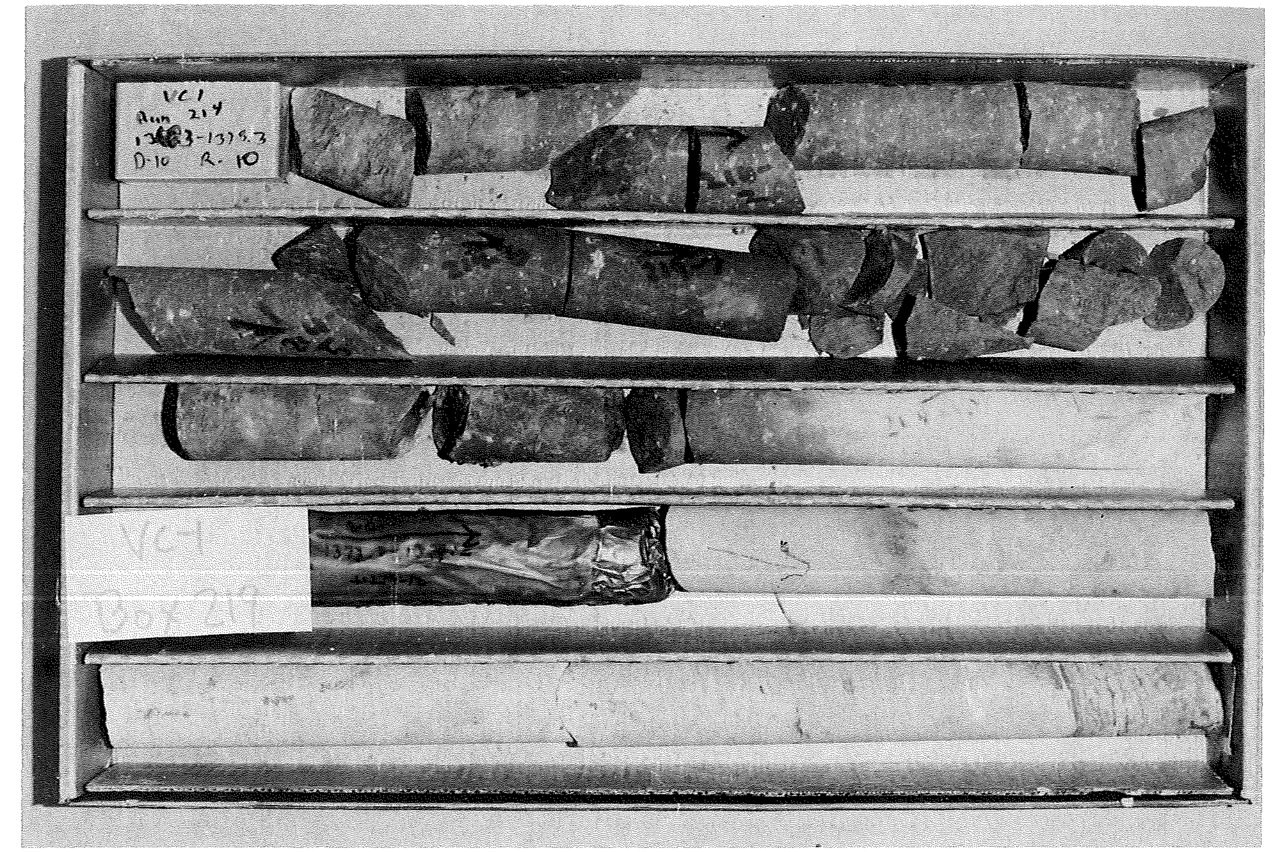

VC-1
Run 209
Run 209
End
VC-1
Box 214

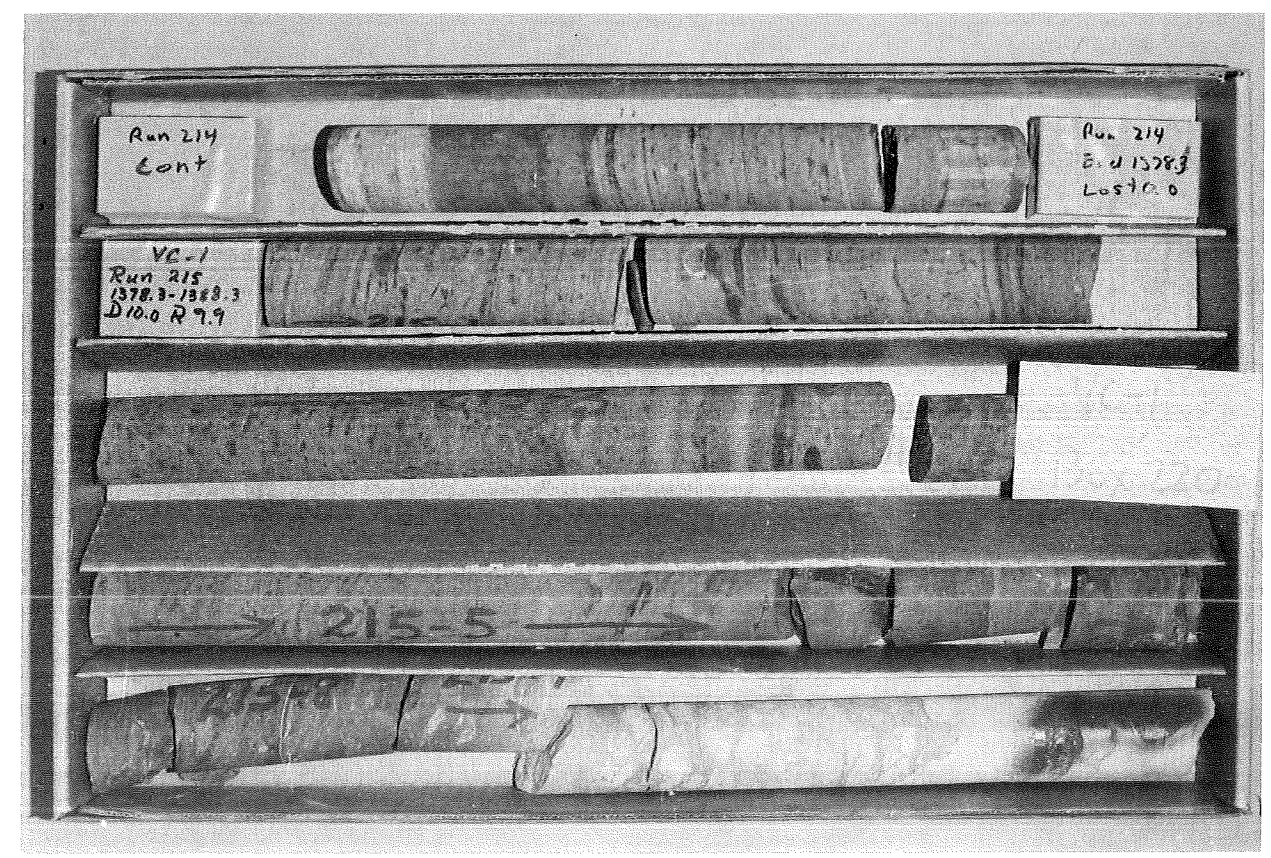

VC-1
Run 210
Cont
VC-1
Box 215
Run 211
Cont in
Box 216

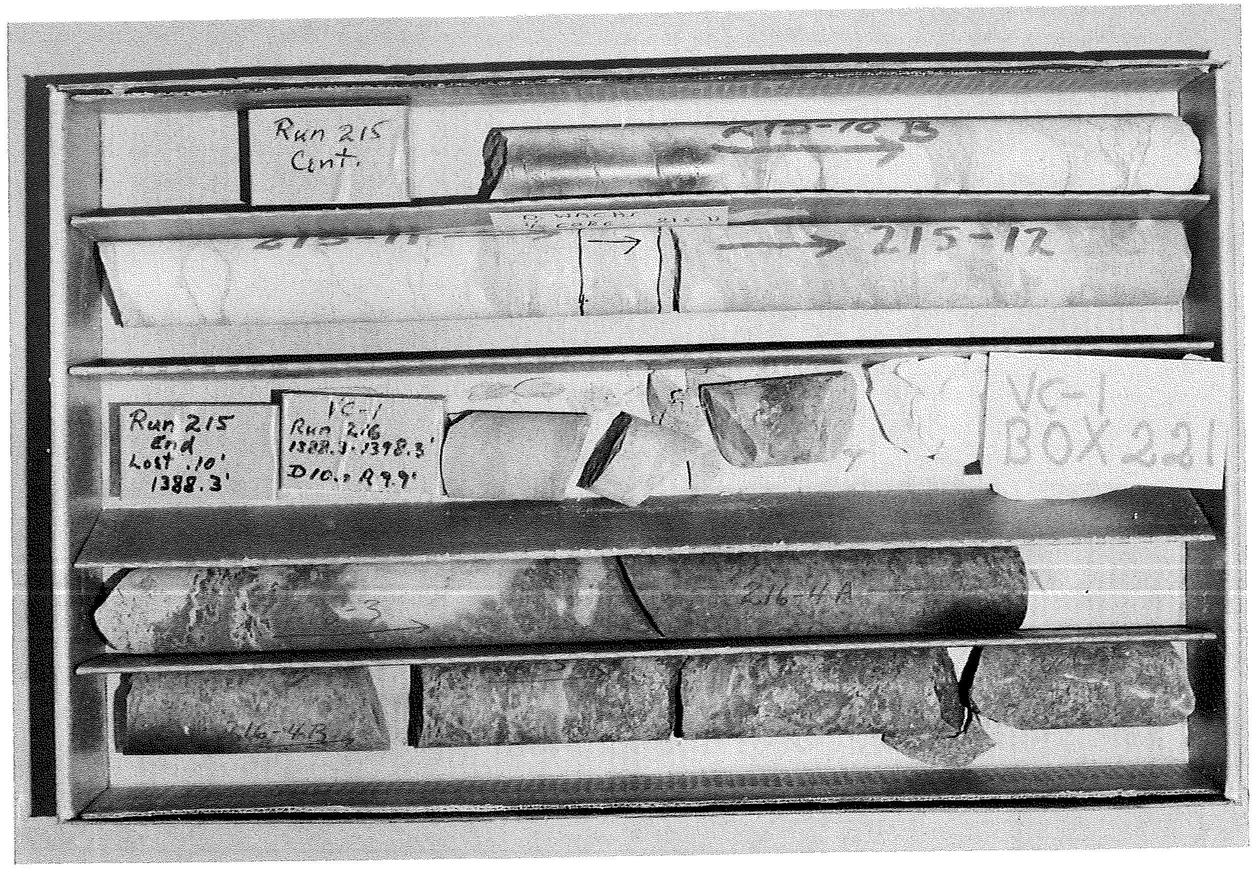

Run 211
Cont
Run 211
End 1350
Lost 0.0
VC-1
Box 216

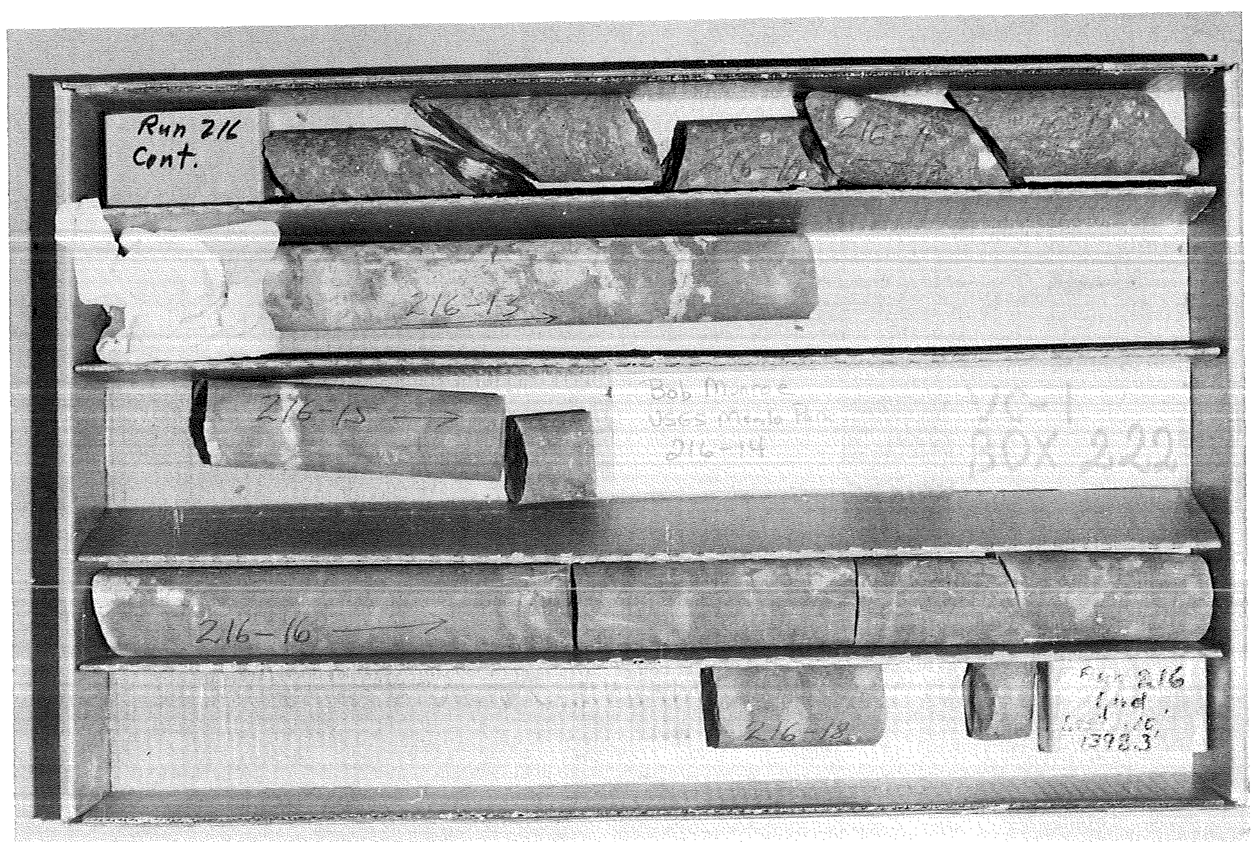

VC-1
Box 217


VC-1
Box 218

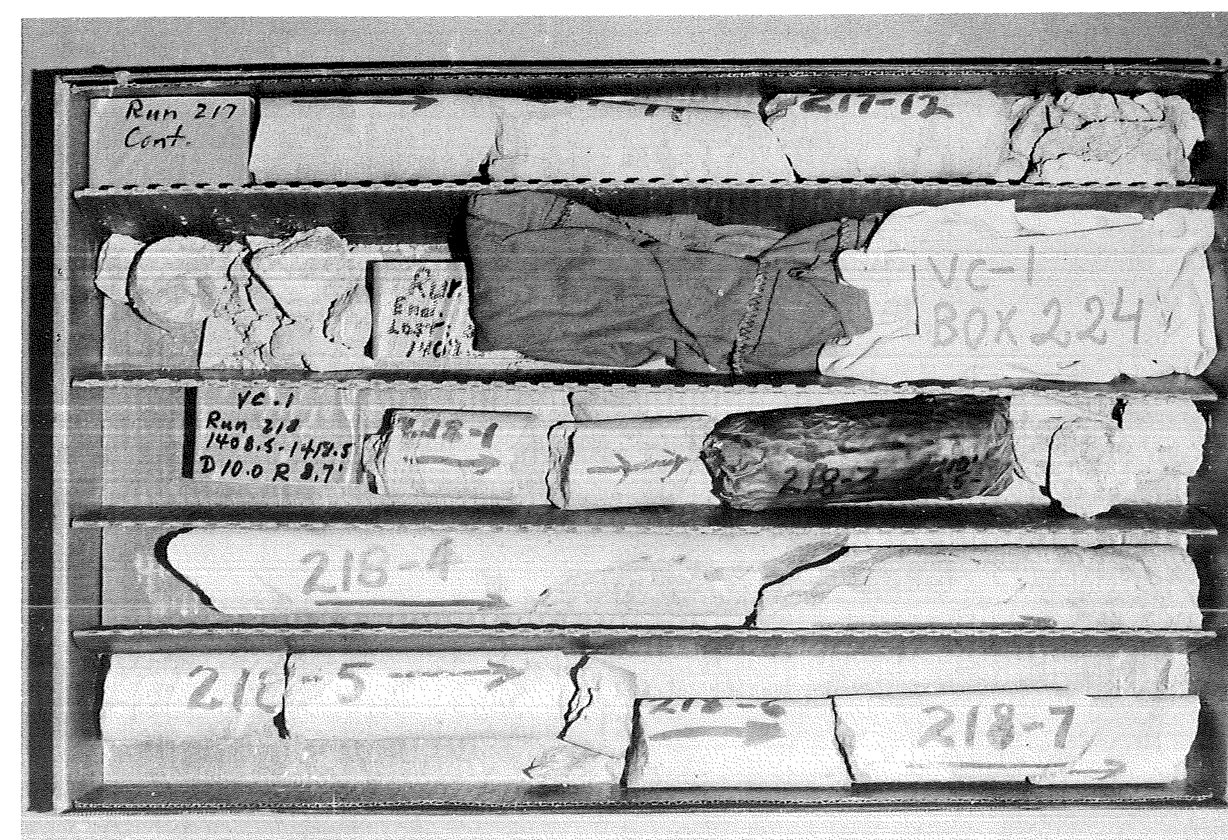

VC-1
Box 219

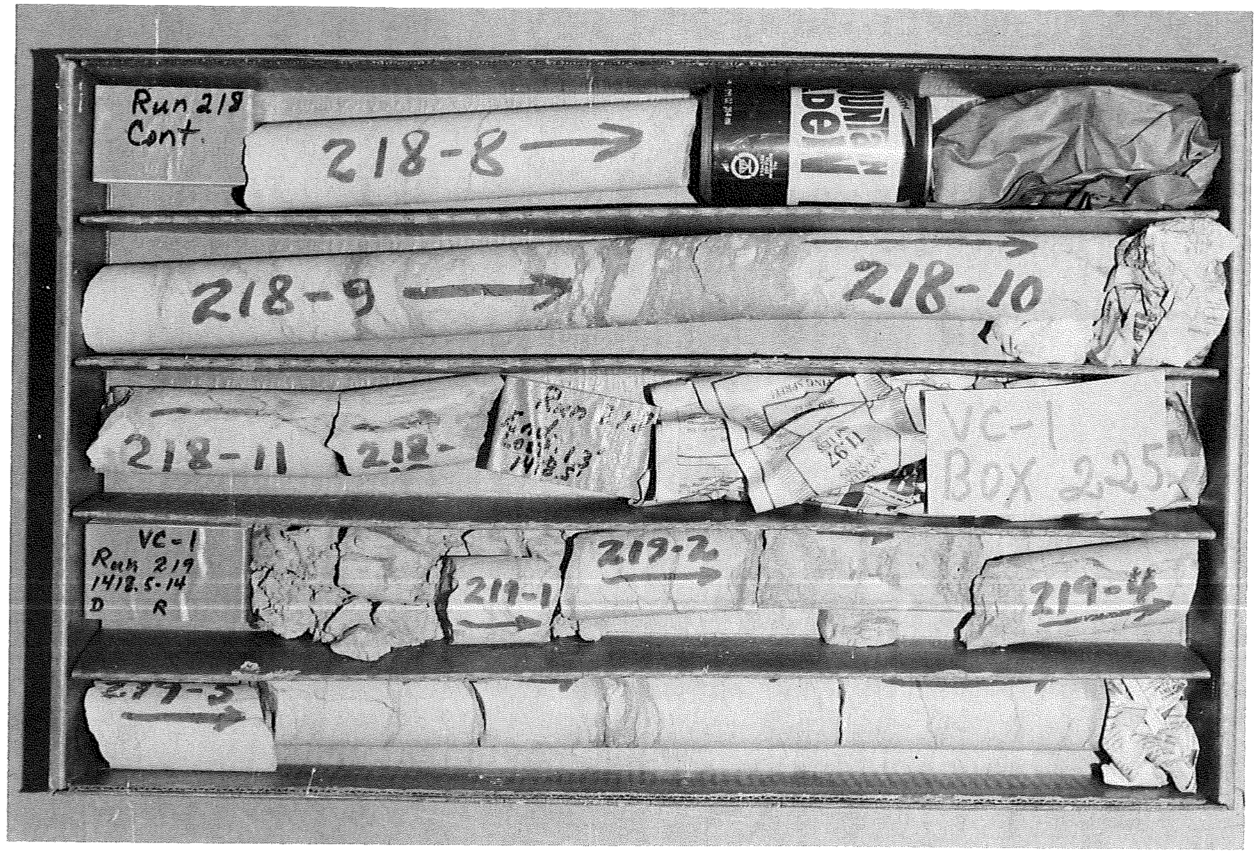

Run 214
Cont
VC-1
Run 215
1378.3-1388.3
D10.0 R9.9
VC-1
Box 220
215-5


Run 215 Cont.
215-12
Run 215 End Lost .10' 1388.3'
VC-1 Run 216 1388.3-1398.3' D10.0 R9.9'
VC-1 BOX 221

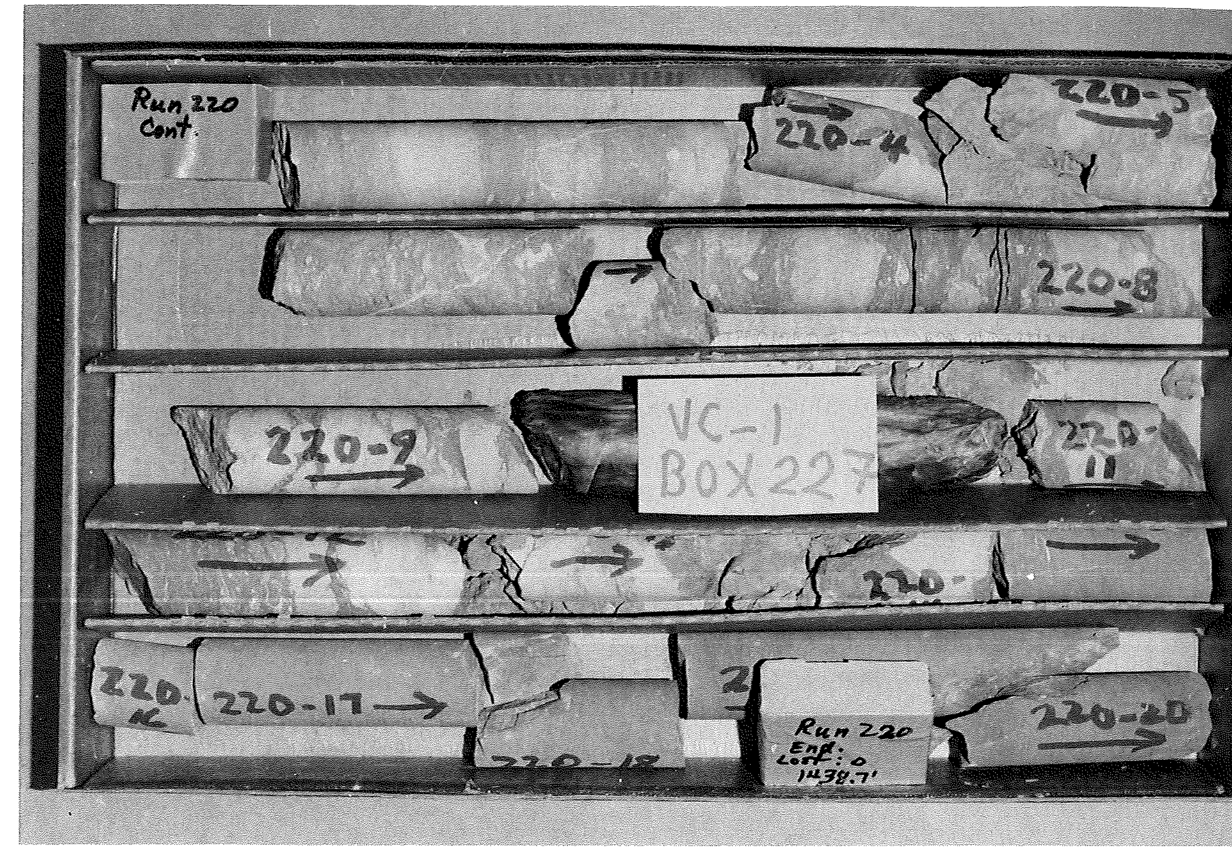

Run 216 Cont.
216-13
216-15
VC-1 BOX 222
216-16
216-18

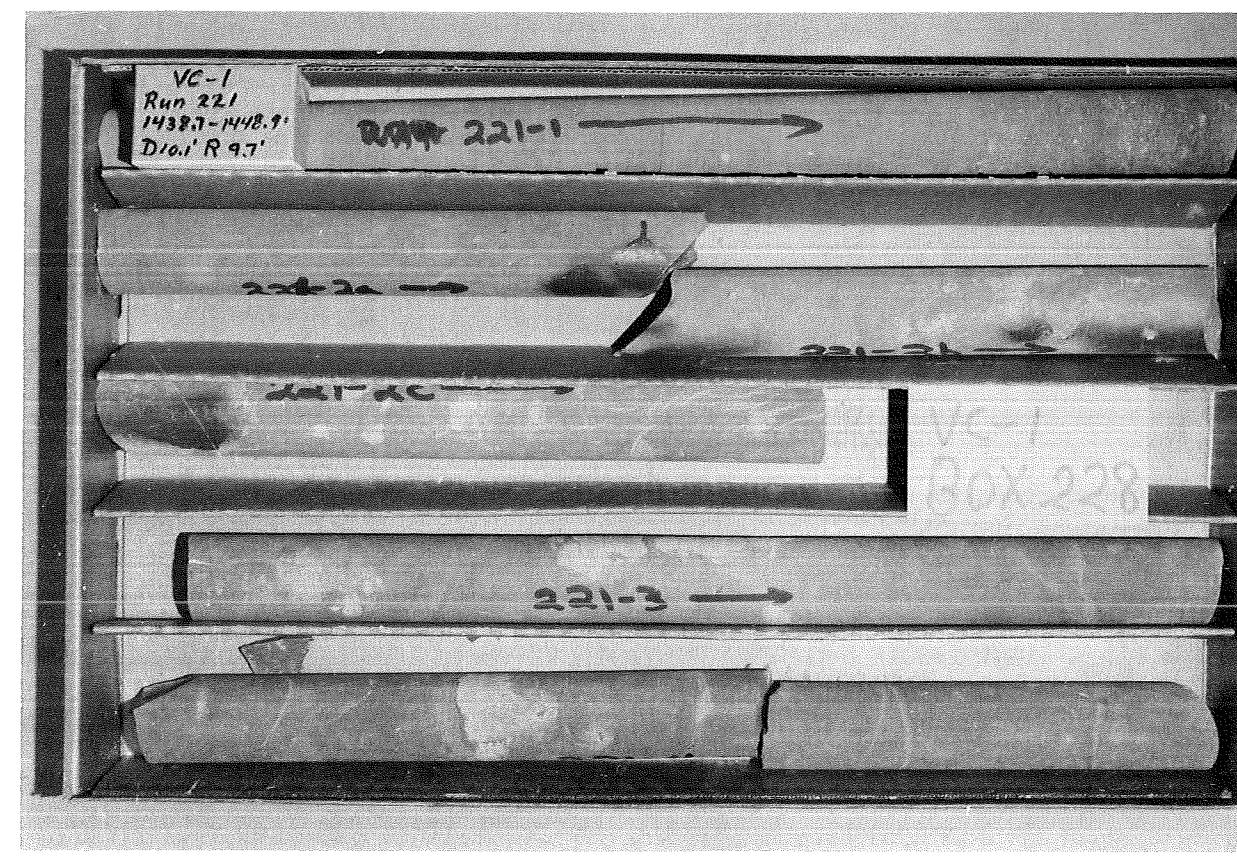

VC-1 Run 217 1398.3-1408.5 D10.2 R10.2
217-3
VC-1 BOX 223
217-5
217-6

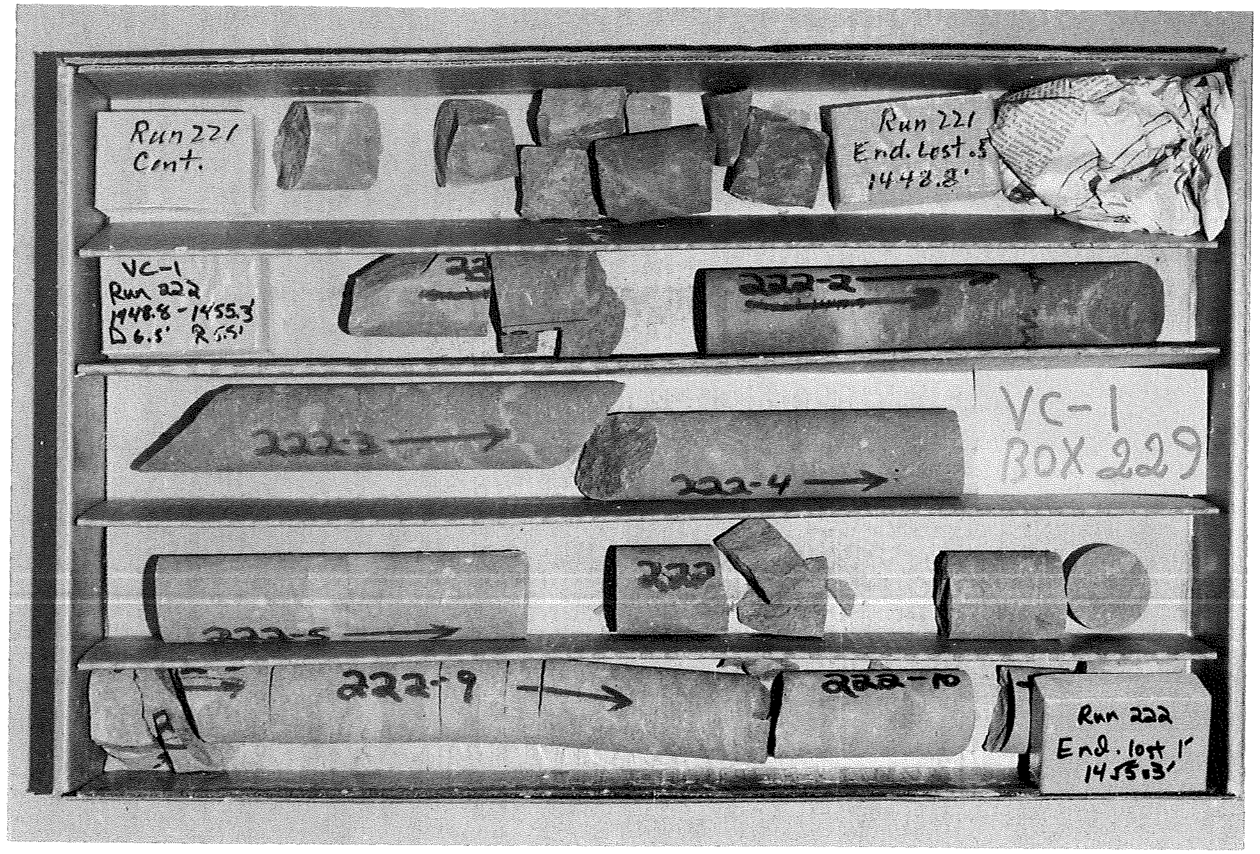

Run 217 Cont.
217-12
VC-1 BOX 224
VC-1 Run 218 1408.5-1418.5 D10.0 R8.7'
218-4
218-5
218-7

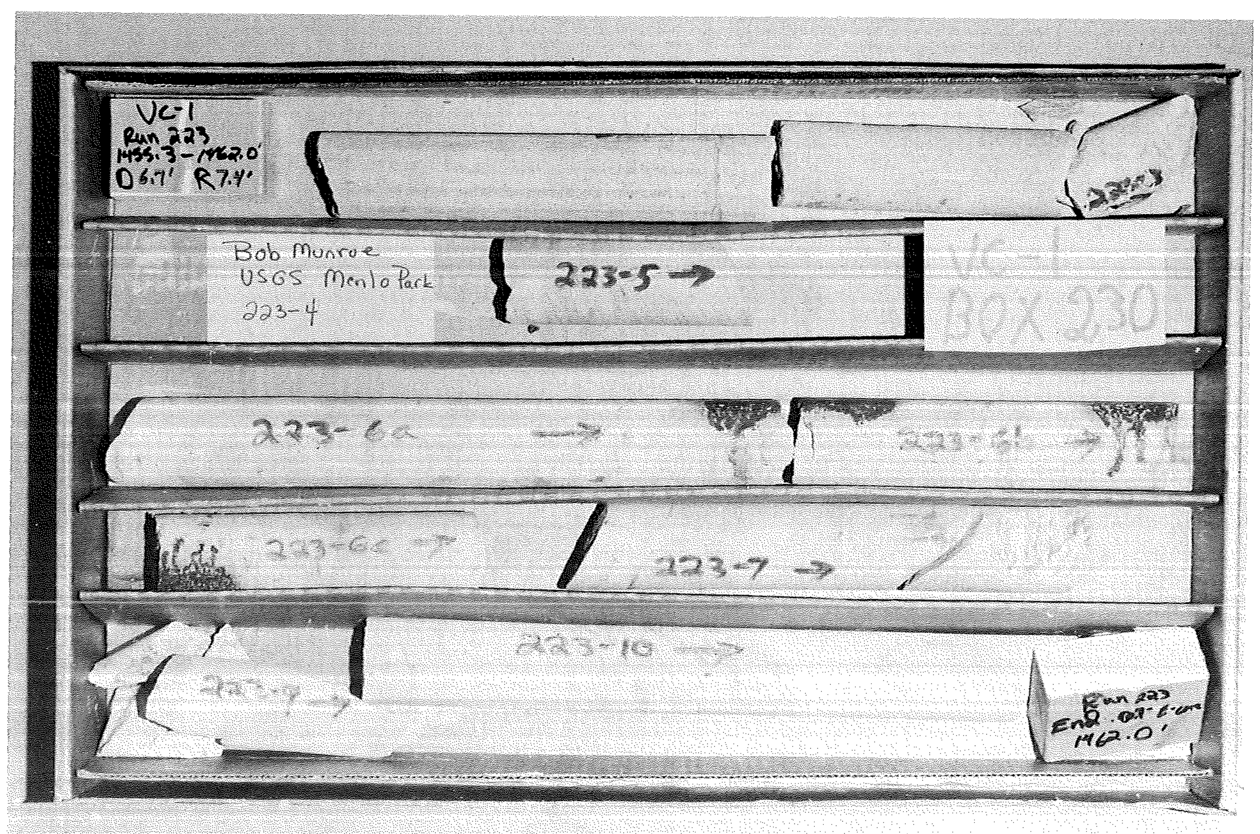

Run 218 Cont.
218-8
218-9
218-10
218-11
VC-1 BOX 225
219-1
219-2
219-4

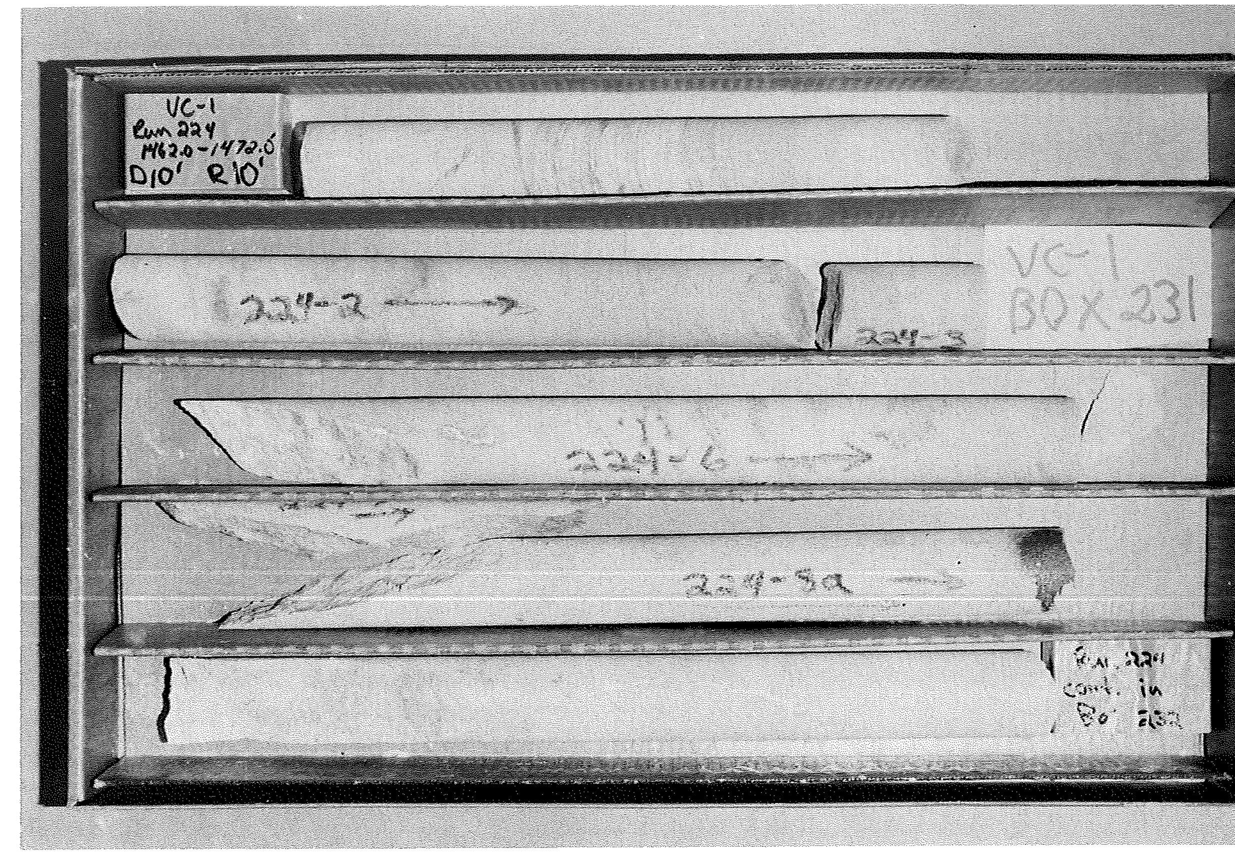

Run 219 Cont.
219-13
219-14
219-15
219-16
219-17
219-18
219-19
219-20
VC-1 BOX 226
220-1
220-2

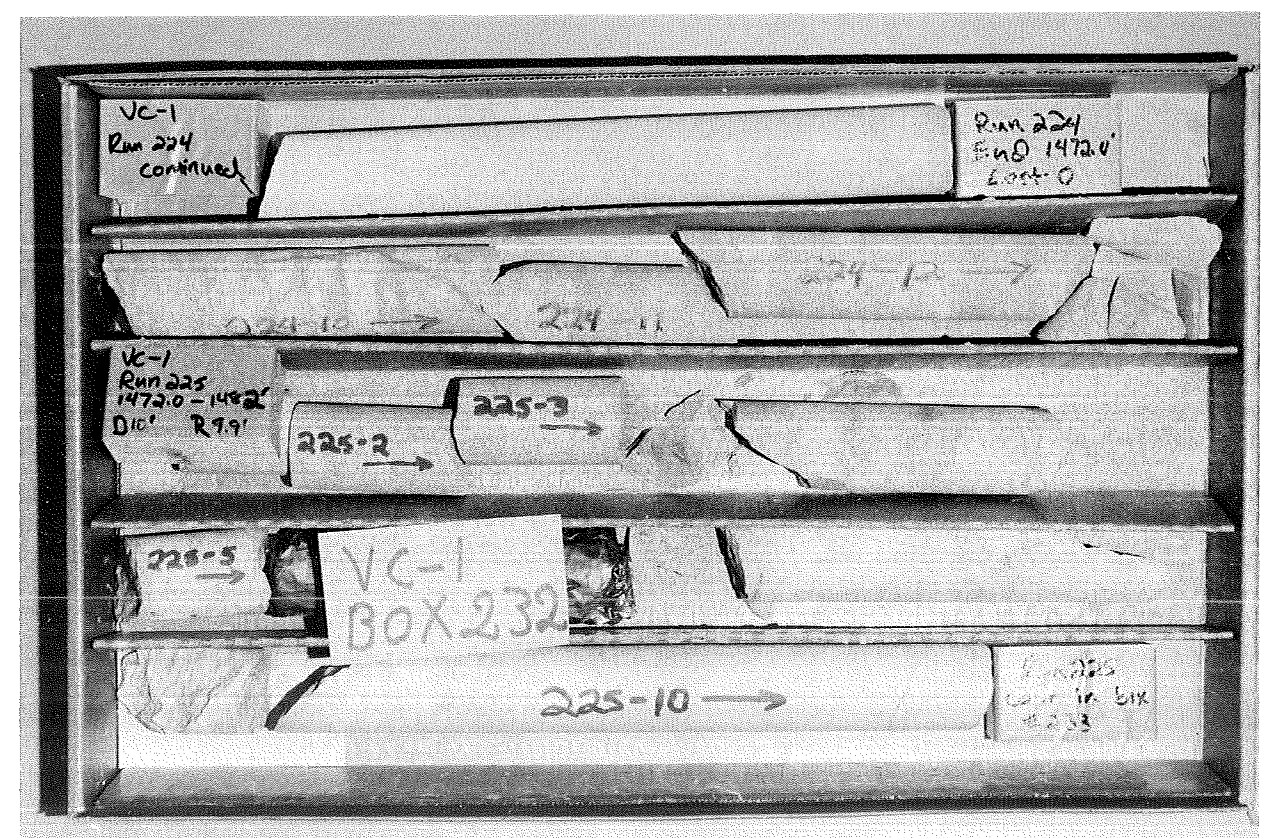

Run 220 Cont.
220-4
220-5
220-8
220-9
VC-1 BOX 227
220-17
220-20

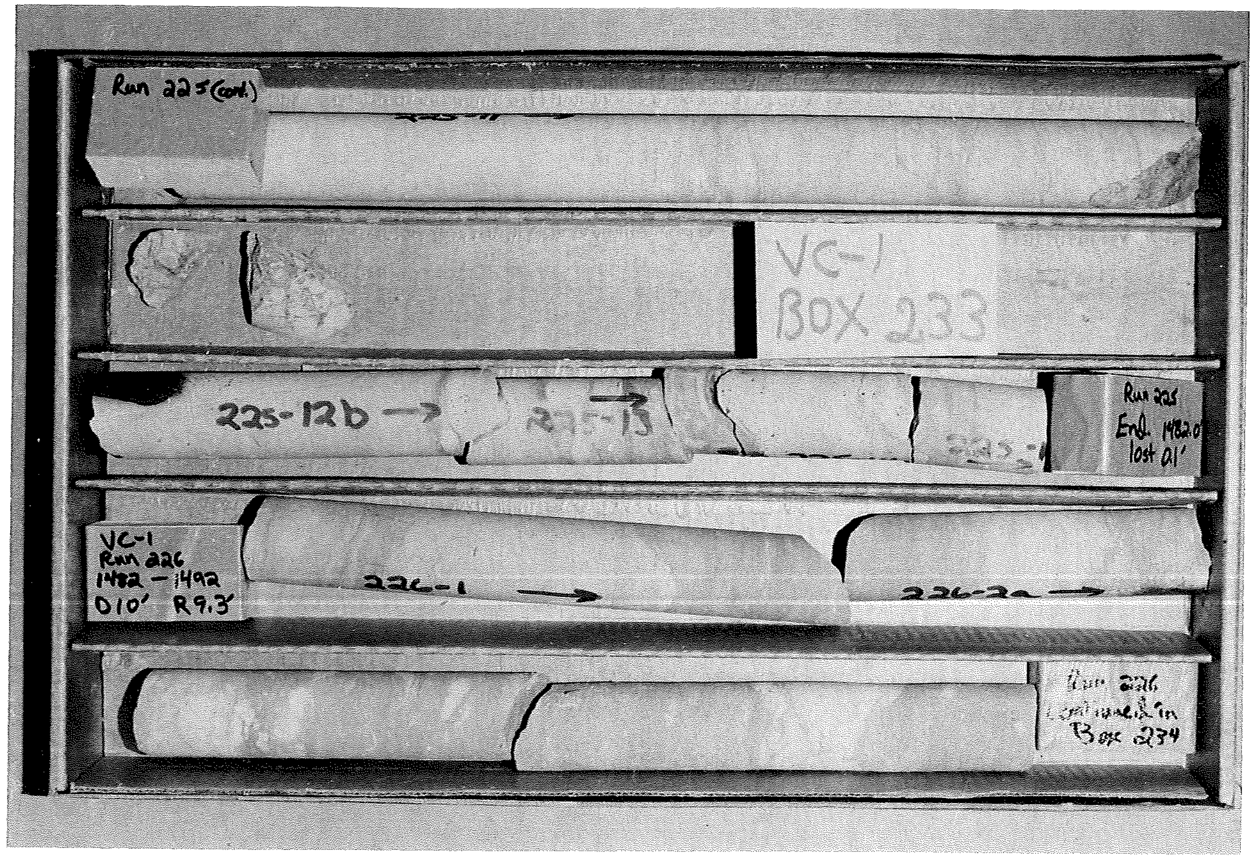

VC-1 Run 221
221-1
VC-1 BOX 228
221-3

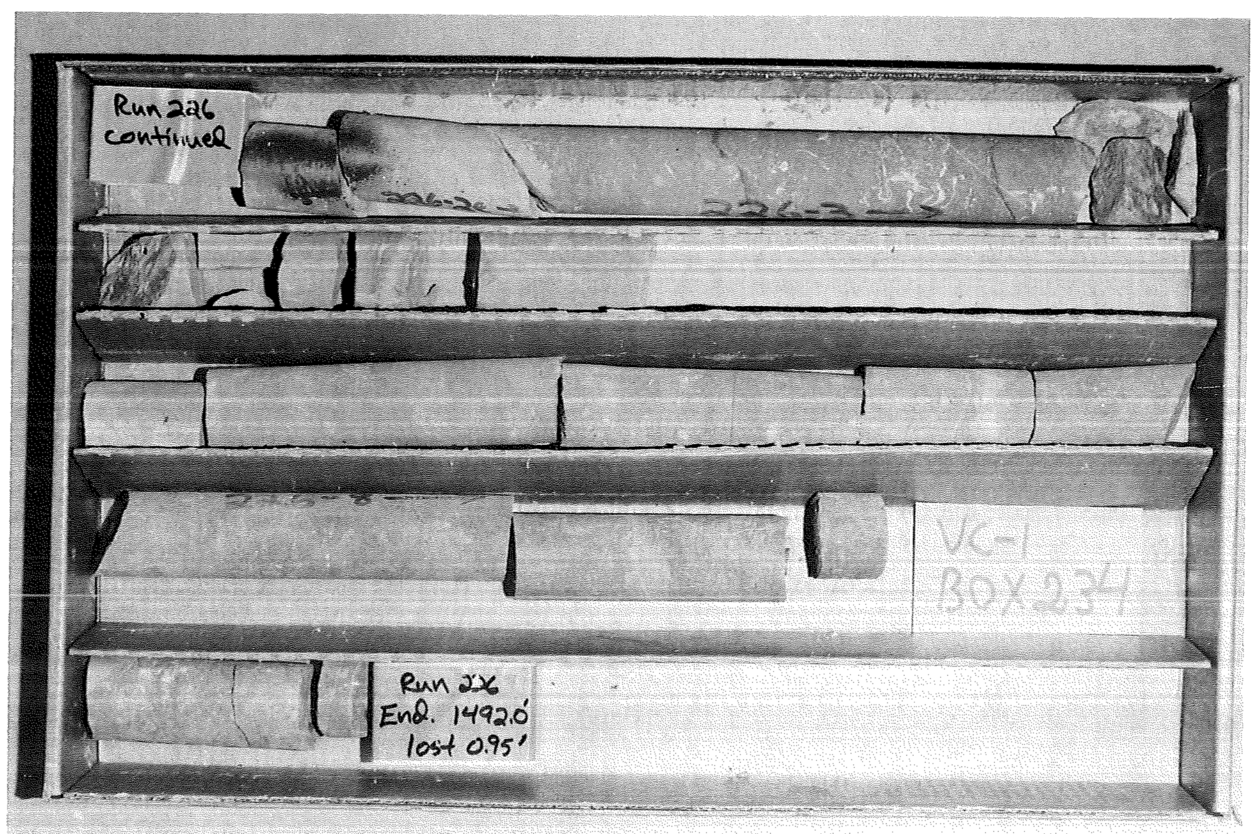

Run 221 Cont.
Run 221 End. Lost .5 1448.8'
VC-1 Run 222 1448.8 - 1455.3' D 6.5' R 5.5'
222-2
222-3
222-4
VC-1 BOX 229
222-5
222-9
222-10
Run 222 End. lost 1' 1455.3'

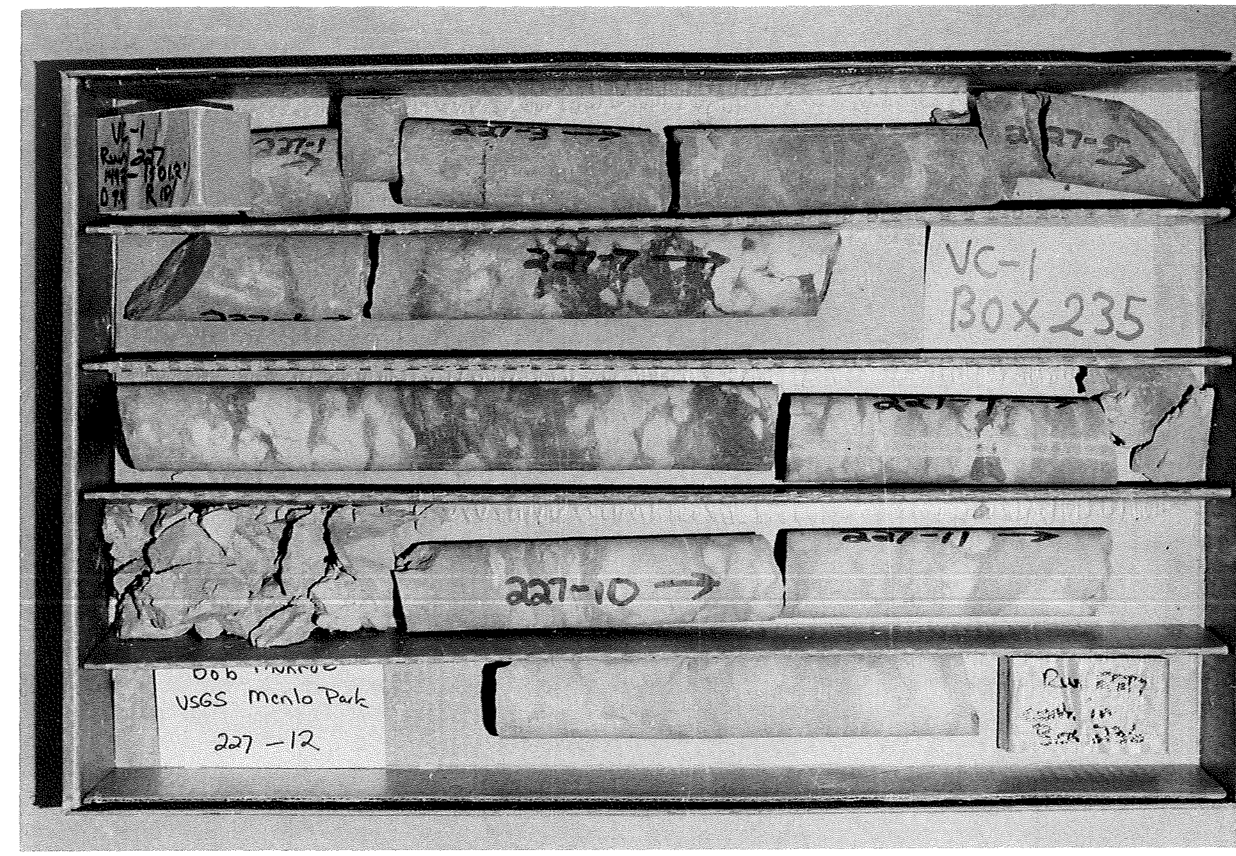

VC-1 Run 223 1455.3 - 1462.0' D 6.7' R 7.4'
Bob Munroe USGS Menlo Park 223-4
223-5
VC-1 BOX 230
223-6a
223-7
223-10

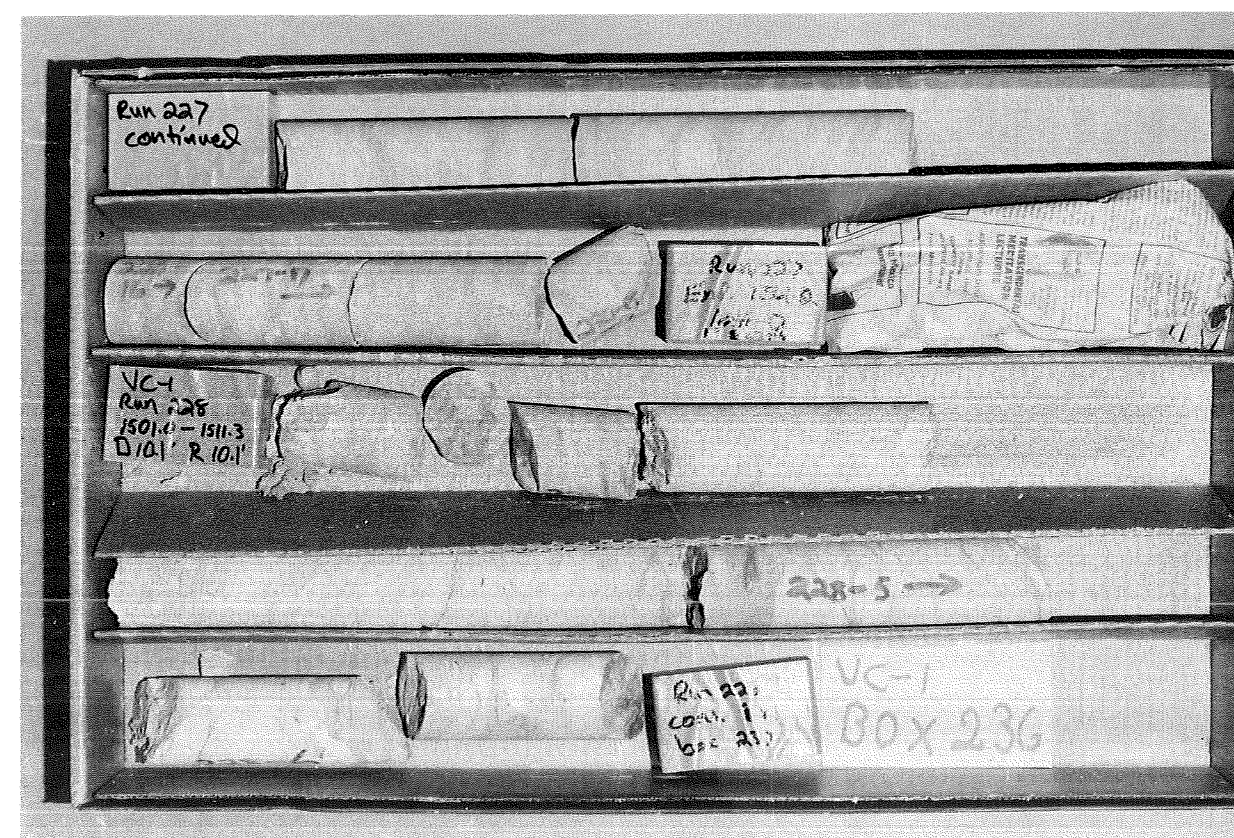

VC-1 Run 224 1462.0 - 1472.0 D 10' R 10'
224-2
VC-1 BOX 231
224-6
224-8a

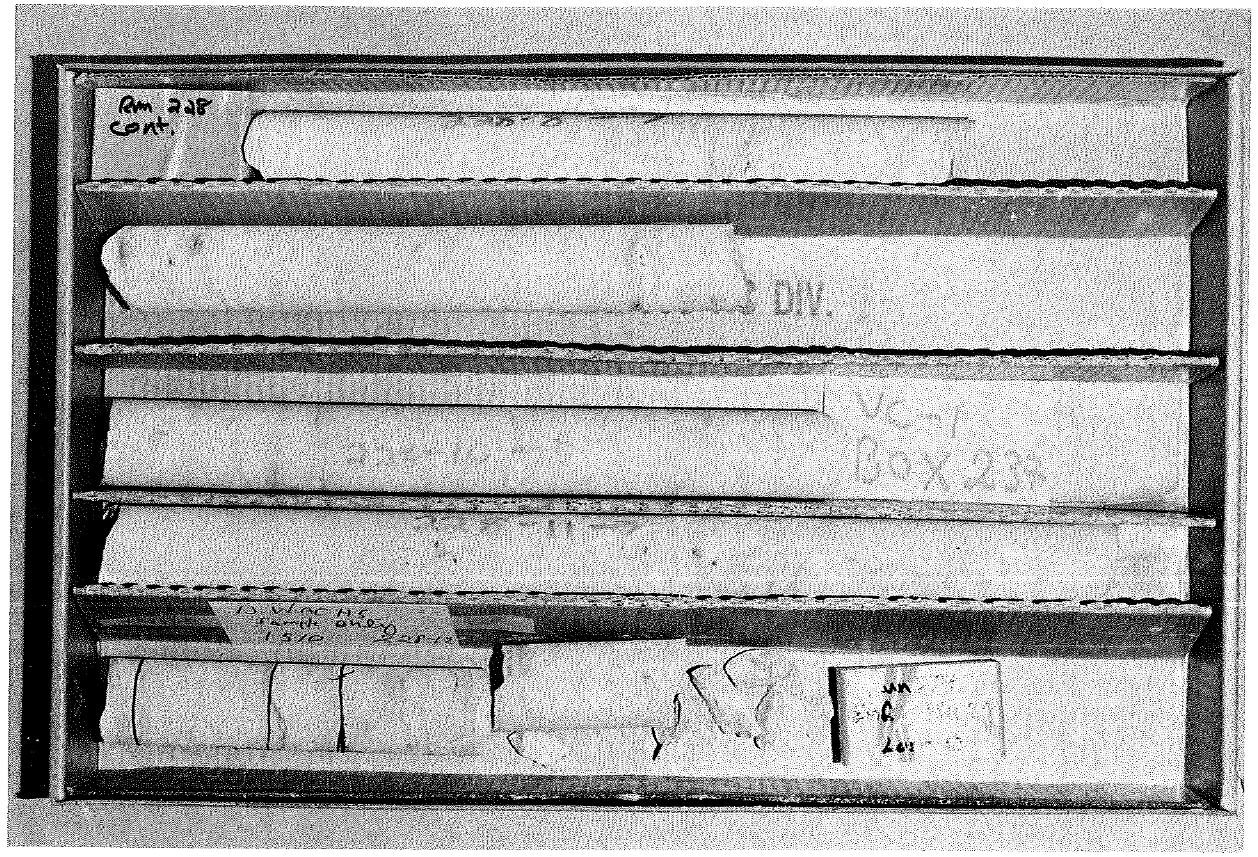

VC-1 Run 224 continued
Run 224 End 1472.0' Lost 0
VC-1 Run 225 1472.0 - 1482' D 10' R 9.9'
225-2
225-3
225-5
VC-1 BOX 232
225-10

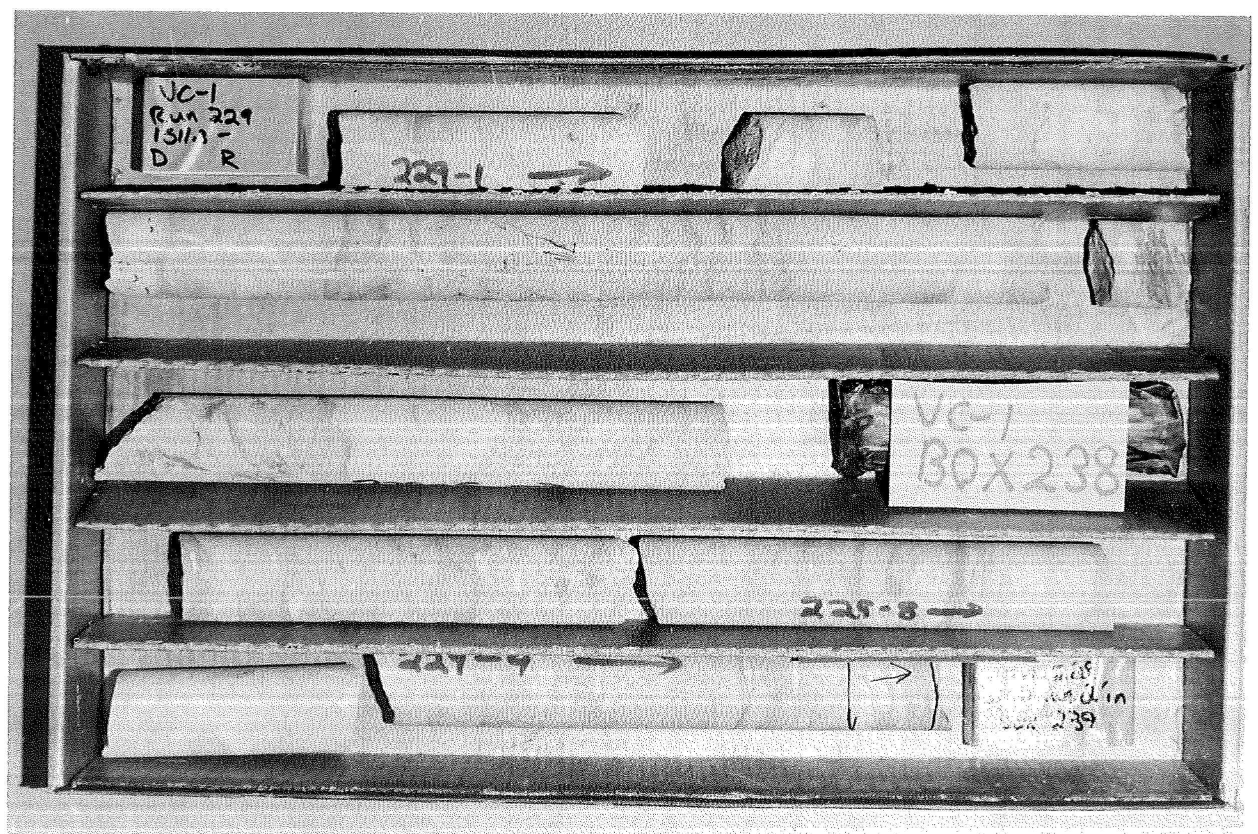

Run 225 (cont.)
VC-1
BOX 233
225-12b →
Run 225
End. 1482.0'
lost 0.1'
VC-1
Run 226
1482 – 1492
D10' R9.3'
226-1 →
Run 226
continued in
Box 234

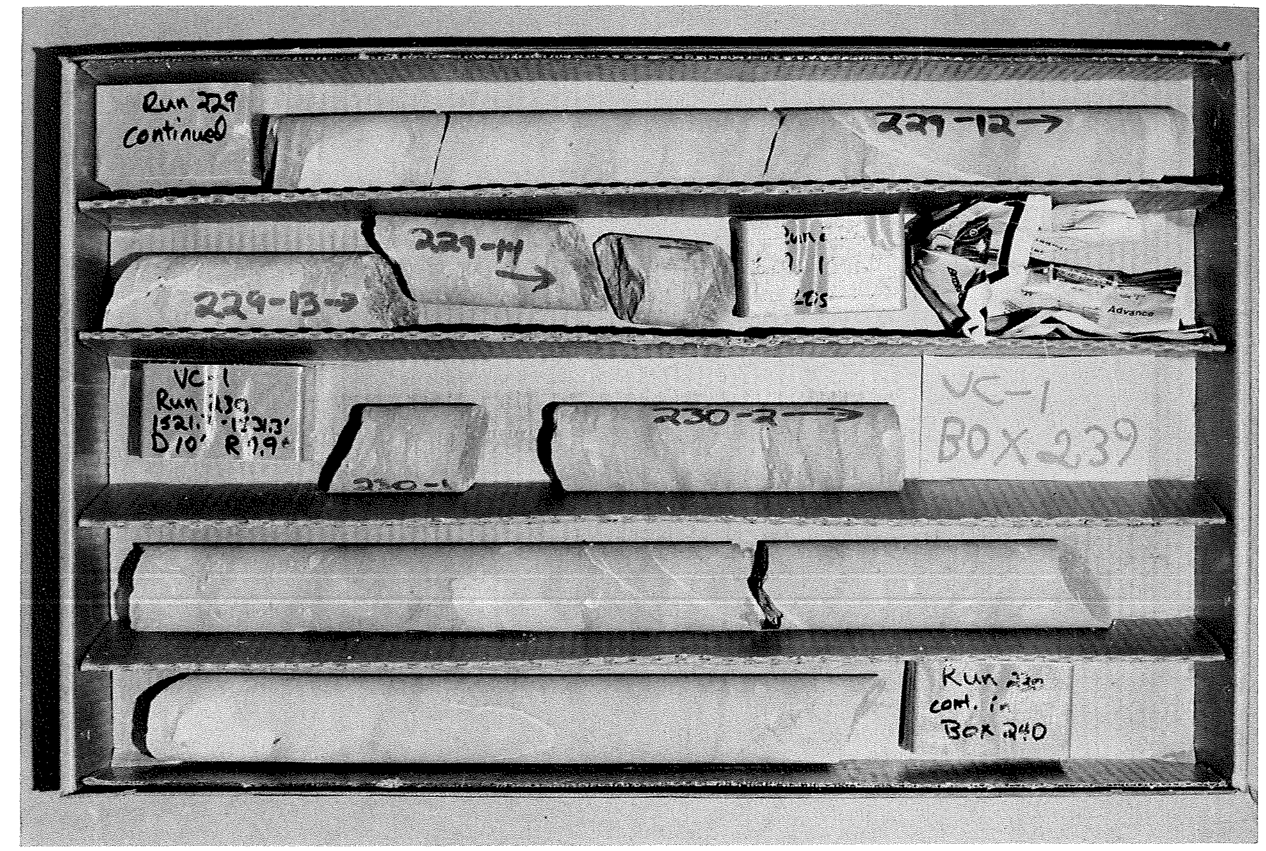

Run 226
continued
VC-1
BOX 234
Run 226
End. 1492.0'
lost 0.95'

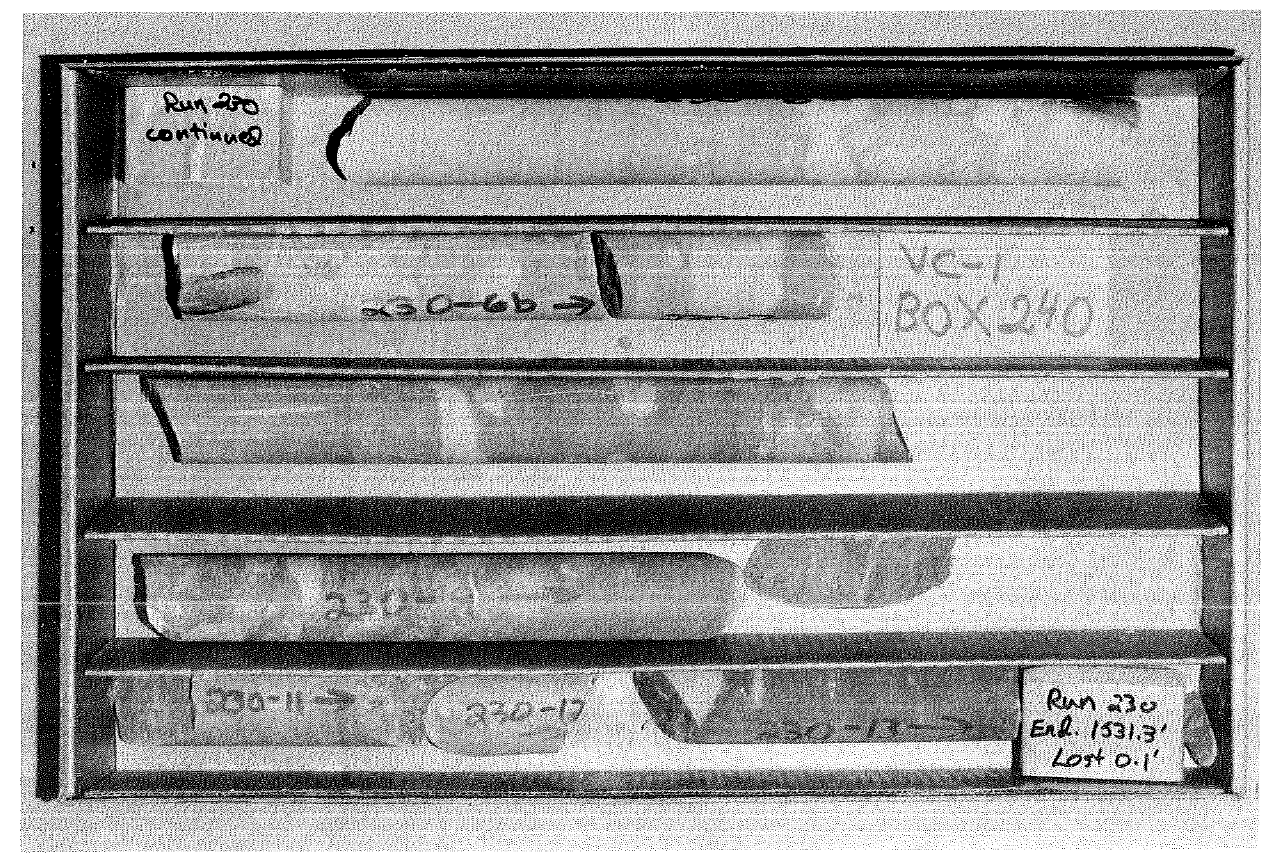

VC-1
BOX 235
227-10 →
227-11 →
USGS Menlo Park
227 – 12

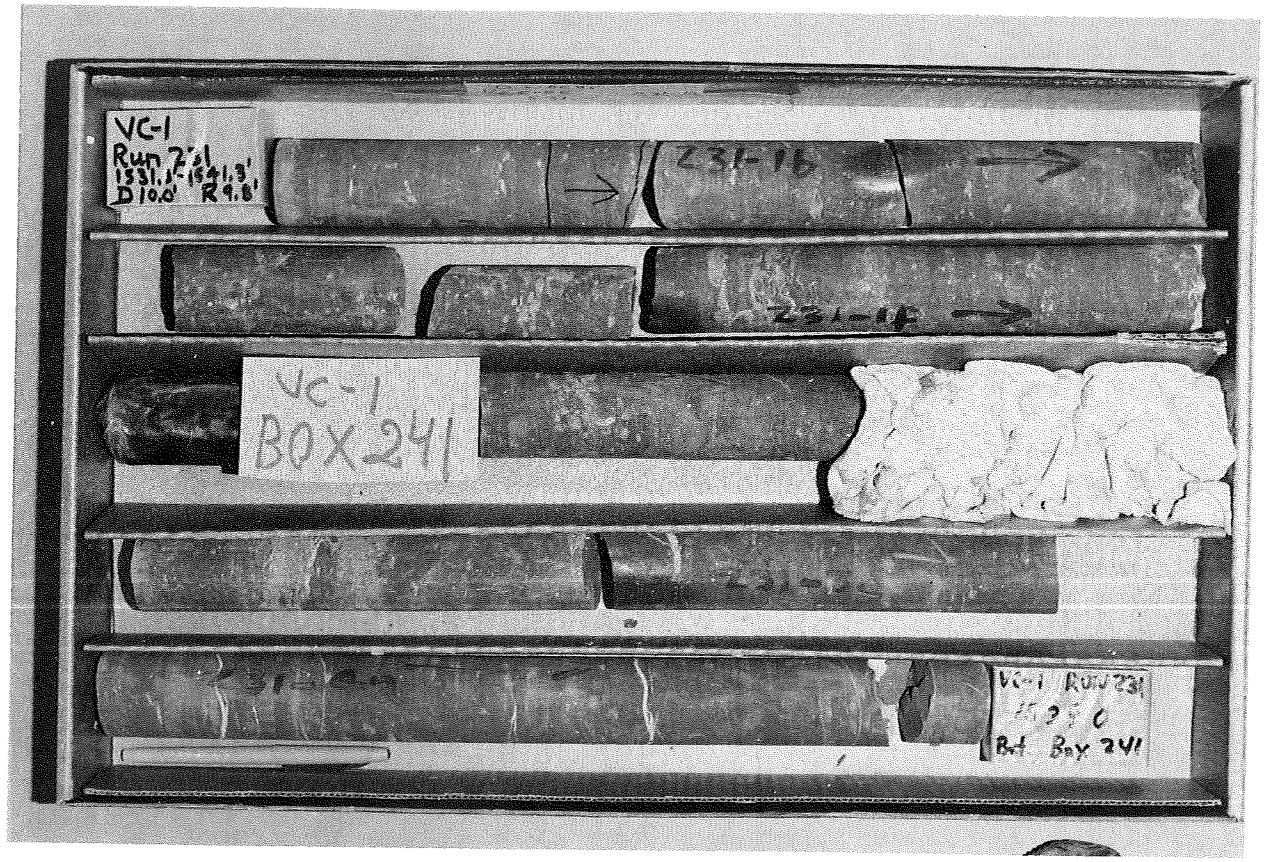

Run 227
continued
VC-1
Run 228
1501.0 – 1511.3
D10.1' R10.1'
228-5 →
VC-1
BOX 236

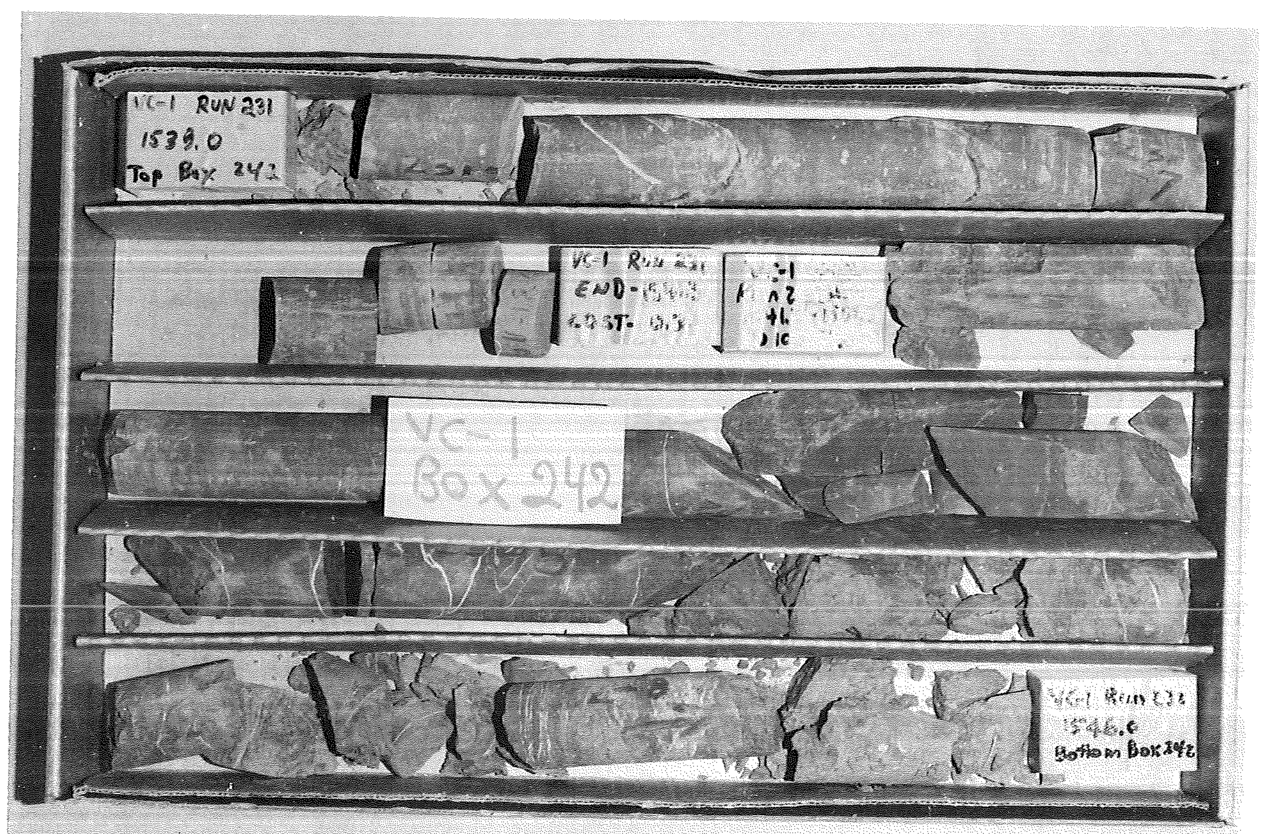

Run 228 cont.
VC-1
BOX 237


VC-1
Run 229
229-1 →
VC-1
BOX 238

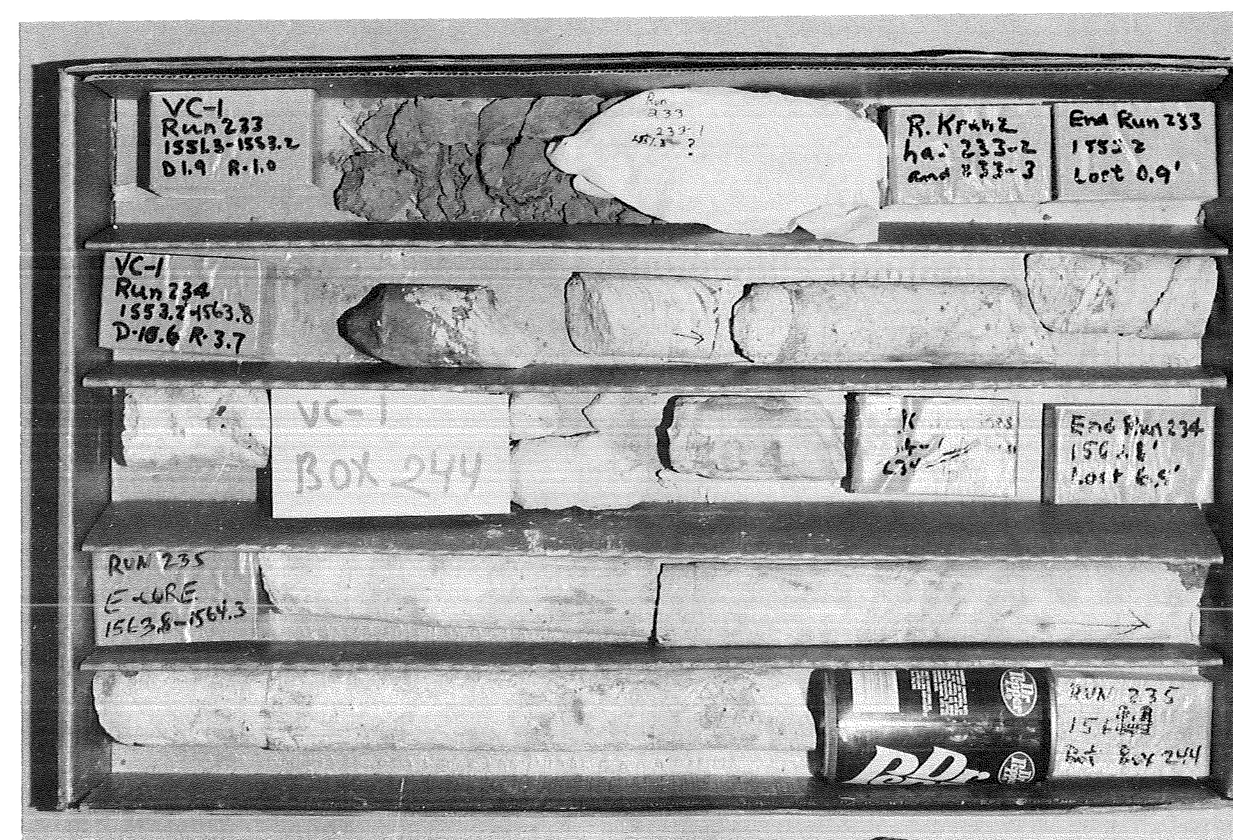

Run 229 continued
229-12 →
229-11 →
229-13 →
VC-1
230-2 →
VC-1
BOX 239
Box 240

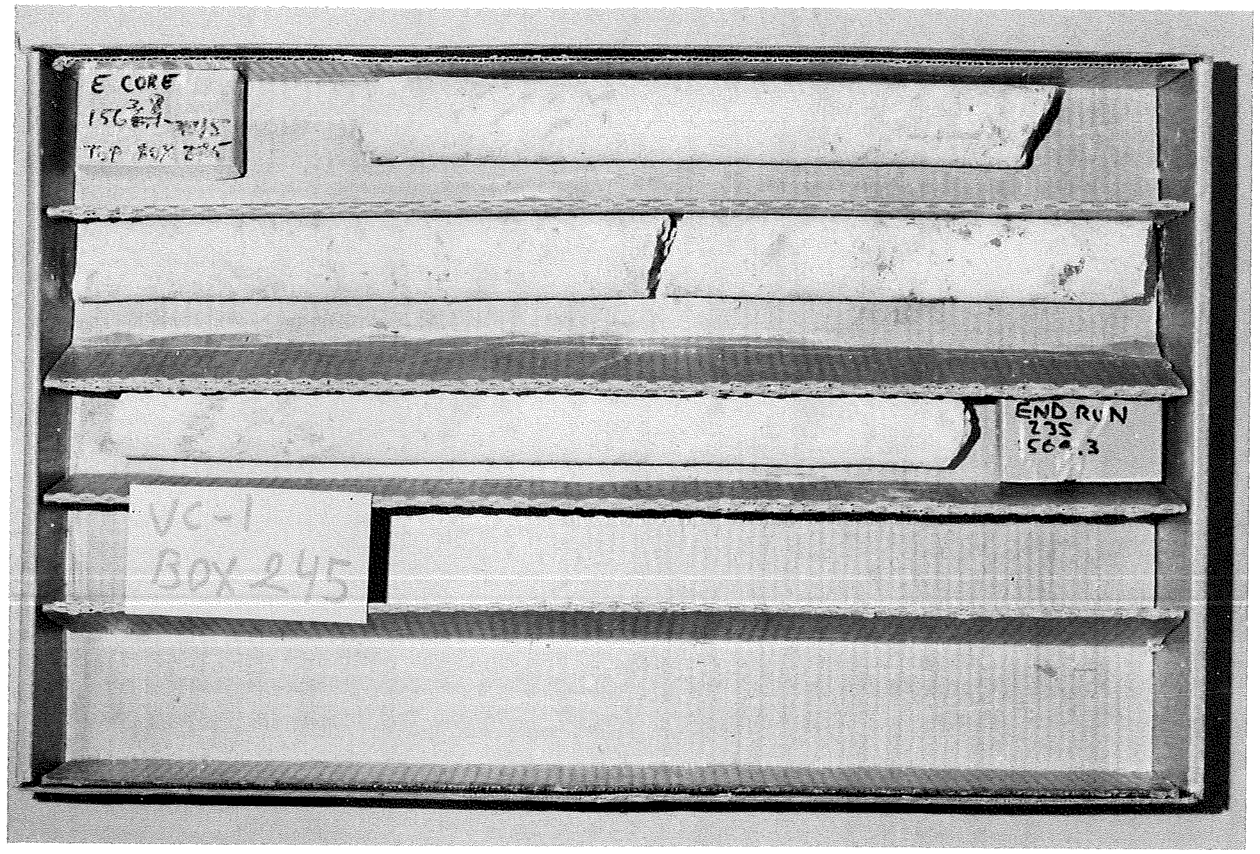

Run 230 continued
230-6b →
VC-1
BOX 240
230-11 →
230-13 →
Run 230
Lost 0.1'

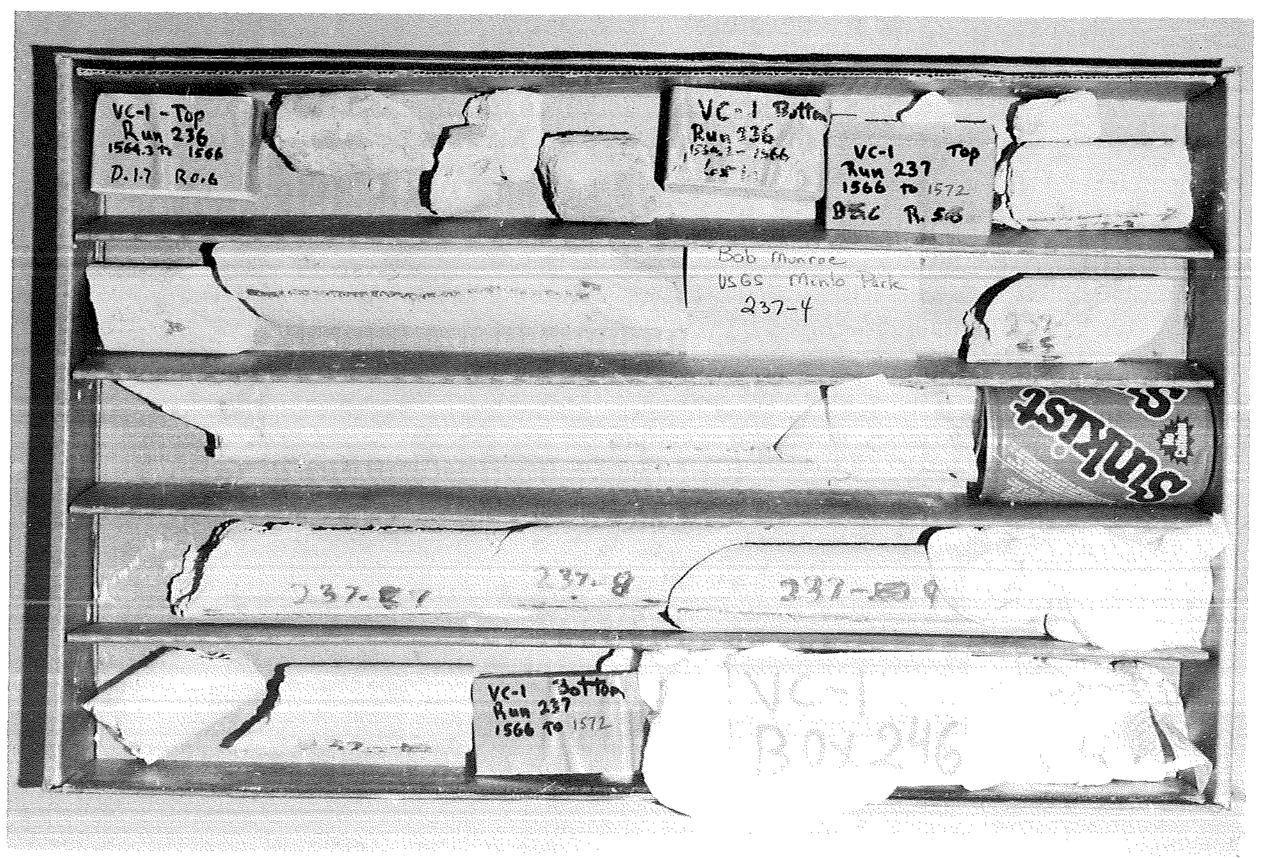

VC-1
BOX 241

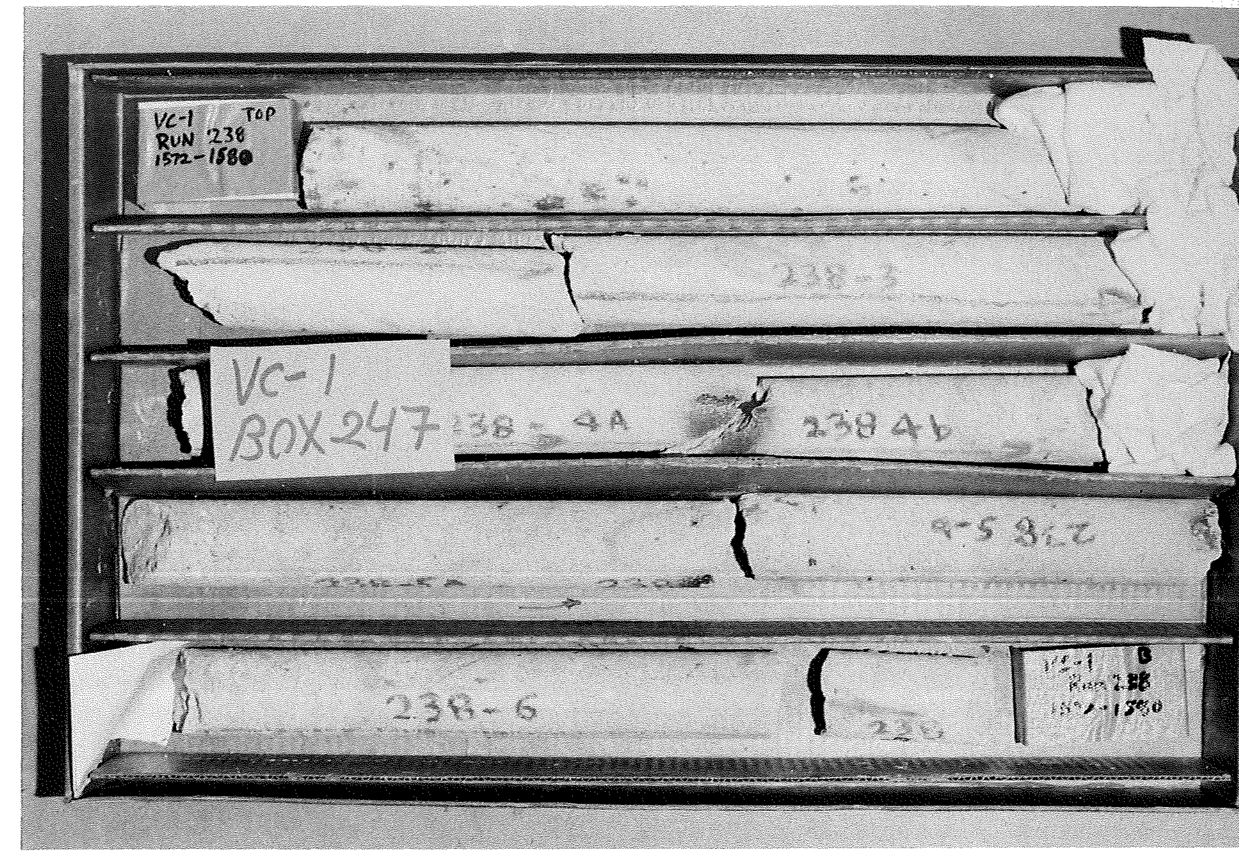

VC-1
Box 242

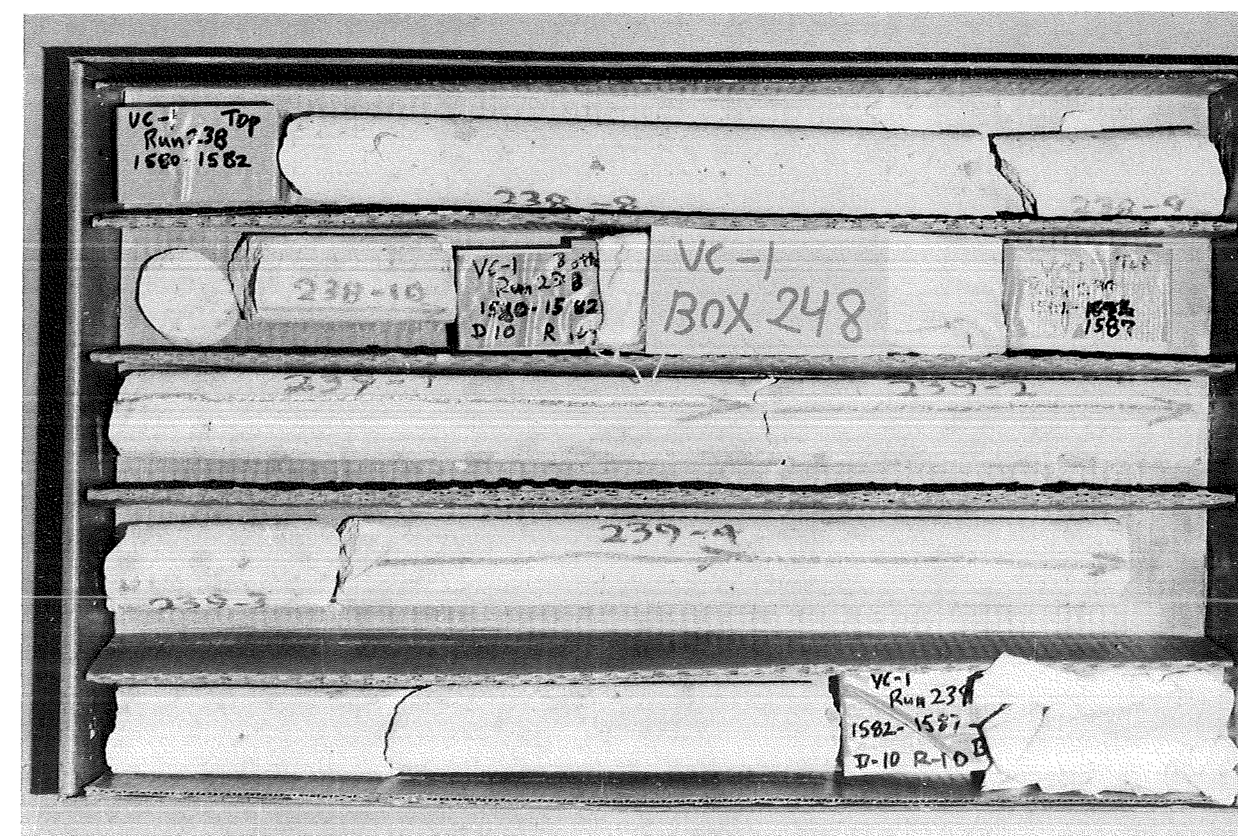

VC-1
BOX 243

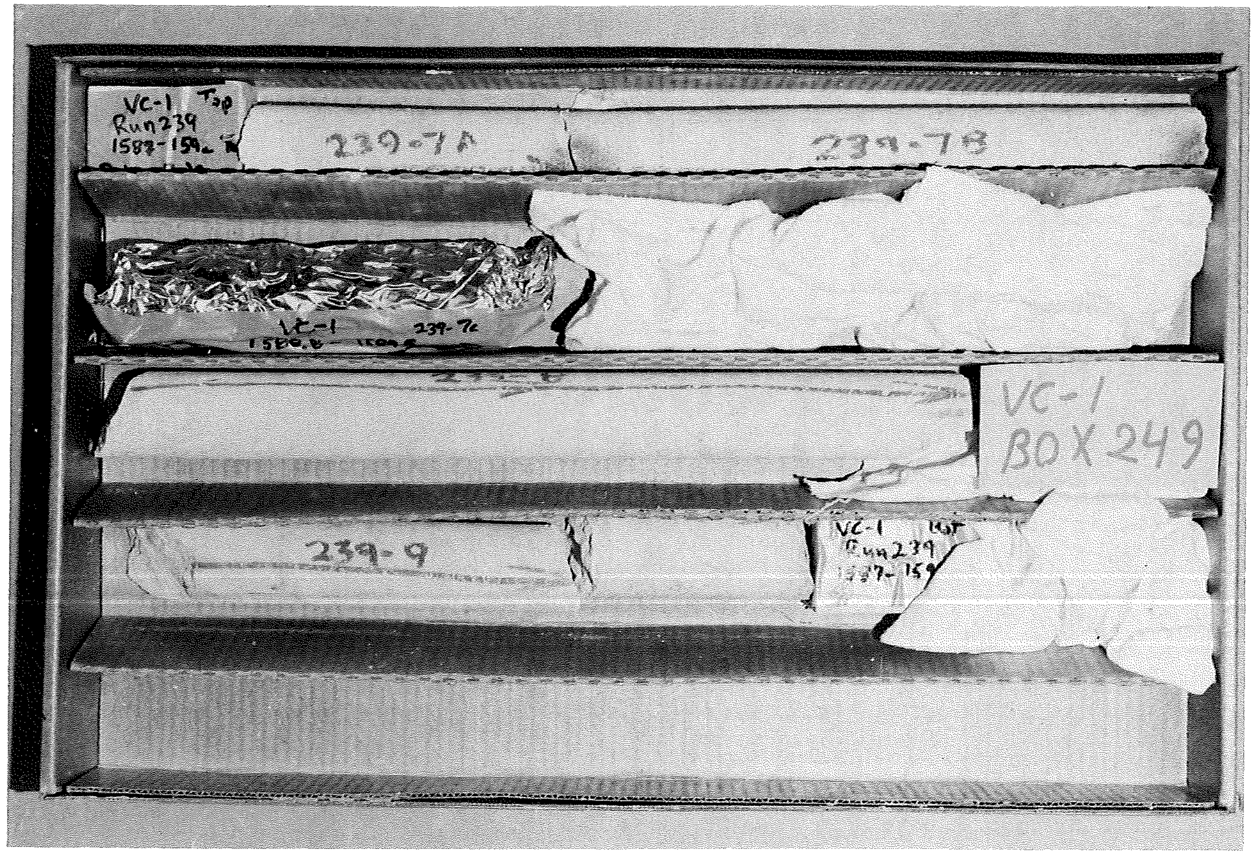

VC-1
BOX 244

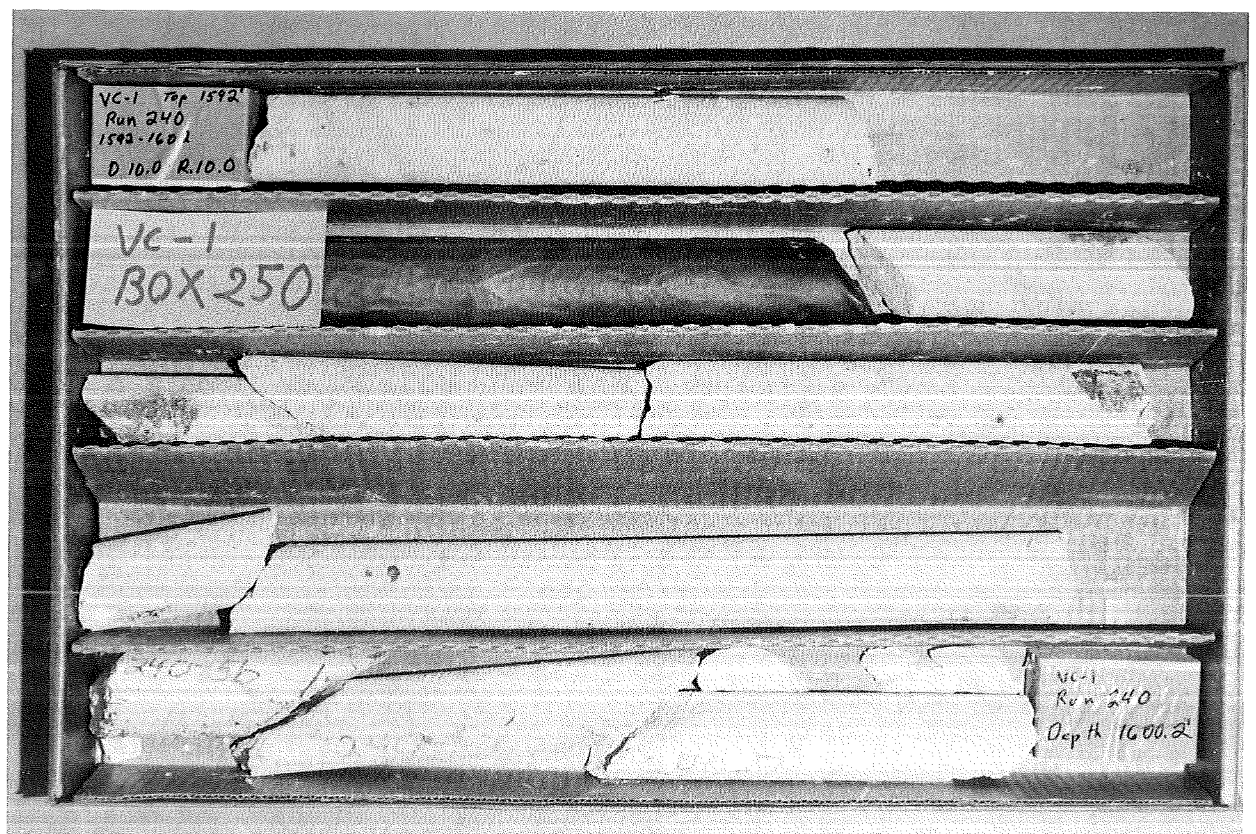

E CORE
END RUN
235
VC-1
BOX 245

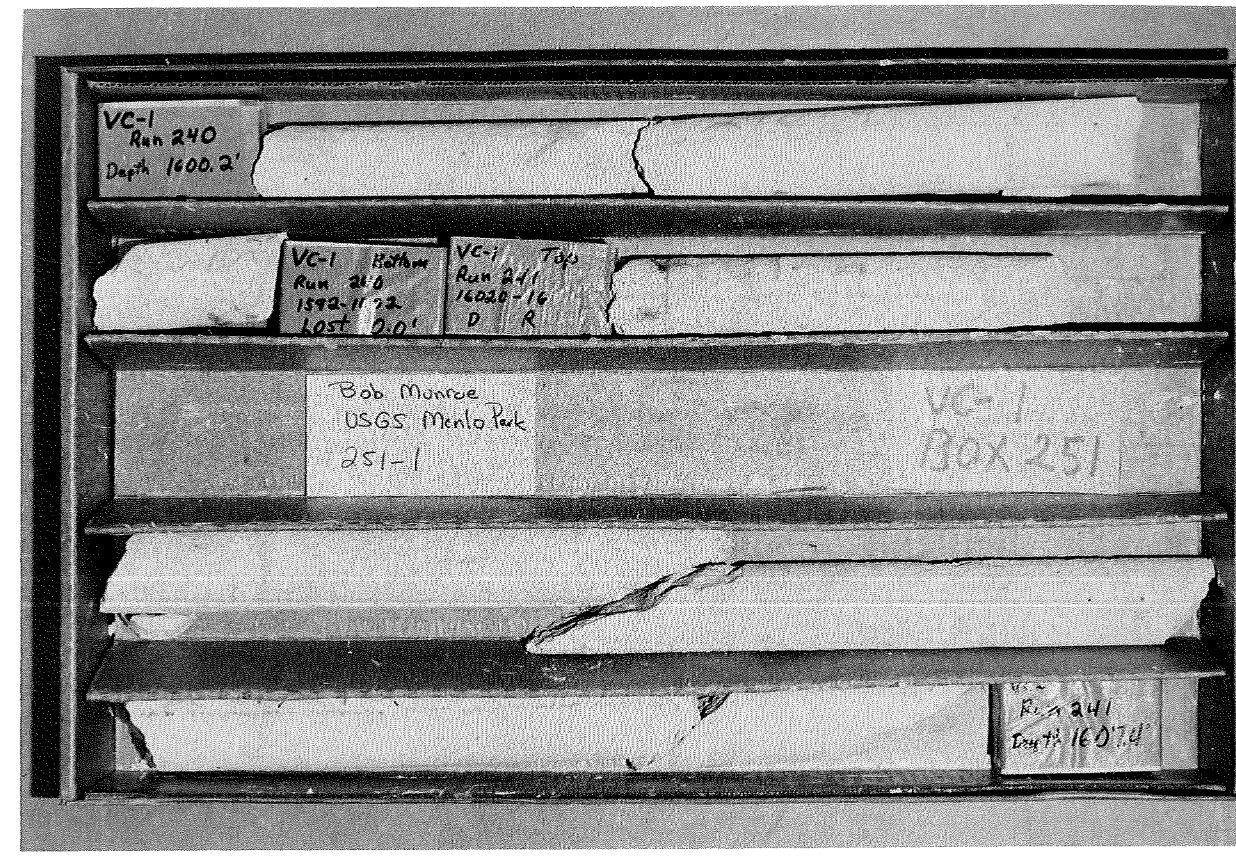

VC-1 - Top
Run 236
Run 237
USGS Menlo Park
237-4
Sunkist
VC-1
BOX 246

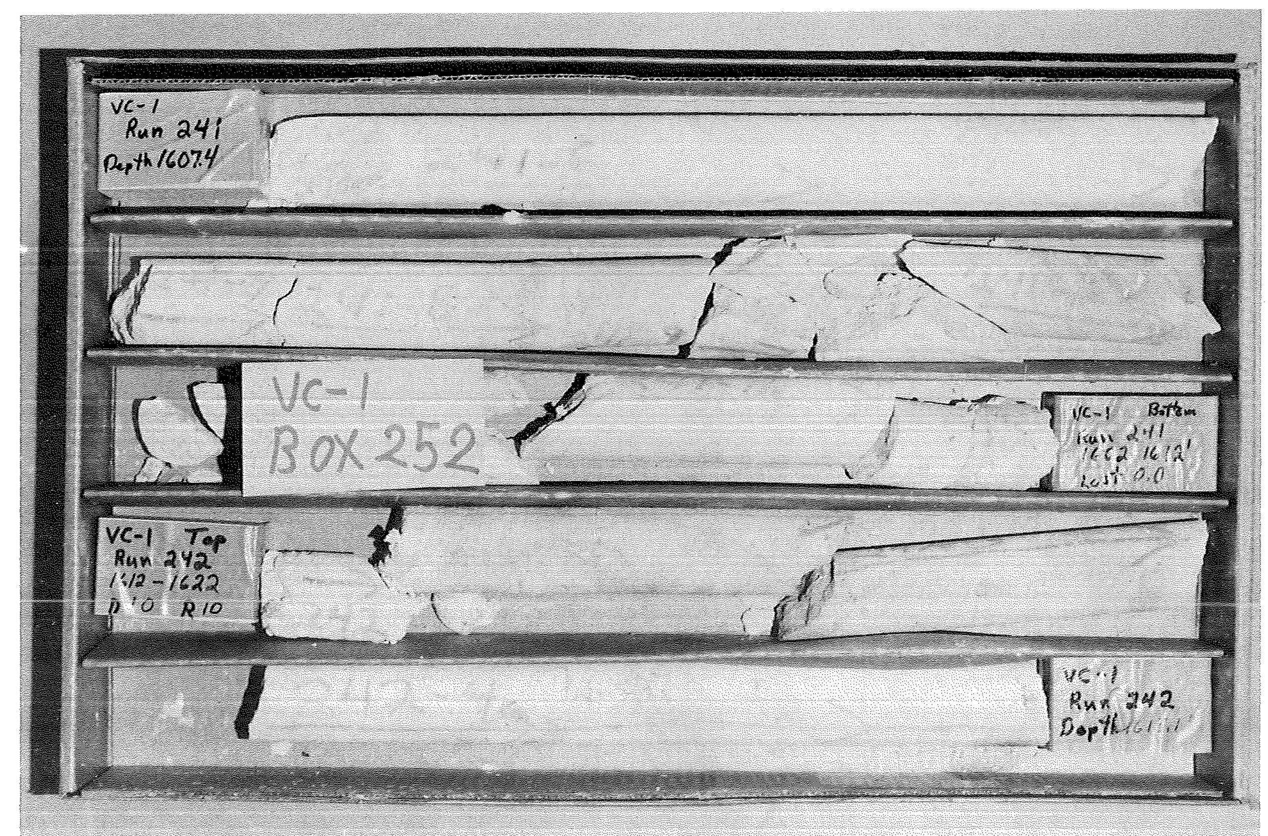

VC-1 TOP
RUN 238
1572-1580
238-3
VC-1
BOX 247
238-4A
238-6

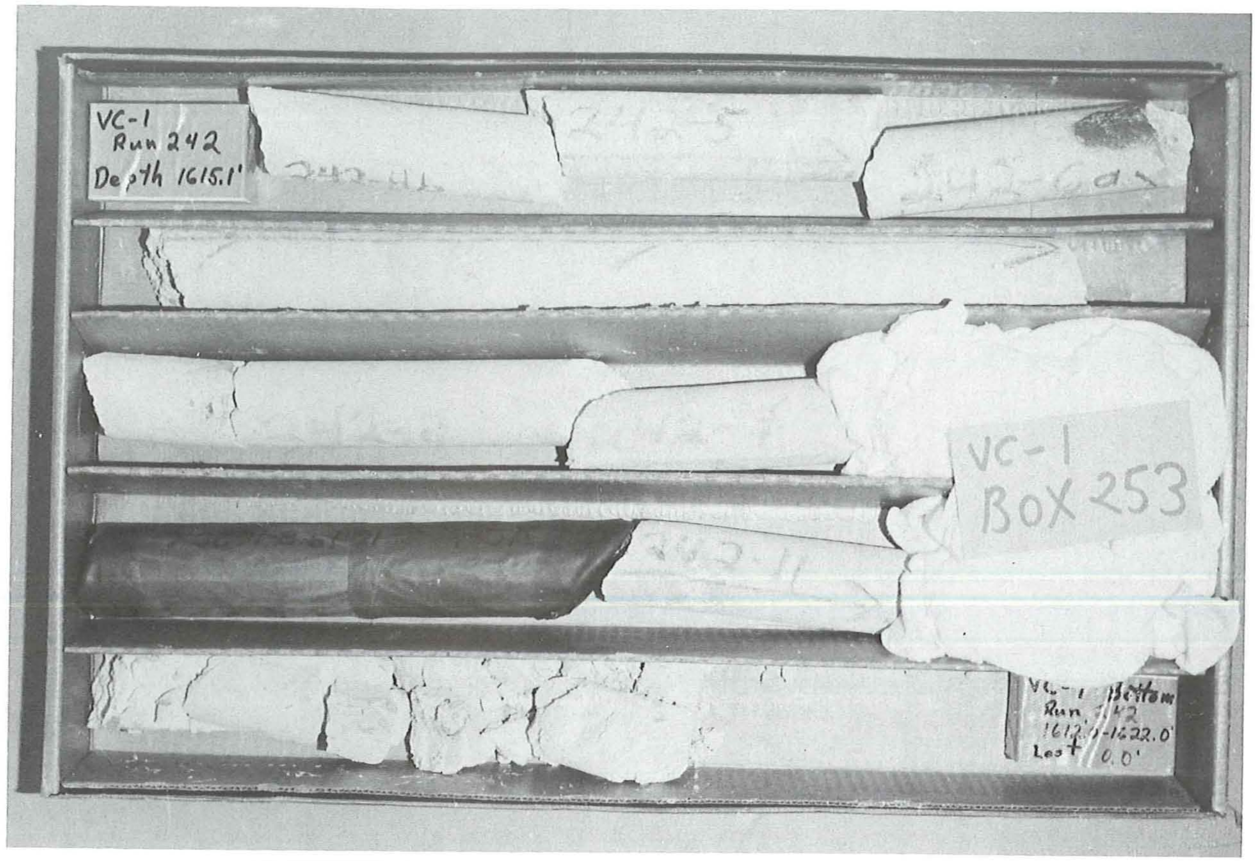

VC-1
1580-1582
238-10
VC-1
BOX 248
239-4
VC-1
Run 239
1582-1587
D-10 R-10

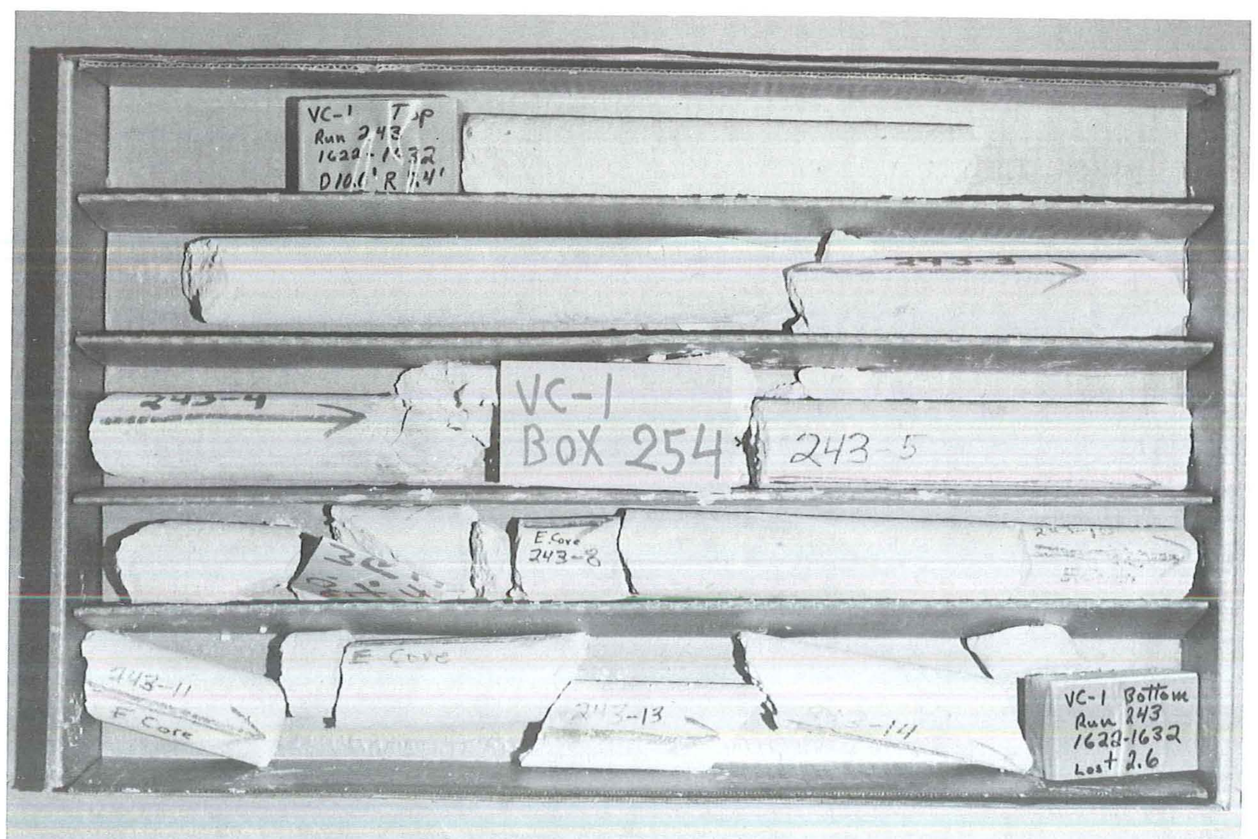

VC-1 Top
Run 239
239-7B
239-9
VC-1
BOX 249

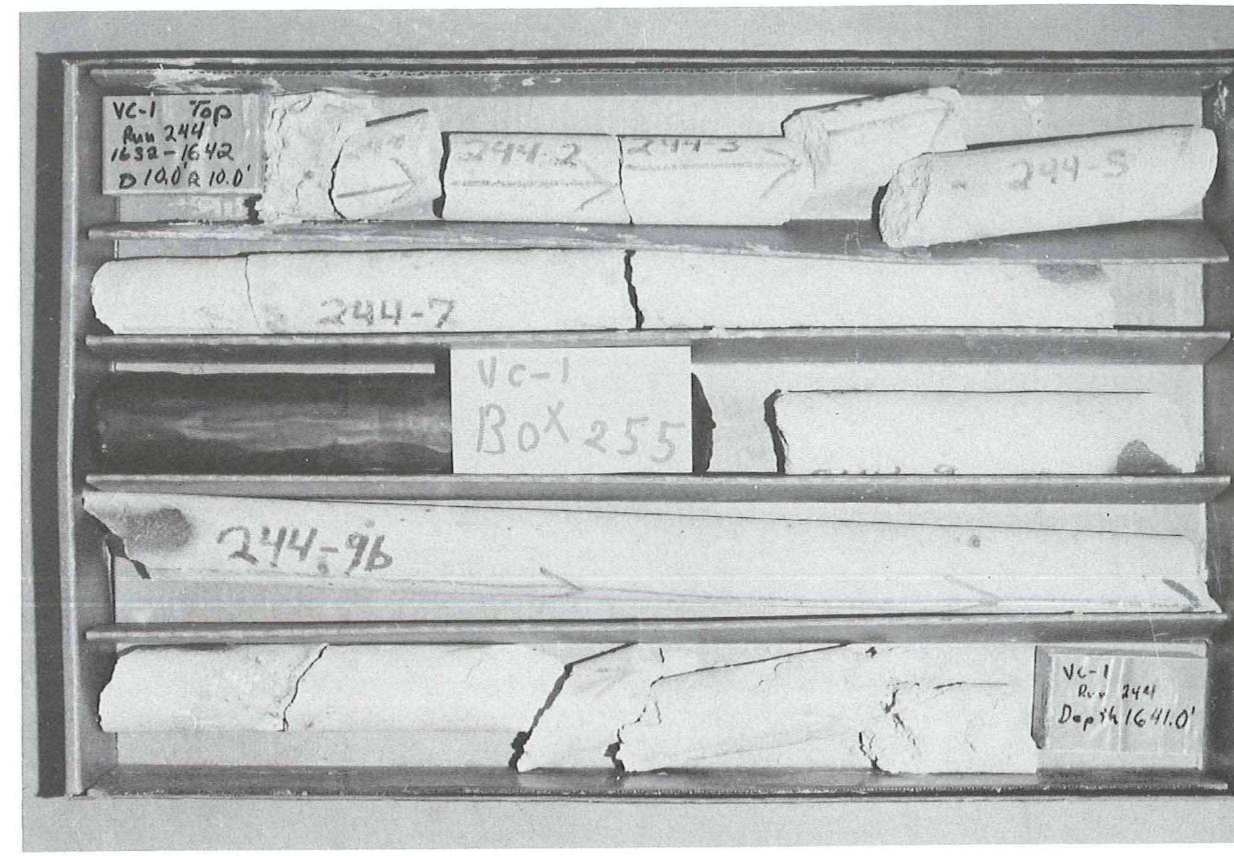

VC-1 Top 1592'
Run 240
D 10.0 R 10.0
VC-1
BOX 250
VC-1
Run 240
Depth 1600.2'

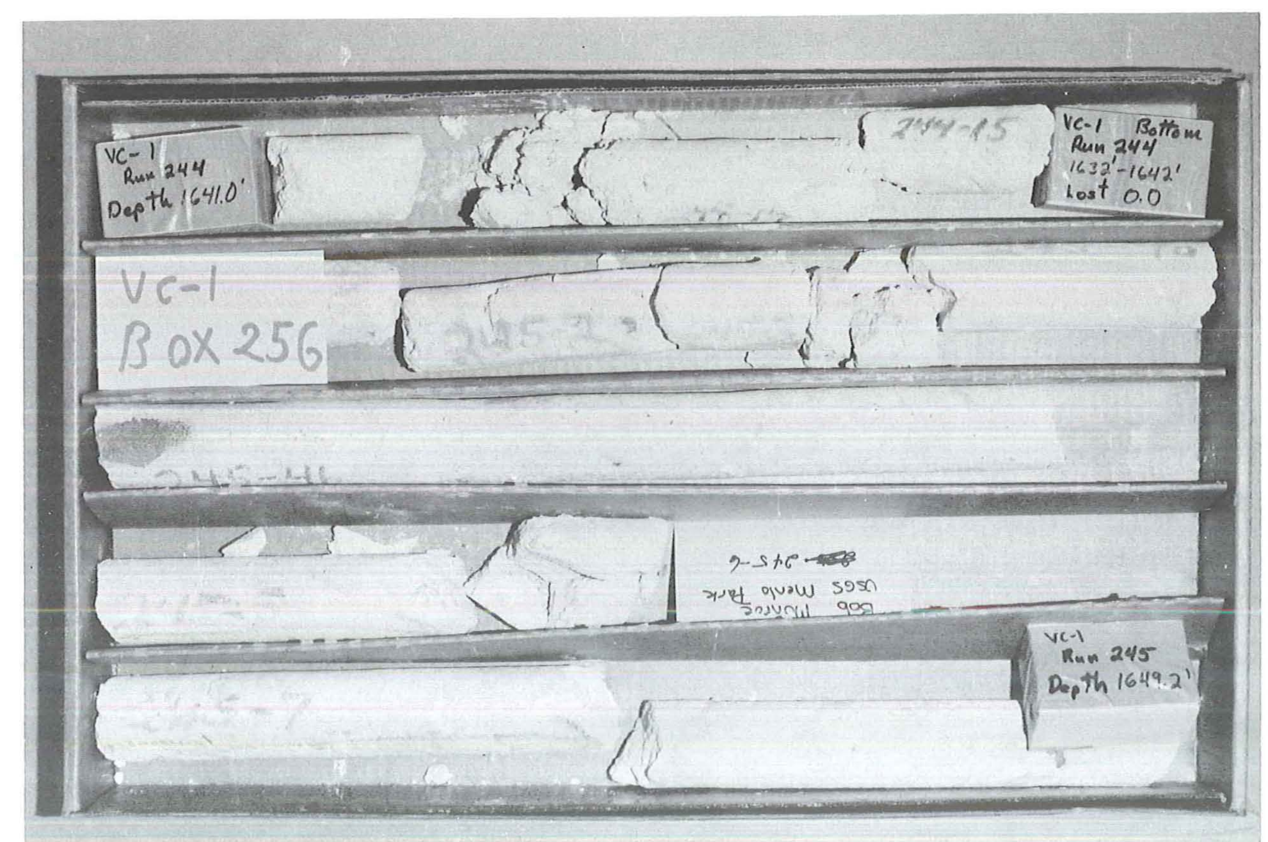

VC-1
Run 240
Depth 1600.2'
Bob Munroe
USGS Menlo Park
251-1
VC-1
BOX 251
Run 241
Depth 1607.4'

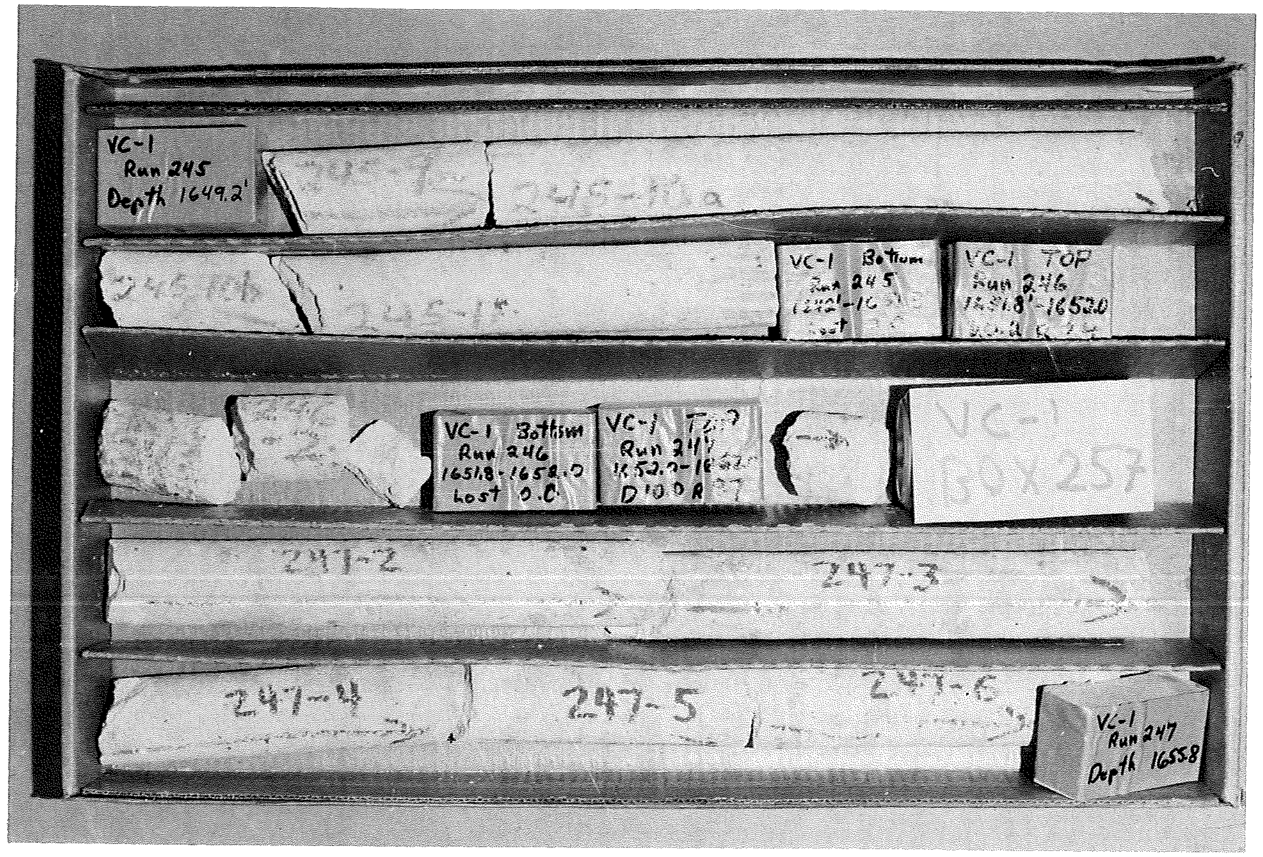

VC-1
Run 241
Depth 1607.4
VC-1
BOX 252
VC-1 Top
Run 242
VC-1
Run 242


VC-1
Run 242
Depth 1615.1'
VC-1
Box 253
VC-1 Bottom
Lost 0.0'


VC-1 Top
VC-1
Box 254
243-5
E Core
243-8
243-13
VC-1 Bottom
Run 243
1622-1632
Lost 2.6

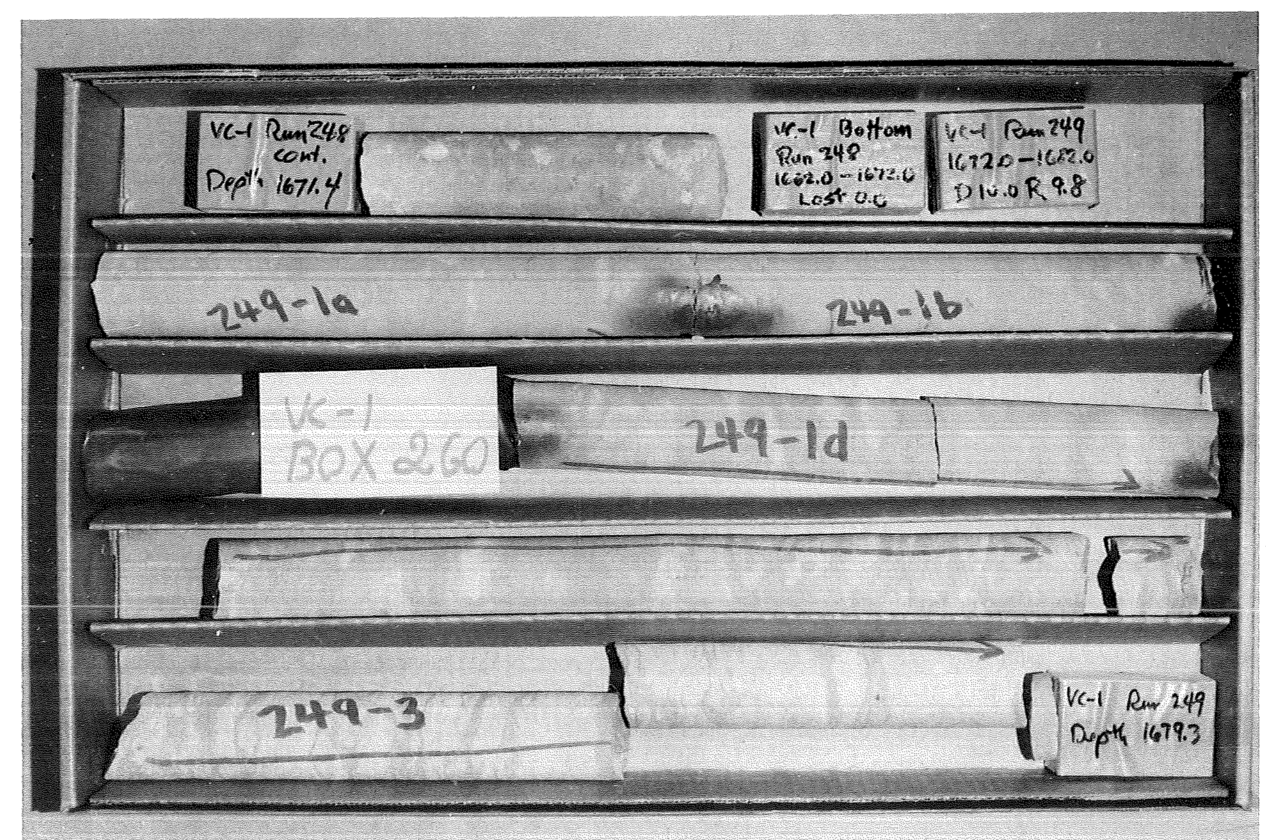

VC-1 Top
Run 244
1632-1642
D 10.0' R 10.0'
244-2
244-5
244-7
VC-1
Box 255
244-9b
VC-1
Run 244
Depth 1641.0'

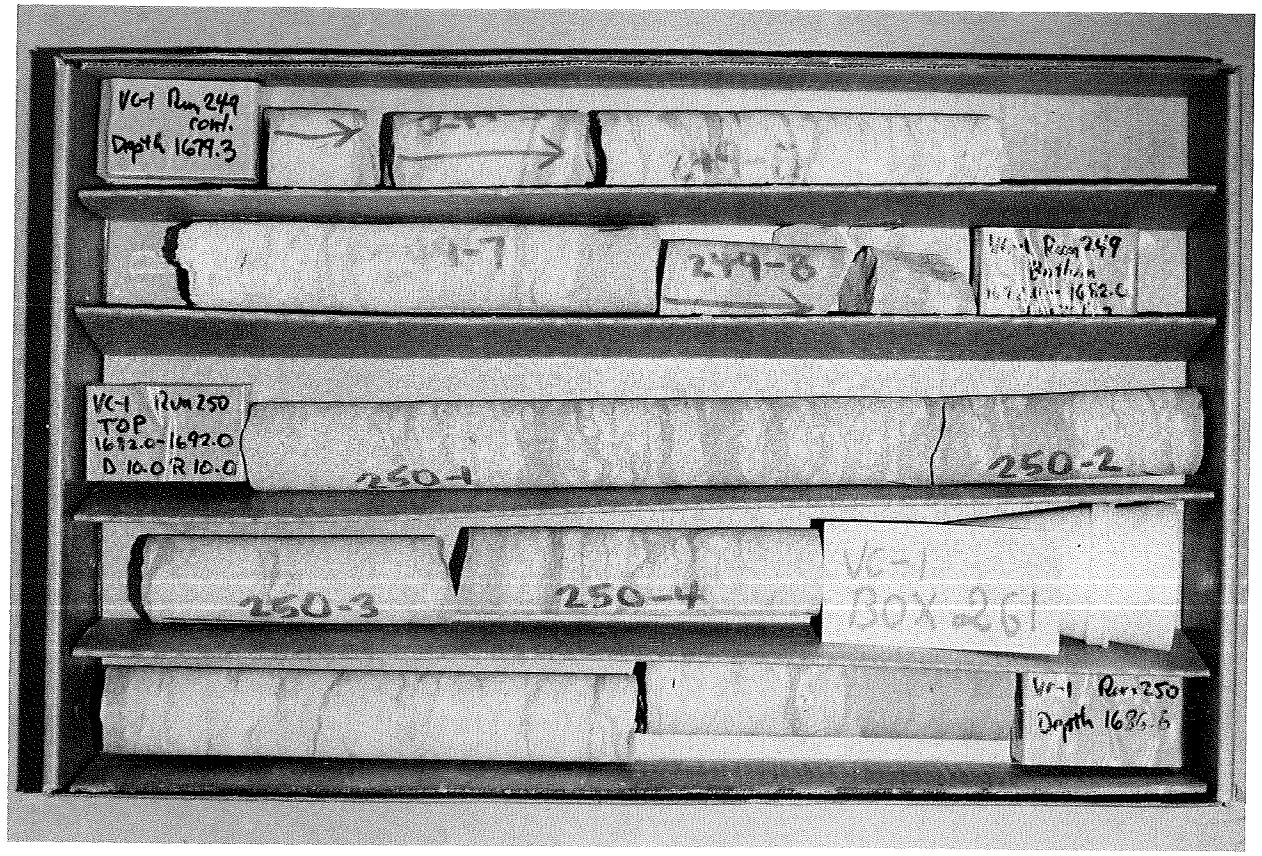

VC-1
Run 244
Depth 1641.0'
244-15
VC-1 Bottom
Run 244
1632'-1642'
Lost 0.0
VC-1
Box 256
VC-1
Run 245
Depth 1649.2'

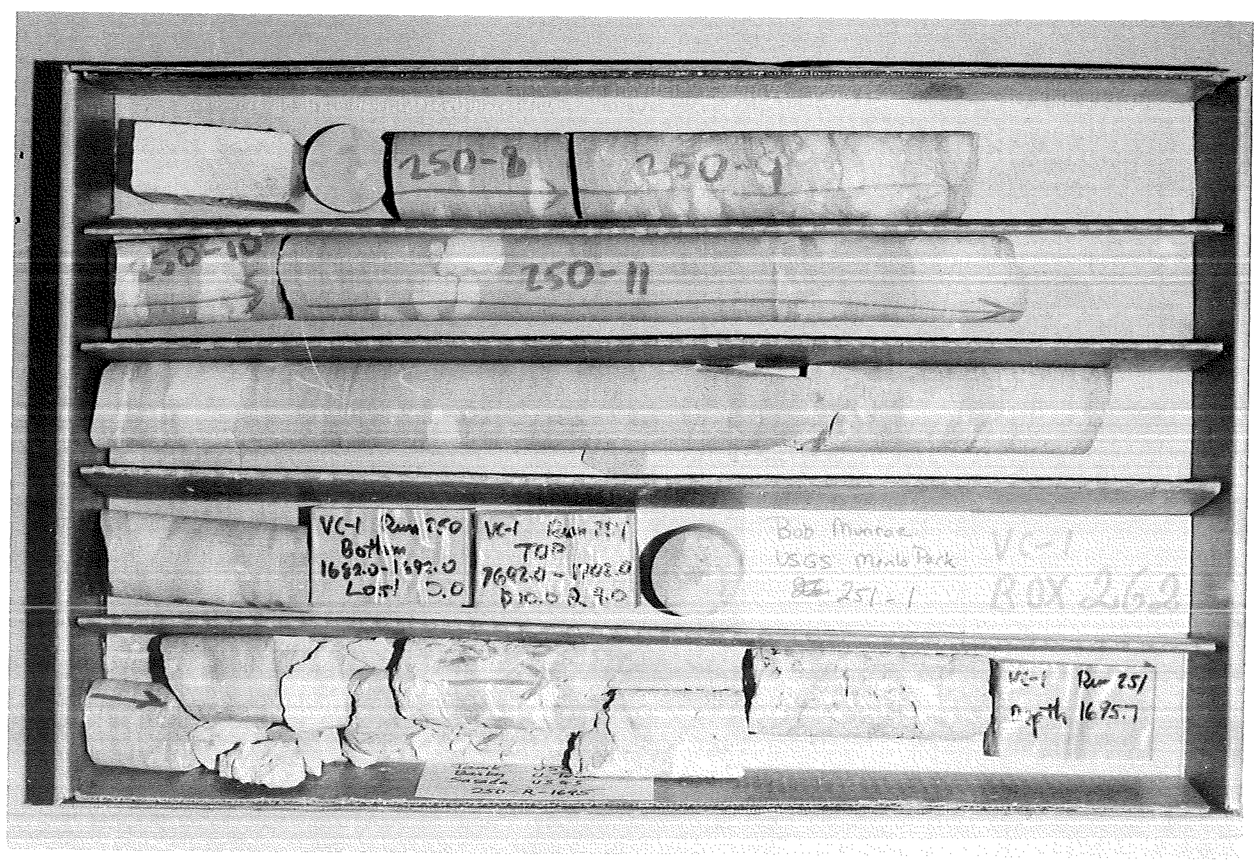

VC-1
Run 245
Depth 1649.2'
VC-1 Bottom
Run 245
VC-1 TOP
Run 246
VC-1 Bottom
Run 246
1651.8-1652.0
Lost 0.0
VC-1
BOX 257
247-2
247-3
247-4
247-5
VC-1
Run 247
Depth 1655.8


VC-1
Run 247 cont.
Depth 1655.8
247-8
VC-1
BOX 258
VC-1 TOP
Run 248
1662.0-1672.0
D10.0 R10.0


VC-1 Run 248
cont.
Depth 1663.2
VC-1
BOX 259
248-13
248-12
VC-1 Run 248
Depth 1671.4


VC-1 Run 248
cont.
Depth 1671.4
VC-1 Bottom
Run 248
Lost 0.0
VC-1 Run 249
D10.0 R 9.8
249-1a
249-1b
VC-1
BOX 260
249-1d
249-3
VC-1 Run 249
Depth 1679.3


VC-1 Run 249 cont. Depth 1679.3
249-7
249-8
VC-1 Run 250 TOP 1682.0-1692.0 D 10.0 R 10.0
250-1
250-2
250-3
250-4
VC-1 BOX 261
VC-1 Run 250 Depth 1686.6


250-8
250-10
250-11
VC-1 Run 250 Bottom 1682.0-1692.0 Lost 0.0
VC-1 Run 251 TOP 1692.0-1702.0 D 10.0 R 9.0
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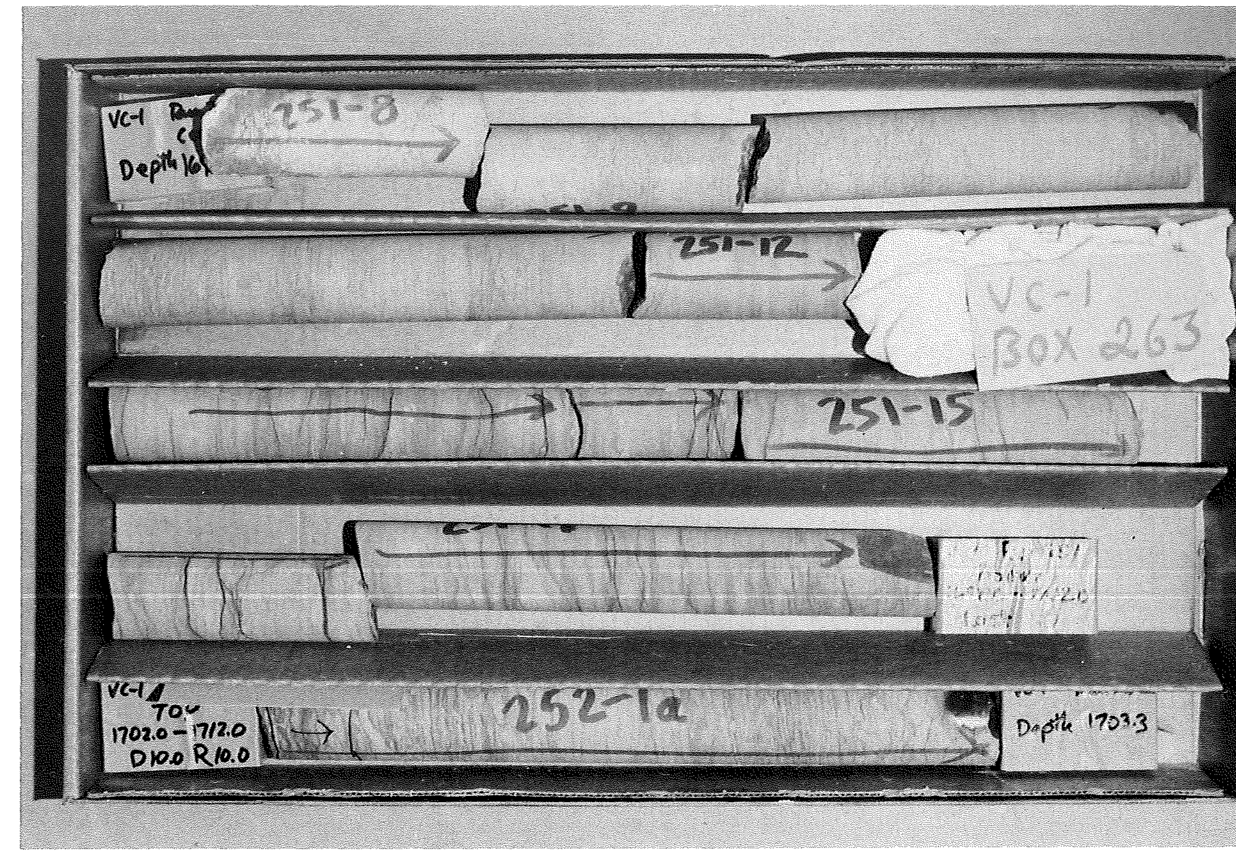
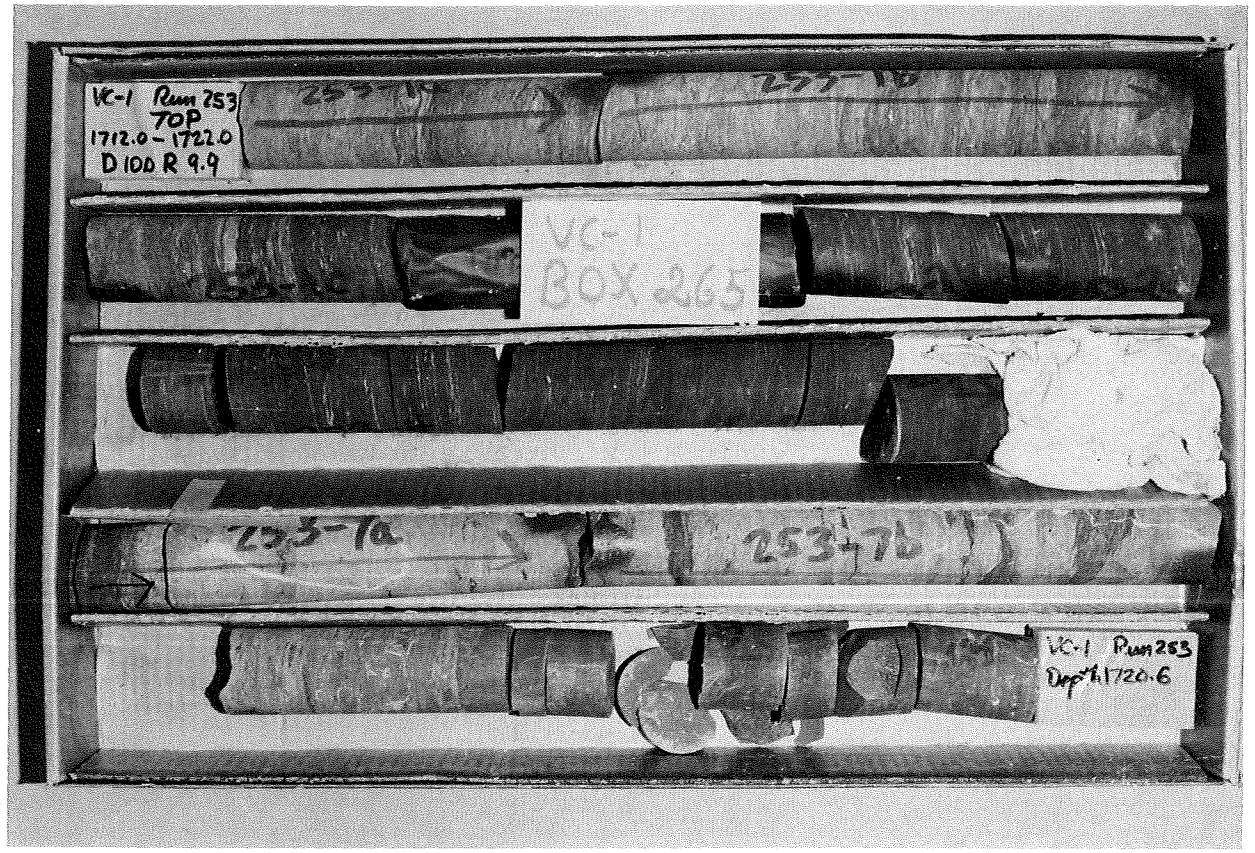
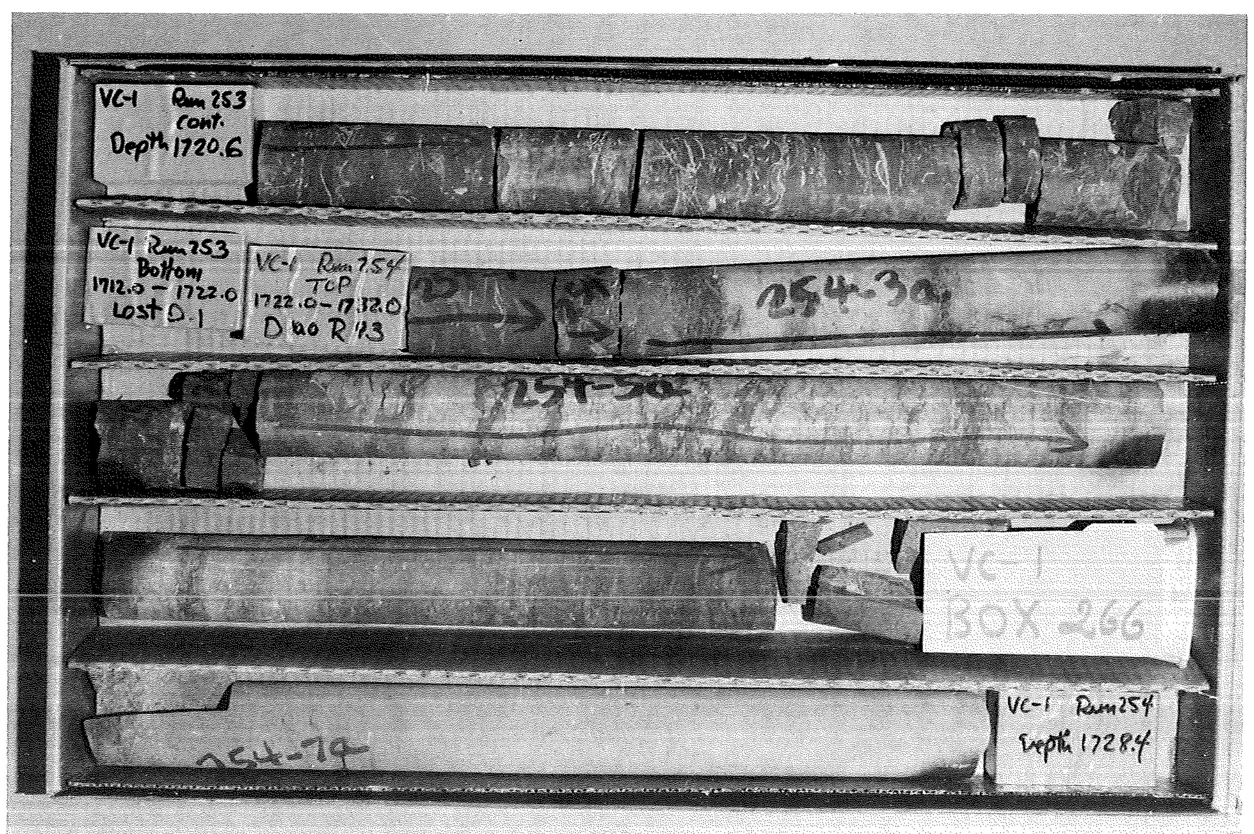
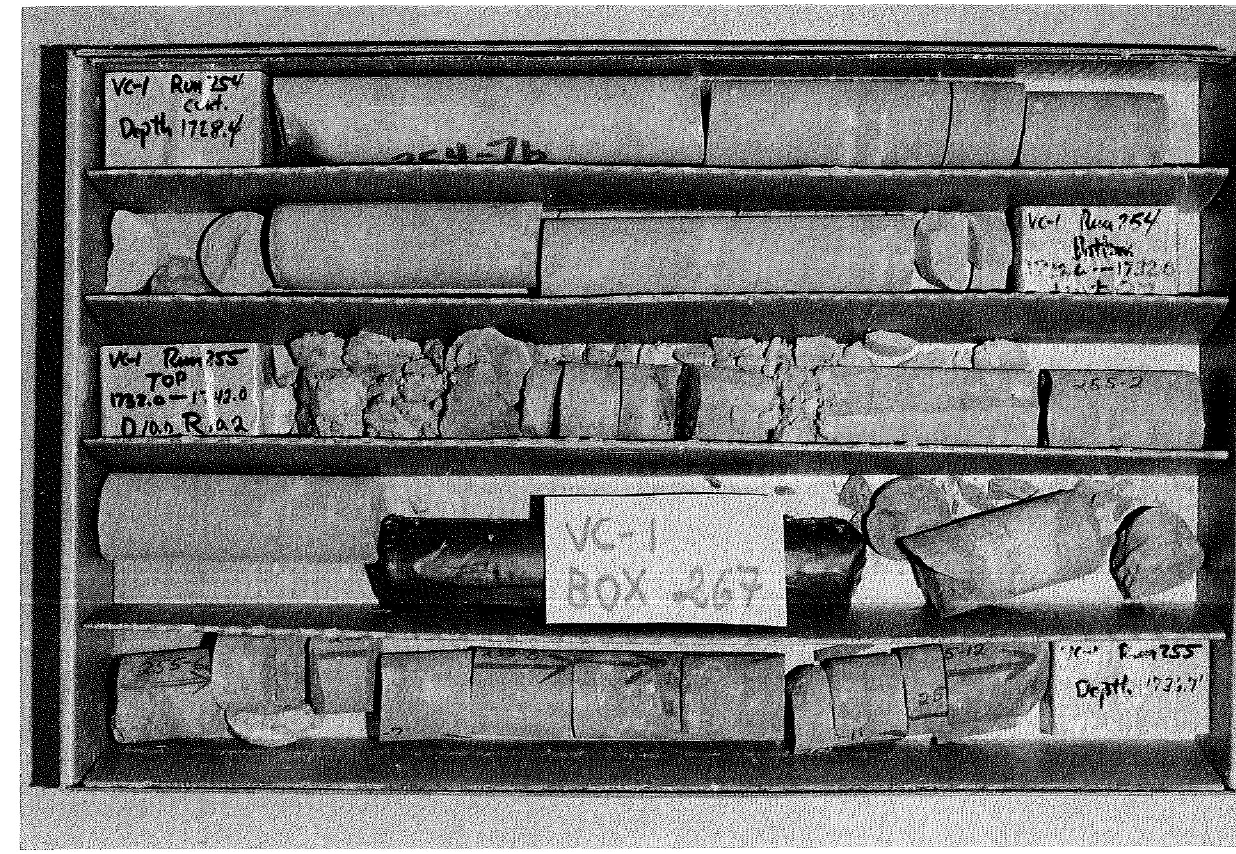
VC-1 BOX 262
VC-1 Run 251 Depth 1695.7

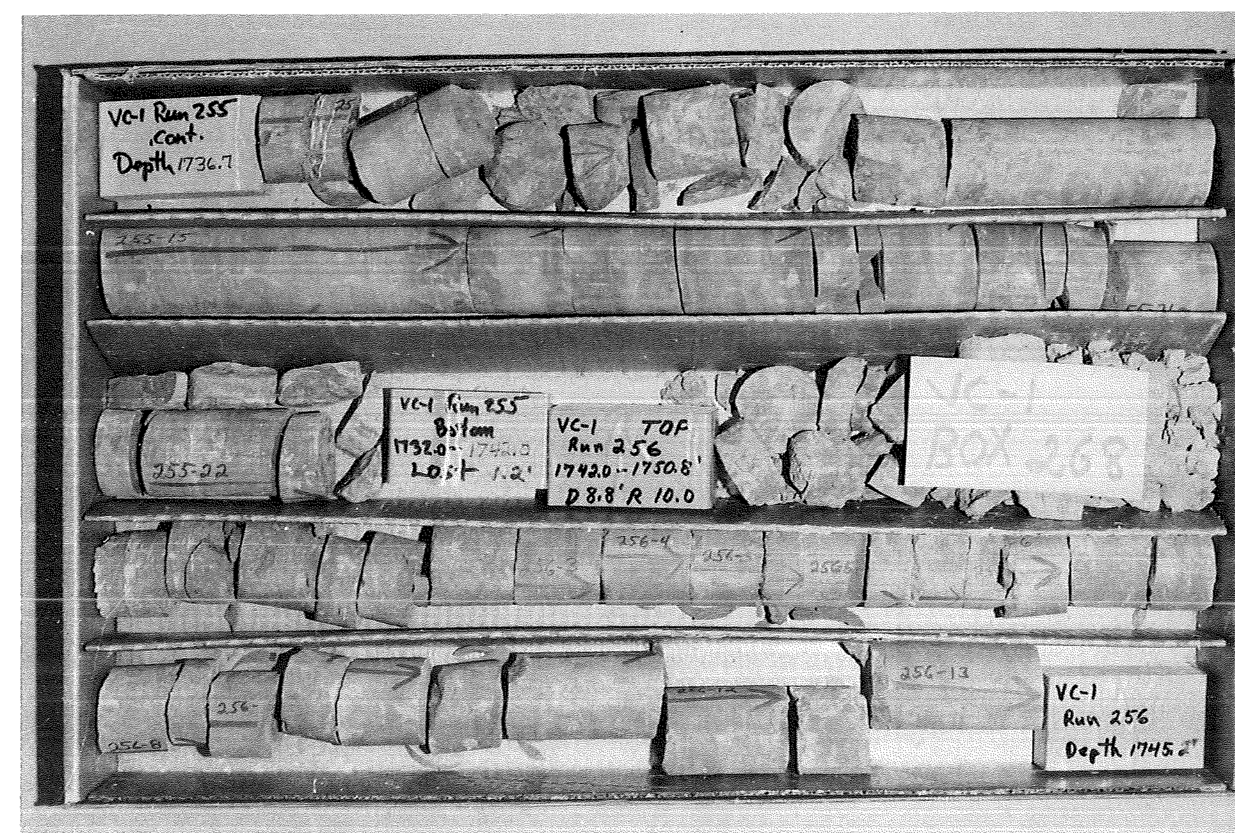

251-8
251-12
VC-1 BOX 263
251-15
VC-1 TOP 1702.0-1712.0 D 10.0 R 10.0
252-1a
Depth 1703.3

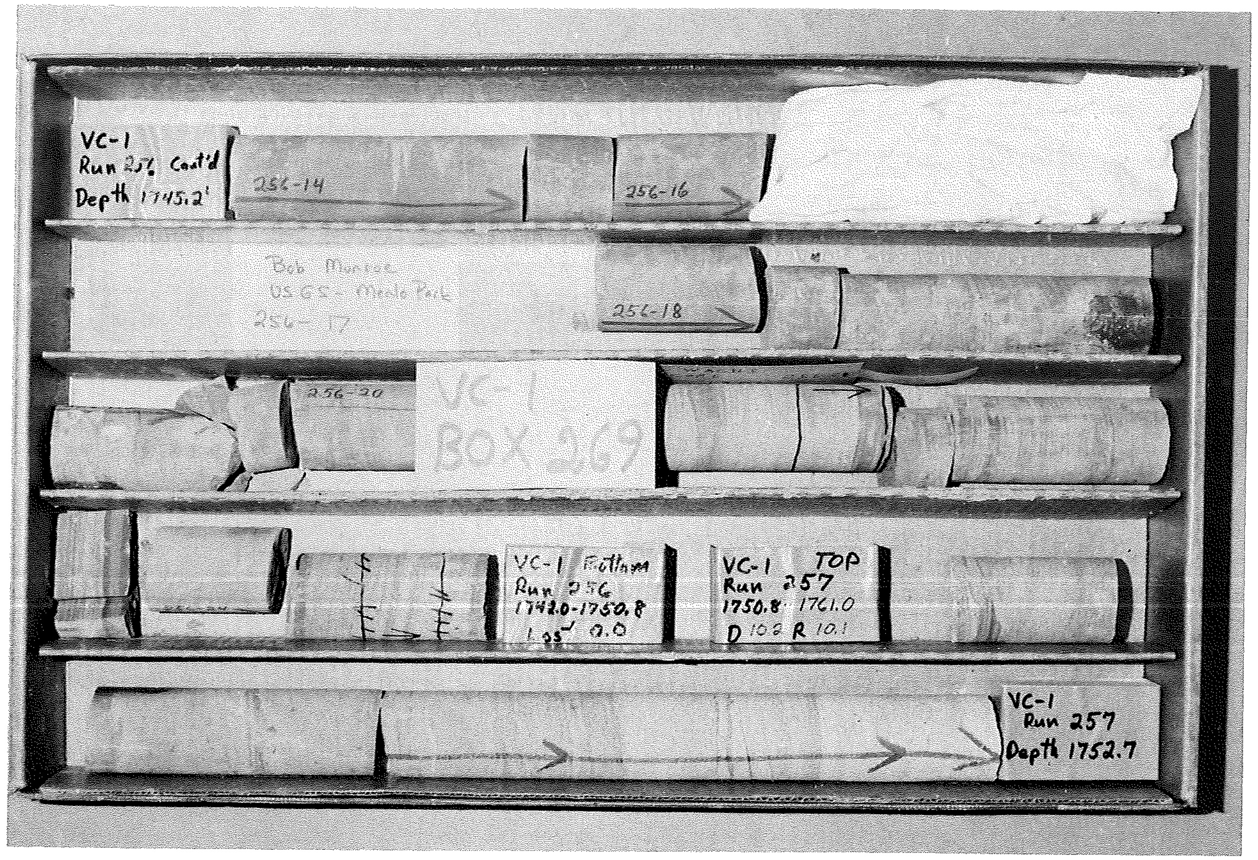

VC-1 Run 252 cont. Depth 1703.3
252-2a
252-2b
252-2c
252-3
VC-1 BOX 264
252-9
252-10
252-11
Lost 0.0

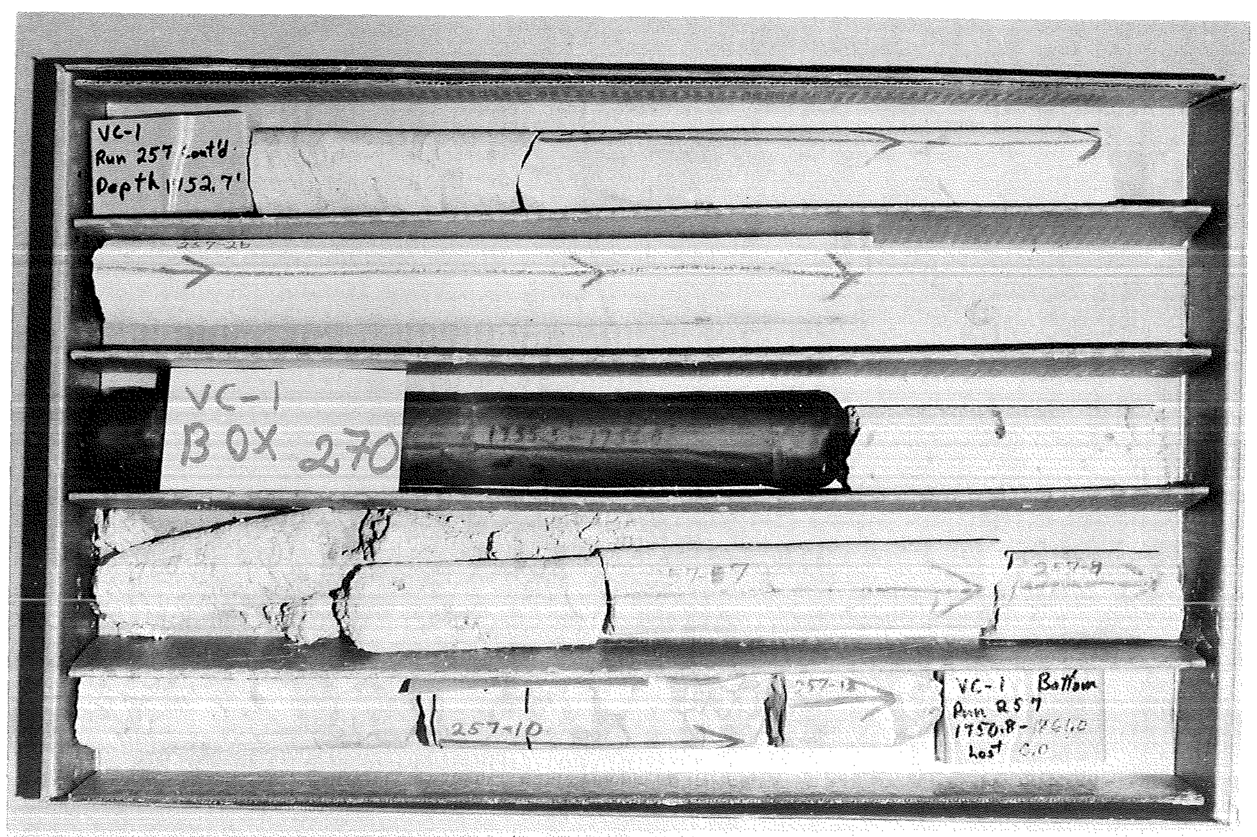

VC-1 Run 253
TOP
1712.0 - 1722.0
D 10.0 R 9.9
VC-1
BOX 265
253-7a
253-7b
VC-1 Run 253
Depth 1720.6

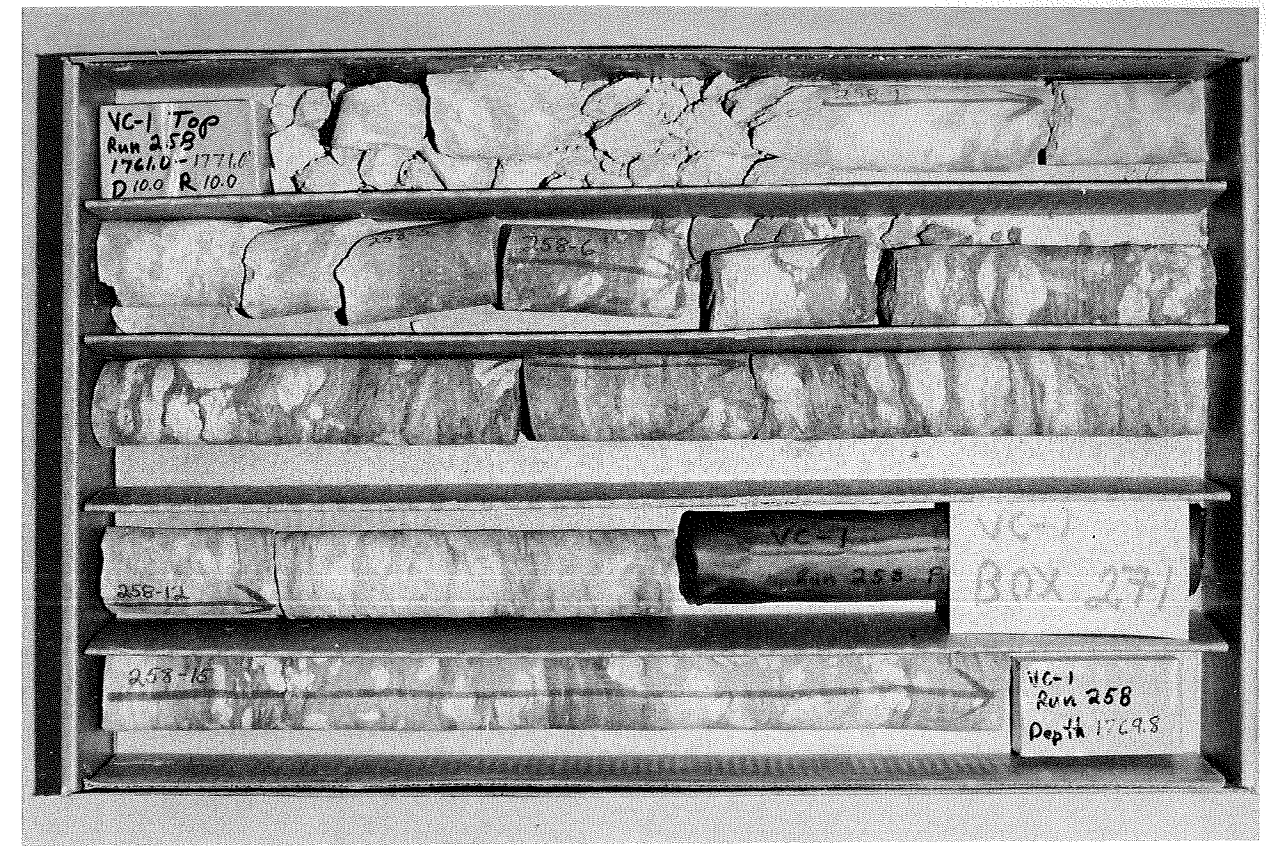

VC-1 Run 253
cont.
Depth 1720.6
VC-1 Run 253
Bottom
1712.0 - 1722.0
Lost 0.1
VC-1 Run 254
TOP
1722.0 - 1732.0
D 10.0 R 9.3
254-3a
VC-1
BOX 266
254-7a
VC-1 Run 254
Depth 1728.4

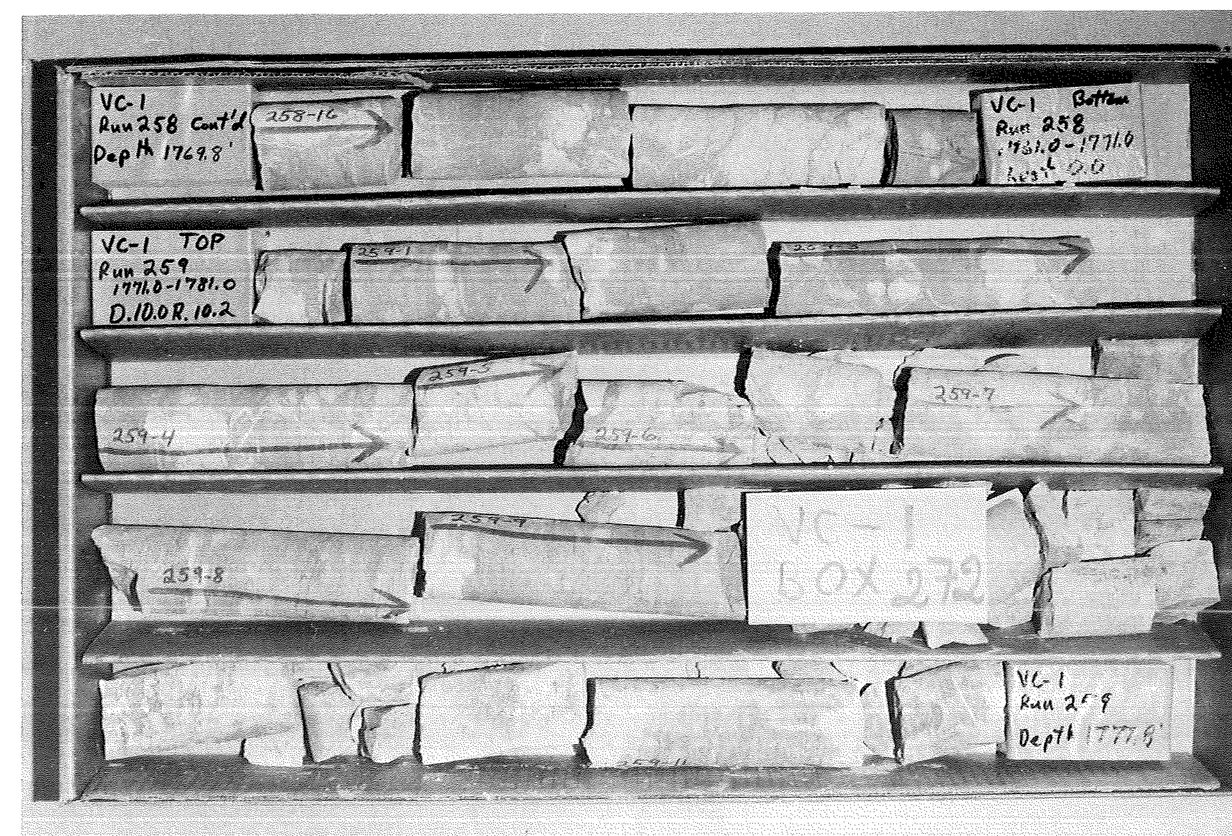

VC-1 Run 254
cont.
Depth 1728.4
254-7b
VC-1 Run 254
Bottom
VC-1 Run 255
TOP
1732.0 - 1742.0
D 10.0 R 8.2
255-2
VC-1
BOX 267
VC-1 Run 255
Depth 1736.7

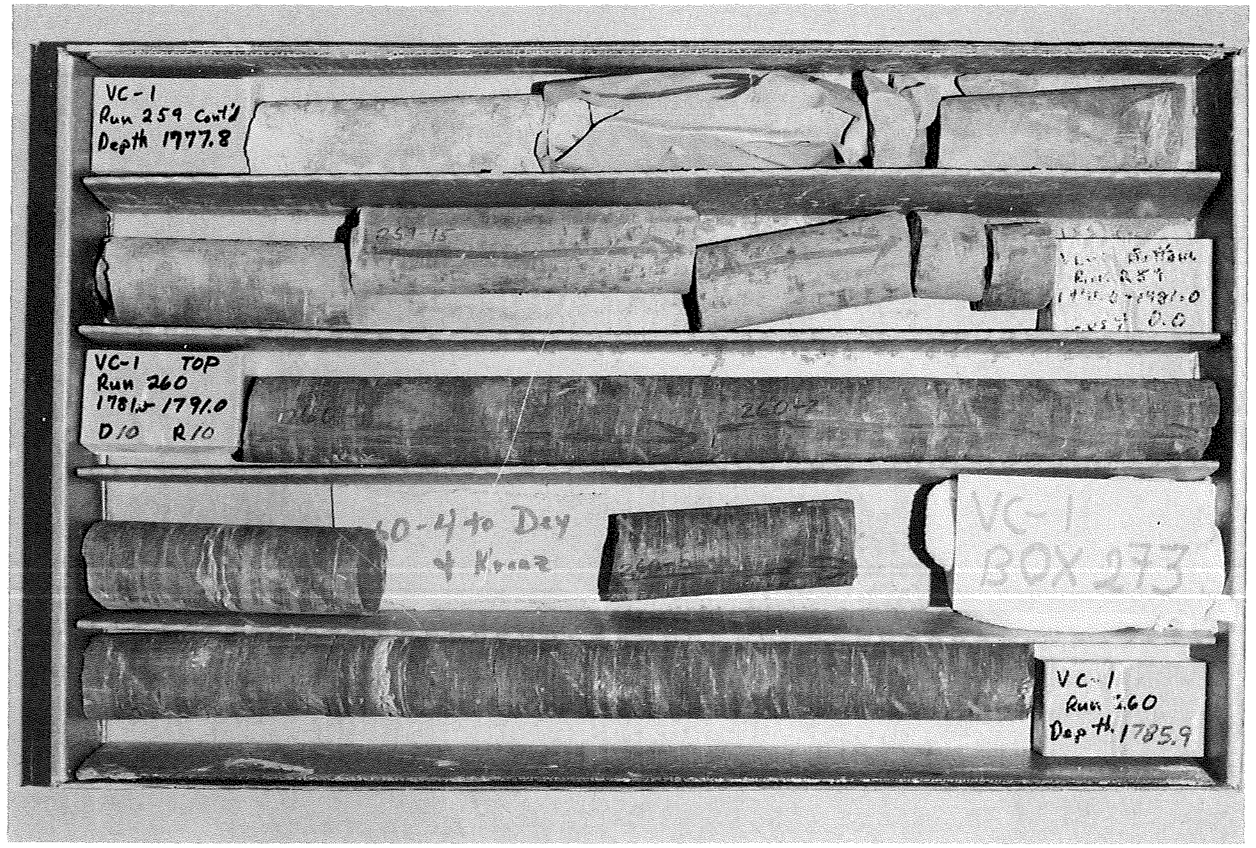

VC-1 Run 255
cont.
Depth 1736.7
255-15
VC-1 Run 255
Bottom
1732.0 - 1742.0
Lost 1.2
VC-1 TOP
Run 256
1742.0 - 1750.8
D 8.8 R 10.0
VC-1
BOX 268
256-13
VC-1
Run 256
Depth 1745.2


VC-1
Run 256 Cont'd
Depth 1745.2'
VC-1
BOX 269
VC-1 Bottom
Run 256
1742.0-1750.8
Lost 0.0
VC-1 TOP
Run 257
1750.8-1761.0
D 10.2 R 10.1
VC-1
Run 257
Depth 1752.7


VC-1
Run 257 Cont'd
Depth 1752.7'
VC-1
BOX 270
VC-1 Bottom
Run 257
1750.8-1761.0
Lost 0.0

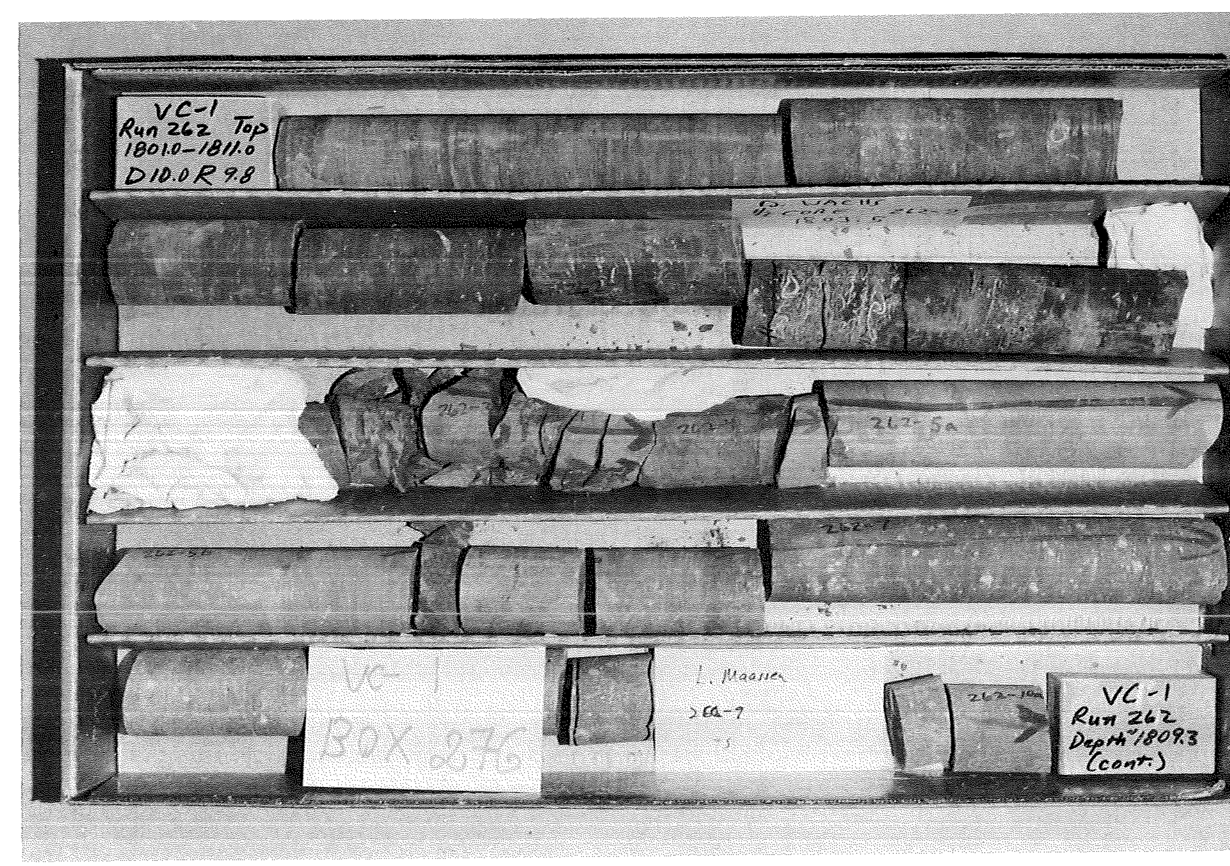

VC-1 Top
Run 258
1761.0-1771.0
D 10.0 R 10.0
VC-1
BOX 271
VC-1
Run 258
Depth 1769.8

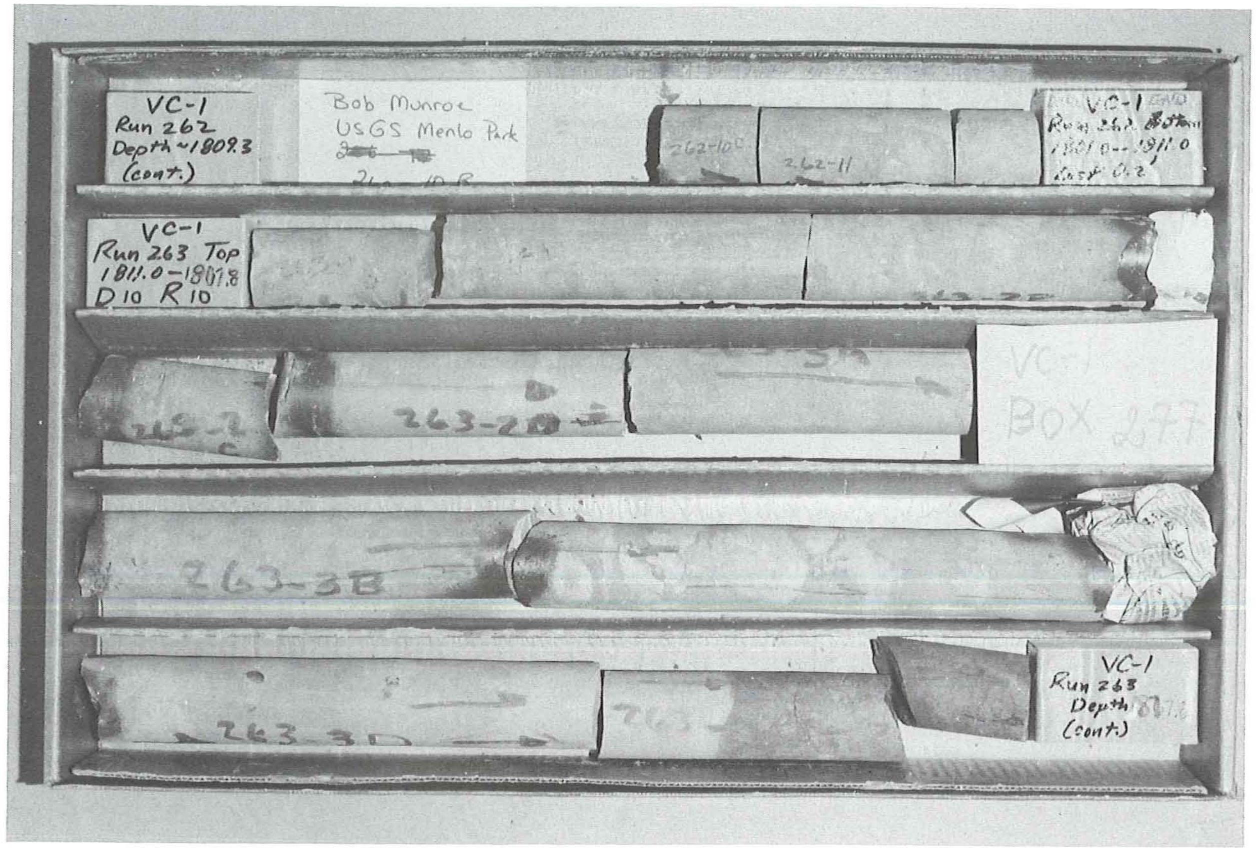

VC-1
Run 258 Cont'd
Depth 1769.8'
VC-1 Bottom
Run 258
1761.0-1771.0
Lost 0.0
VC-1 TOP
Run 259
1771.0-1781.0
D.10.0 R.10.2
VC-1
BOX 272


VC-1
Run 259 Cont'd
Depth 1777.8
VC-1 TOP
Run 260
1781.0-1791.0
D10 R10
VC-1
BOX 273
VC-1
Run 260
Depth 1785.9


VC-1
Run 260 Cont'd
Depth 1785.9
Spacer
Spacer
VC-1
BOX 274

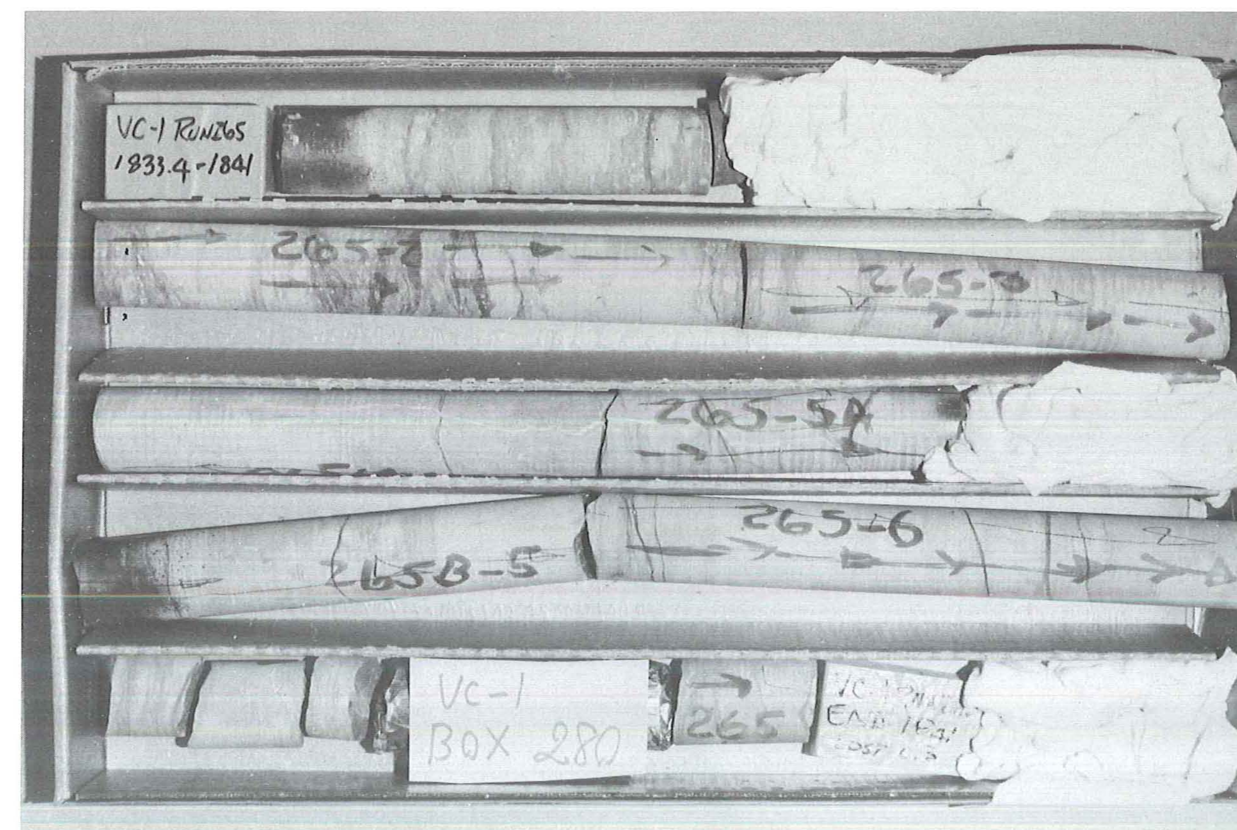

VC-1
Run 261
Depth 1792.8
(Cont.)
261-3
261-5c
261-6a
261-5b
261-6b
261-7a
VC-1
BOX 275
Spacer
261-7b
261-8
VC-1
Run 261 Bottom
Loss 0

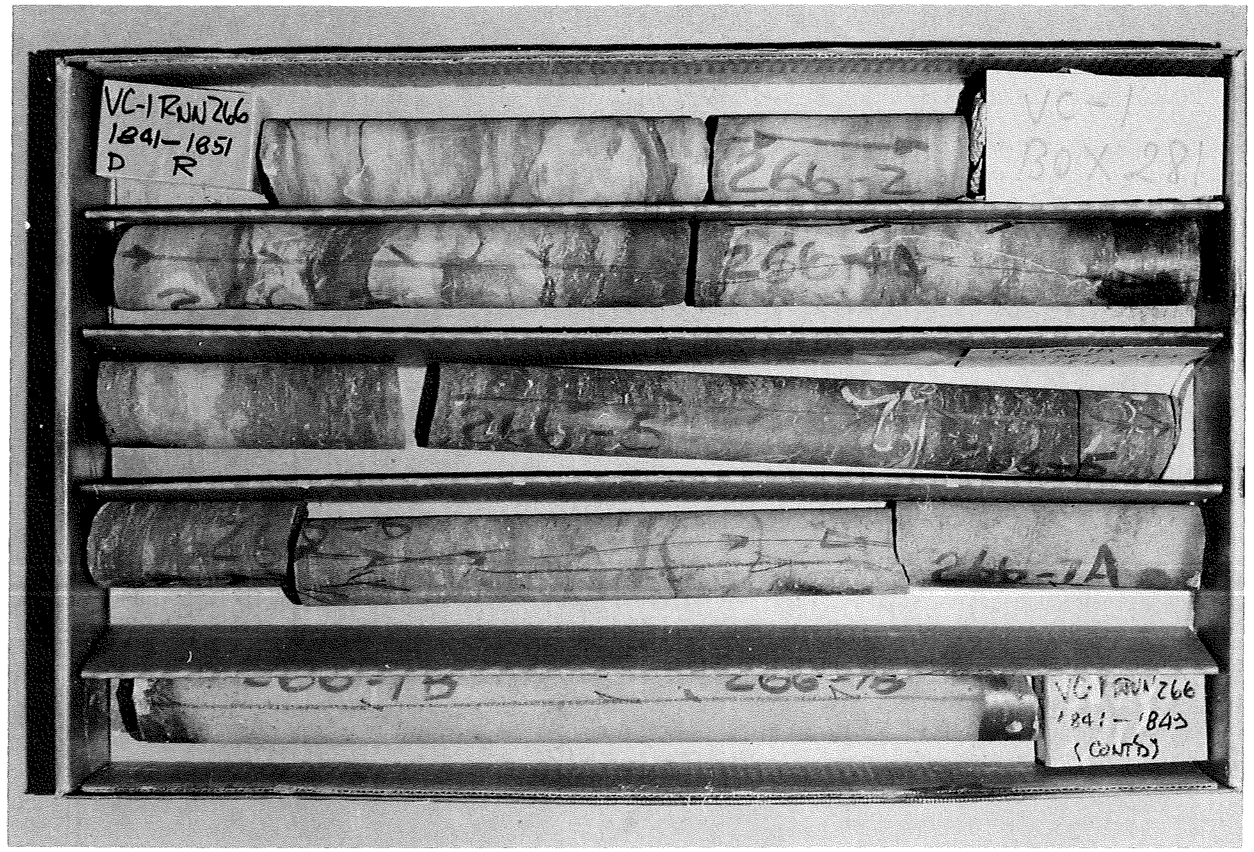

VC-1
Run 262 Top
1801.0-1811.0
D10.0 R9.8
VC-1
BOX 276
VC-1
Run 262
Depth 1809.3
(Cont.)

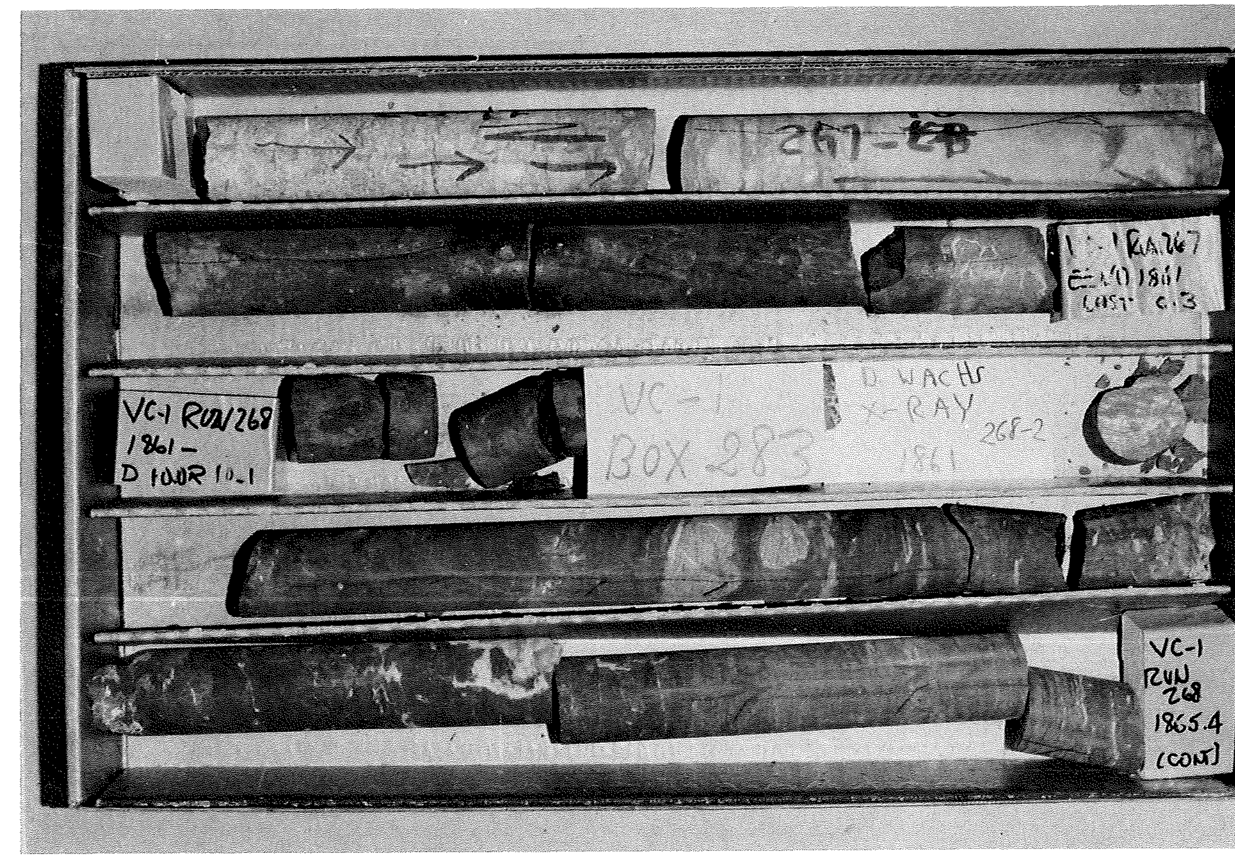

VC-1
Run 262
Depth ~1809.3
(cont.)
Bob Munroe
USGS Menlo Park
VC-1
Run 263 Top
1811.0-1801.8
D10 R10
VC-1
BOX 277
263-3B
VC-1
Run 263
Depth
(cont.)


VC-1 RUN 263
1817.8-1821
VC-1 RUN 264
1821-1831
VC-1
BOX 278


264-8
VC-1 RUN 264
END 1831
LOST=0
VC-1 RUN 265
1831--1833.4
VC-1
BOX 279
VC-1 RUN 265
1833.4
(CONT)
265B

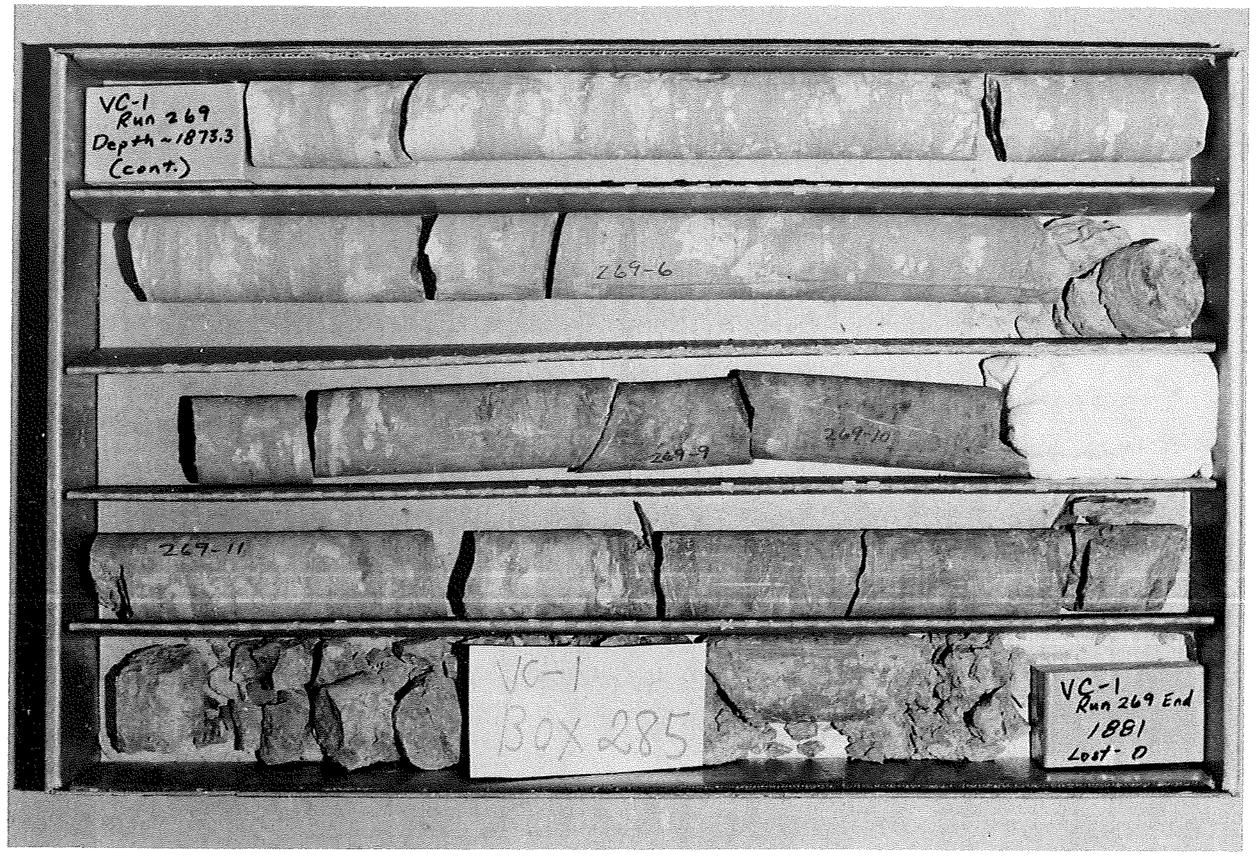

VC-1 RUN 265
1833.4-1841
265-5A
265-6
265B-5
VC-1
BOX 280
265

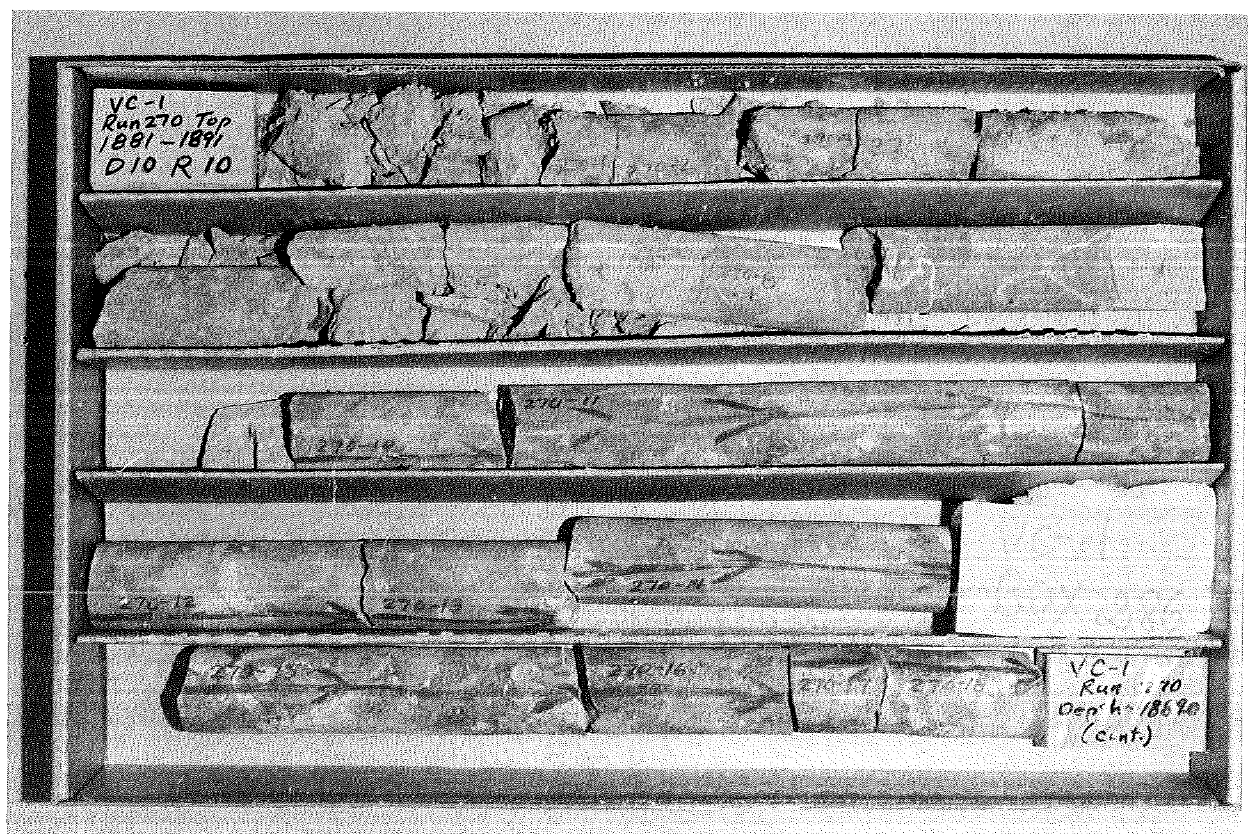

VC-1 RUN 266
1841–1851
VC-1
BOX 281
266-2
266-7A


VC-1 RUN 268
VC-1
BOX 283
D. WACHS
X-RAY
1861
VC-1
RUN 268
1865.4
(CONT)


VC-1 RUN 266
(CONT.)
VC-1 RUN 266
END 1851
VC-1 RUN 267
1851-1861
267-1A
VC-1
BOX 282
267-1B
VC-1 RUN 267
1857.4
(CONT)

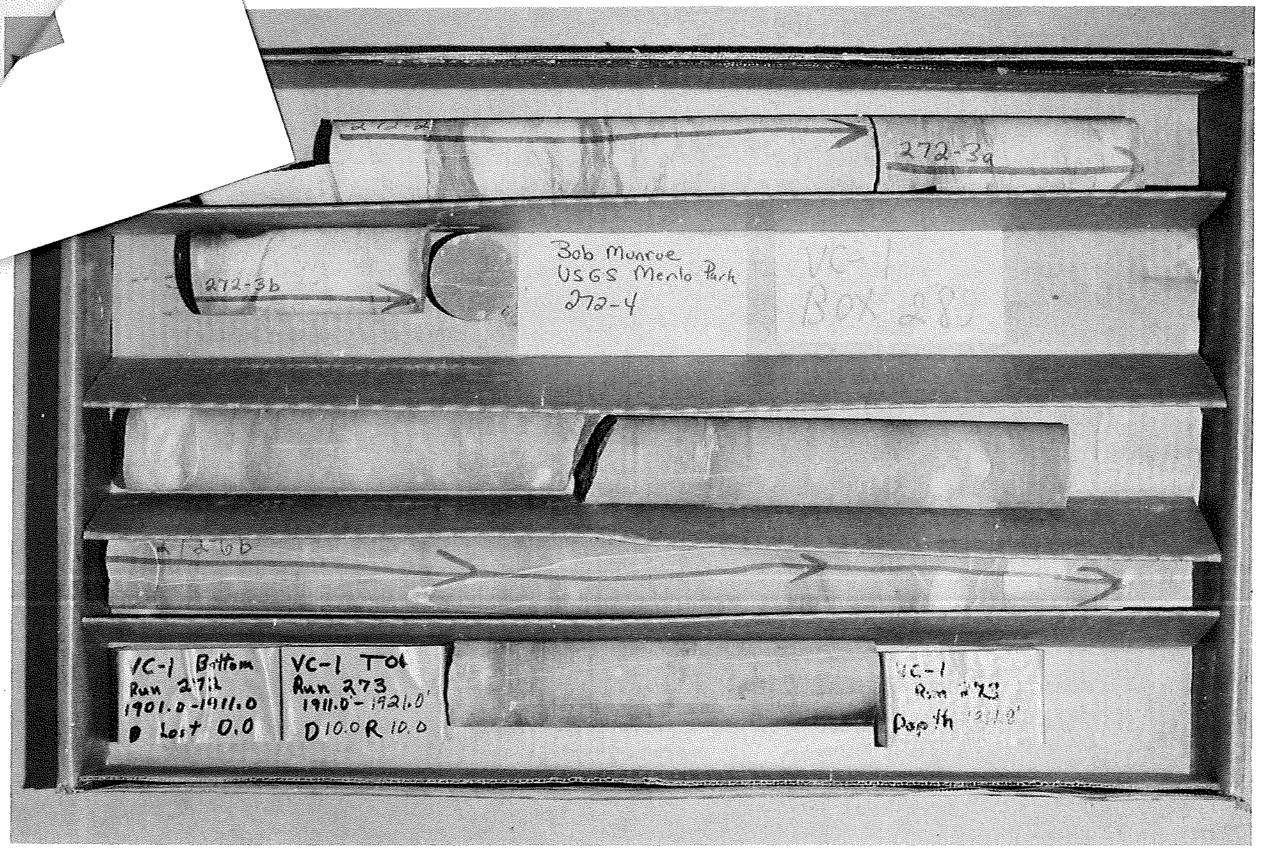

VC-1 RUN 268
1865.4-1871
(CONT)
Bob Munroe
USGS Menlo Park
268-8
VC-1
BOX 284

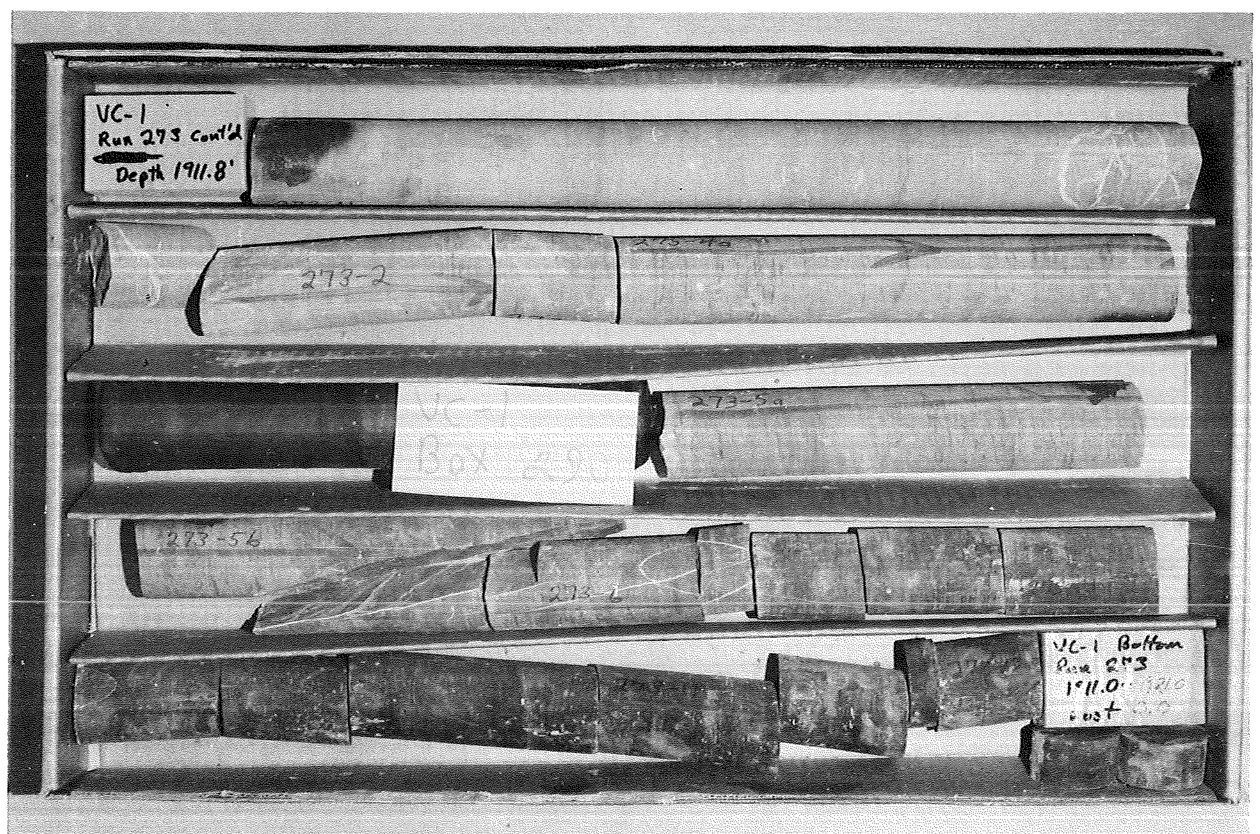

VC-1
Run 269
Depth ~1873.3
(cont.)
VC-1
BOX 285
VC-1
Run 269 End
1881
Lost - 0

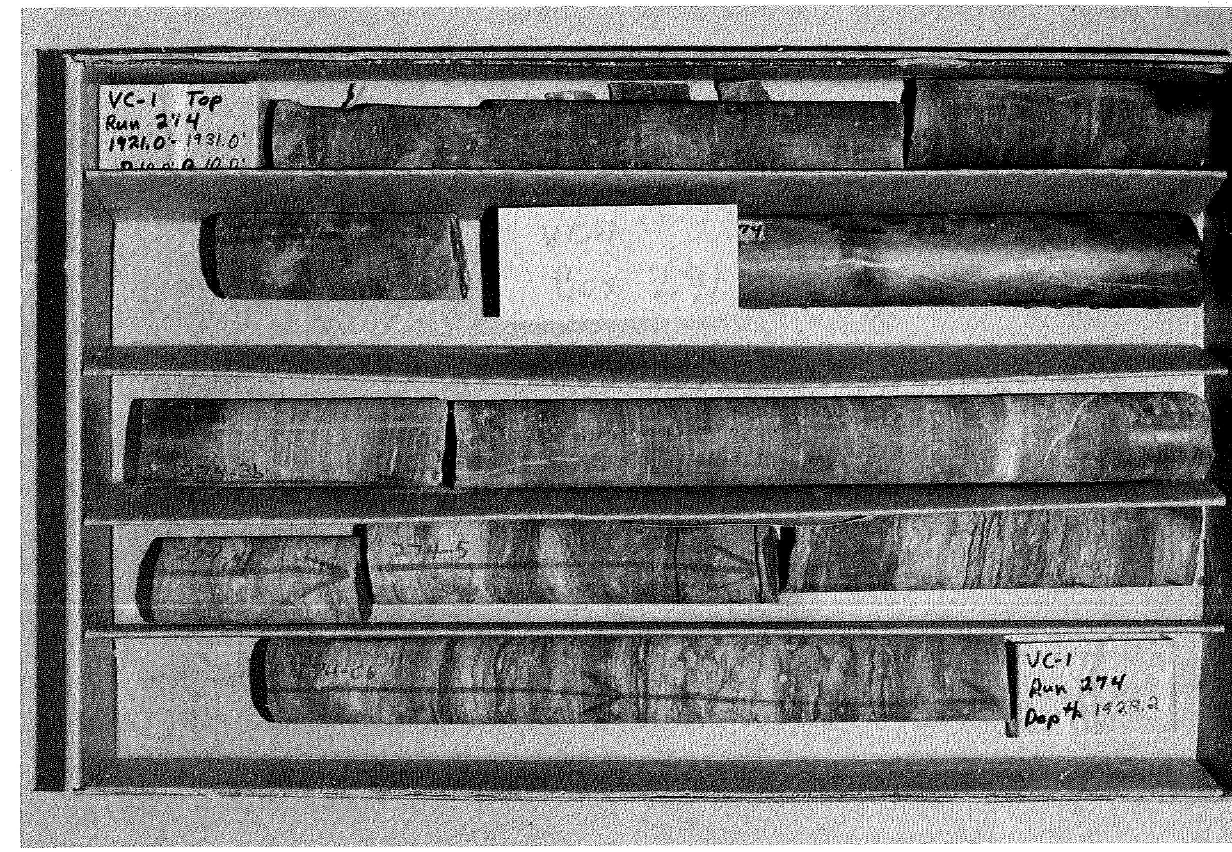

VC-1
Run 270 Top
1881 - 1891
D10 R10
VC-1
BOX 286
VC-1
Run 270
(cont.)

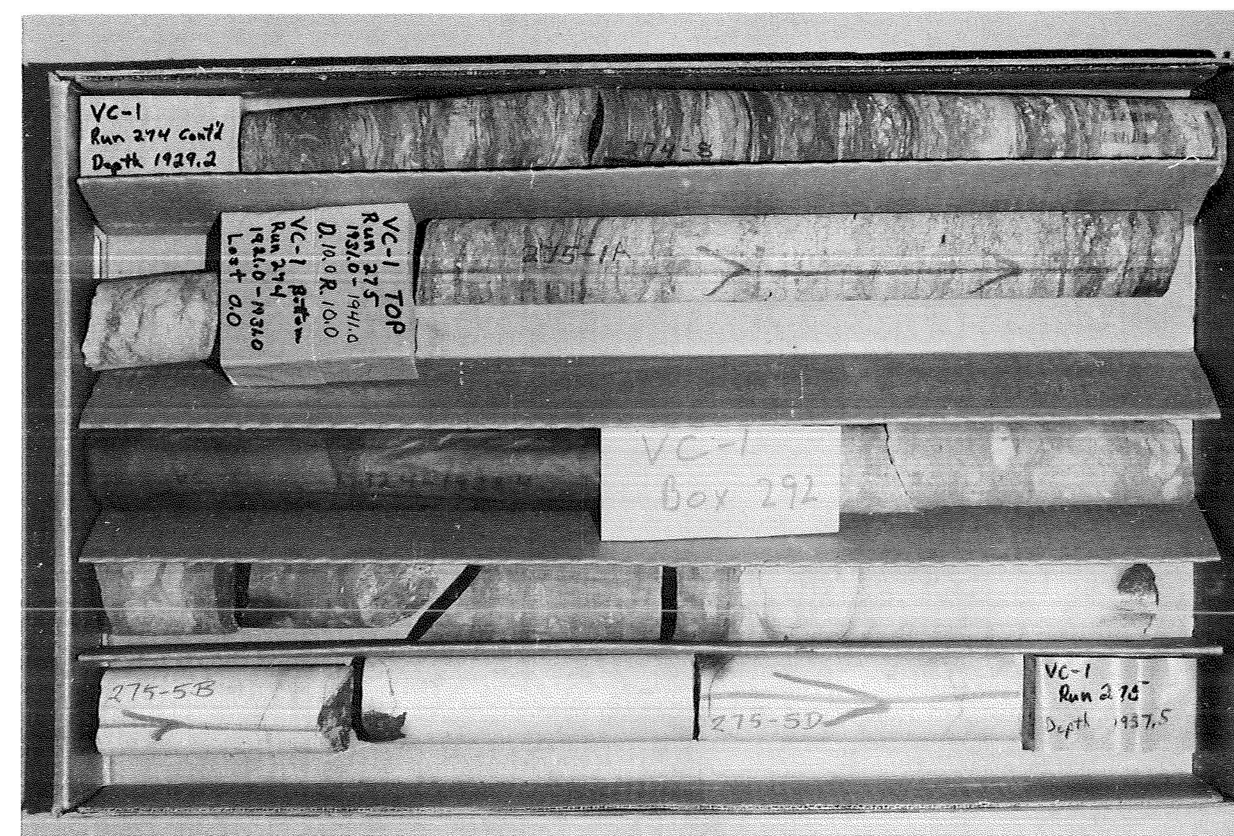

VC-1
Run 270
(cont.)
VC-1 Run 270
1889.2 - 1889.9
VC-1
BOX 287
VC-1
Run 271 Top
VC-1
Run 271
Depth 1896.2
(cont.)

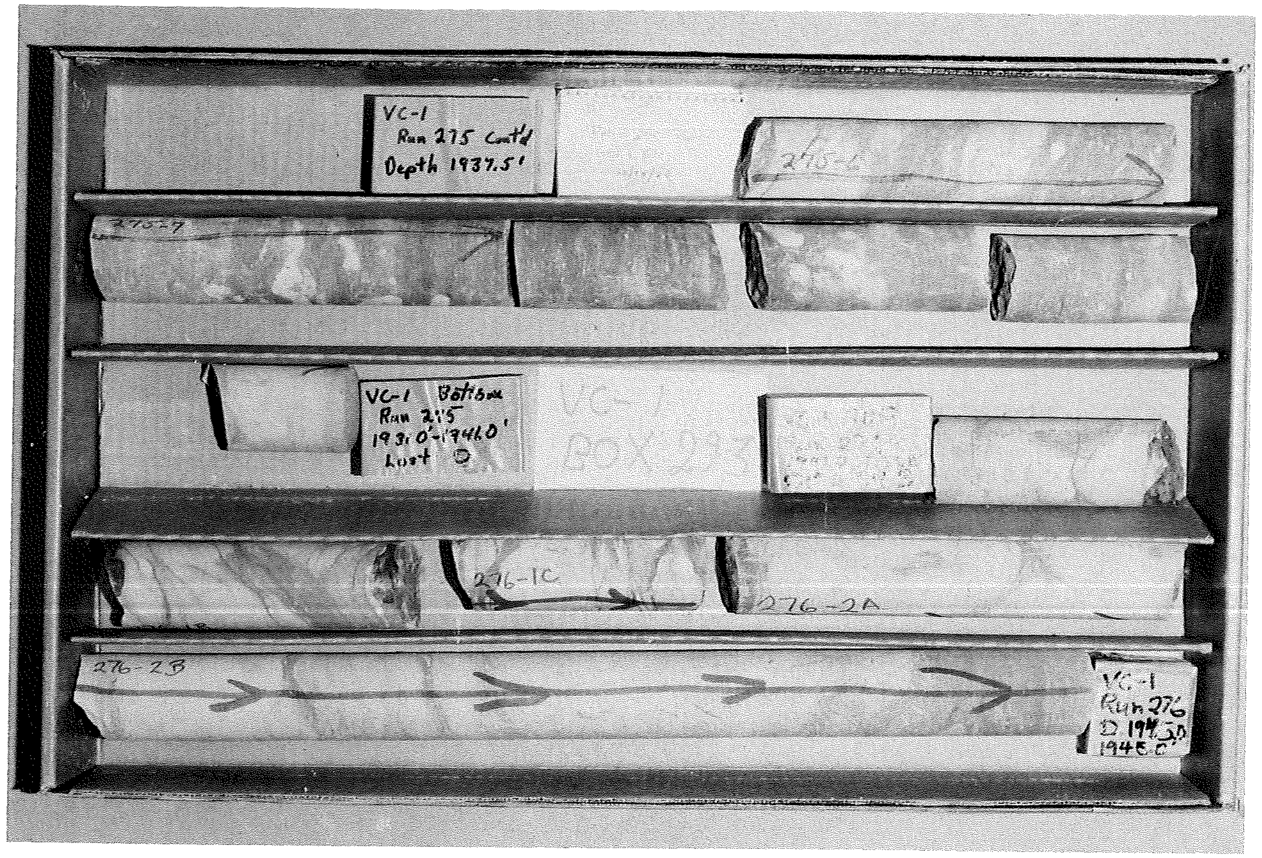

VC-1
Run 271
Depth 1896.2
(cont.)
VC-1
BOX 288

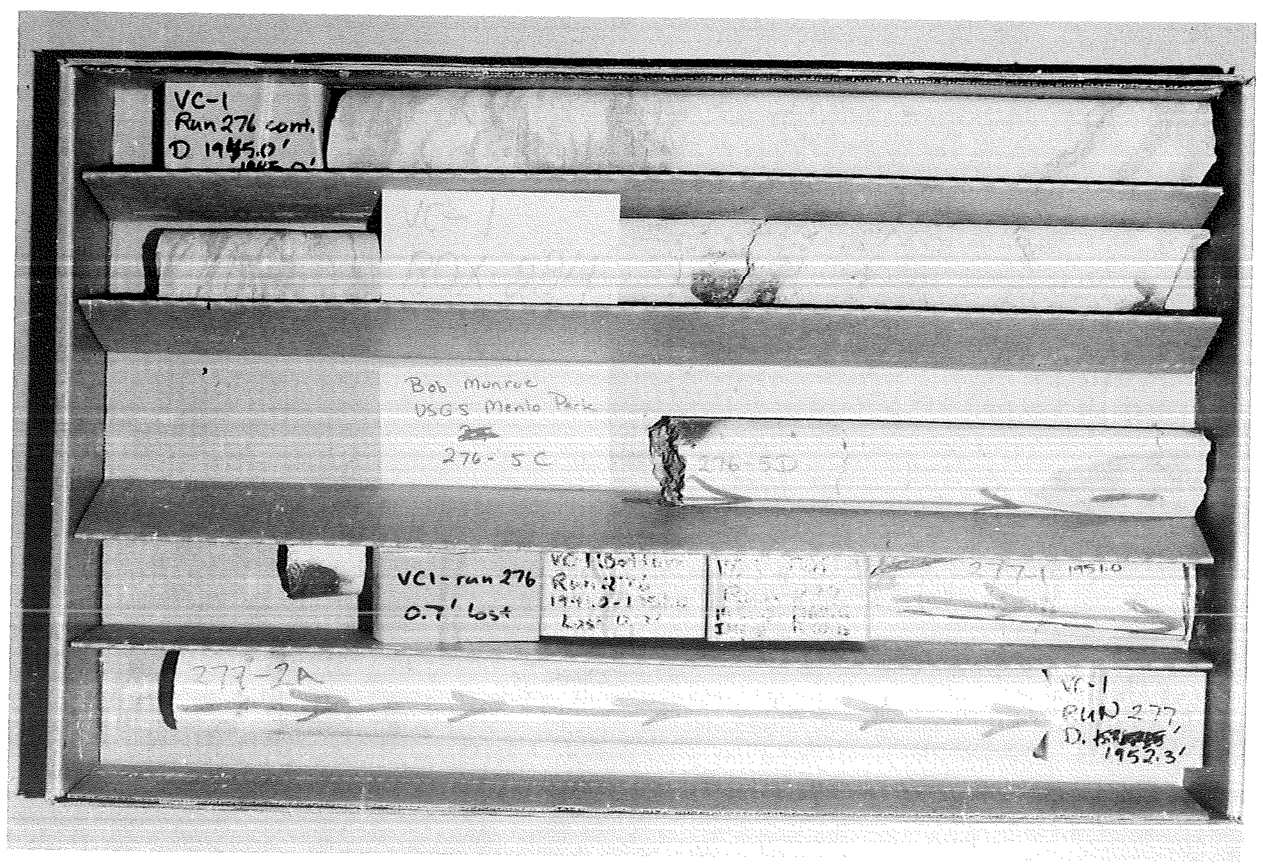

Bob Munroe
USGS Menlo Park
272-4
VC-1
VC-1 Bottom
Run 272
1901.0-1911.0
VC-1 Top
Run 273
1911.0'-1921.0'
D10.0 R10.0

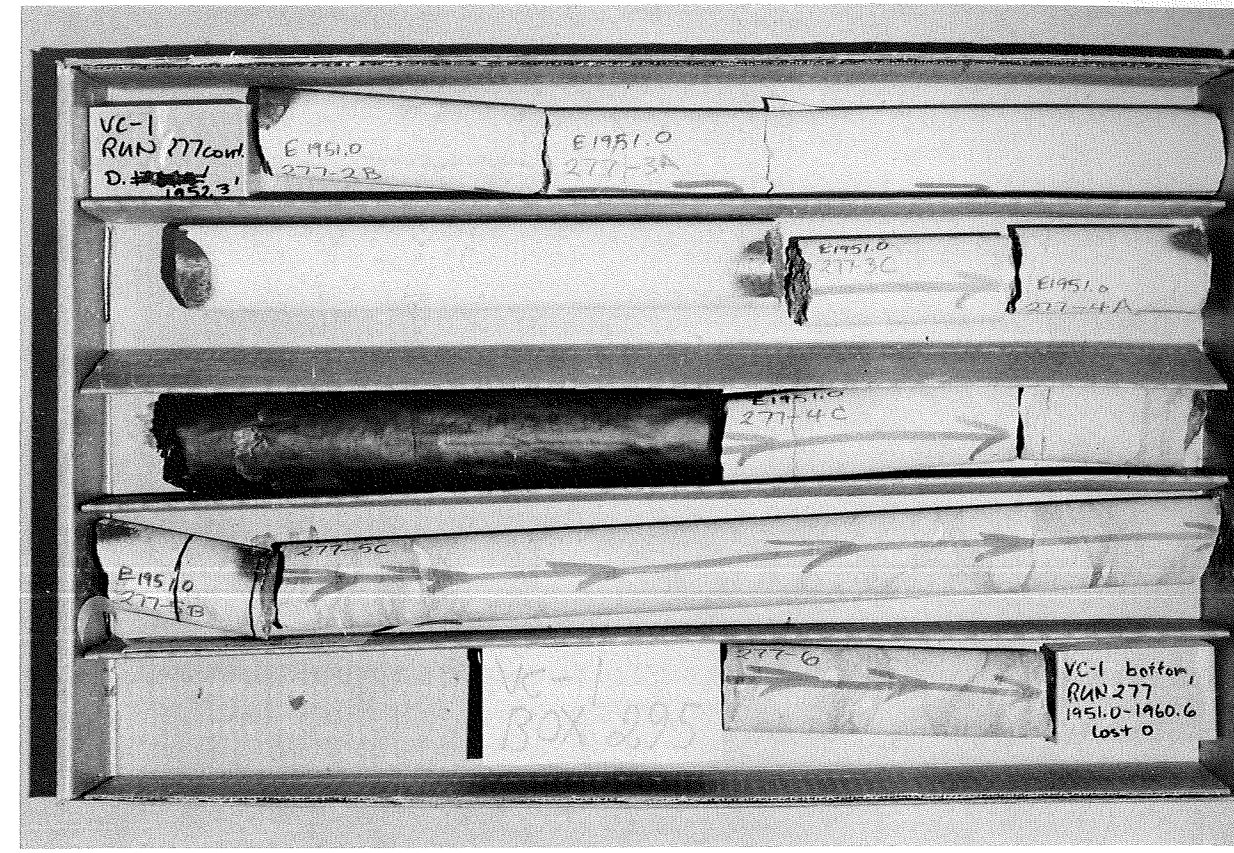

VC-1
Run 273 Cont'd
Depth 1911.8'
273-2

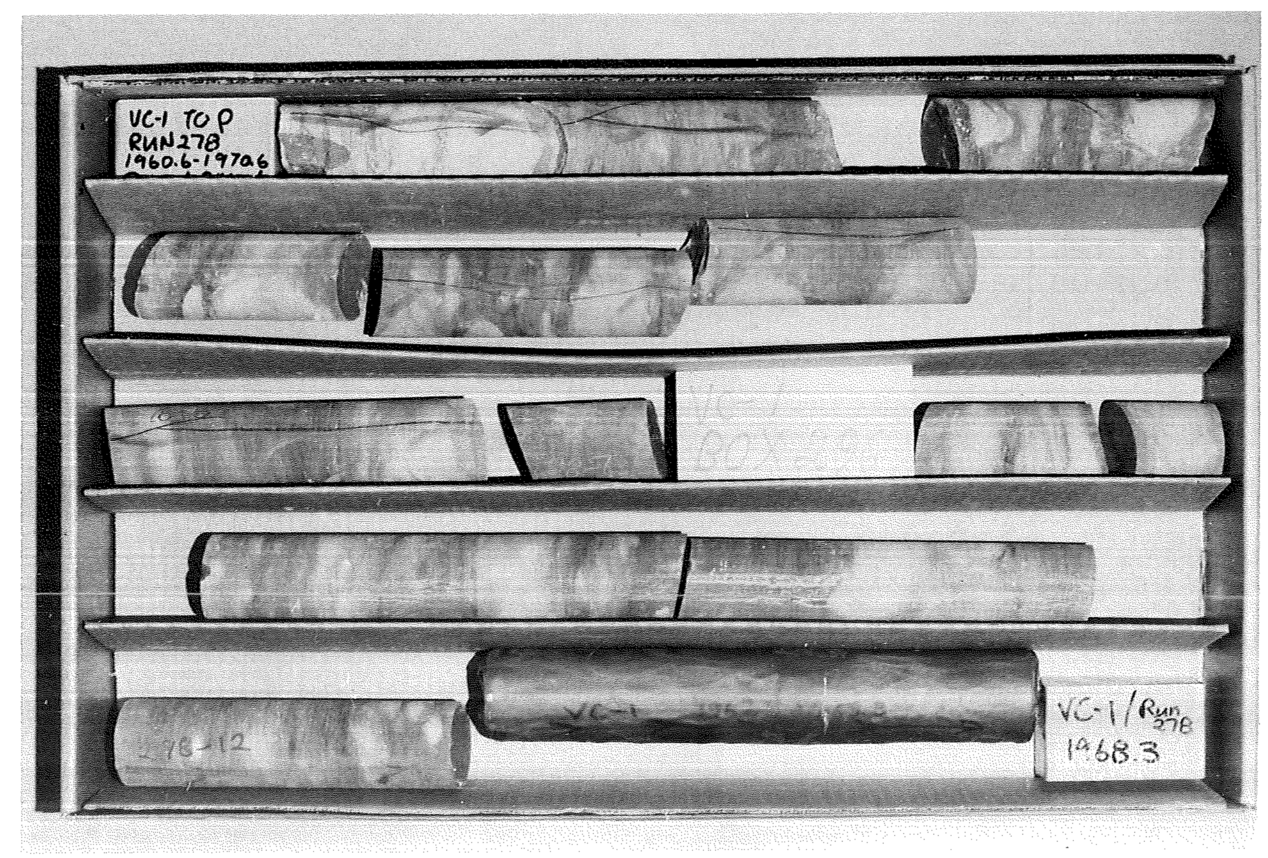

VC-1 Top
Run 274
1921.0'-1931.0'
VC-1
Box 291
VC-1
Run 274
Depth 1929.2

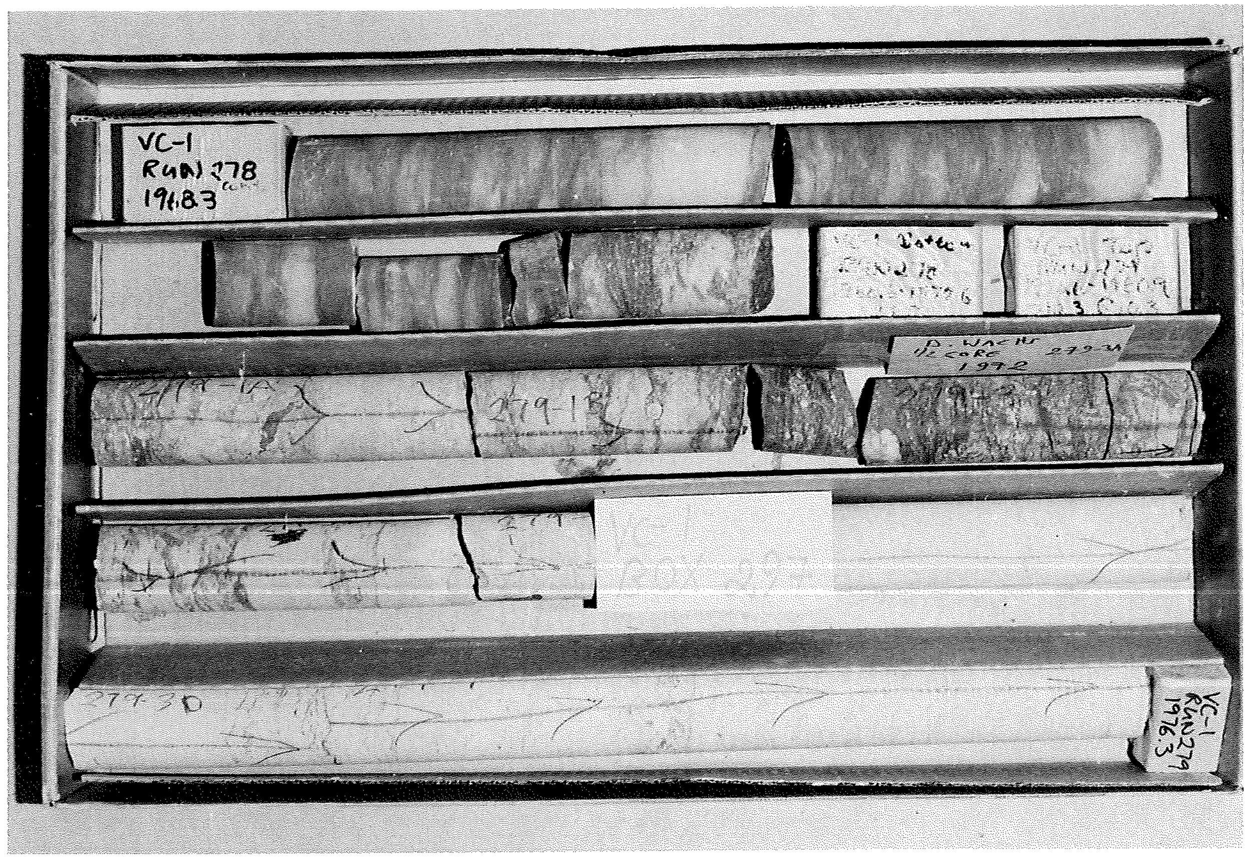

VC-1
Run 274 Cont'd
Depth 1929.2
VC-1
Box 292
275-5B
VC-1
Run 275
Depth 1937.5

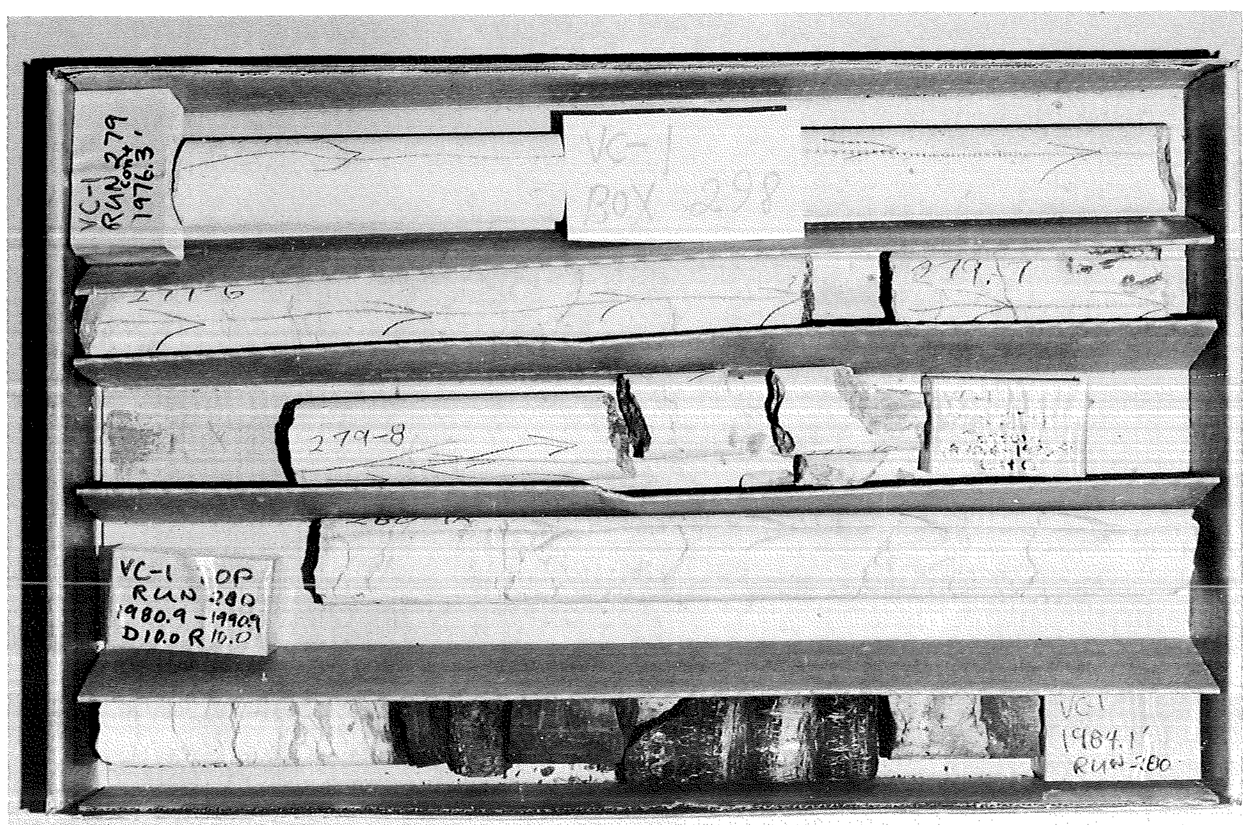

VC-1
Run 275 Cont'd
Depth 1937.5'
276-1C
276-2A
276-2B
Run 276

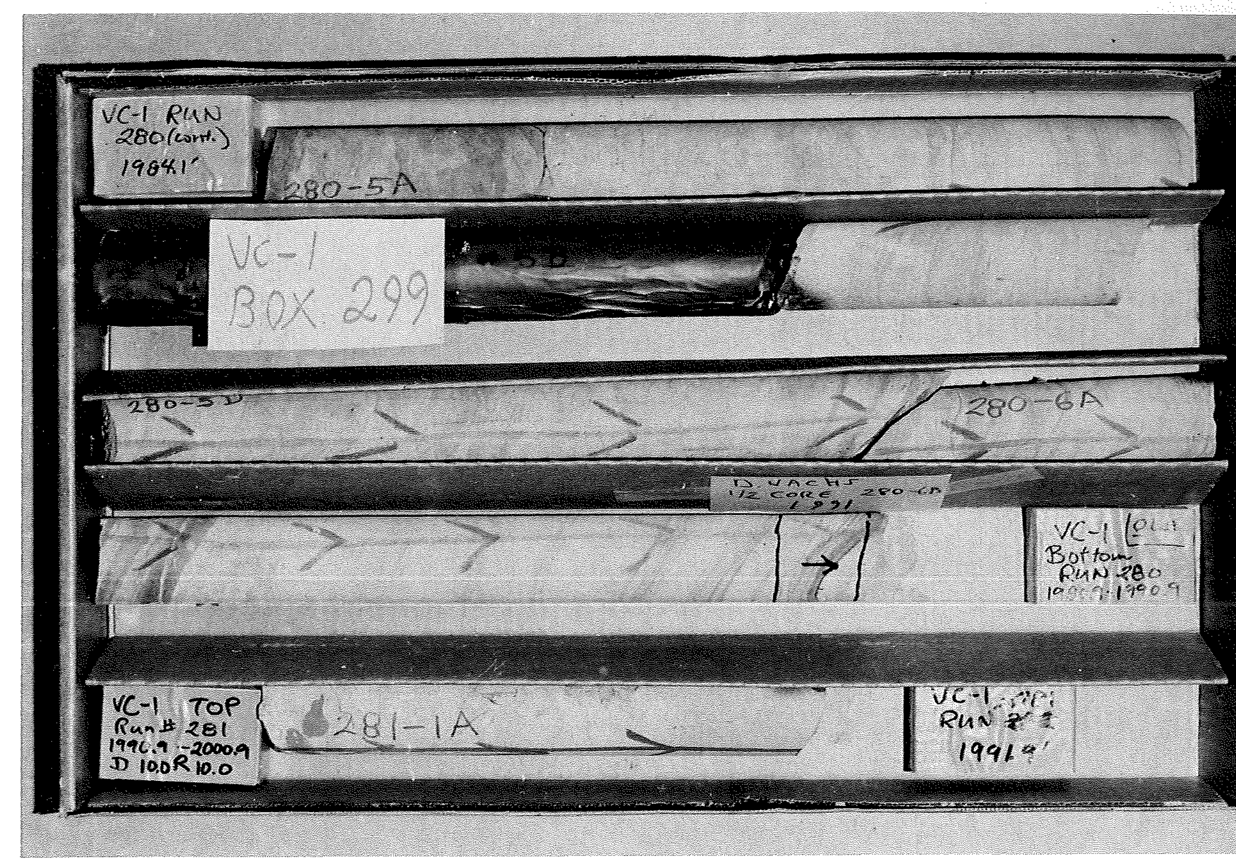

VC-1
Run 276 cont.
Bob Munroe
USGS Menlo Park
276-5C
VC1-run 276
0.7' lost
277-2A
VC-1
RUN 277
1952.3'


VC-1
RUN 277 cont.
1952.3'
E1951.0
277-2B
E1951.0
277-3A
E1951.0
277-3C
E1951.0
277-4A
277-4C
277-5C
277-6
VC-1
BOX 295
VC-1 bottom,
RUN 277
1951.0-1960.6
lost 0

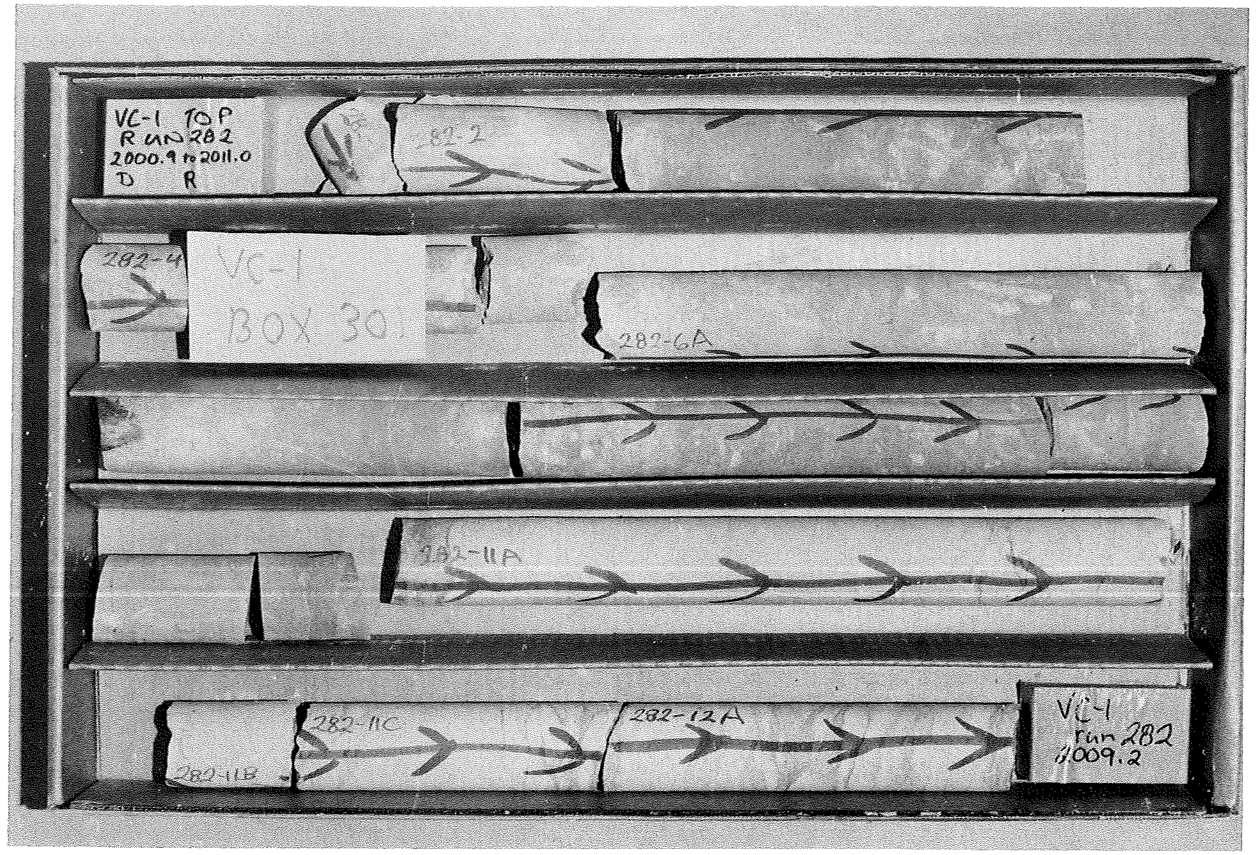

VC-1 TOP
RUN 278
1960.6-1970.6
VC-1/Run 278
1968.3

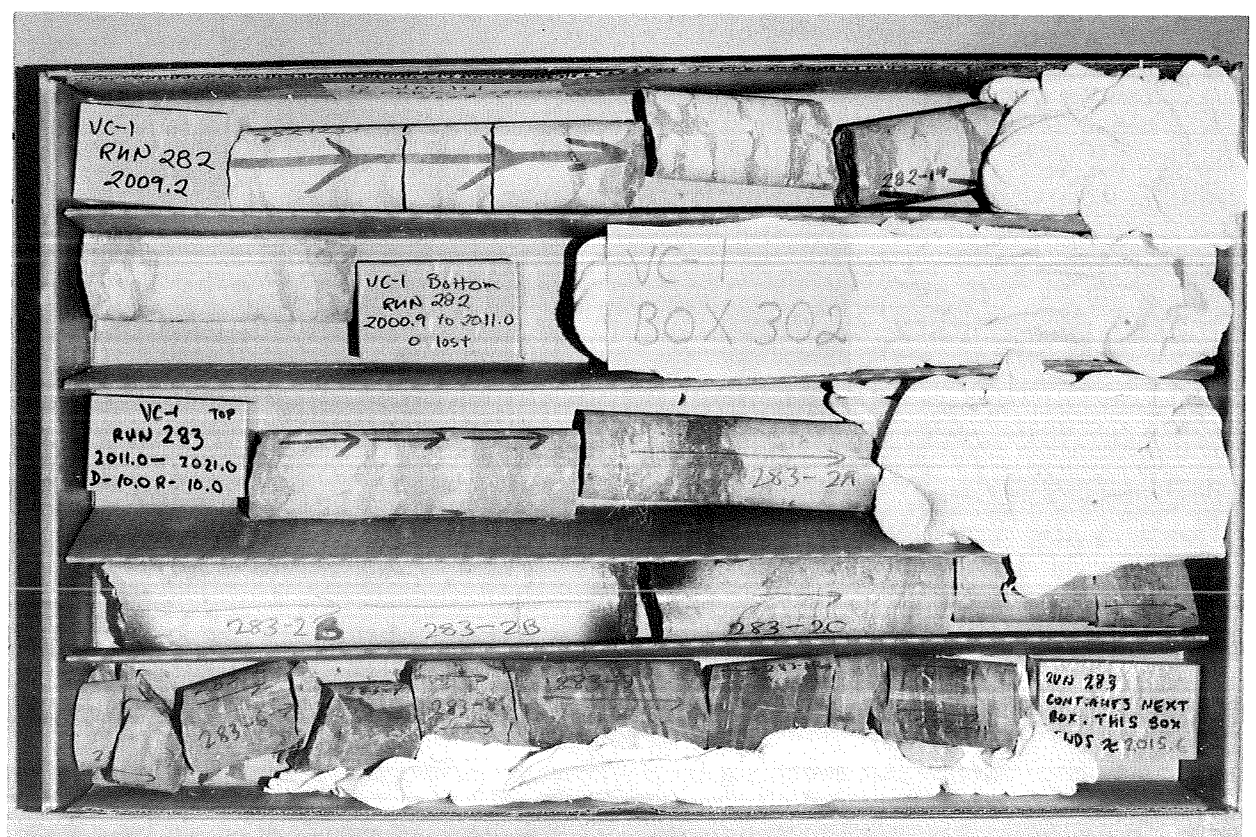

VC-1
BOX 297

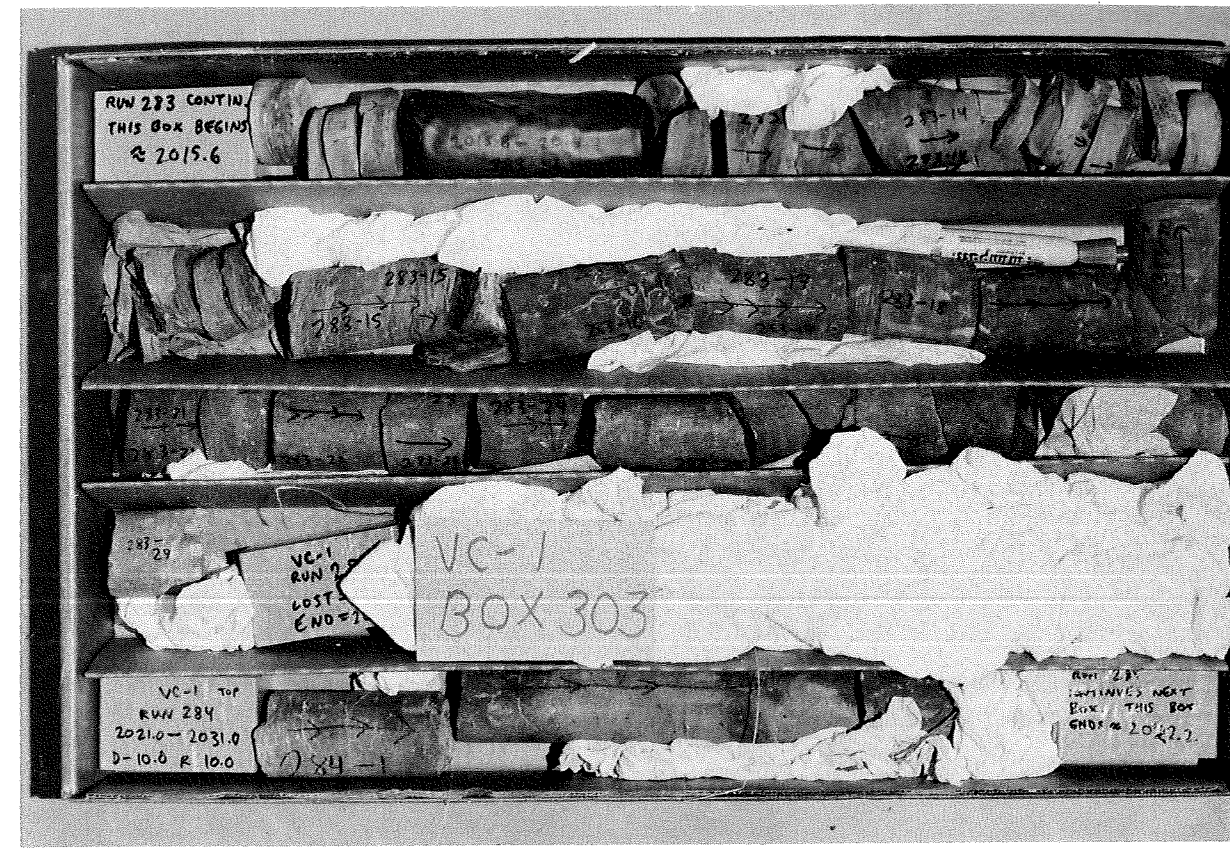

VC-1
BOX 298


VC-1
BOX 299

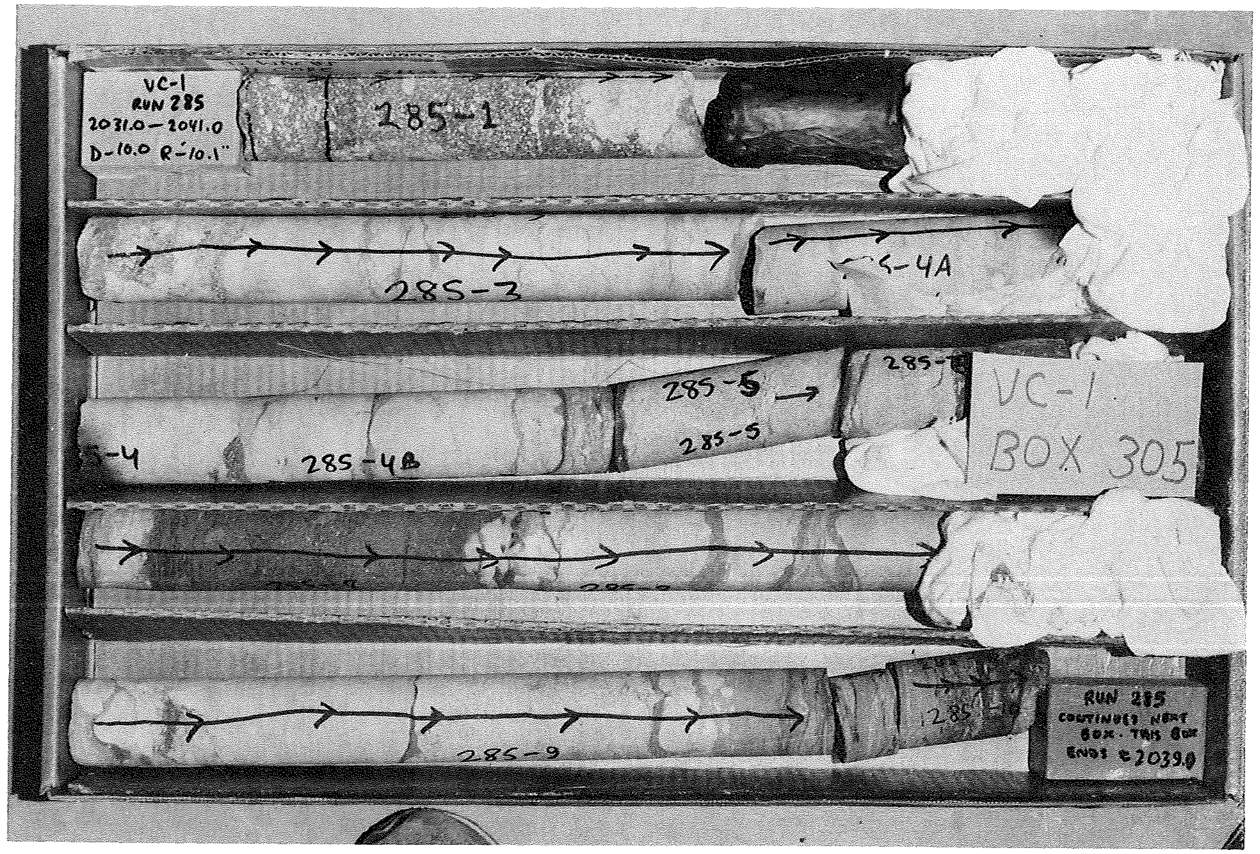

VC-1
BOX 300

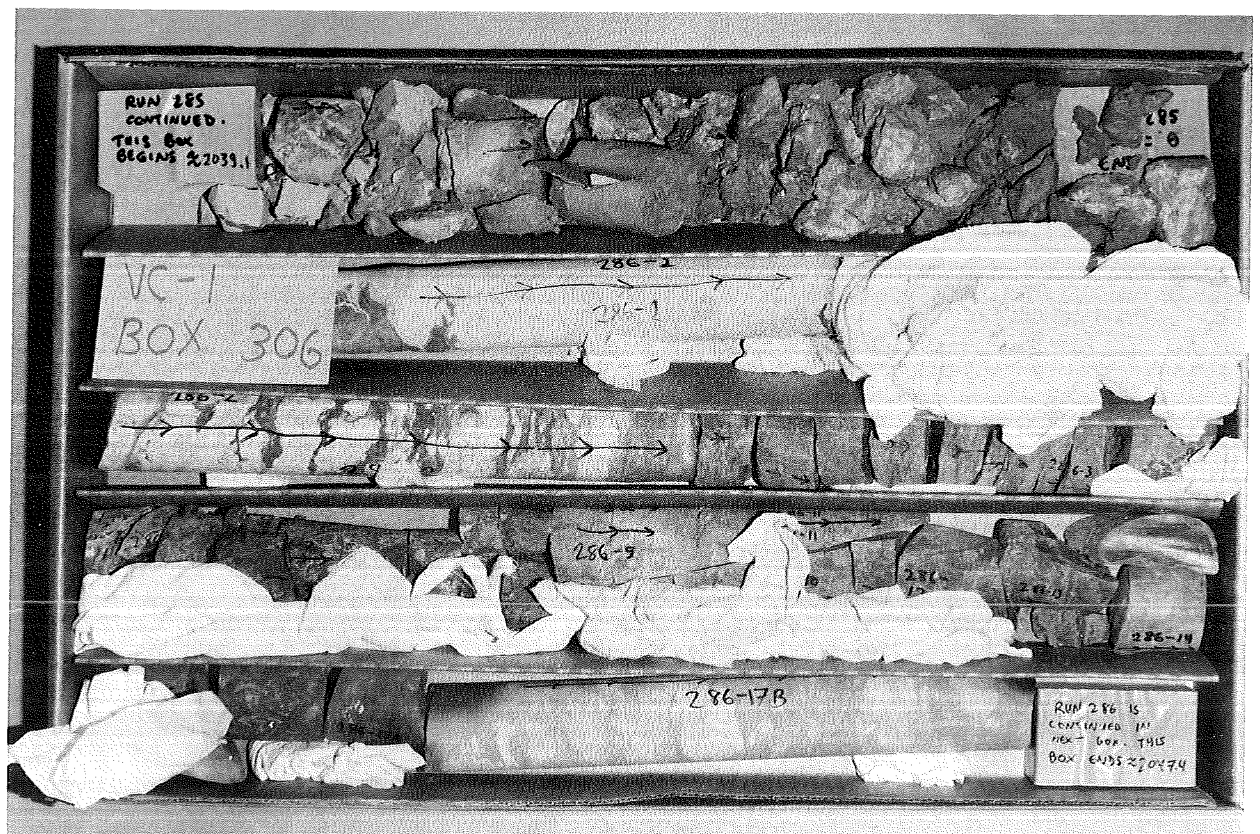

VC-1 TOP
RUN 282
2000.9 to 2011.0
D R
VC-1
BOX 30
VC-1
run 282
2009.2

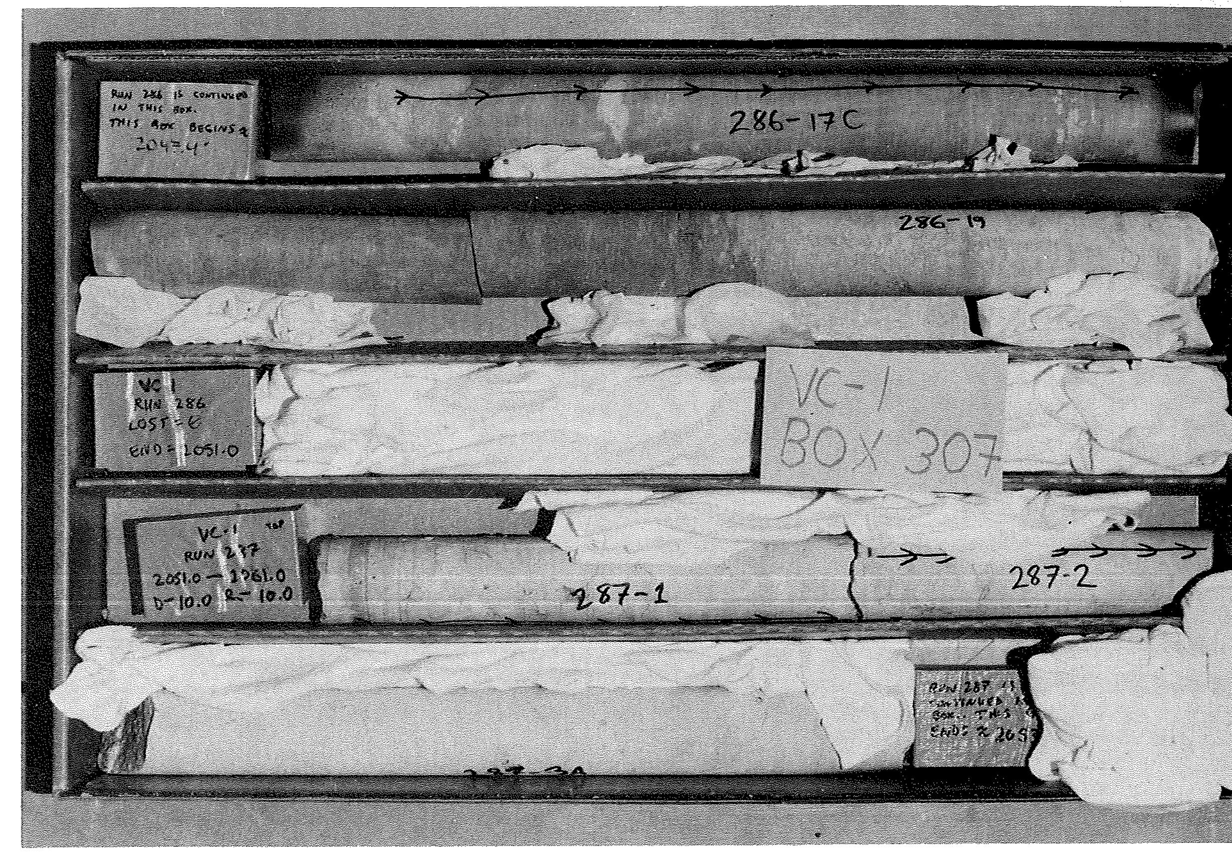

VC-1
RUN 282
2009.2
VC-1 Bottom
RUN 282
2000.9 to 2011.0
0 lost
VC-1
BOX 302
VC-1 TOP
RUN 283
2011.0– 2021.0
D-10.0 R- 10.0


RUN 283 CONTIN.
THIS BOX BEGINS
≈ 2015.6
VC-1
BOX 303
VC-1 TOP
RUN 284
2021.0 – 2031.0
D-10.0 R 10.0

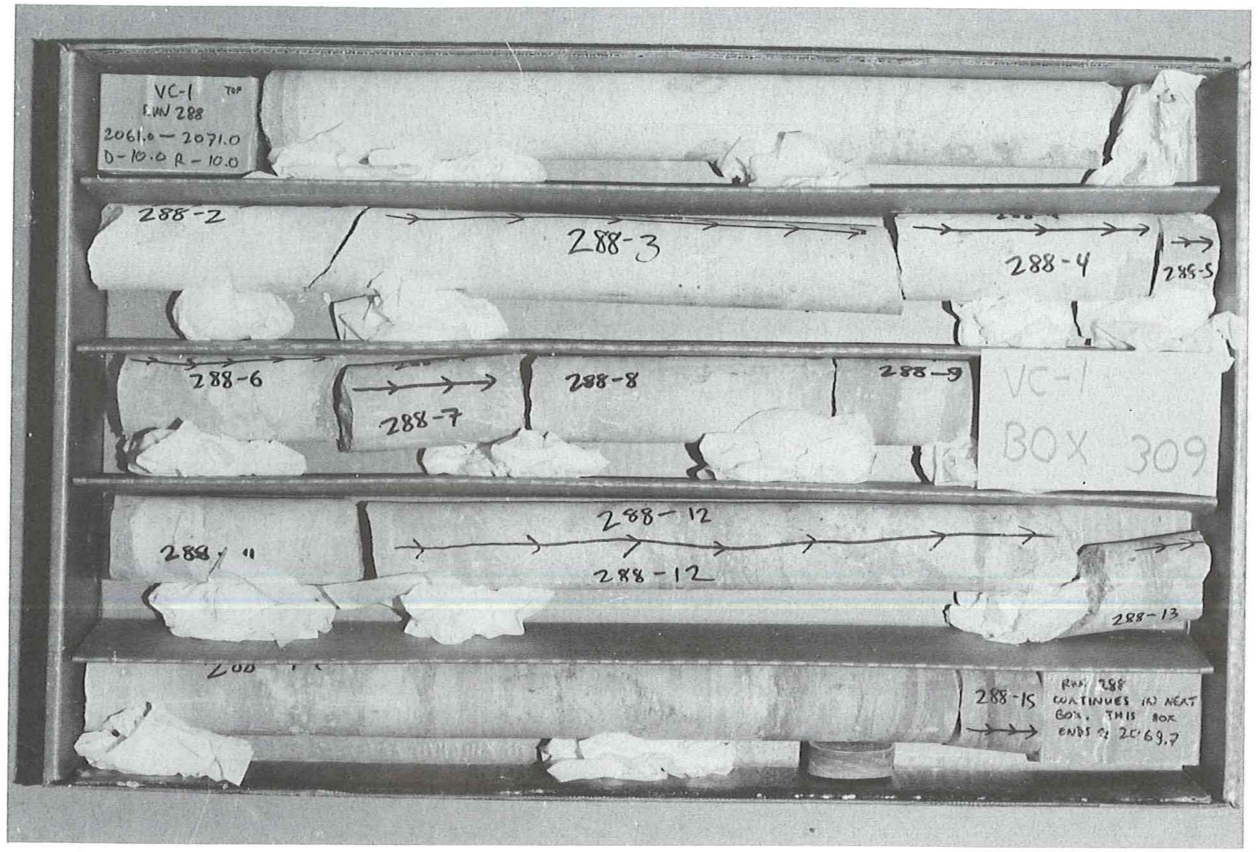

RUN 284 CONTINUED
THIS BOX BEGINS
≈ 2022.2
VC-1
BOX 304

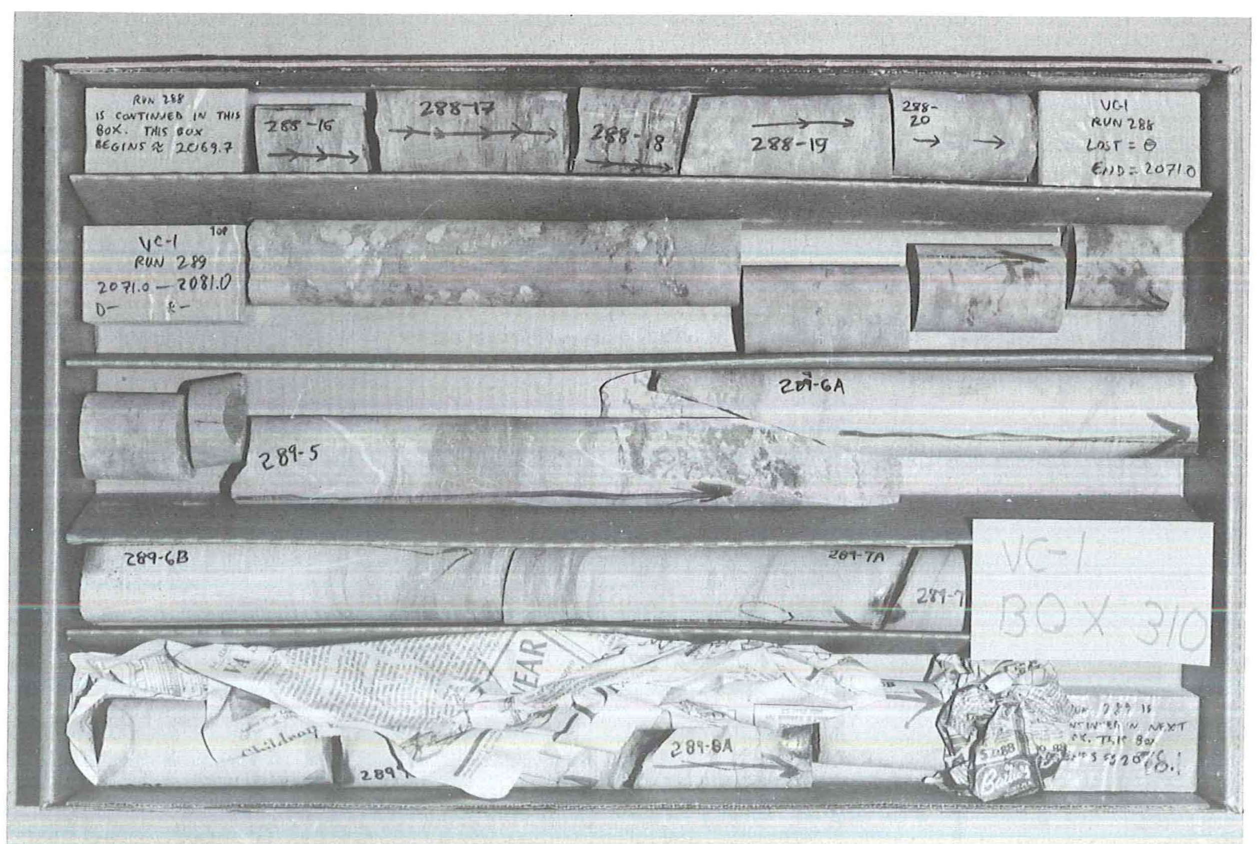

VC-1
RUN 285
2031.0 — 2041.0
D-10.0 R-10.1"
285-1
285-3
285-4B
285-5
VC-1
BOX 305
285-9
RUN 285
CONTINUES NEXT
BOX. THIS BOX
ENDS ≈ 2039.0

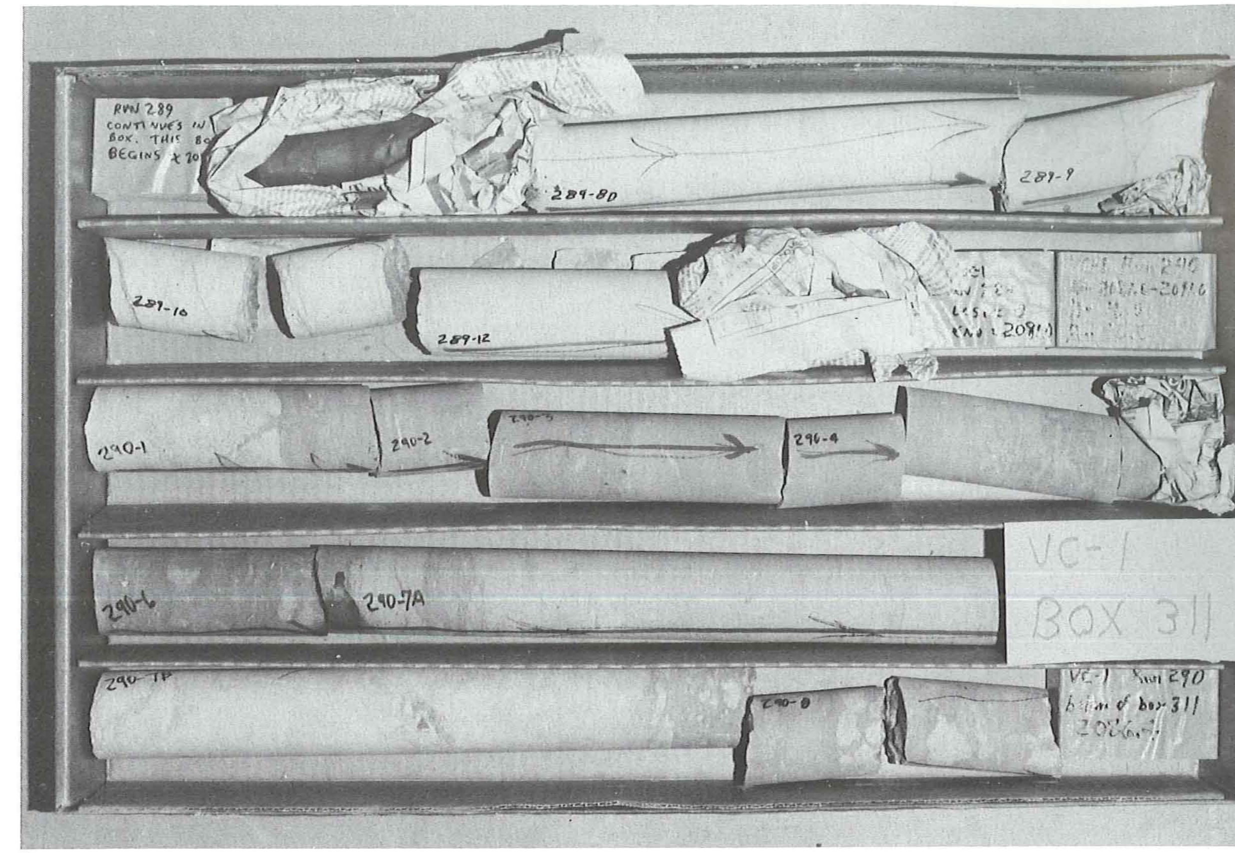

RUN 285
CONTINUED.
THIS BOX
BEGINS ≈ 2039.1
VC-1
BOX 306
286-1
286-17B
RUN 286 IS
CONTINUED IN
NEXT BOX. THIS
BOX ENDS ≈ 2047.4

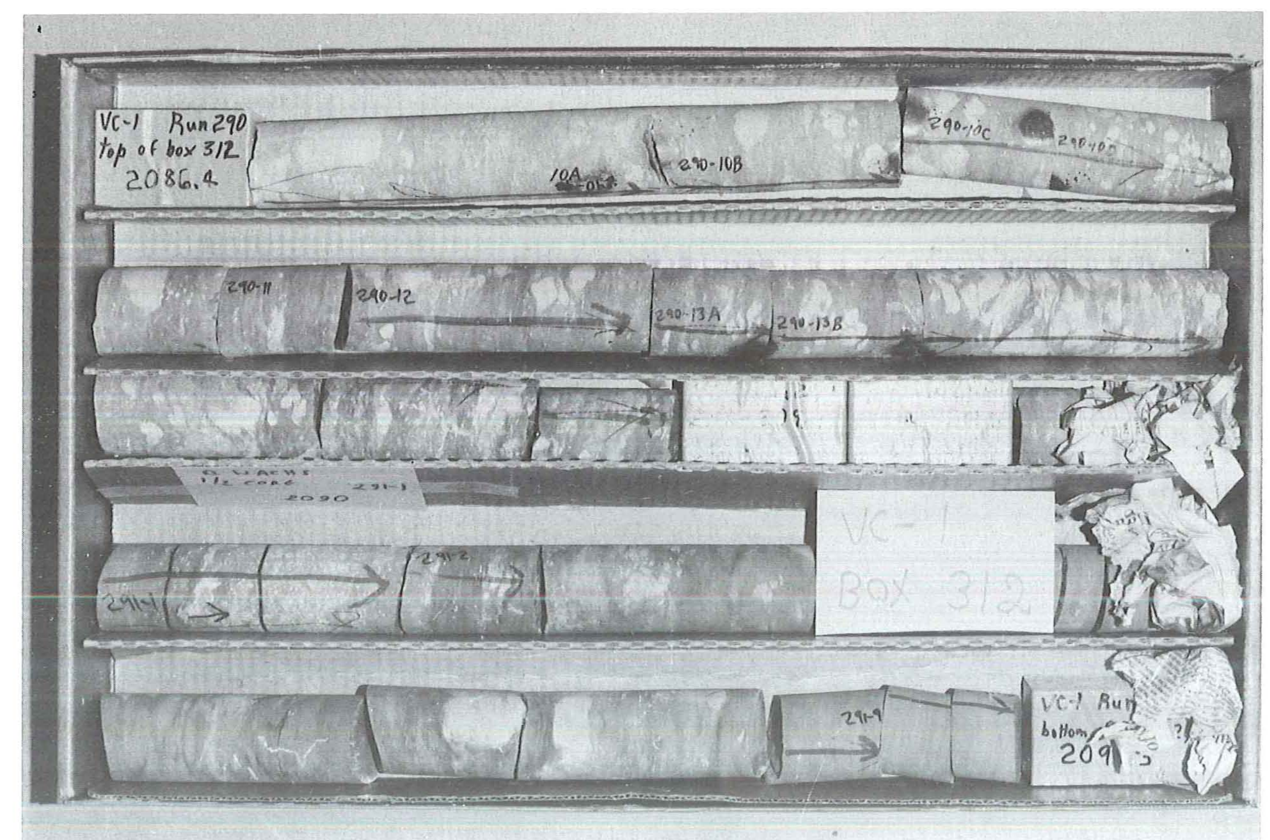

286-17C
286-19
VC-1
RUN 286
LOST = 0
END = 2051.0
VC-1
BOX 307
2051.0 — 2061.0
D-10.0 R-10.0
287-1
287-2

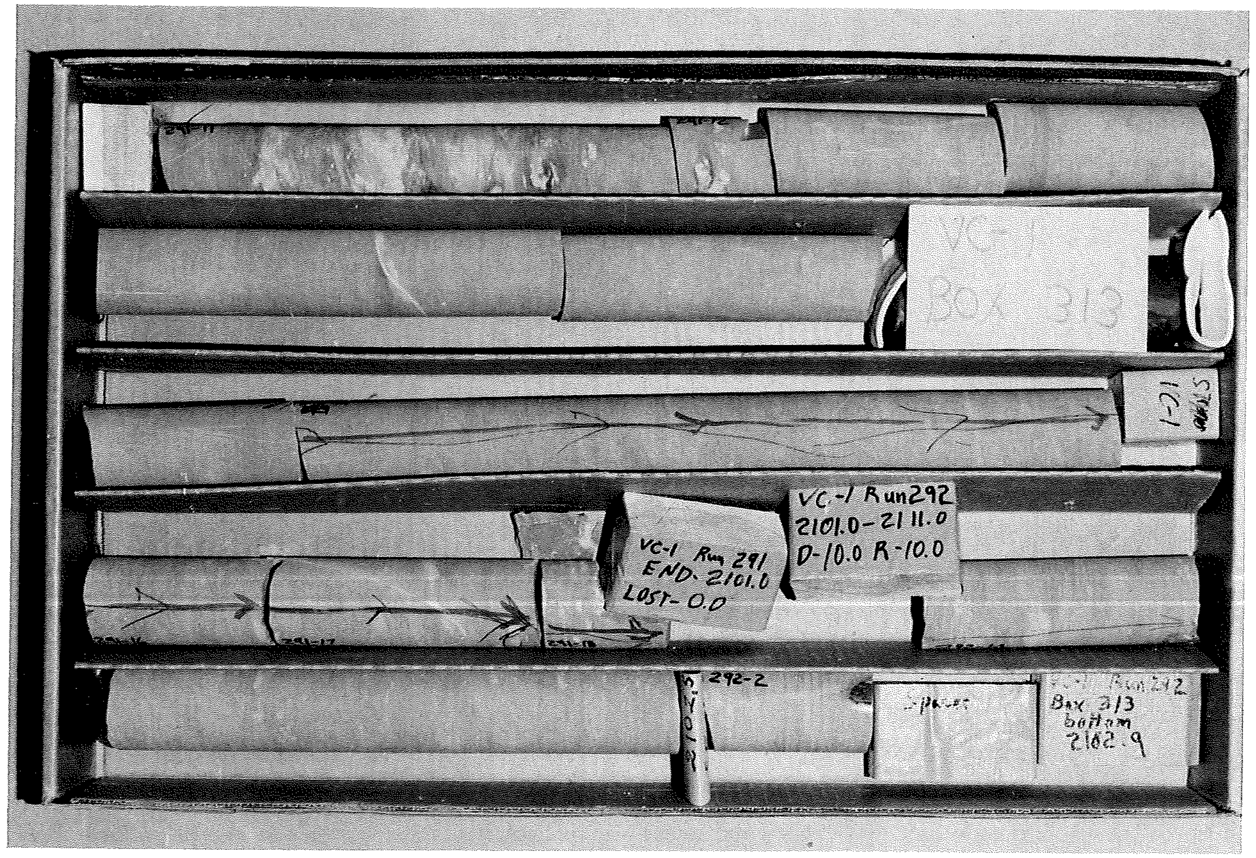

RUN 287 CONTINUES
THIS BOX.
THIS BOX BEGINS ≈
2053.9
287-3B
287-3C
287-5
VC-1
BOX 308
287-6
RUN 287
END = 2061.0

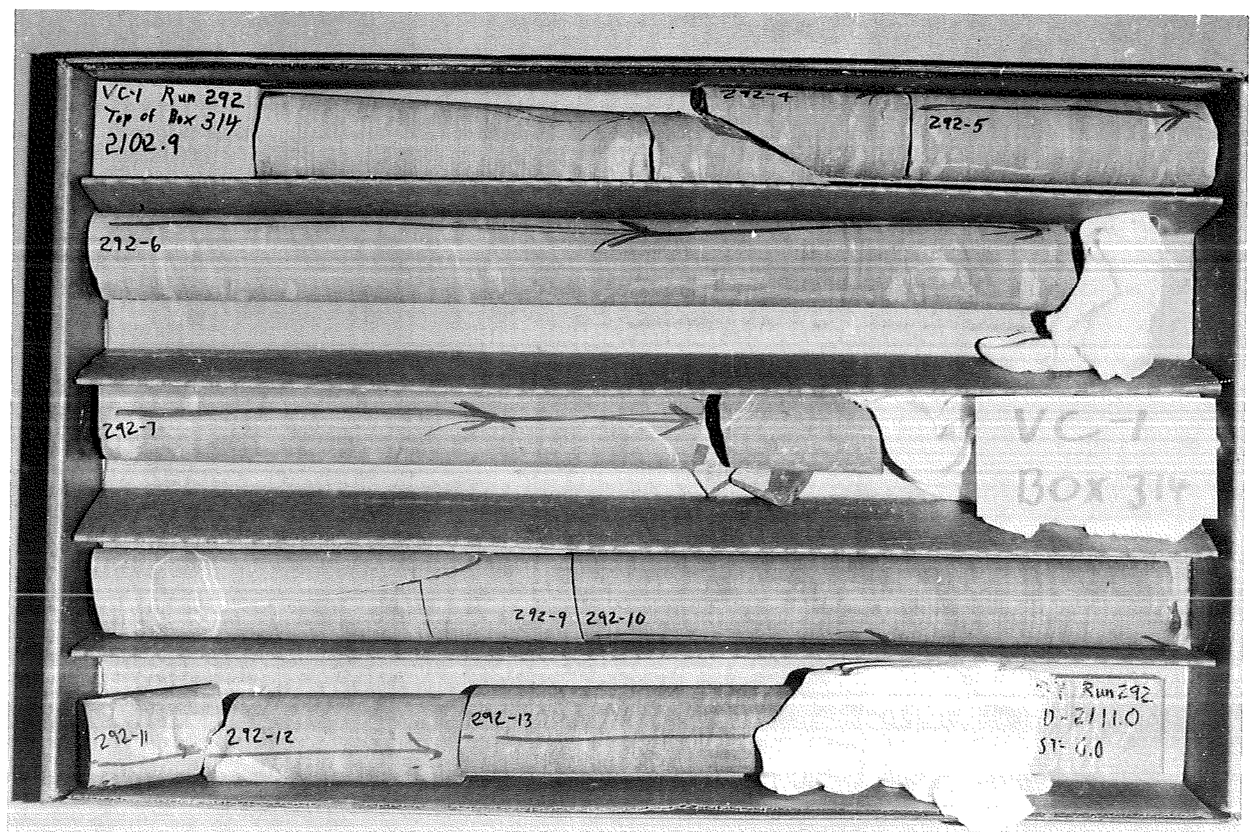

VC-1
RUN 288
2061.0 — 2071.0
288-2
288-3
288-4
288-6
288-7
288-8
288-9
VC-1
BOX 309
288-12
288-12
288-13
288-15

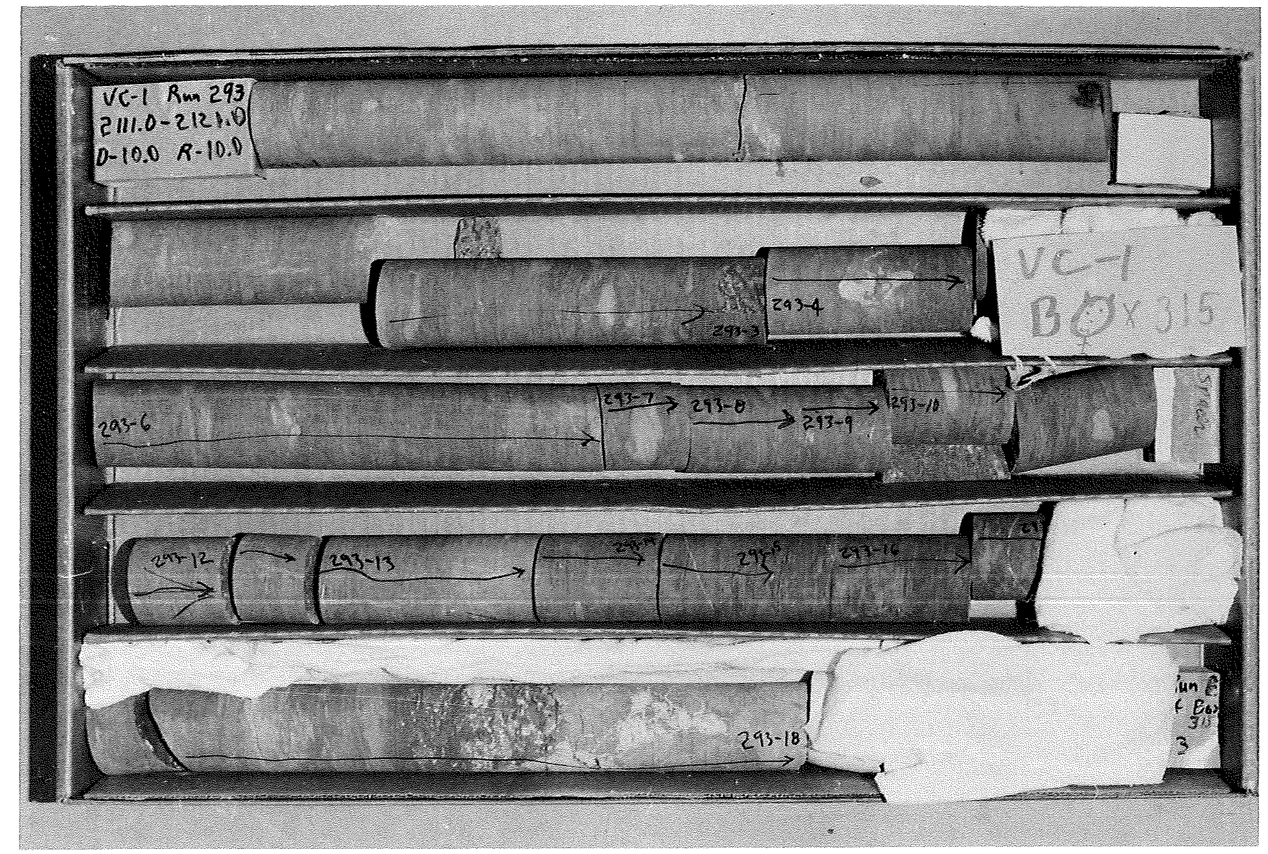

288-16
288-17
288-18
288-19
VC-1
RUN 288
END = 2071.0
VC-1
RUN 289
2071.0 — 2081.0
289-6A
289-5
289-6B
289-7A
VC-1
BOX 310
289-8A


289-8D
289-9
289-10
289-12
290-1
290-2
290-4
VC-1
BOX 311
290-7A
290-8

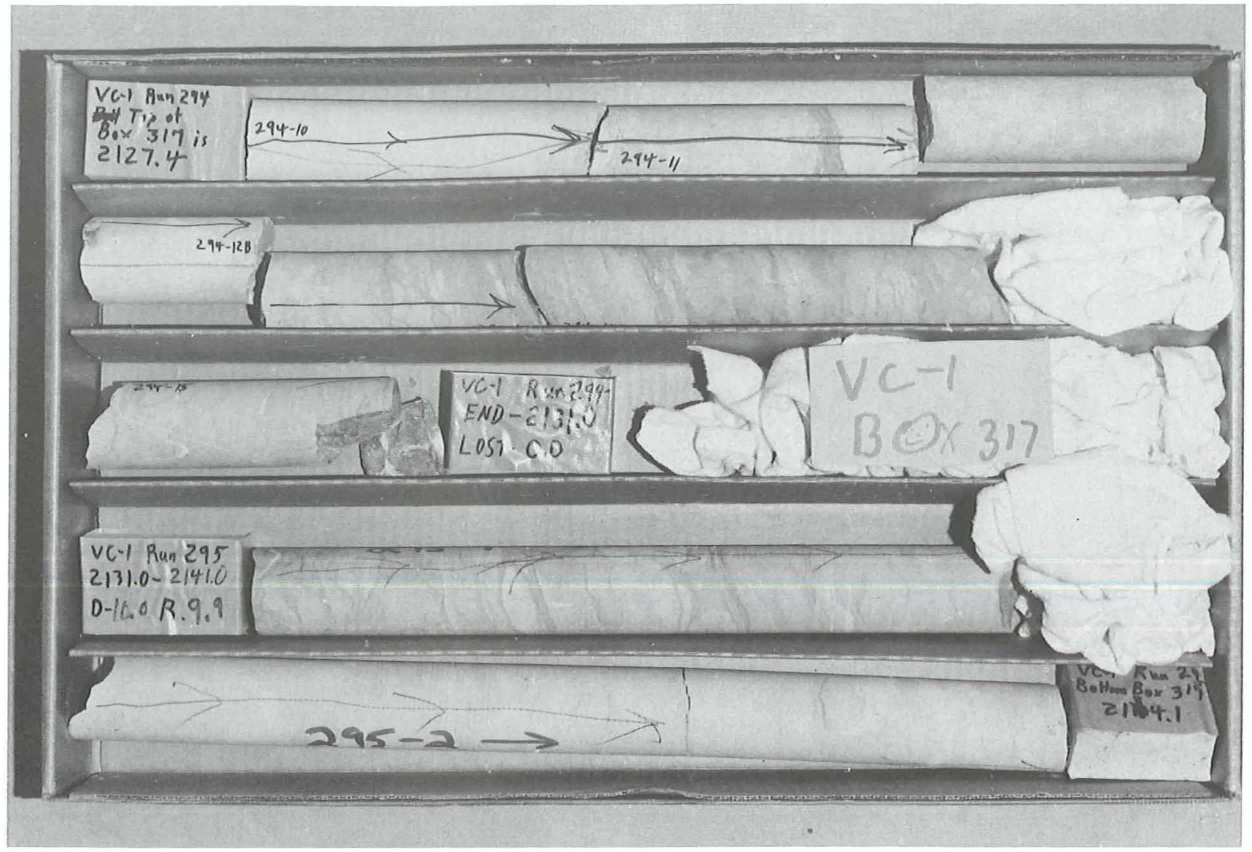

VC-1 Run 290
top of box 312
2086.4
290-10B
290-10C
290-11
290-12
290-13A
290-13B
VC-1
BOX 312
VC-1 Run
bottom

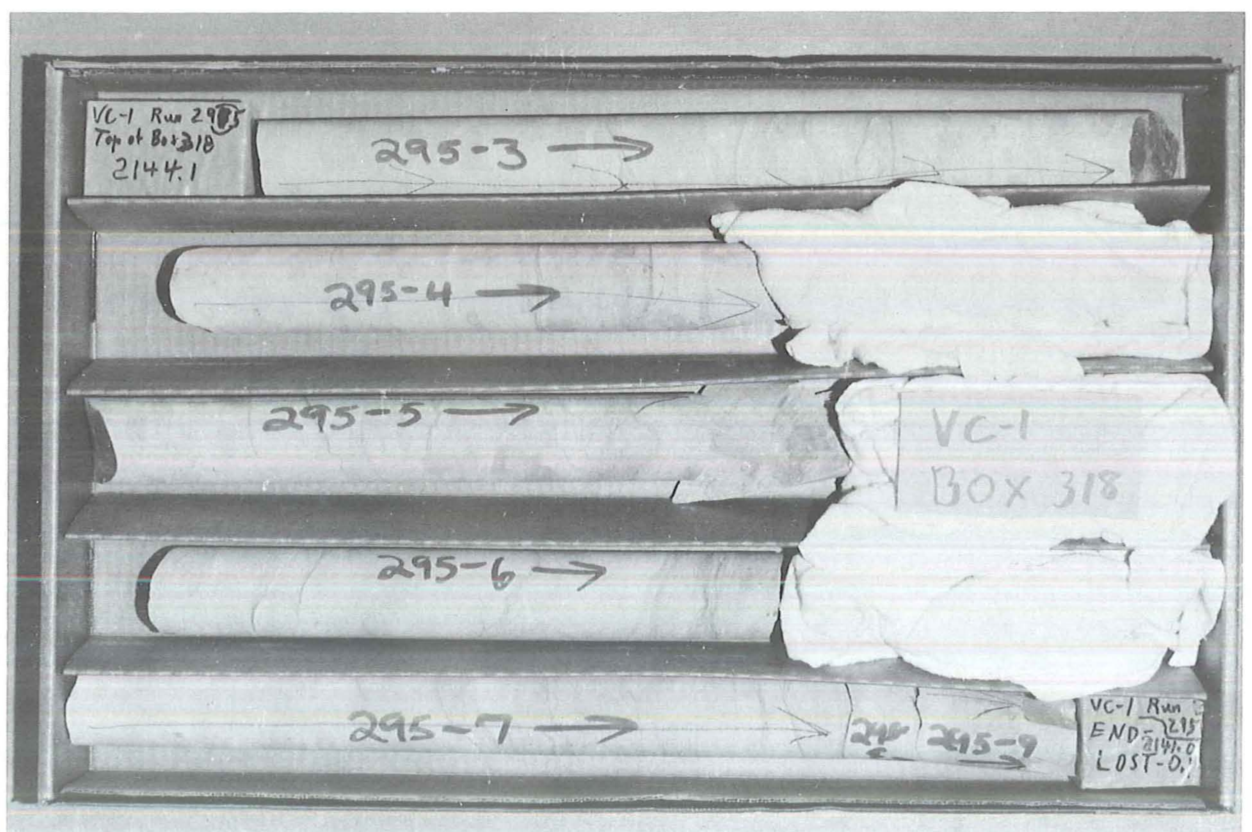

VC-1 Run 291
END-2101.0
LOST-0.0
VC-1 Run292
2101.0-2111.0
D-10.0 R-10.0
BOX 313
292-2
Box 313
bottom
2102.9

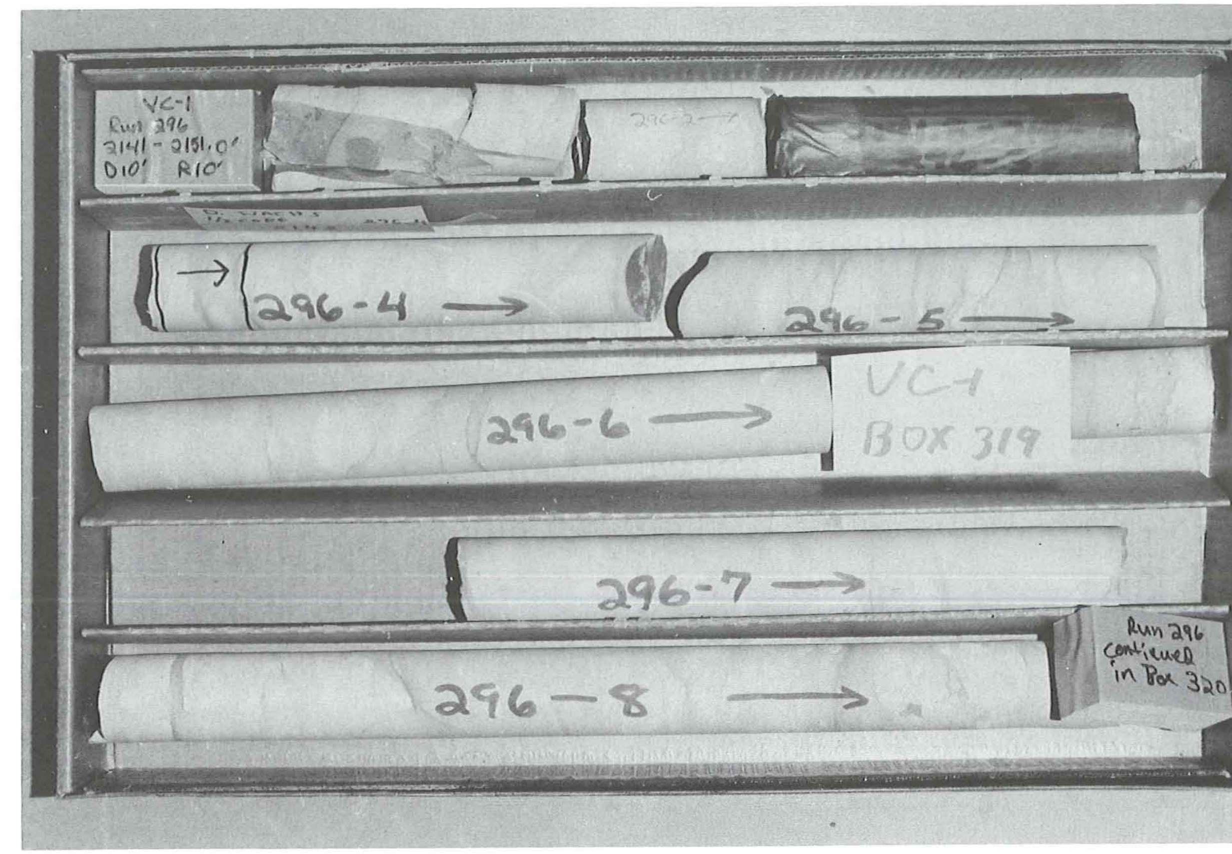

VC-1 Run 292
Top of Box 314
2102.9
292-4
292-5
292-6
292-7
VC-1
BOX 314
292-9
292-10
292-11
292-12
292-13

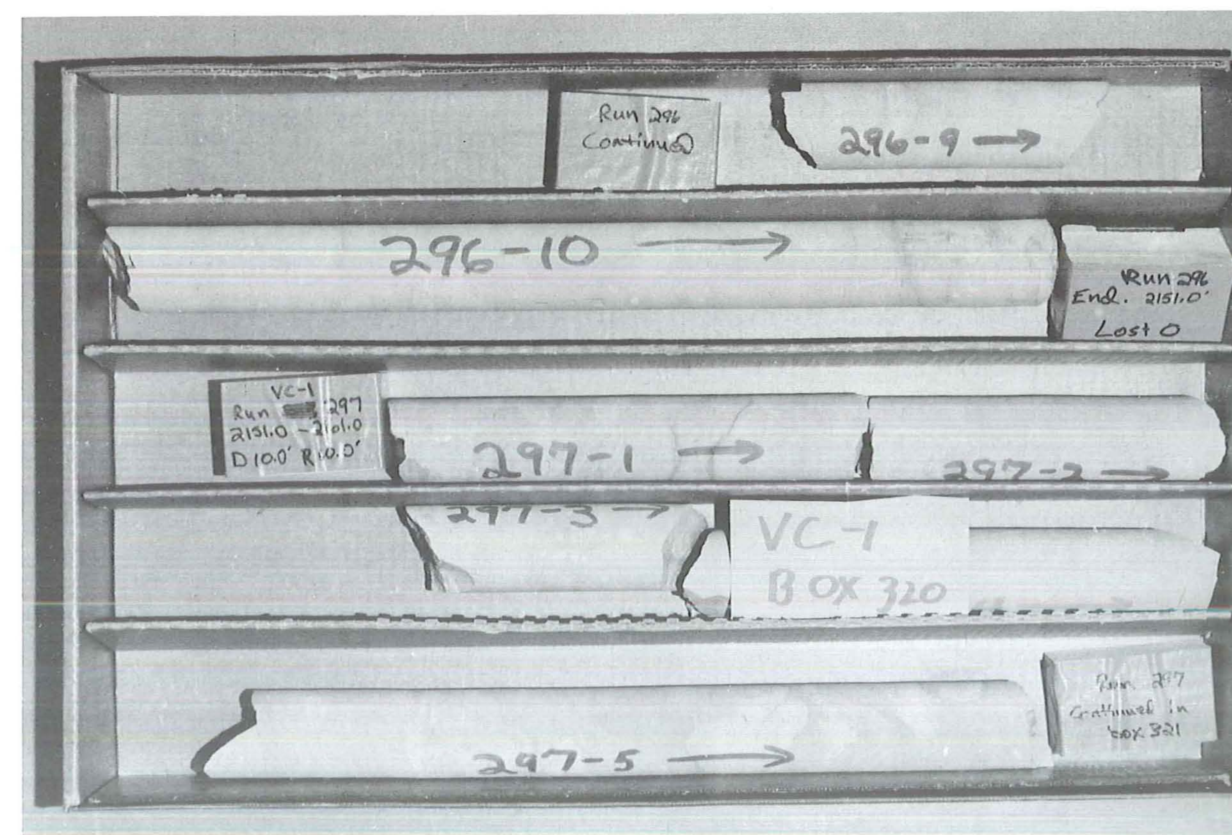

VC-1 Run 293
2111.0-2121.0
D-10.0 R-10.0
VC-1
BOX 315
293-4
293-6
293-7
293-8
293-9
293-10
293-12
293-13
293-16
293-18

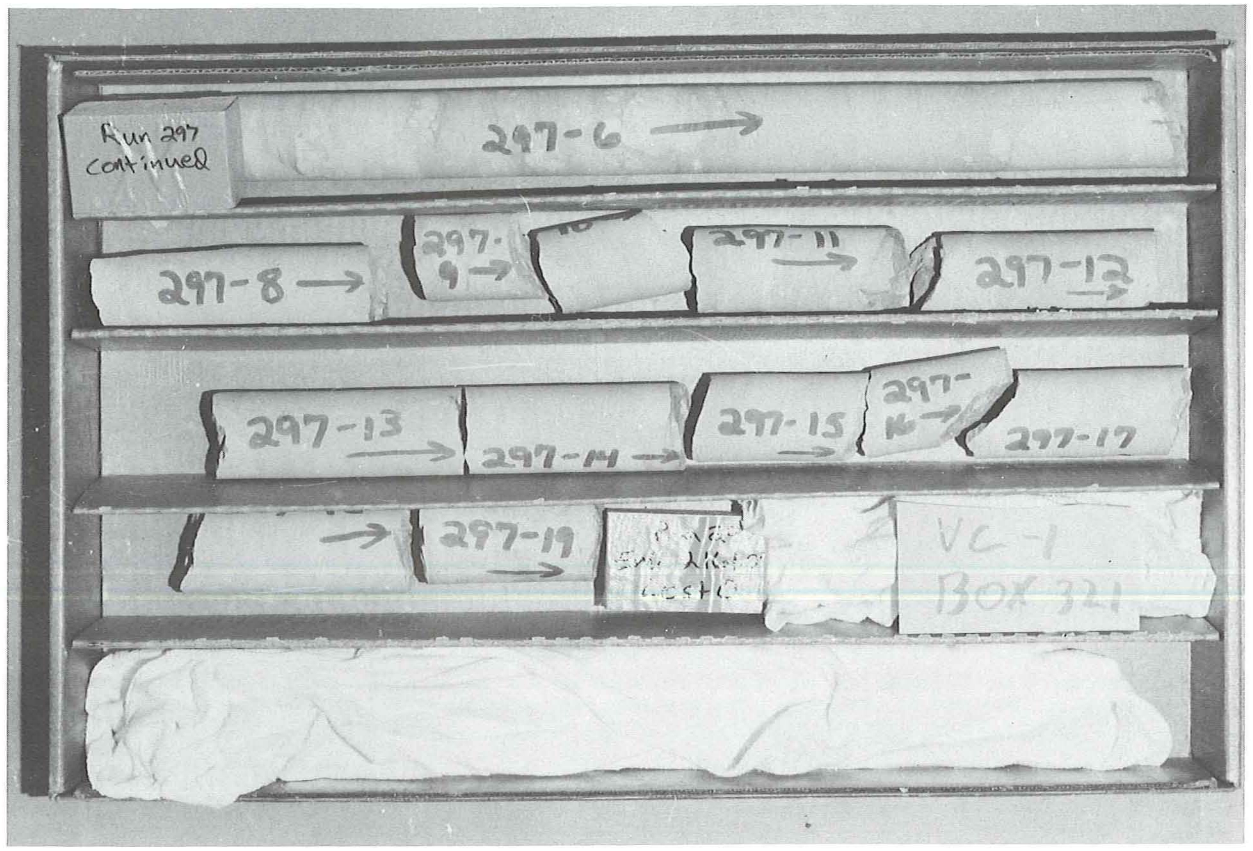

2119.3
293-19B
VC-1 Run293
END-2121.0
LOST-0.0
VC-1 Run294
2121.0-2131.0
D-10.0 R-10.0
VC-1
BOX 316
294-1
294-4
294-5A
294-5B
294-6
294-7
294-8A
294-8B
VC-1 Run 294
Bottom of Box
316
2127.4

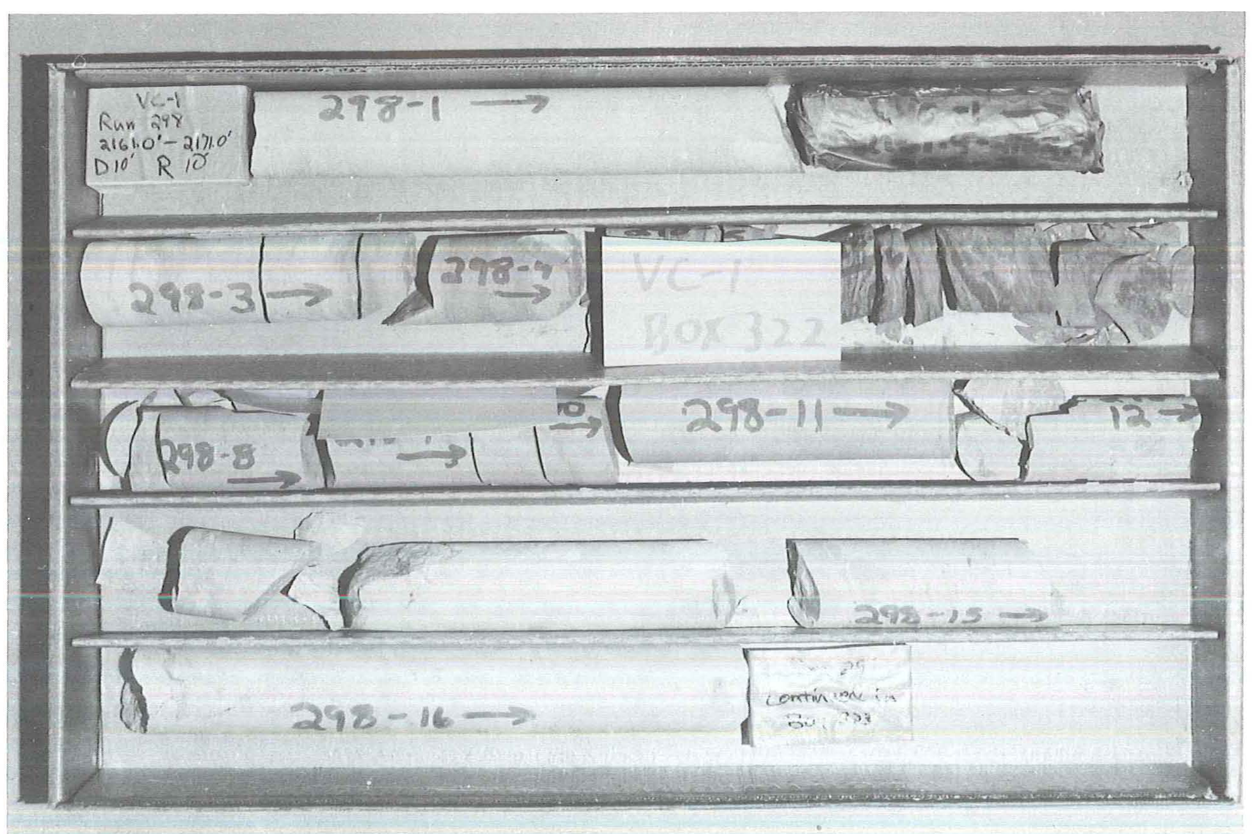

VC-1 Run 294
Box 317 is
2127.4
294-10
294-11
VC-1 Run 294
END-2131.0
LOST 0.0
VC-1
BOX 317
VC-1 Run 295
2131.0-2141.0
D-10.0 R.9.9
295-2

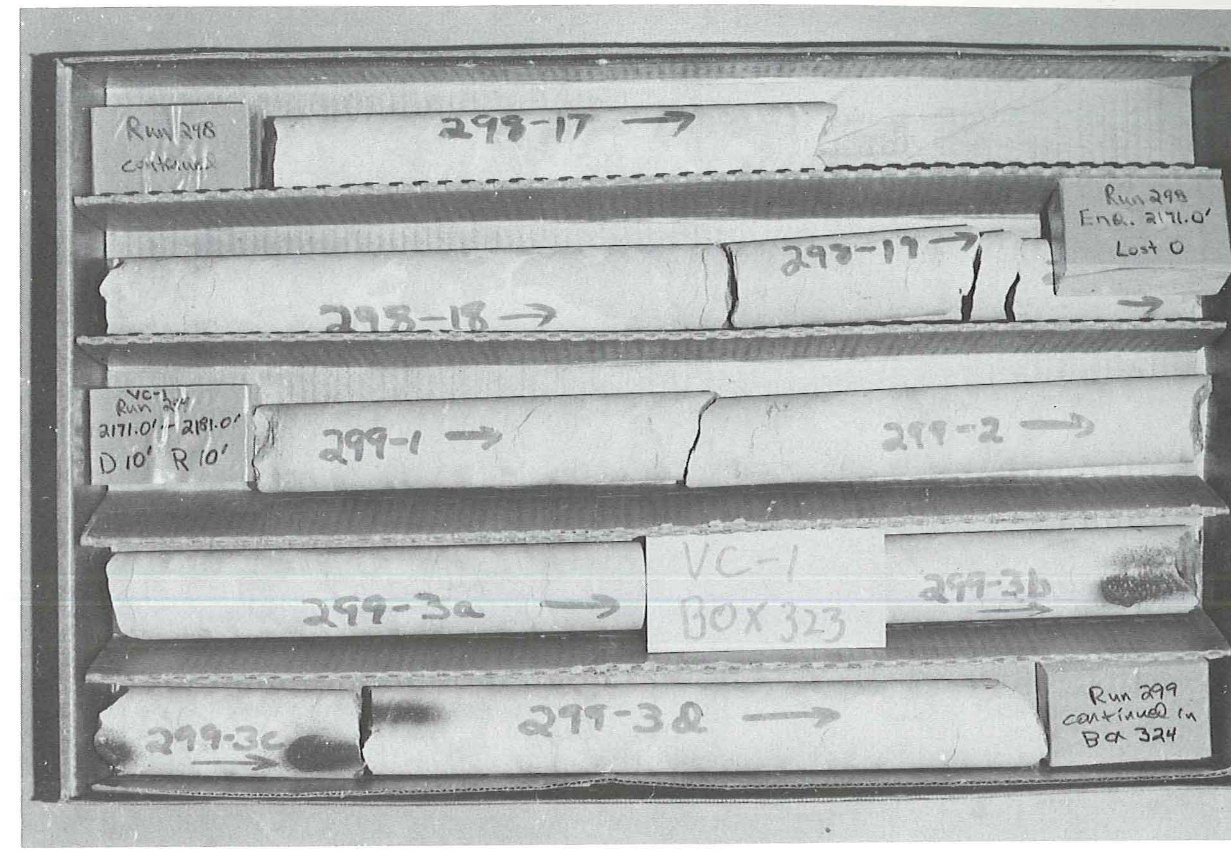

VC-1 Run 295
Top of Box 318
2144.1
295-3
295-4
295-5
VC-1
BOX 318
295-6
295-7
295-9

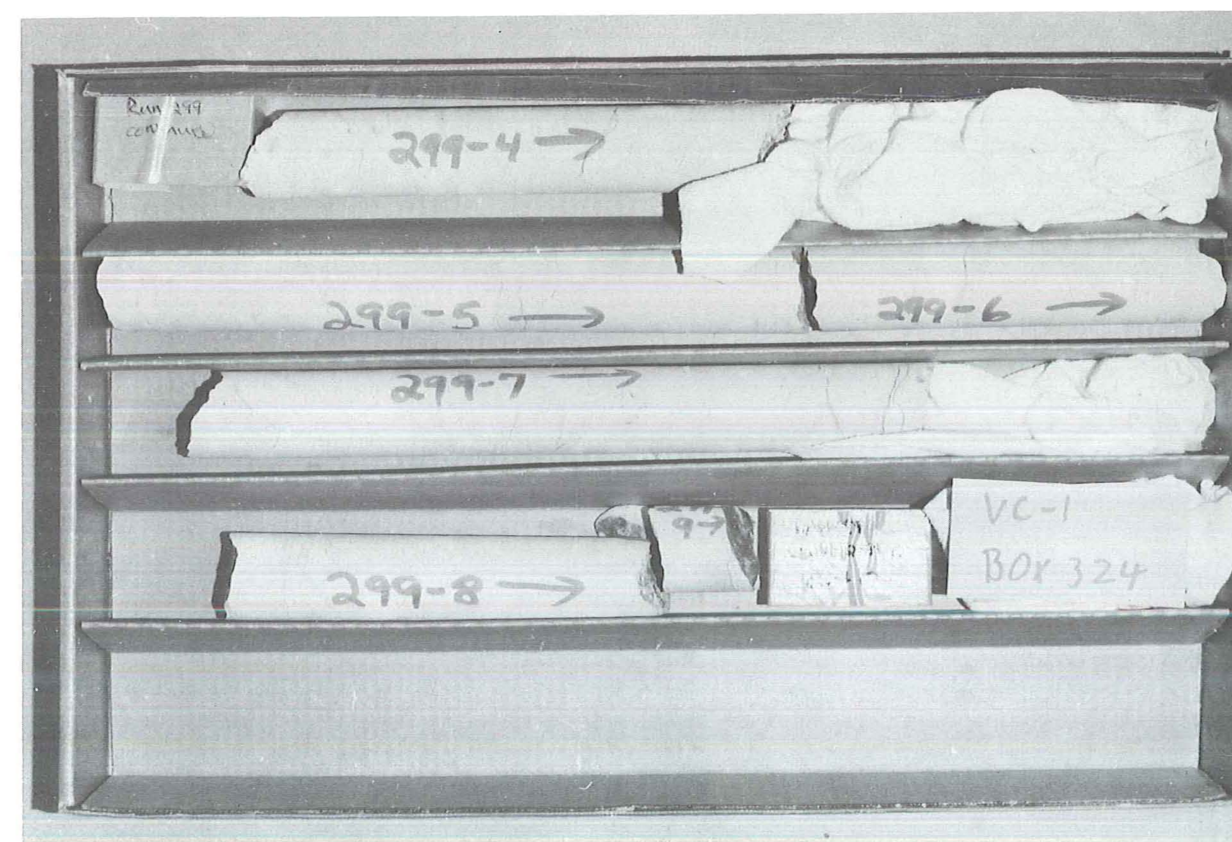

VC-1
Run 296
2141-2151.0'
D10' R10'
296-4
296-5
296-6
VC-1
BOX 319
296-7
296-8
Run 296
continued
in Box 320

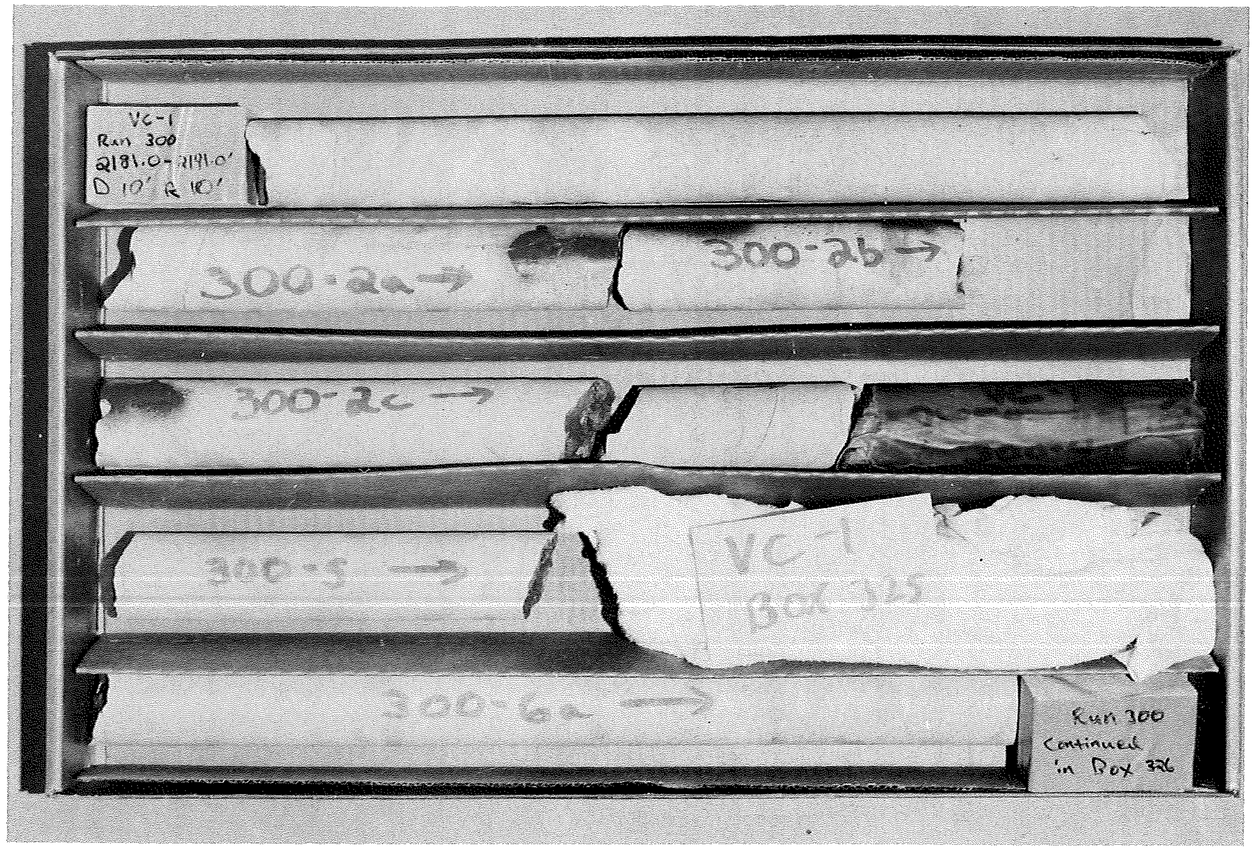

Run 296
Continued
296-9
296-10
Run 296
End. 2151.0'
Lost 0
297-1
VC-1
BOX 320
297-5

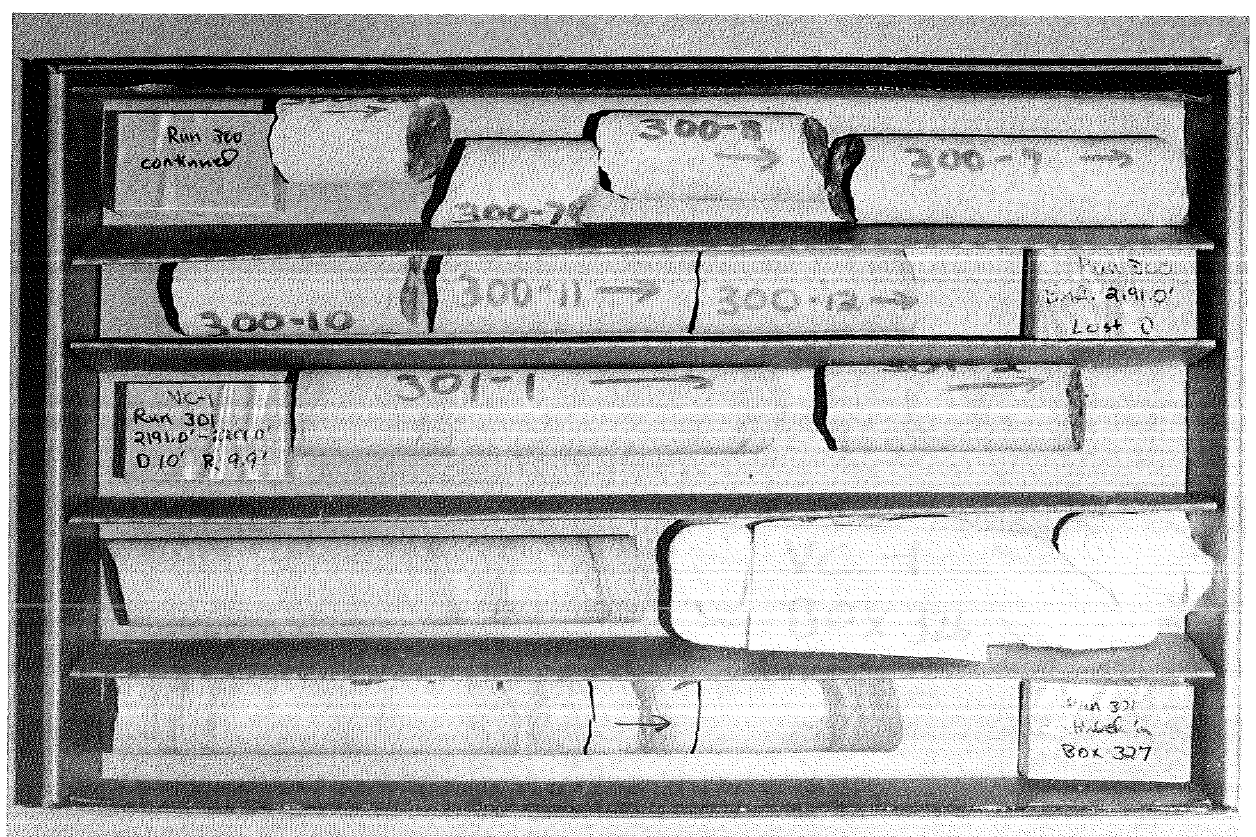

Run 297 continued
297-6
297-8
297-11
297-12
297-13
297-14
297-15
297-17
297-19
VC-1
BOX 321


VC-1
Run 298
2161.0'-2171.0'
D10' R10'
298-1
298-3
VC-1
BOX 322
298-11
298-8
298-15
298-16


Run 298 continued
298-17
298-18
298-19
Run 298
End 2171.0'
Lost 0
VC-1
Run 299
2171.0'-2181.0'
D10' R10'
299-1
299-2
299-3a
VC-1
BOX 323
299-3b
299-3c
299-3d
Run 299 continued in Box 324


Run 299 continued
299-4
299-5
299-6
299-7
299-8
VC-1
BOX 324


VC-1
Run 300
2181.0-2191.0'
D 10' R 10'
300-2a →
300-2b →
300-2c →
300-5 →
VC-1
BOX 325
300-6a →
Run 300
Continued
in Box 326


Run 300
continued
300-8
300-9 →
300-10
300-11 →
300-12 →
Run 300
End 2191.0'
Lost 0
VC-1
Run 301
D 10' R 9.9'
301-1 →
Run 301
Box 327

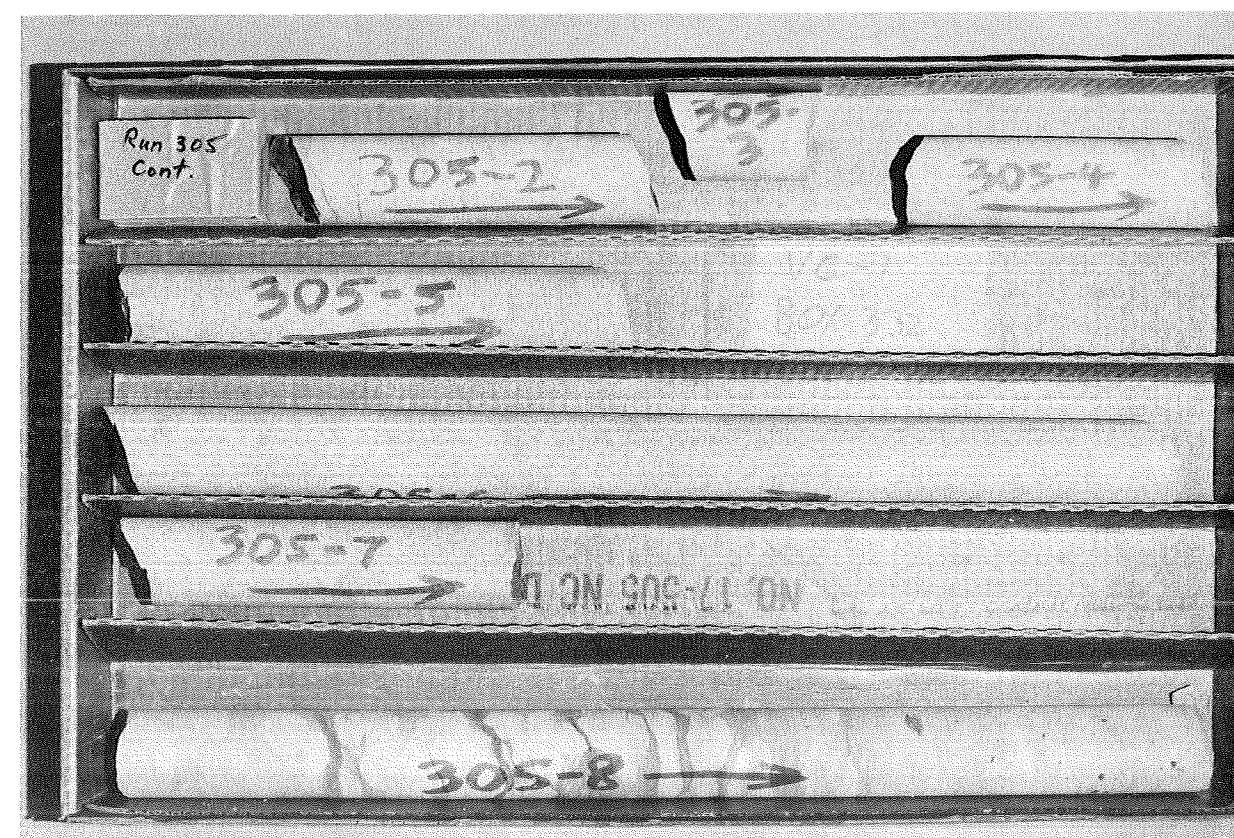

Run 301
continued
301-5b →
301-5c →
VC-1
BOX 327
Run 301
End 2201.0'
Lost 0.1'


VC-1
Run 302
2201.0 - 2211.0'
D 10' R 10'
302-1a →
302-1b →
VC-1
BOX 328
302-2 →


Run 302 continued
302-5a
302-6
302-7
302-8
Vc-1, Run 303
303-1
303-2
303-3
303-4
VC-1
BOX 329
303-5
303-9
303-10
303-7

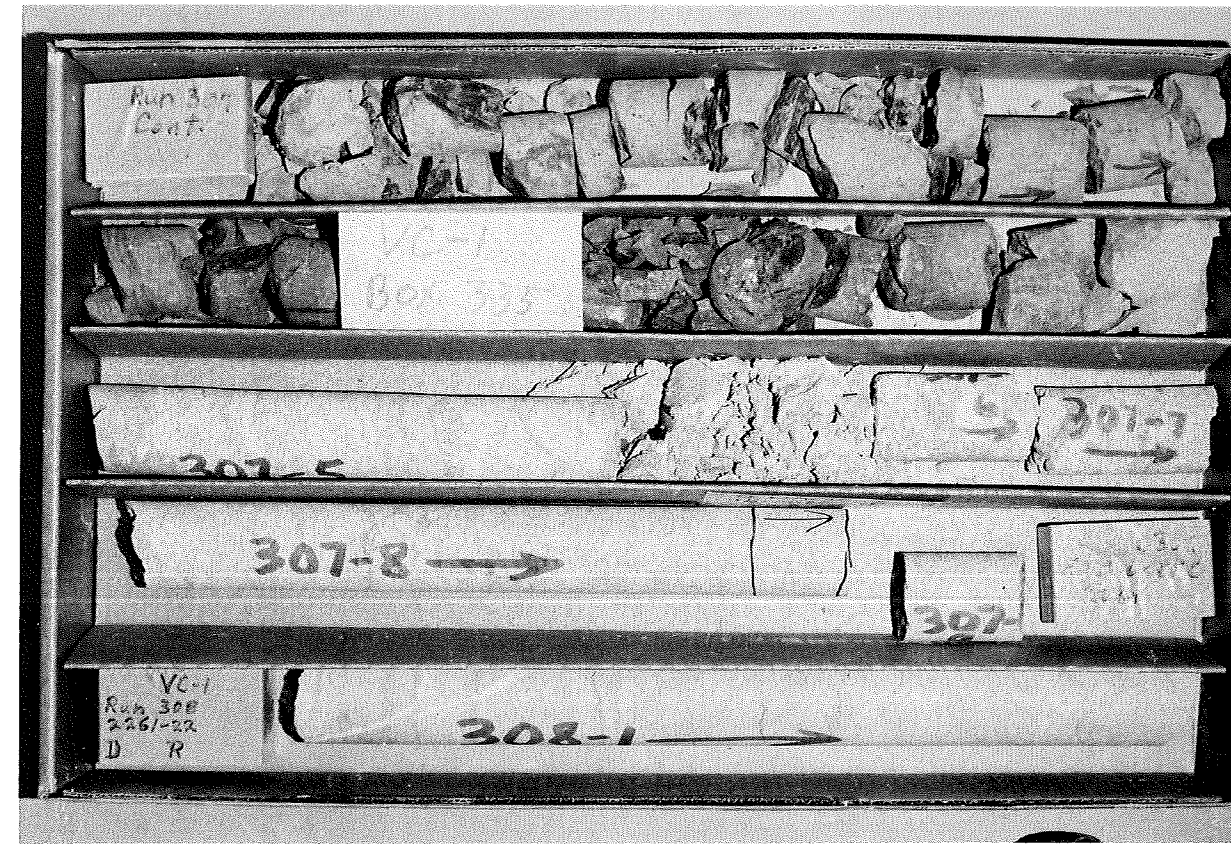

Run 303
Cont.
303-11
303-13
303-14
303-15
VC-1
Box 330
Run 304
304-2
304-3
304

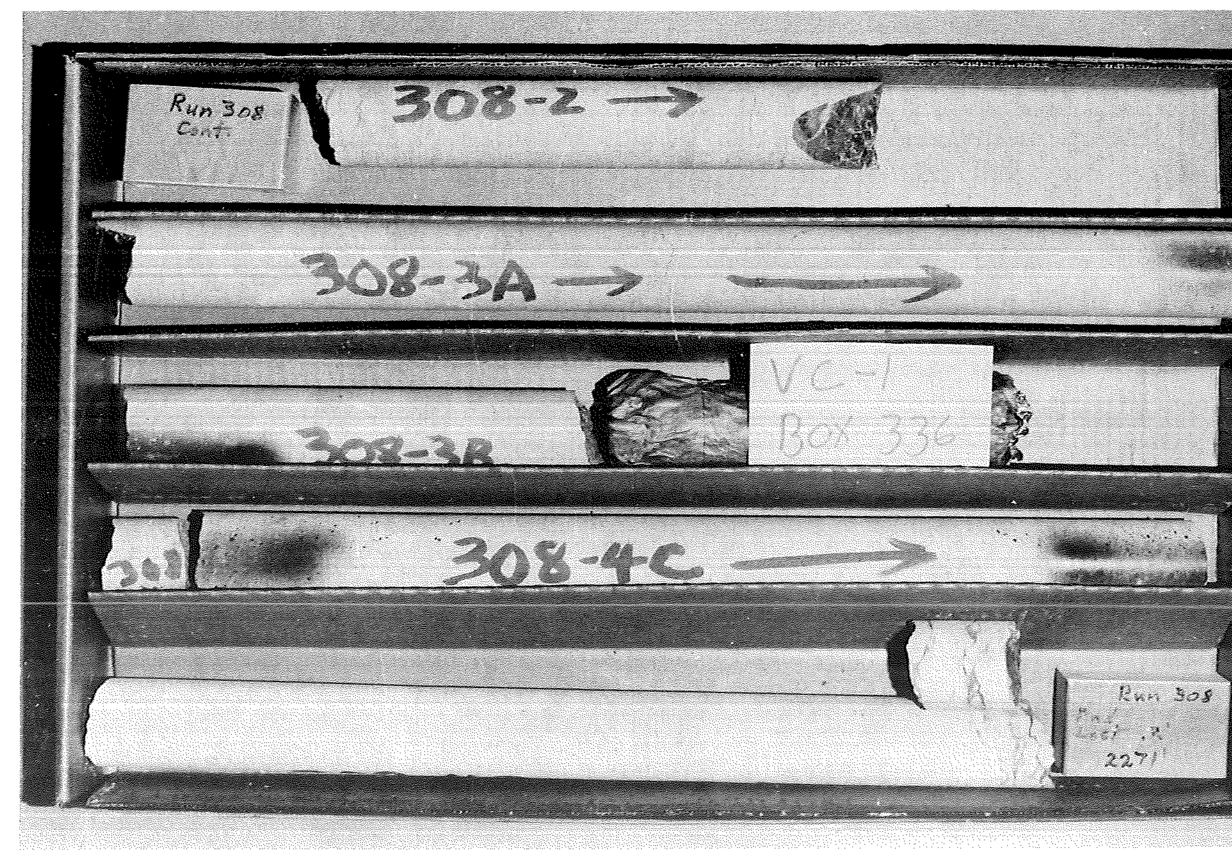

Run 304
Cont.
304-6
304-8
304-9
304-12
VC-1
Box 331
304-11
VC-1
Run 305
2231'-2241'
305-1


Run 305
Cont.
305-2
305-3
305-4
305-5
305-7
305-8


Run 305 Cont.
305-11
Run 305 End. Lost 0.0 2241'
VC-1 Run 306 2241' - 2251' D10.0' R10.0'
VC-1 Box 333

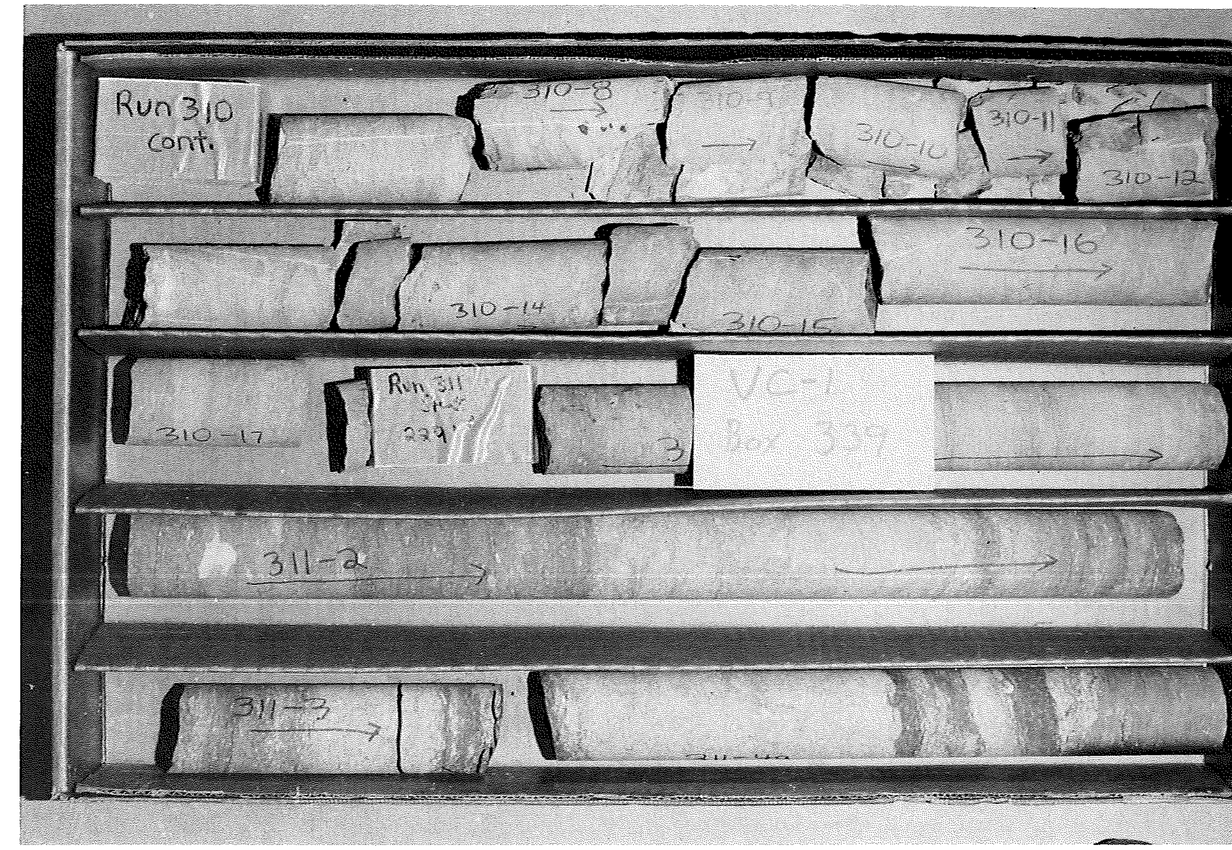

Run 306 Cont.
306-6
306-7
307-1
307-2
307-3


VC-1 Box 335
307-7
307-8
308-1

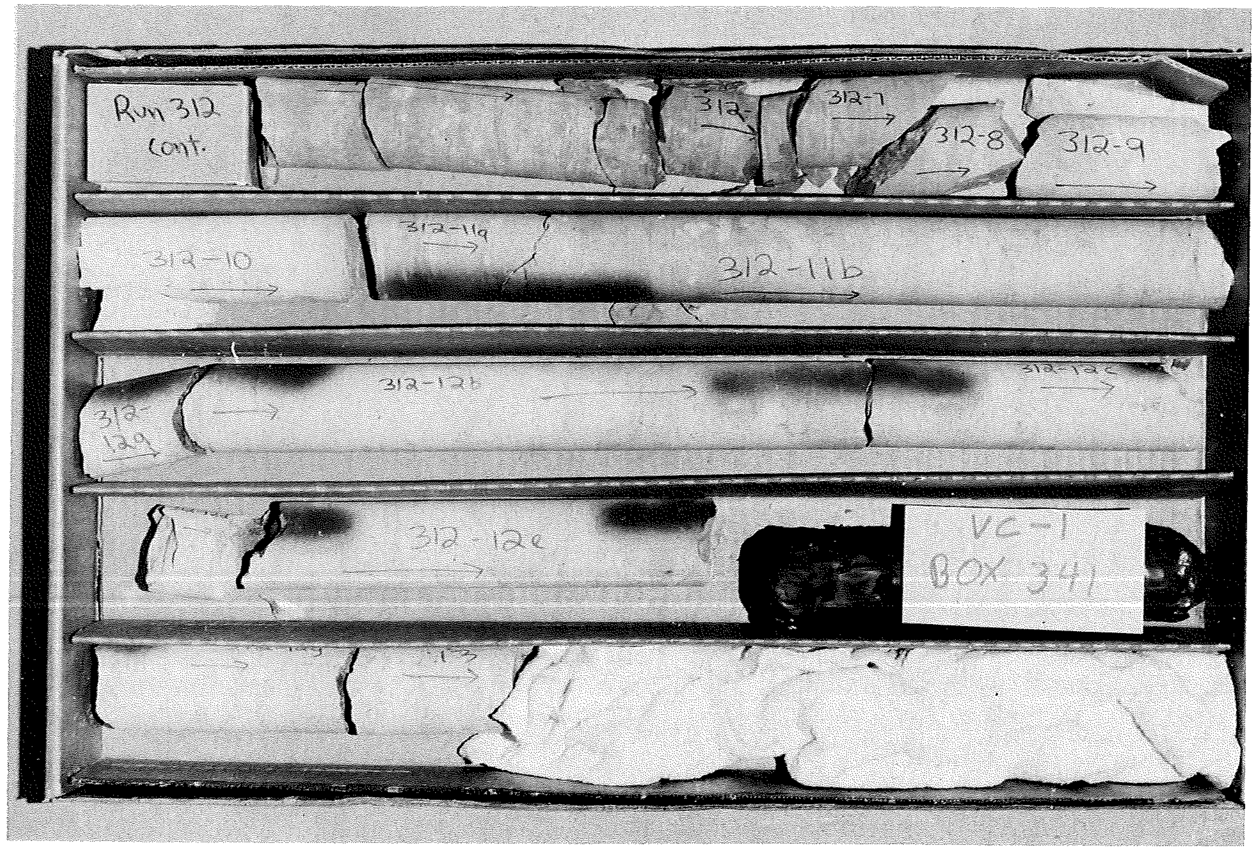

Run 308 Cont.
308-2
308-3A
VC-1 Box 336
308-4C
Run 308 End Lost .8' 2271'

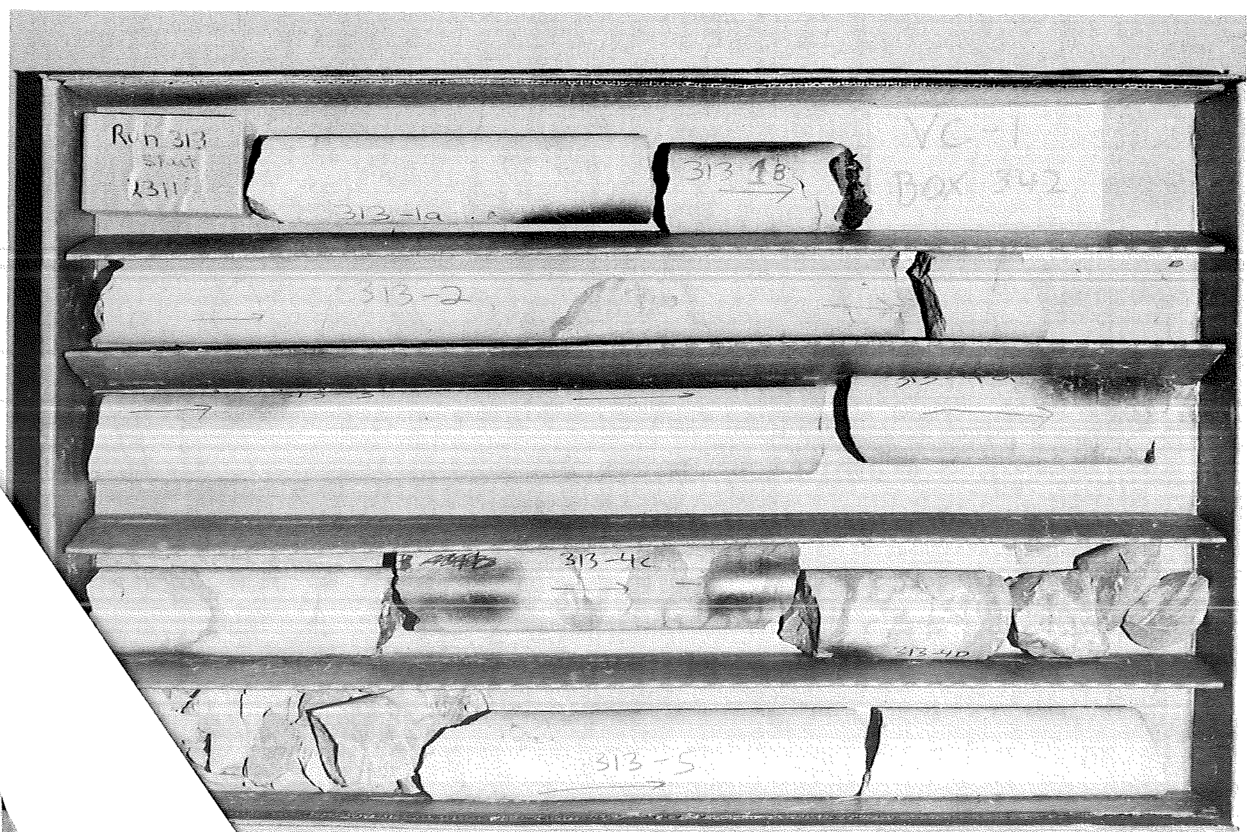

Run 309
309-3
VC-1
Box 337
309-5b
309-5d

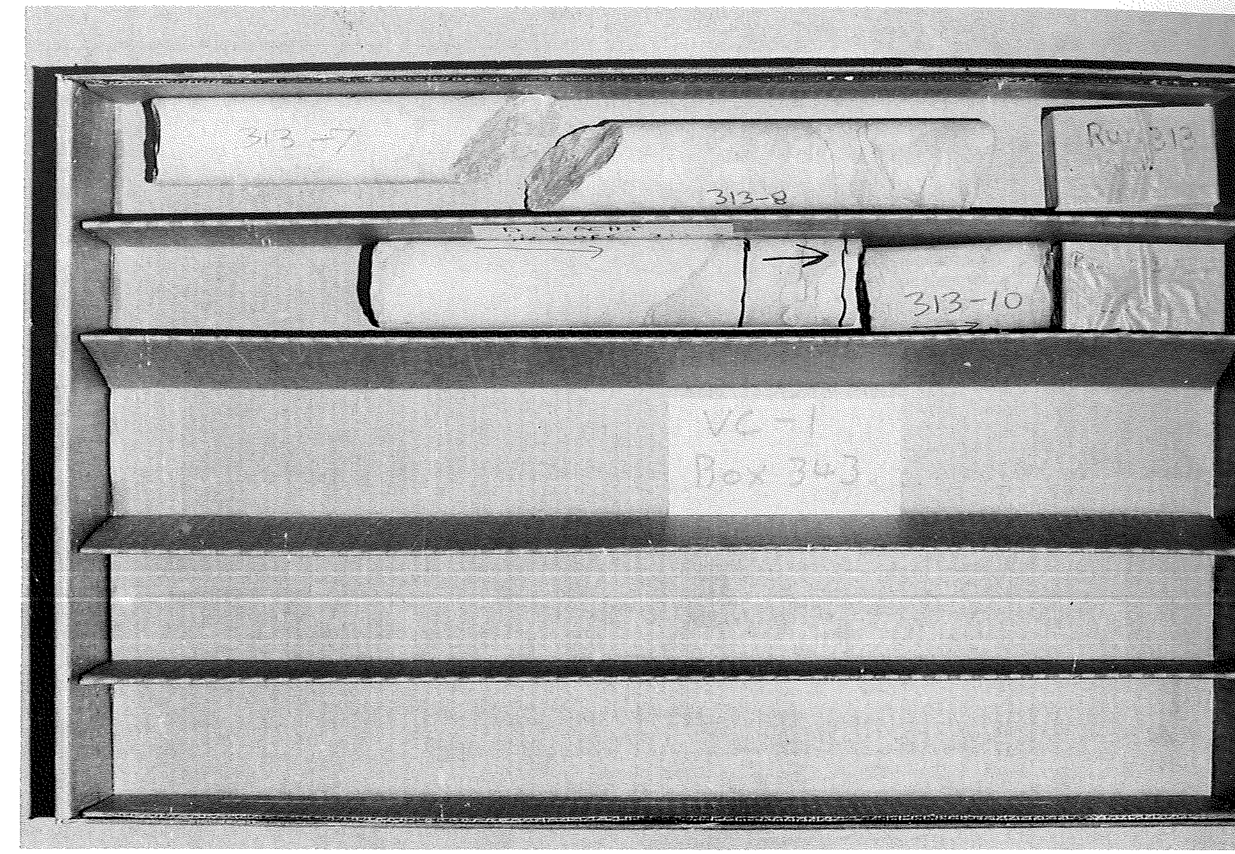

Run 309
Cont.
309-6b
309-6c
VC-1
Box 338
310-1b
310-2
310-4
310-5a
310-5b
310-6

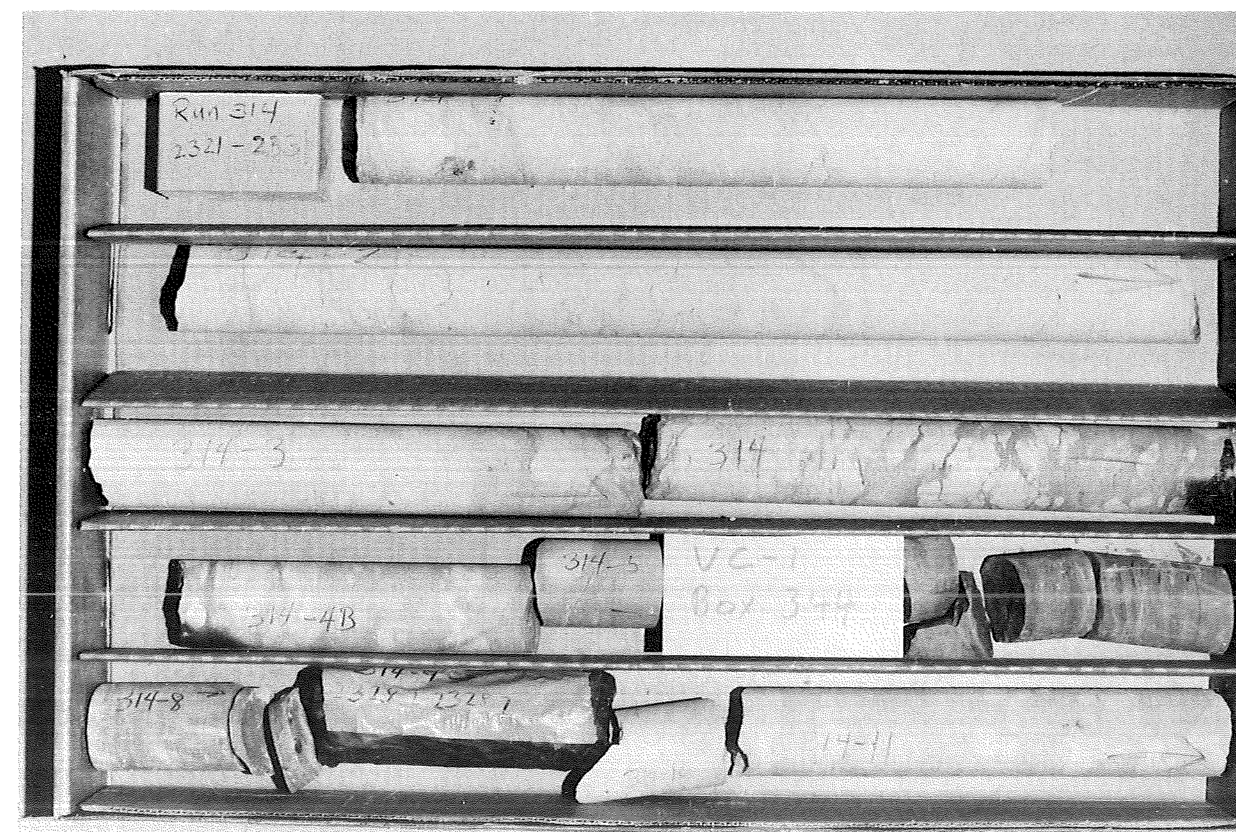

Run 310
Cont.
310-10
310-11
310-12
310-14
310-16
310-17
Run 311
VC-1
Box 339
311-2
311-3

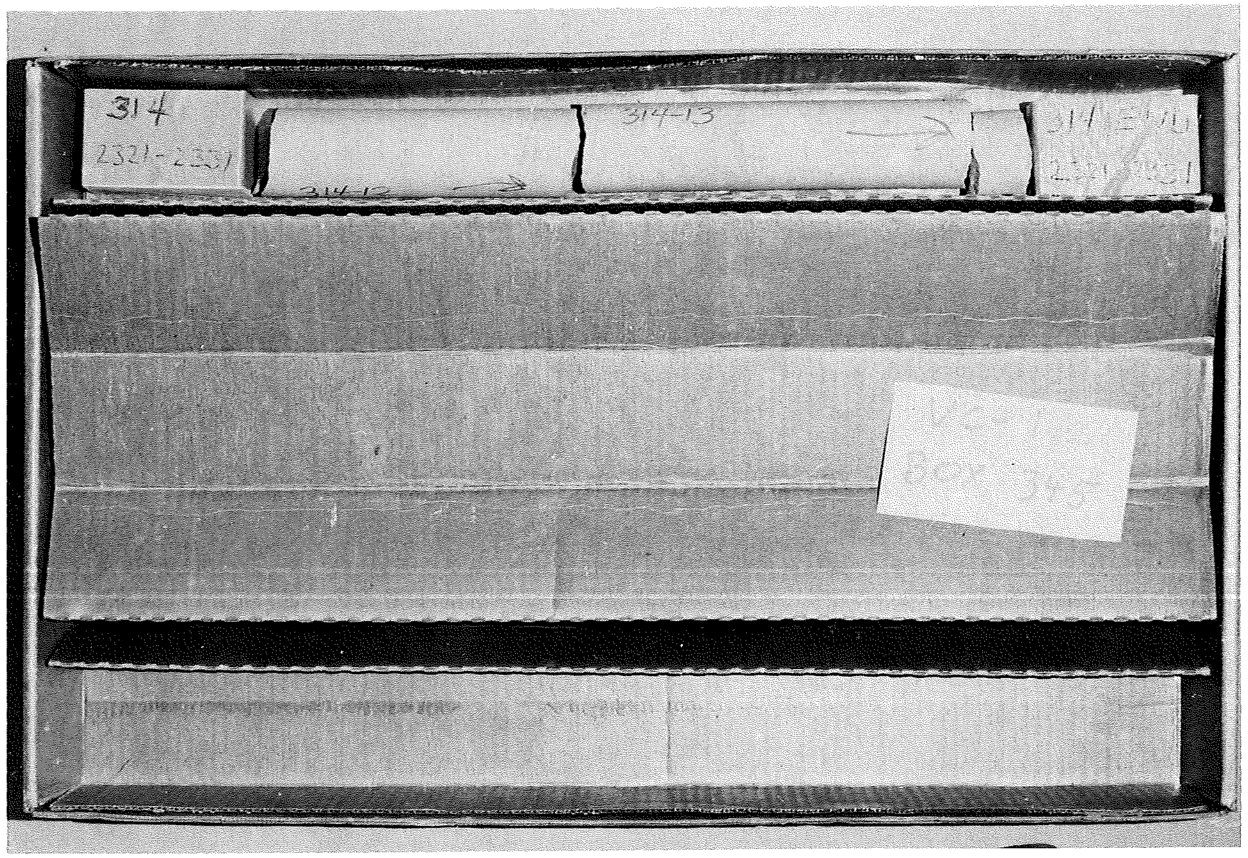

Run 311
cont'd
311-4b
311-6
311-8a
311-8b
311-9
311-10
311-11
VC-1
Box 340
311-12
312-14

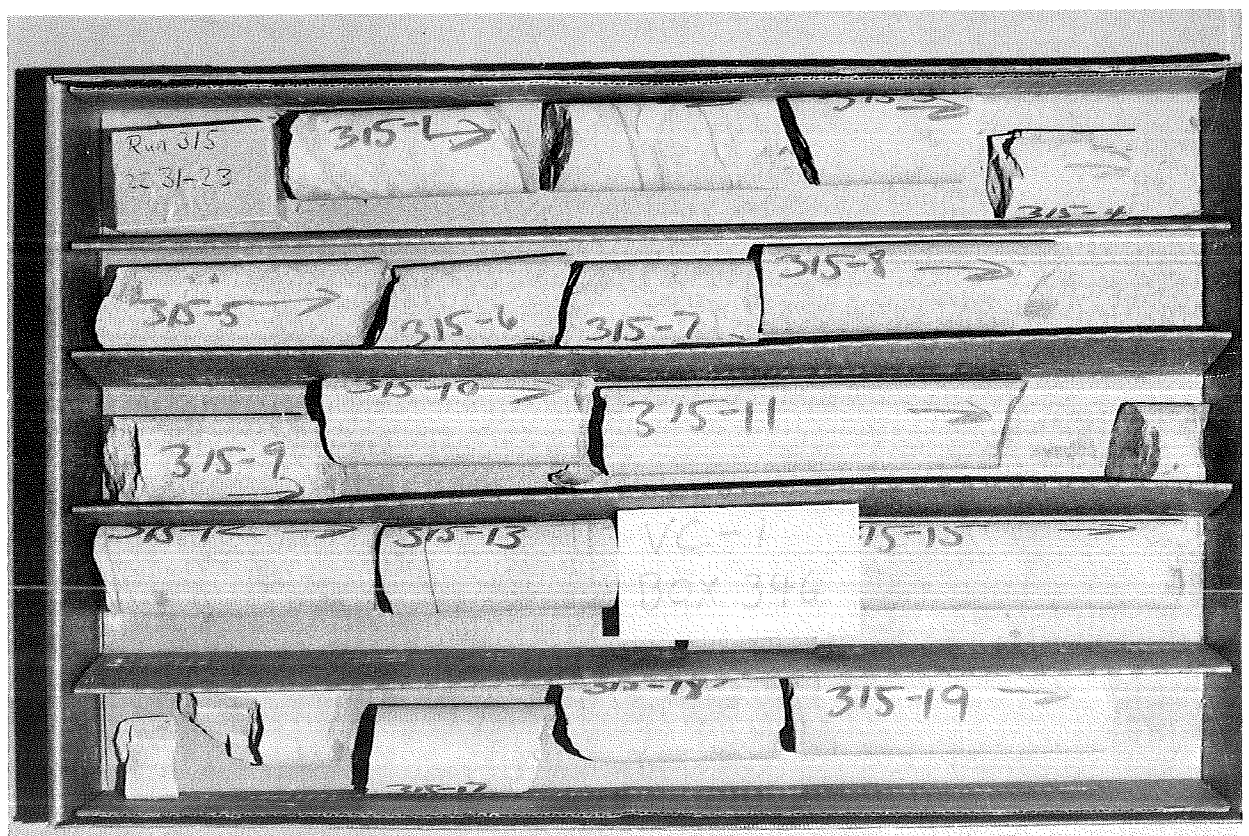

Run 312 cont.
312-8
312-9
312-10
312-11b
312-12b
312-12e
VC-1 BOX 341

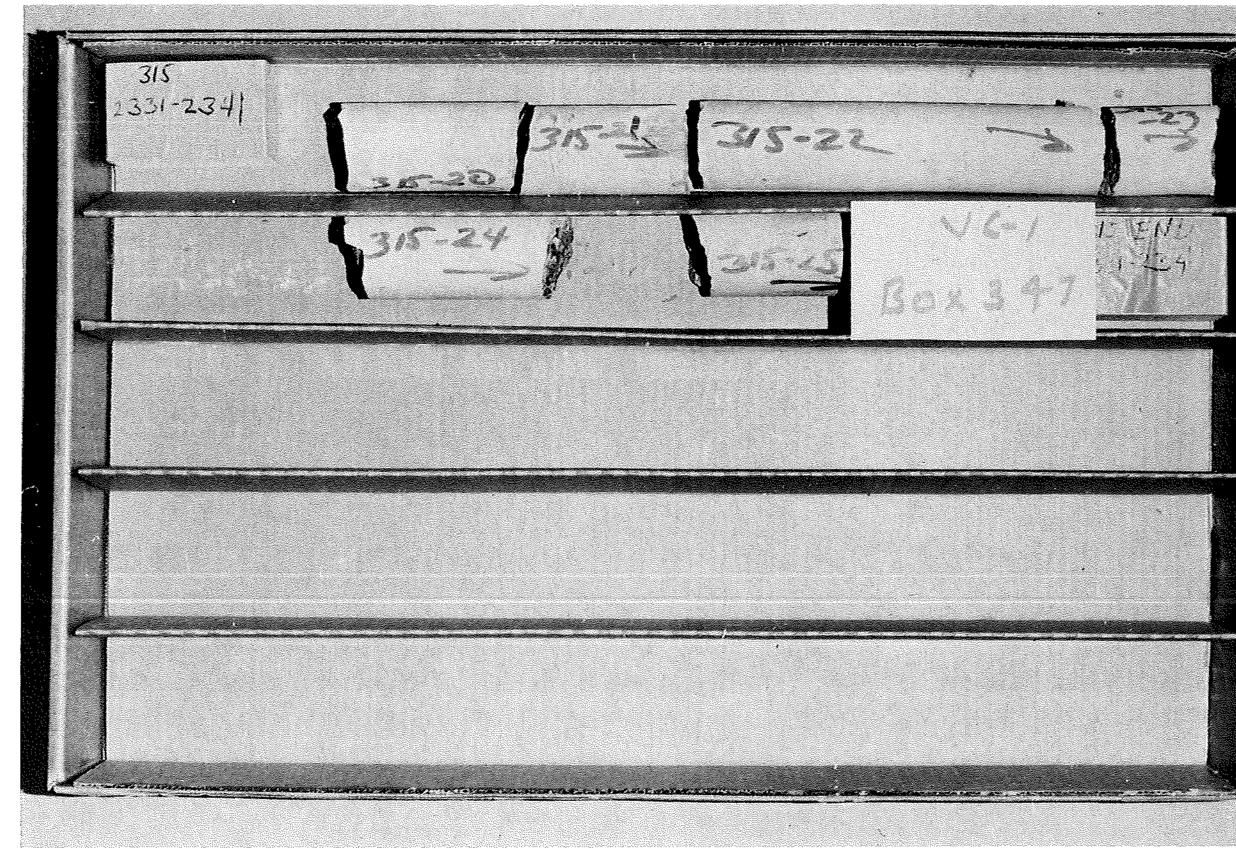

Run 313
VC-1 Box 342
313-2
313-4c
313-5


313-8
313-10
VC-1 Box 343

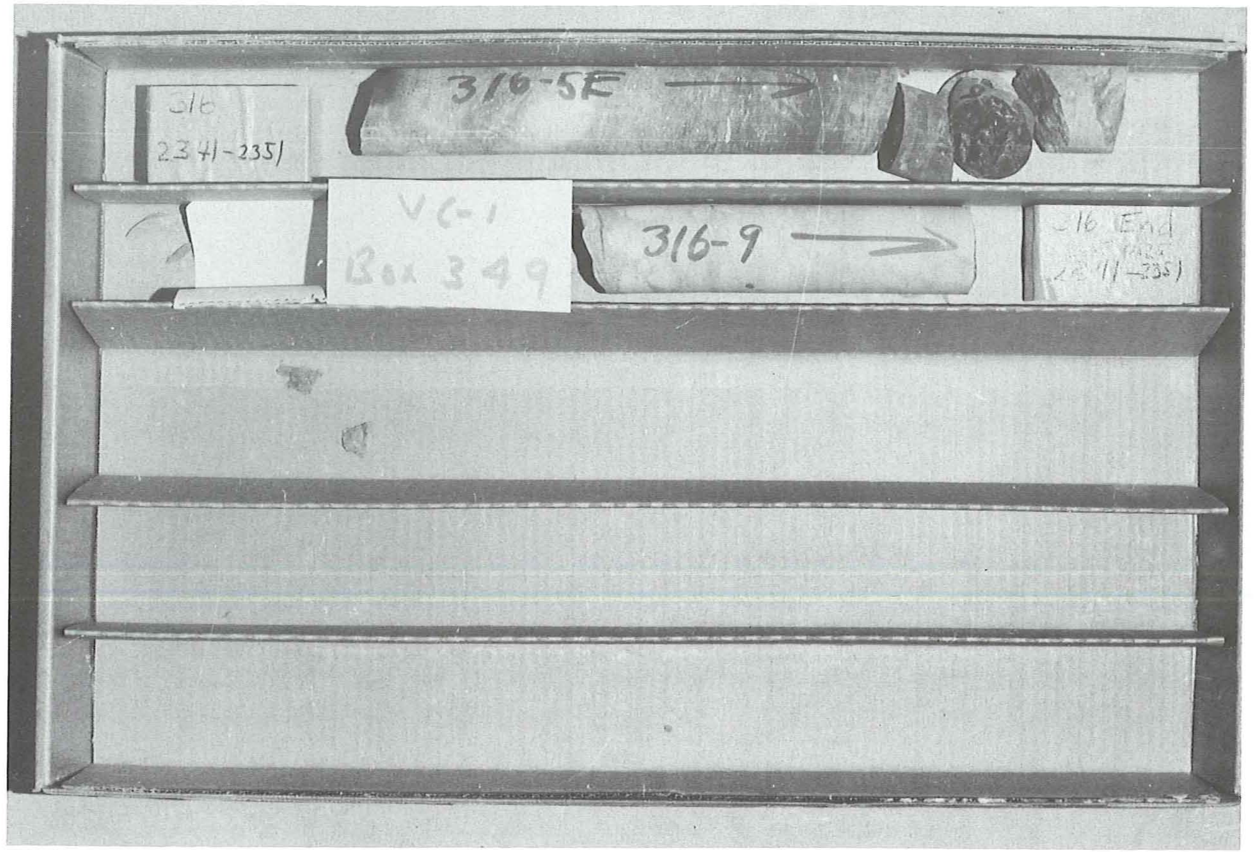

Run 314
314-3
314-4B
VC-1 Box 344
314-8


314
2321-2331
314-13
VC-1
Box 345

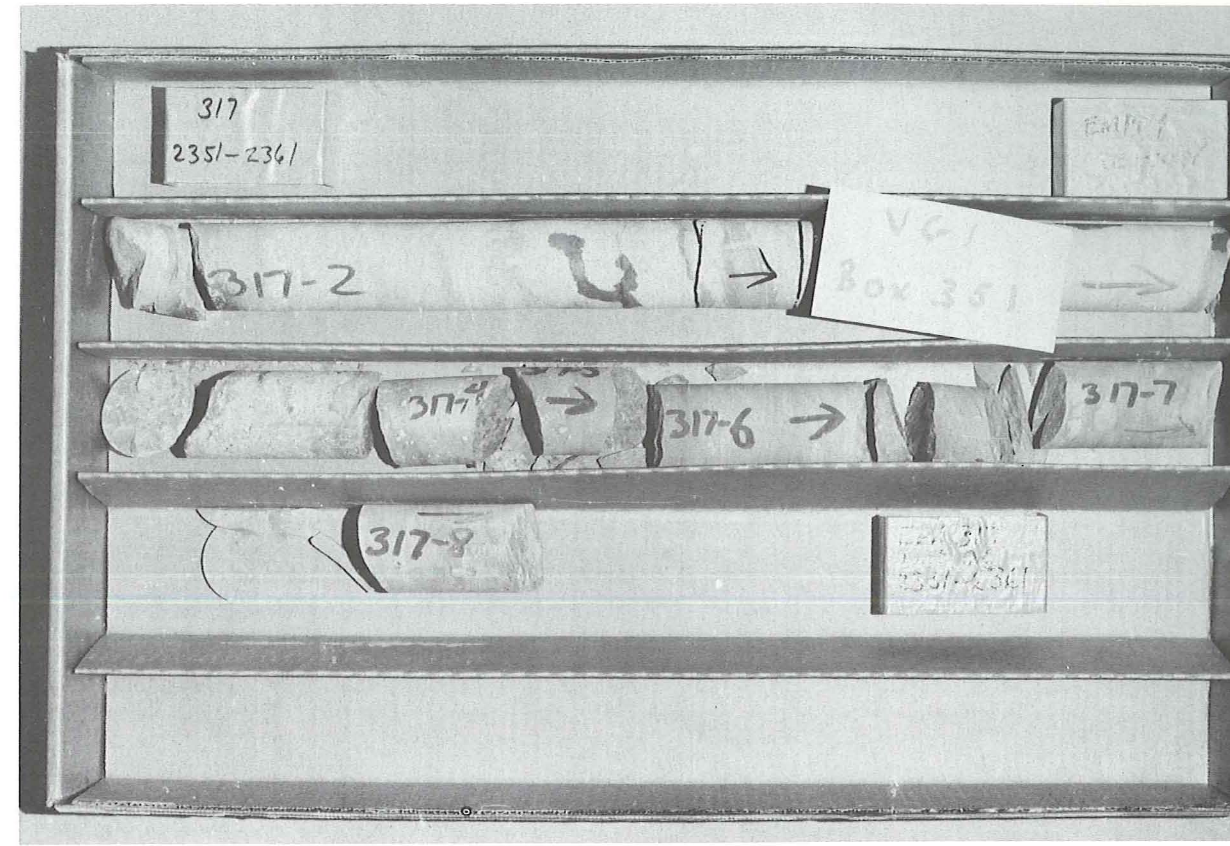

Run 315
2331-23
315-1
315-5
315-6
315-7
315-8
315-10
315-11
315-9
315-13
VC-1
Box 346
315-19

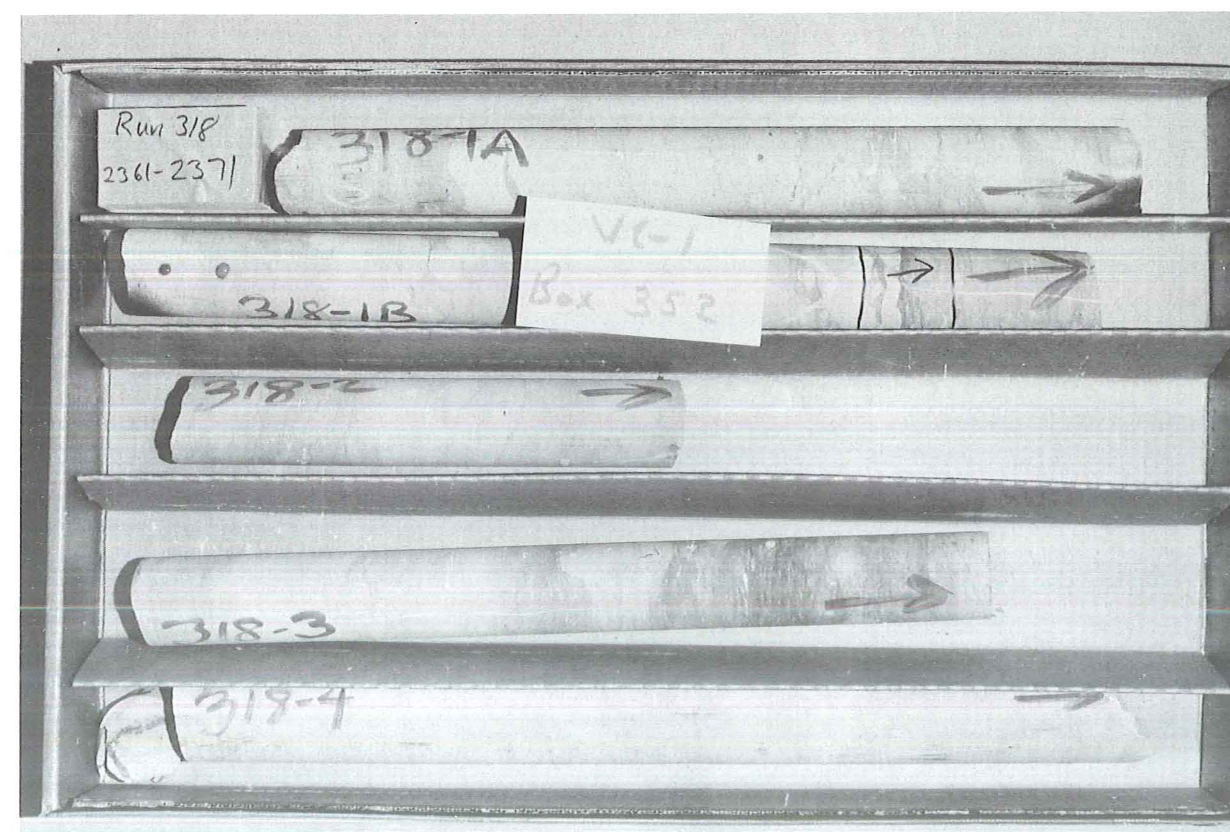

315
2331-2341
315-22
315-24
VC-1
Box 347

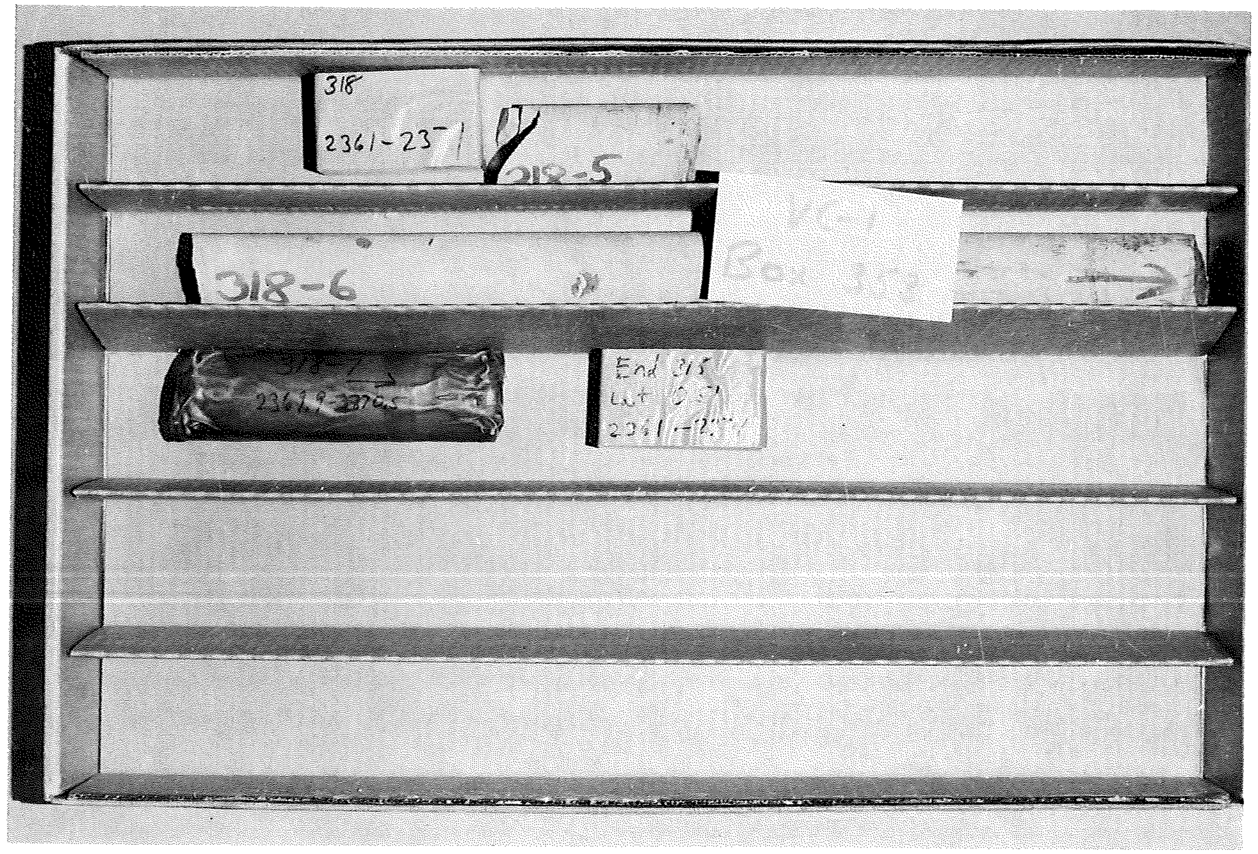

Run 316
2341-2351
316-1
316-2
316-3
316-4A
VC-1
Box 348
316 4B
316-5A
316-5B
316-5D


316-5E
316-9
VC-1
Box 349


Run 317
317-1A
317-1B
317-1C
VC-1
Box 350
317-1D


317
2351-2361
317-2
VC-1
Box 351
317-6
317-7
317-8


Run 318
2361-2371
318-1A
VC-1
Box 352
318-1B
318-2
318-3
318-4


318
318-5
VC-1
318-6
End 318

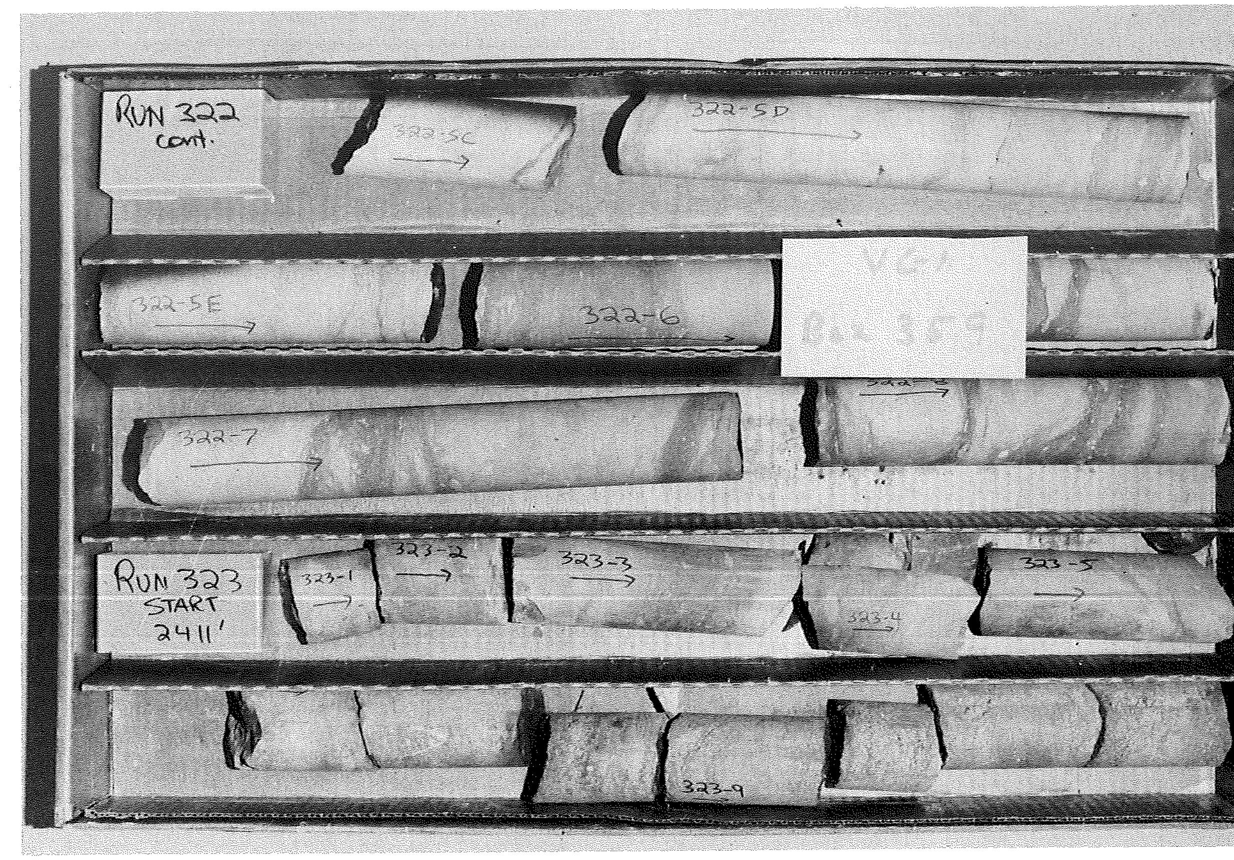

Run 319
2371-2381
319-1
319-4A
VC-1
Box 354
319-4B
319-5


319
2371-2381
319-10
319-11
319-12
VC-1
Box 355
Run 320
2381-2391
320-1A
320-1B
320-1C
320-1D
320-2B


320
2381-2391
320-2C
320-2D
VC-1
Box 356
320-6
320-5
320-7
320-8
2381-2391

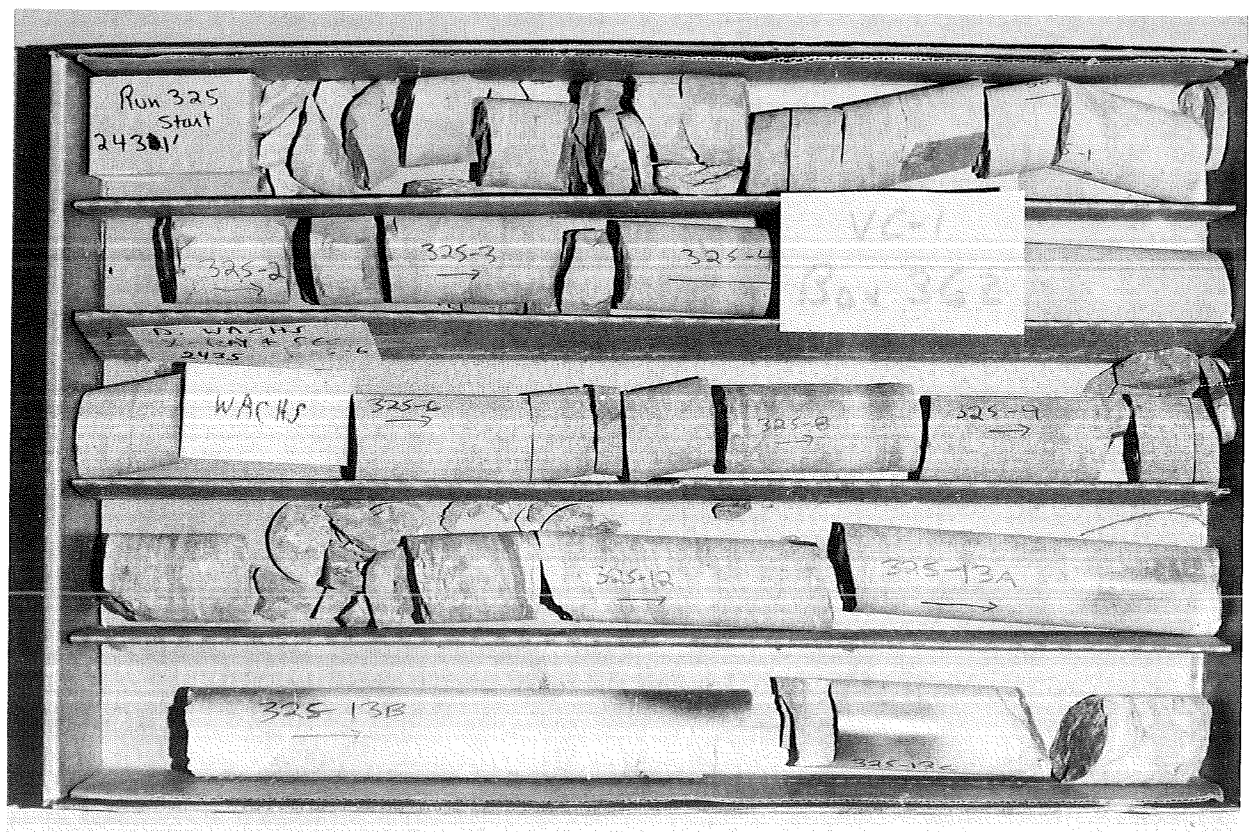

VC-1
Box 357
321-4
321-5
321-7a
321-7b

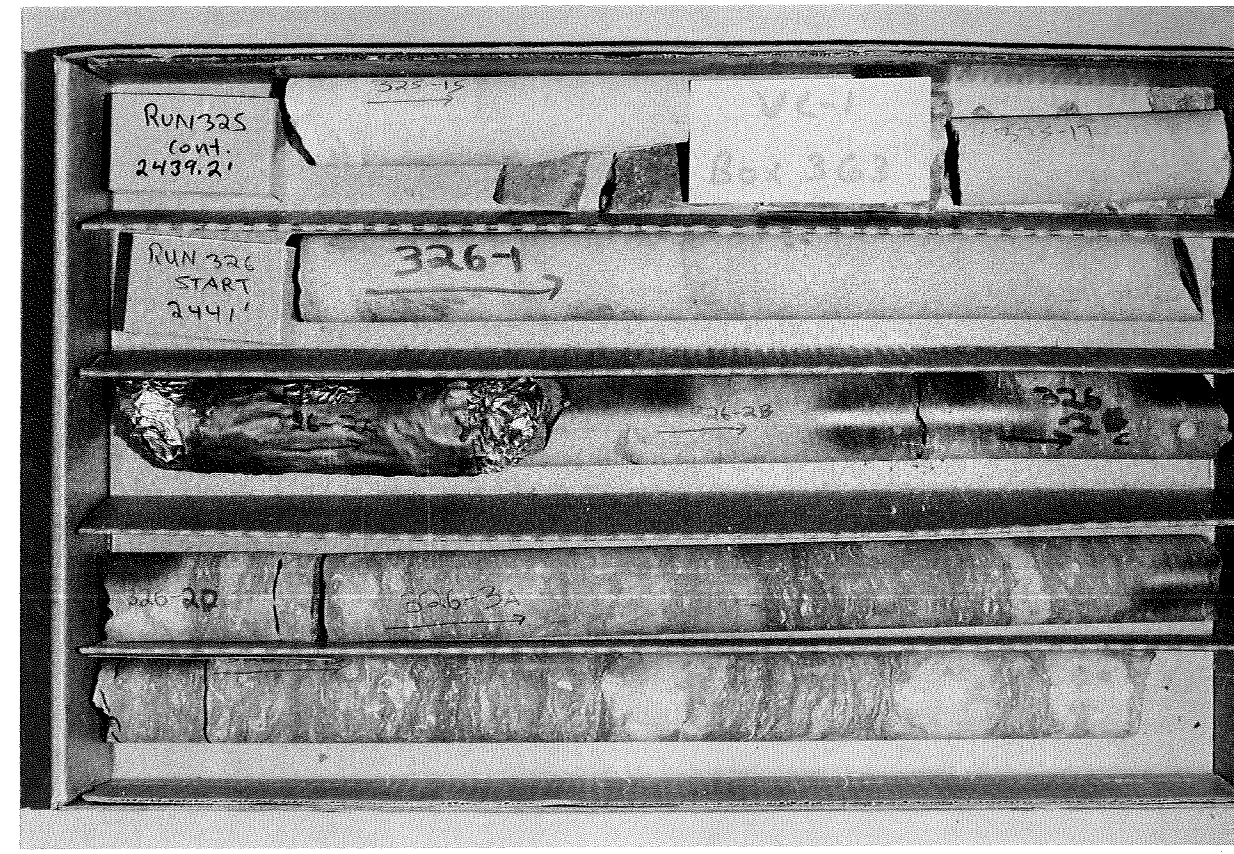

Run 321
cont.
321-7c
321-8
321-9
VC-1
Box 358
Run 322
Start
2401'
322-1
322-2
322-3
322-4a
322-4b
322-5B

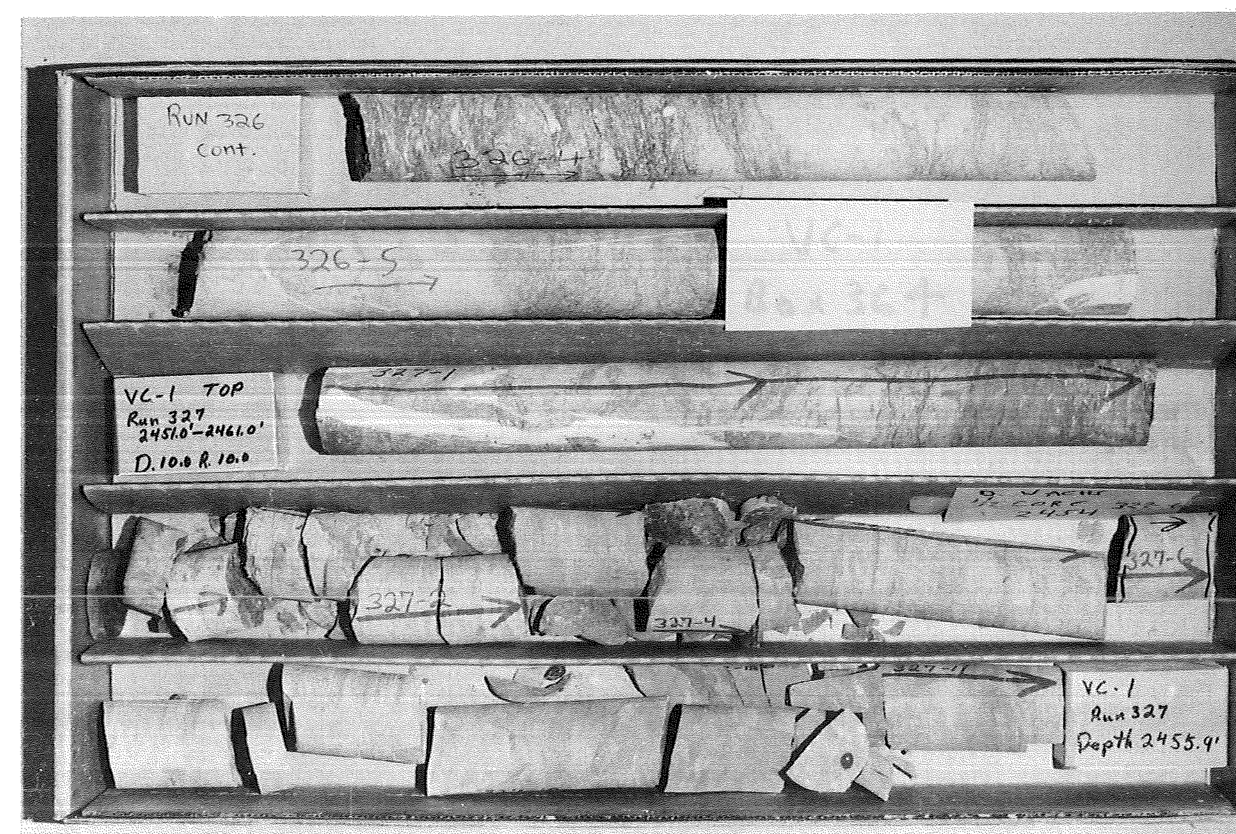

RUN 322
cont.
322-5C
322-5D
322-5E
322-6
VC-1
Box 359
322-7
RUN 323
START
2411'
323-1
323-2
323-3
323-4
323-5
323-9

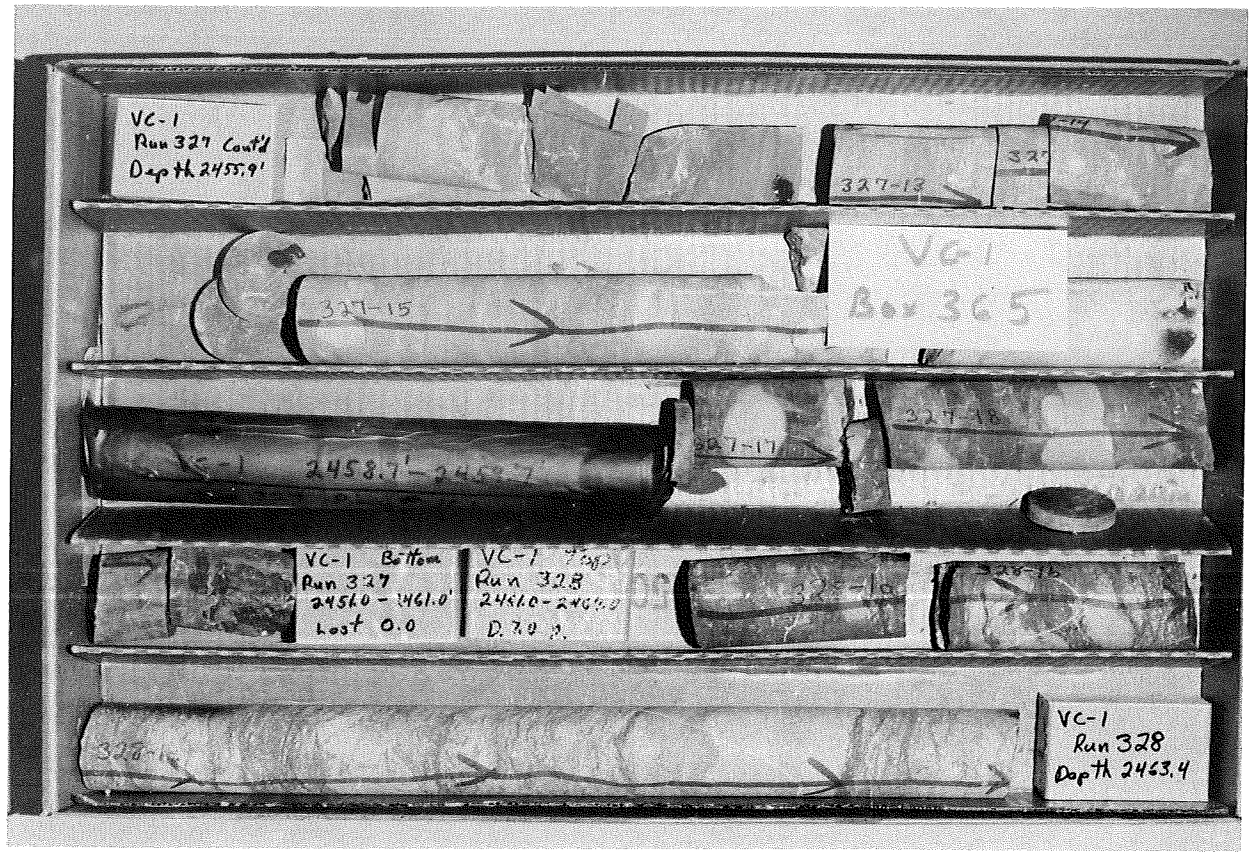

Run 323
cont.
323-14
323-15
323-16
323-17
323-18
VC-1
Box 360
323-21
323-22
323-23
323-24
323-25
323-26
Run 324
Start
2421'
324-1

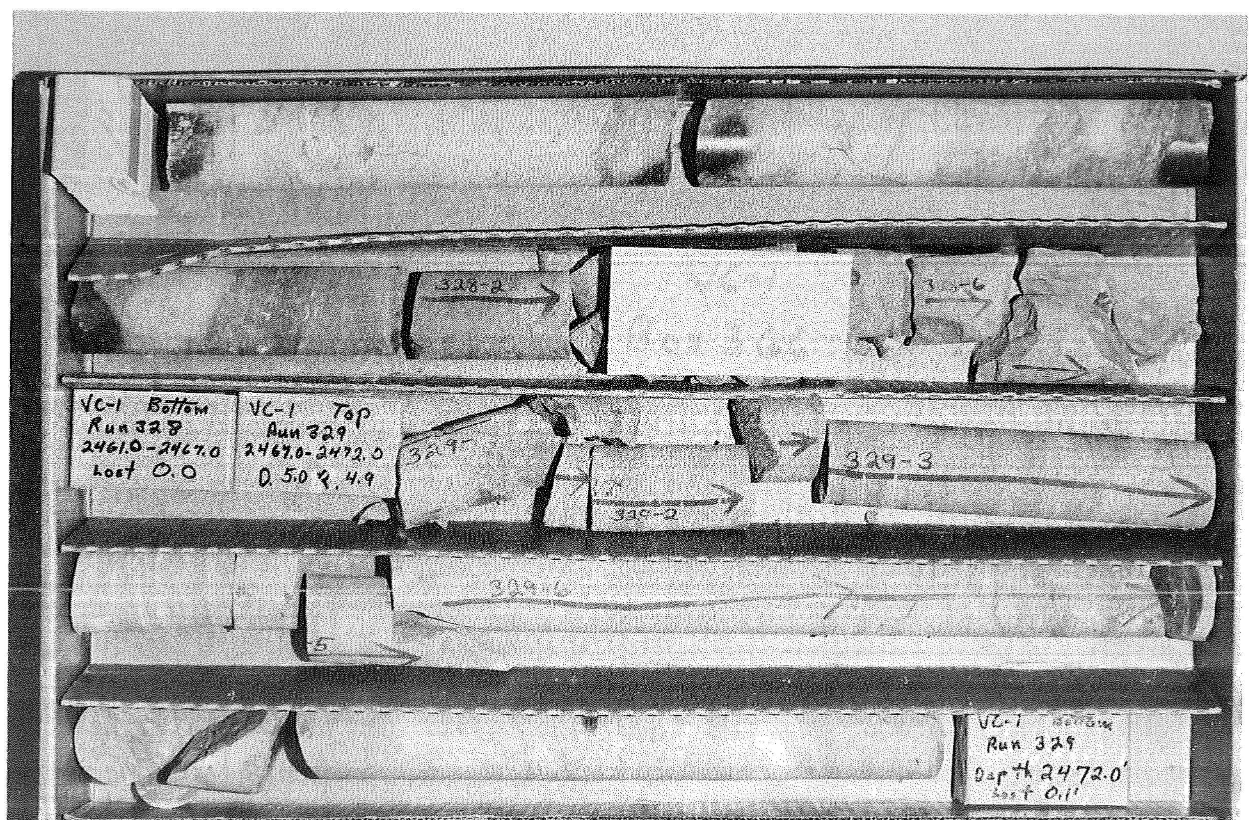

Run 324 cont.
324-3A
324-3C
VC-1 Box 361
324-4A
324-4B
324-5B


Run 325 Start
325-2
325-3
VC-1 Box 362
WACHS
325-6
325-8
325-9
325-12
325-13A
325-13B

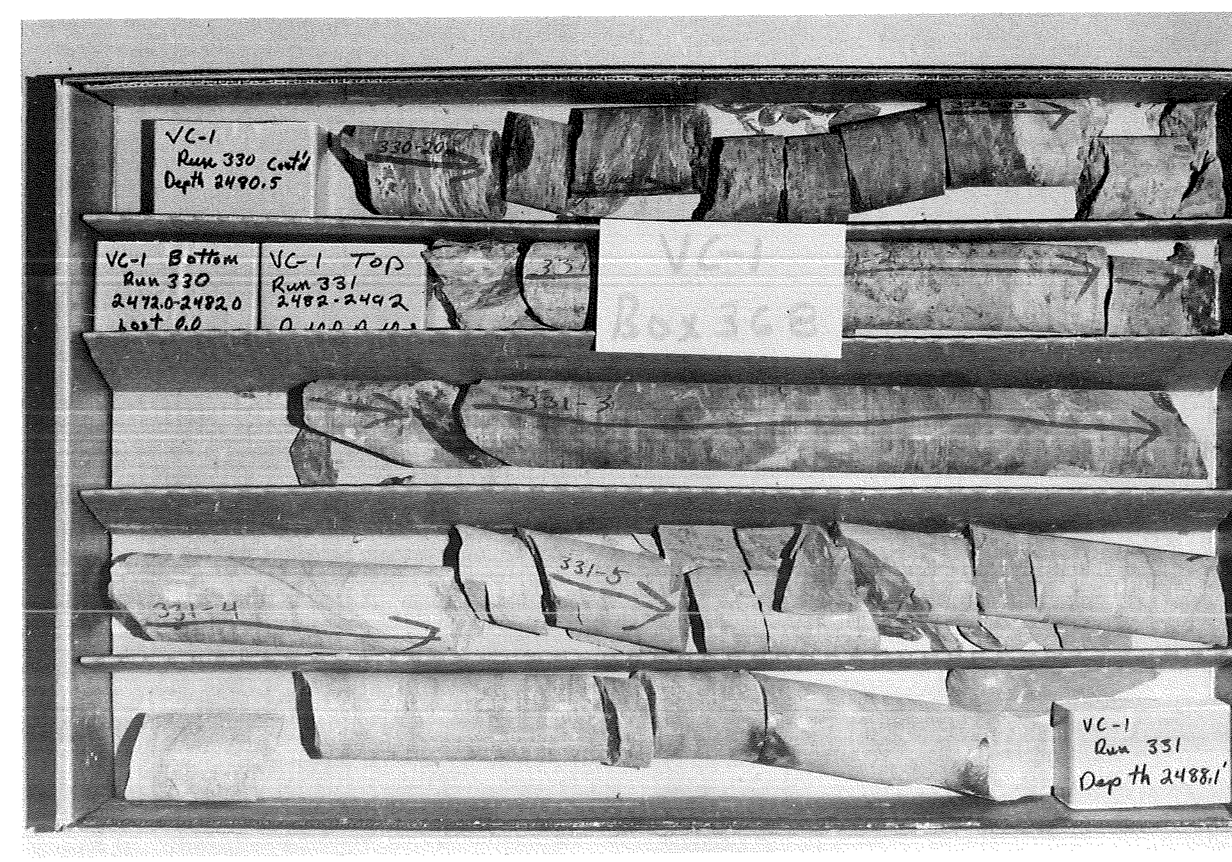

RUN 325 cont. 2439.2'
VC-1 Box 363
RUN 326 START 2441'
326-1
326-3A

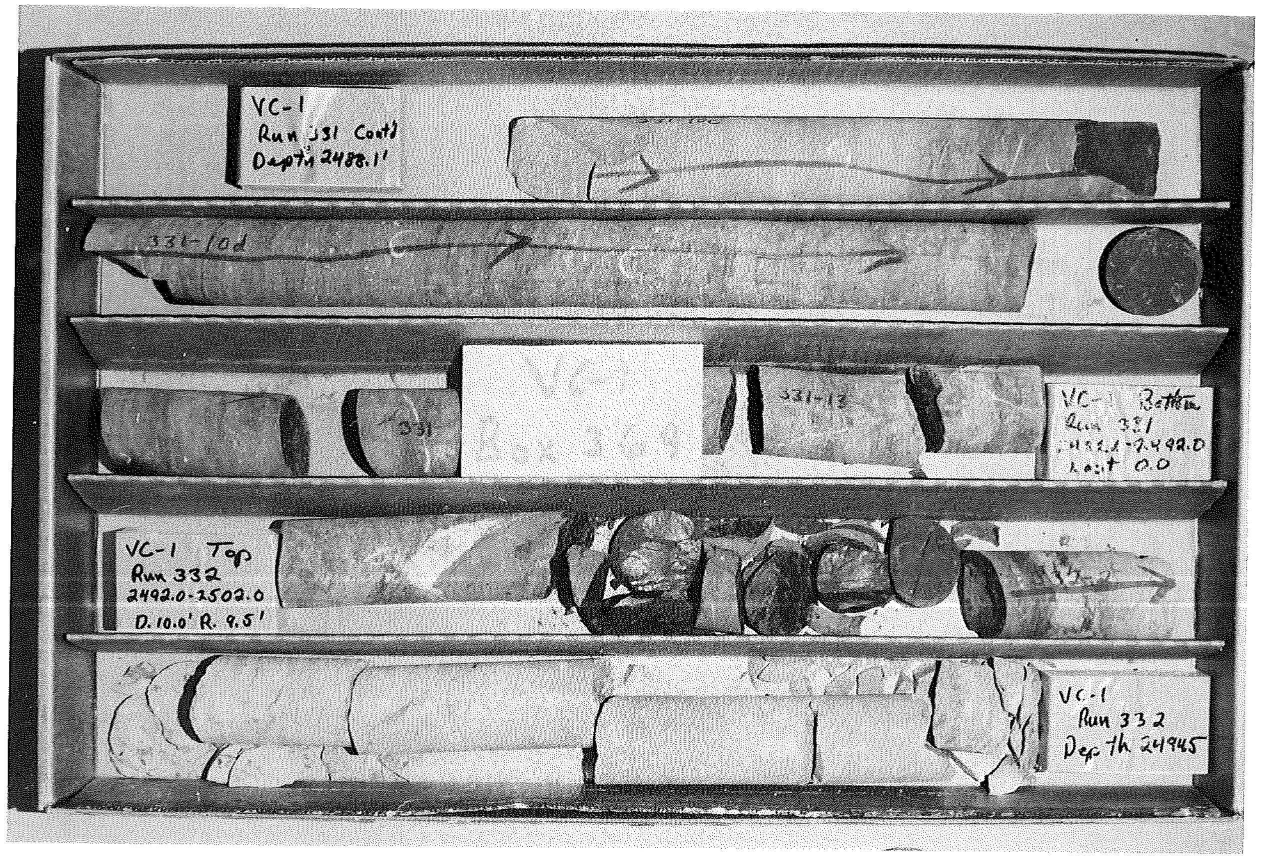

RUN 326 cont.
326-4
326-5
VC-1 Box 364
VC-1 TOP Run 327 2451.0'-2461.0' D.10.0 R.10.0
327-1
327-2
VC-1 Run 327 Depth 2455.9'

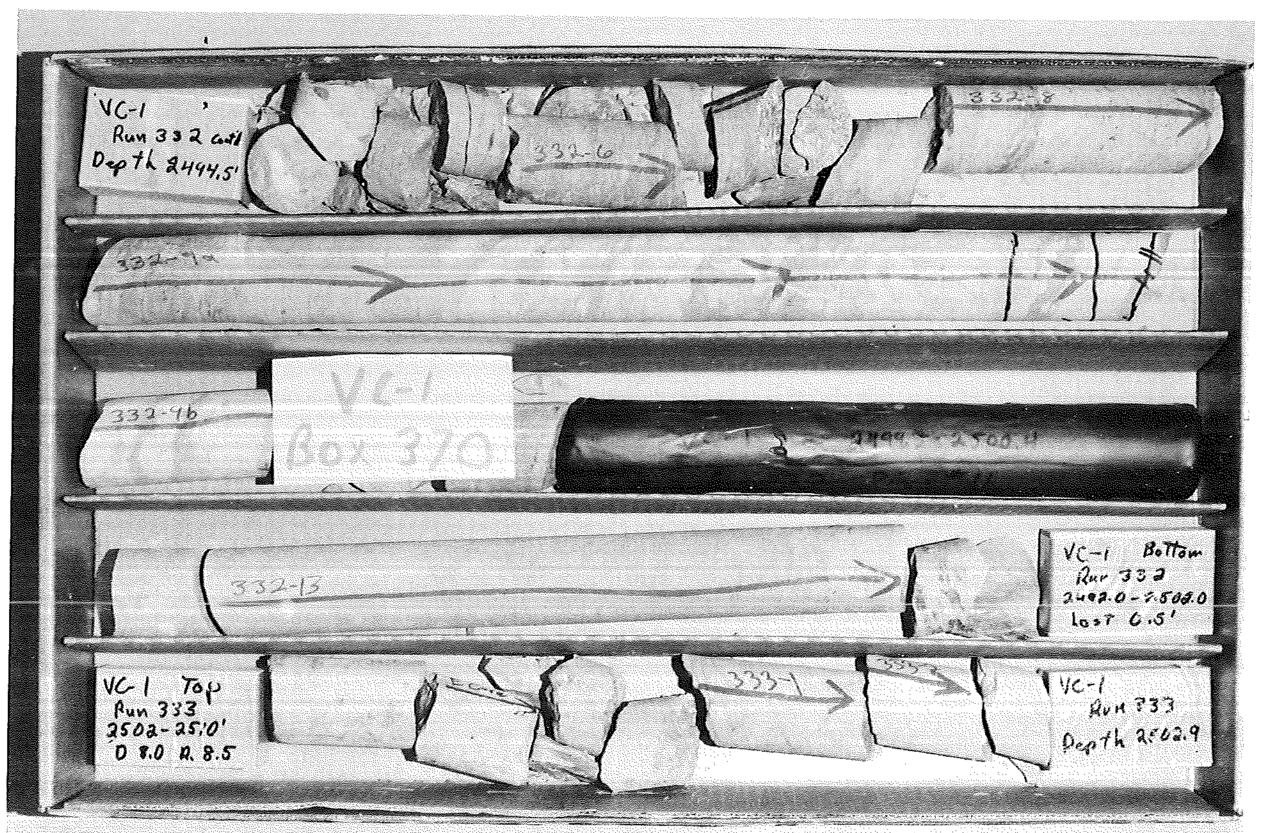

VC-1
Run 327 Cont'd
Depth 2455.9'
327-13
327-15
327-17
327-18
VC-1 Bottom
Run 327
Lost 0.0
VC-1
Run 328
Depth 2463.4

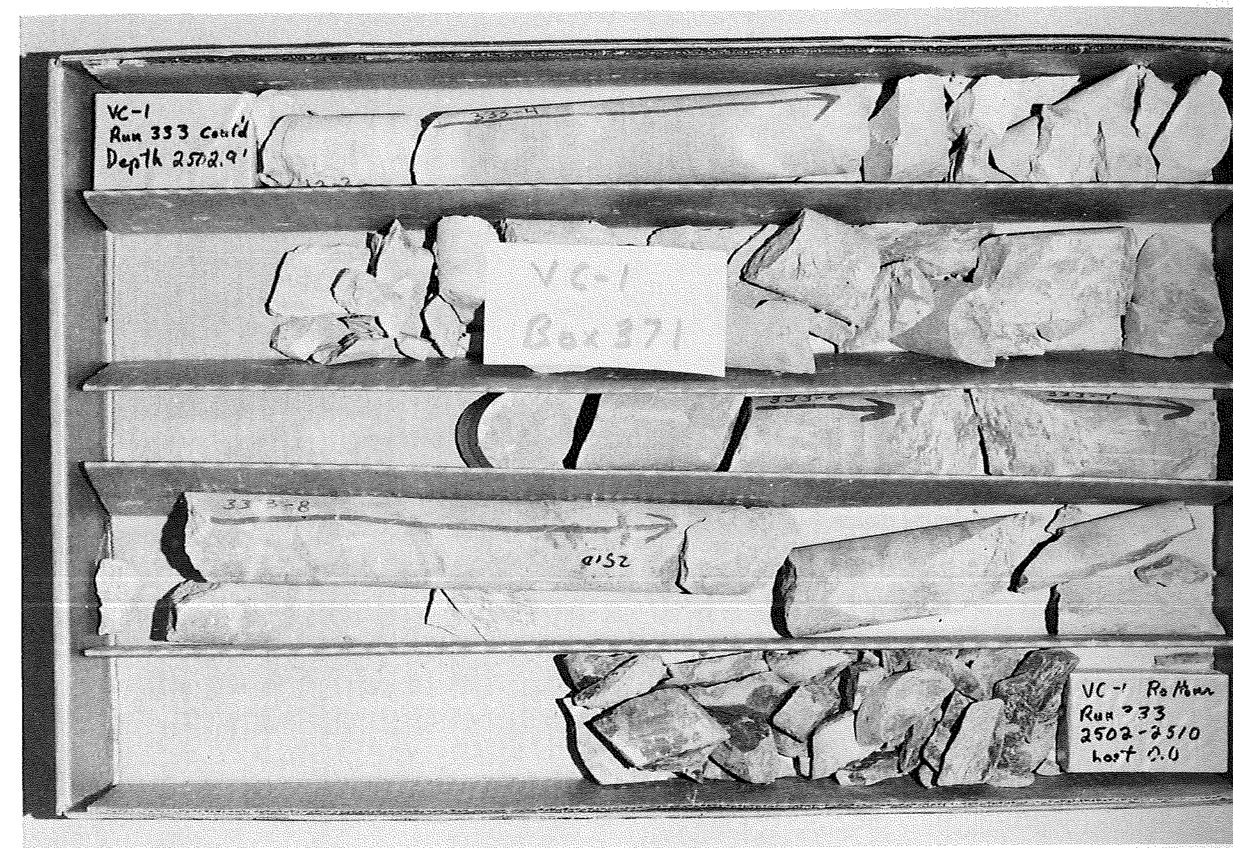

328-2
VC-1 Bottom
Run 328
2461.0-2467.0
Lost 0.0
VC-1 Top
Run 329
2467.0-2472.0
329-2
329-3
329-6
Run 329
Depth 2472.0'

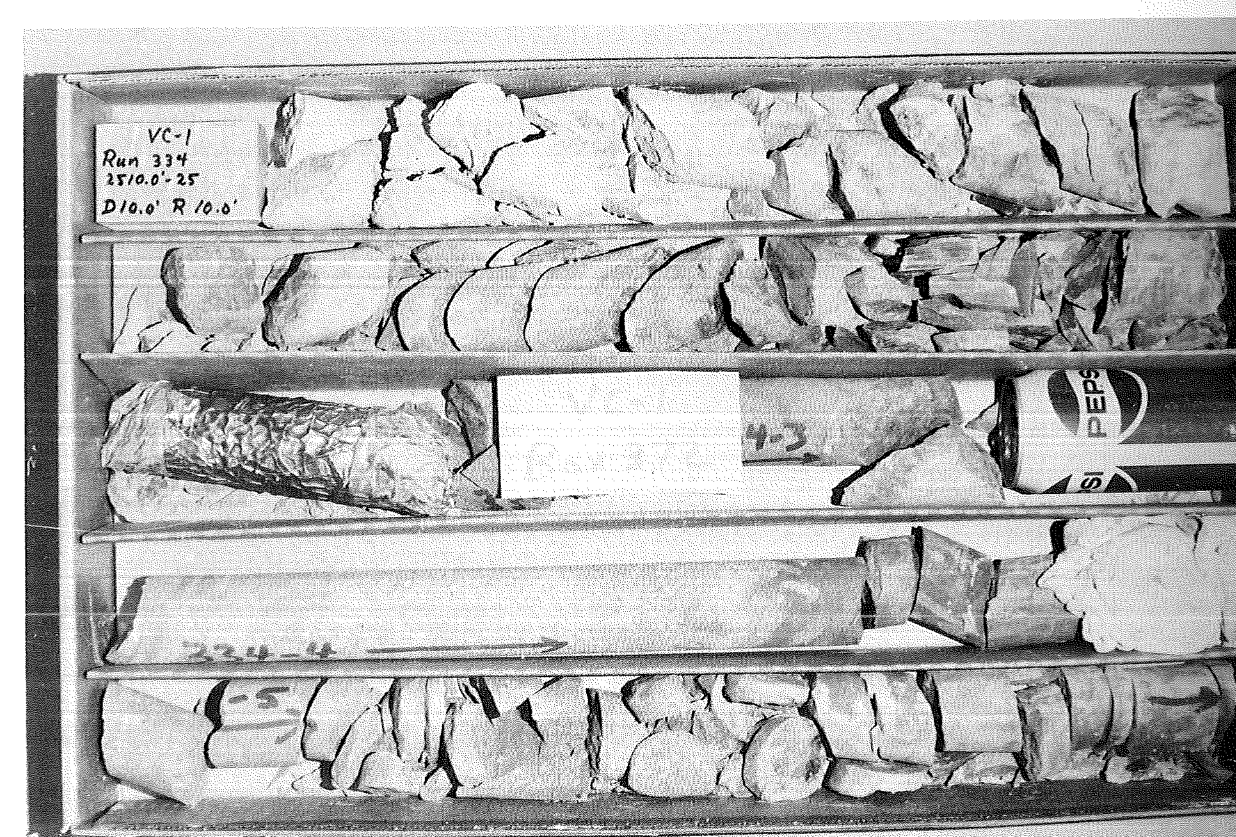

VC-1 Top
Run 330
330-3
VC-1
Box 367
330-10
330-11
330-14
330-15
Run 330
Depth 2480.5'


VC-1
Run 330 Cont'd
Depth 2480.5
VC-1 Bottom
Run 330
2472.0-2482.0
Lost 0.0
VC-1 Top
Run 331
2482-2492
331-3
331-4
331-5
VC-1
Run 331
Depth 2488.1'


VC-1
Run 331 Cont'd
Depth 2488.1'
VC-1
Box 369
VC-1 Bottom
Run 331
2482.1-2492.0
Lost 0.0
VC-1 Top
Run 332
2492.0-2502.0
D.10.0' R. 9.5'
VC-1
Run 332
Depth 2494.5

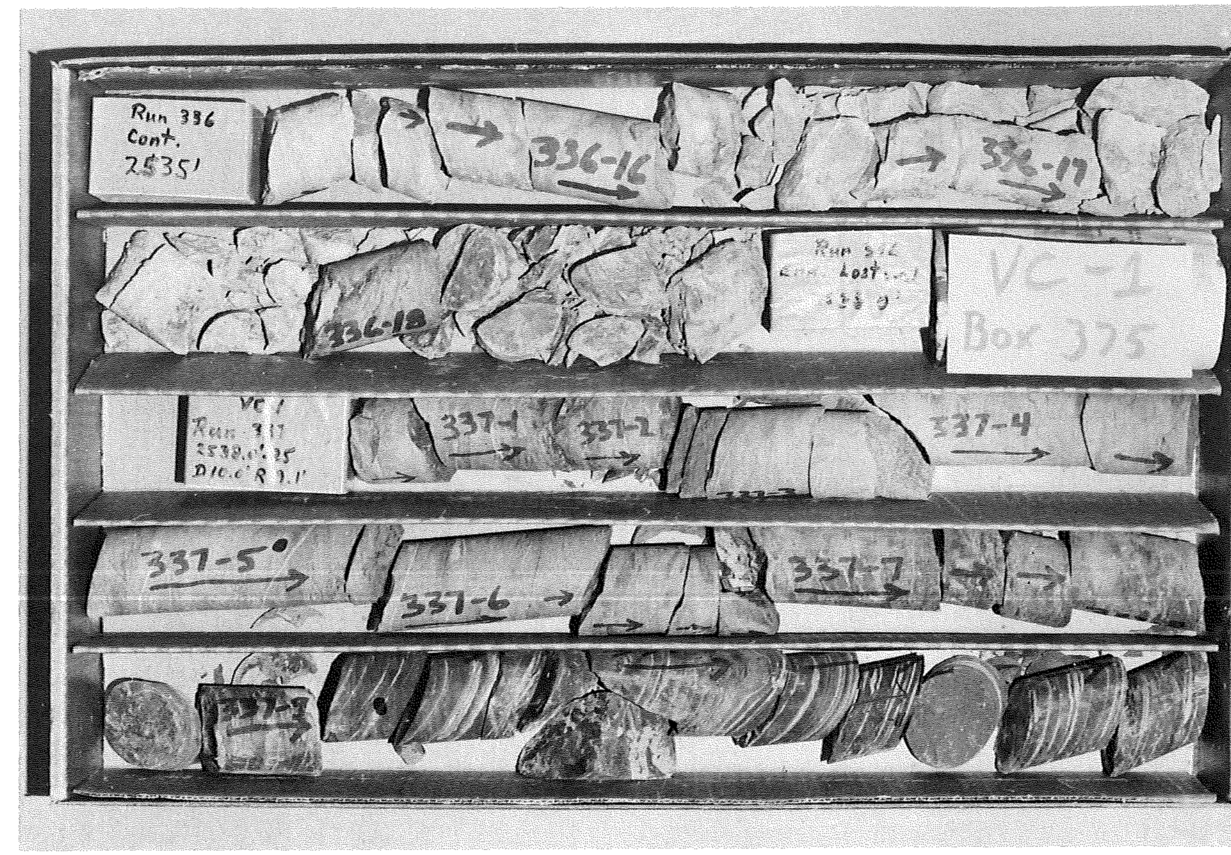

VC-1
Run 332 cont'd
Depth 2494.5'
VC-1
Box 370
VC-1 Bottom
Run 332
2492.0-2502.0
Lost 0.5'
VC-1 Top
Run 333
2502-2510'
D 8.0 R 8.5
VC-1
Run 333
Depth 2502.9


VC-1
Run 333 Cont'd
Depth 2502.9'
VC-1
Box 371
VC-1 Bottom
Run 333
2502-2510
Lost 0.0


VC-1
Run 334
2510.0'-25
D10.0' R 10.0'
PEPSI


Run 334
Cont.
VC-1
Run 335
335-2
335-6
335-9

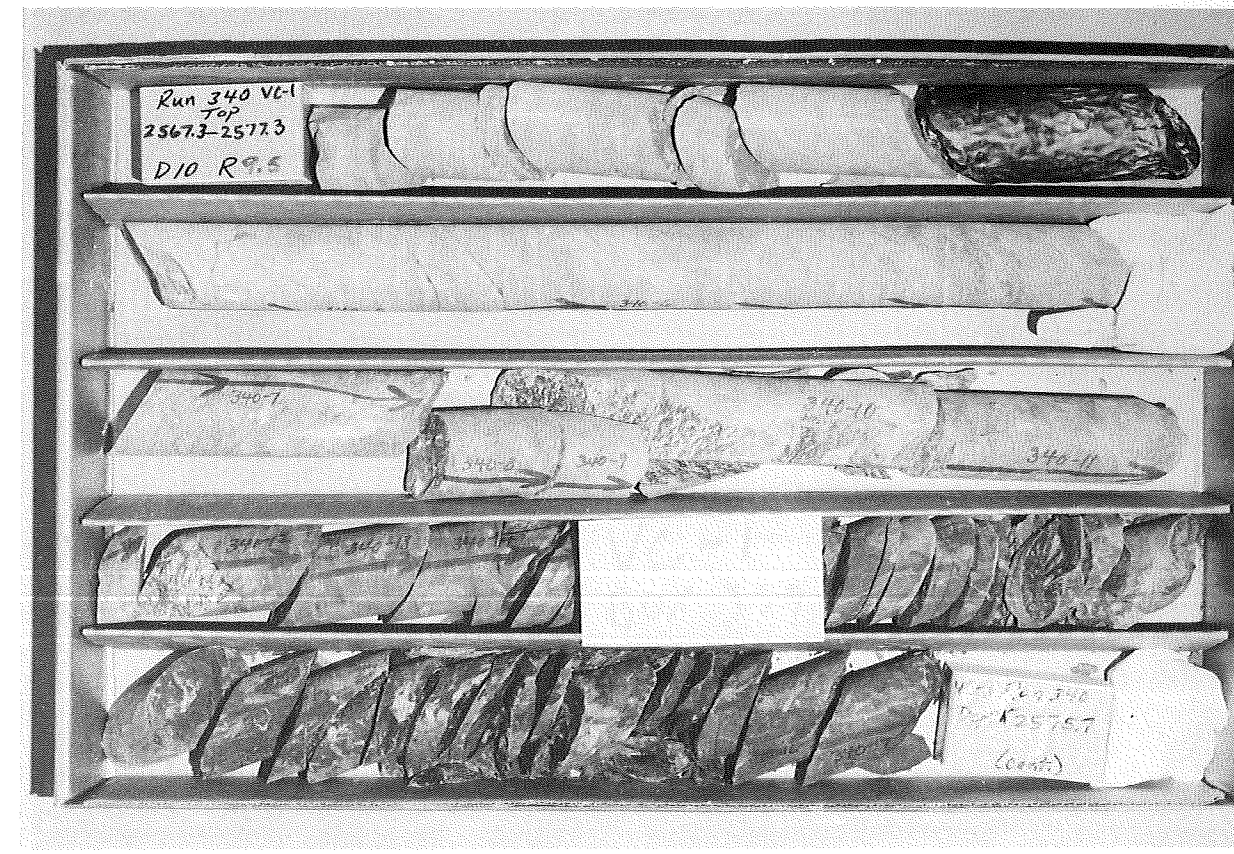

335-11
Run 335
2528.0'
335-10
VC-1
Run 336
Box 374
336-13
336-15

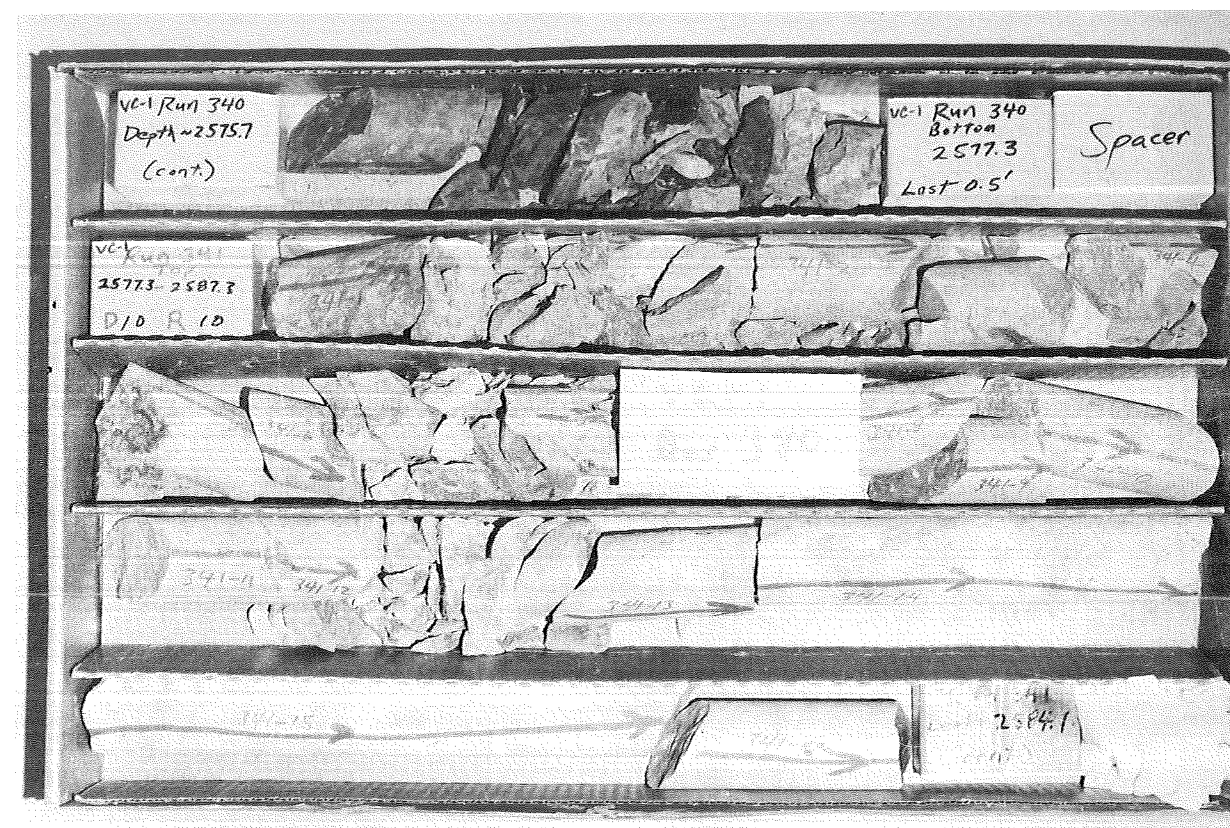

Run 336
Cont.
2535'
336-16
336-17
VC-1
Box 375
337-4
337-5
337-6

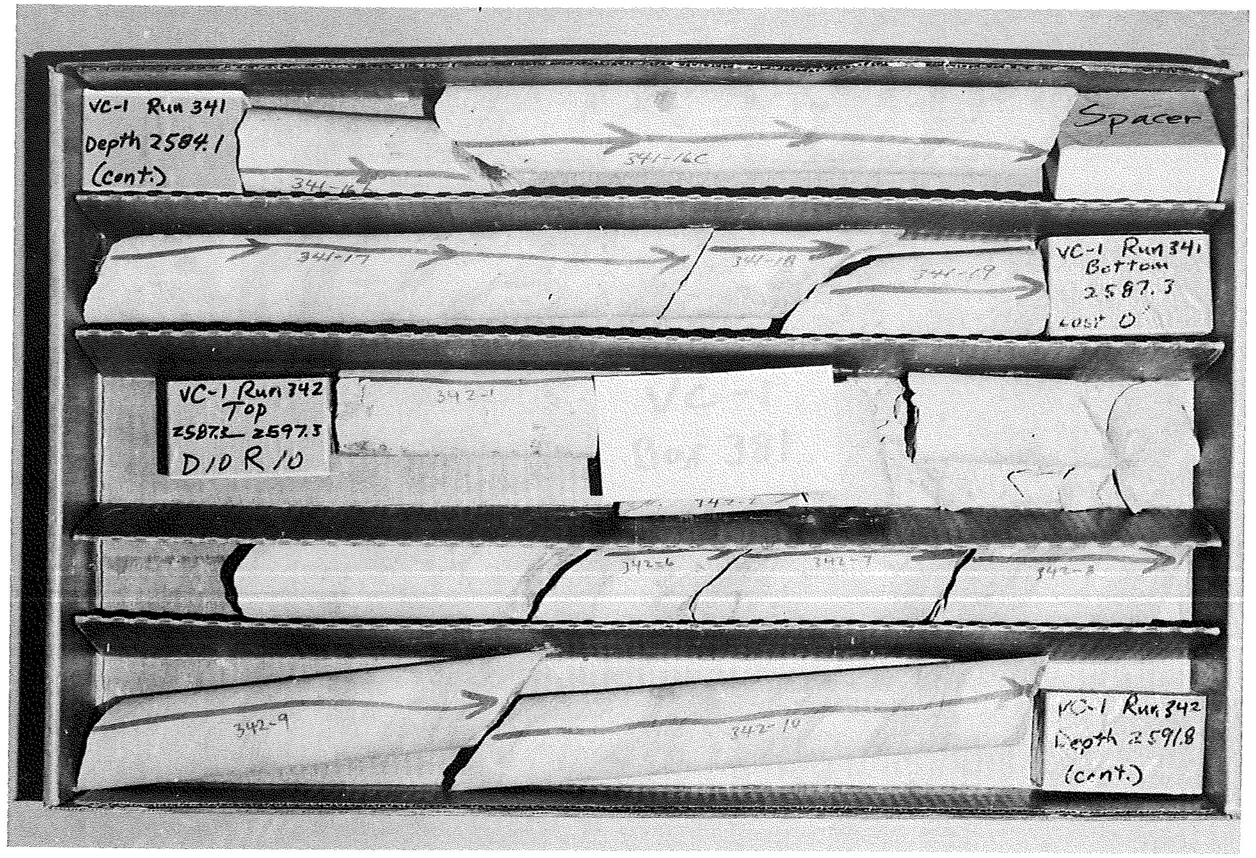

Run 337
Cont.
VC-1
Box 376
VC-1
Run 338


Run 338
Cont.
2551.0'
338-5
VC-1
Box 377
Run 339
Top
2557.0-2567.3
D10.3 R10
(cont.)

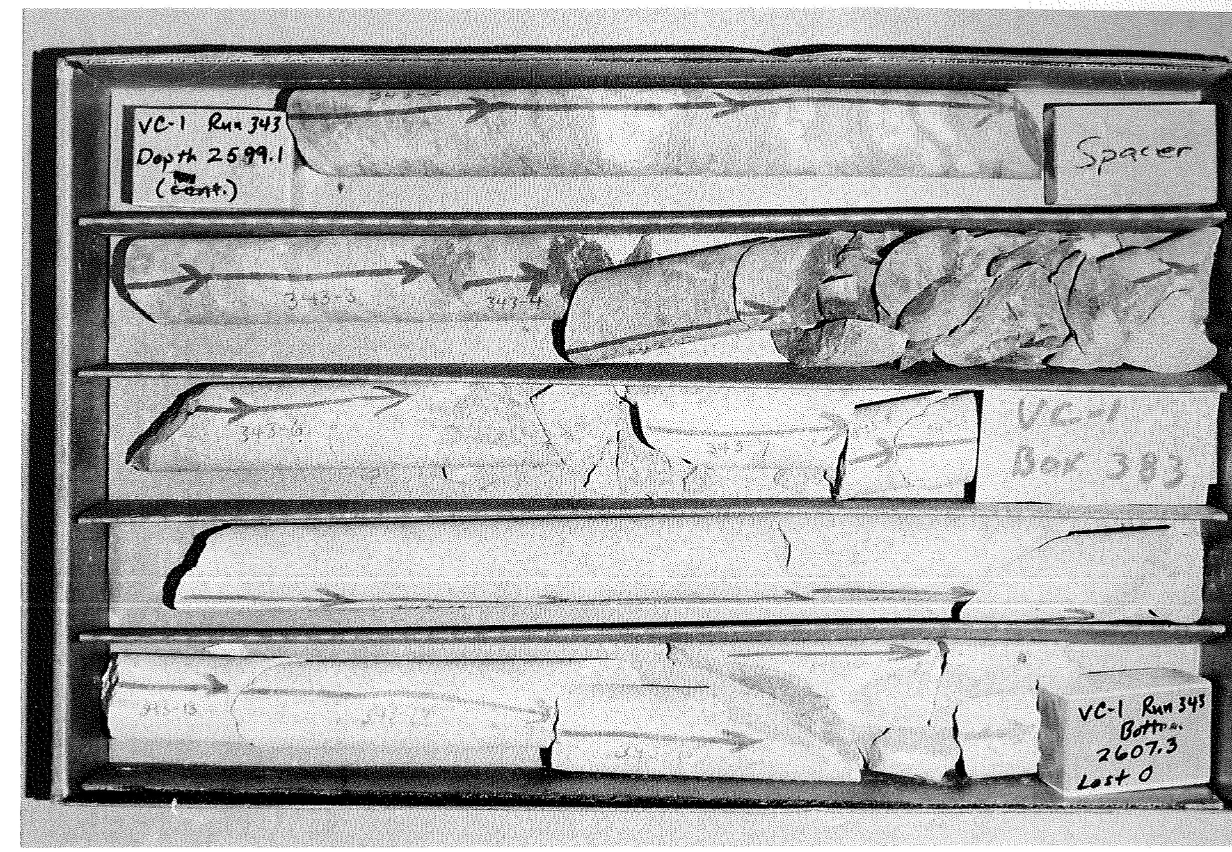

Run 339
Depth 2558.3
(cont.)
Spacer
339-7
339-11
339-13
Run 339
Bottom
2567.3
Lost 0.3'

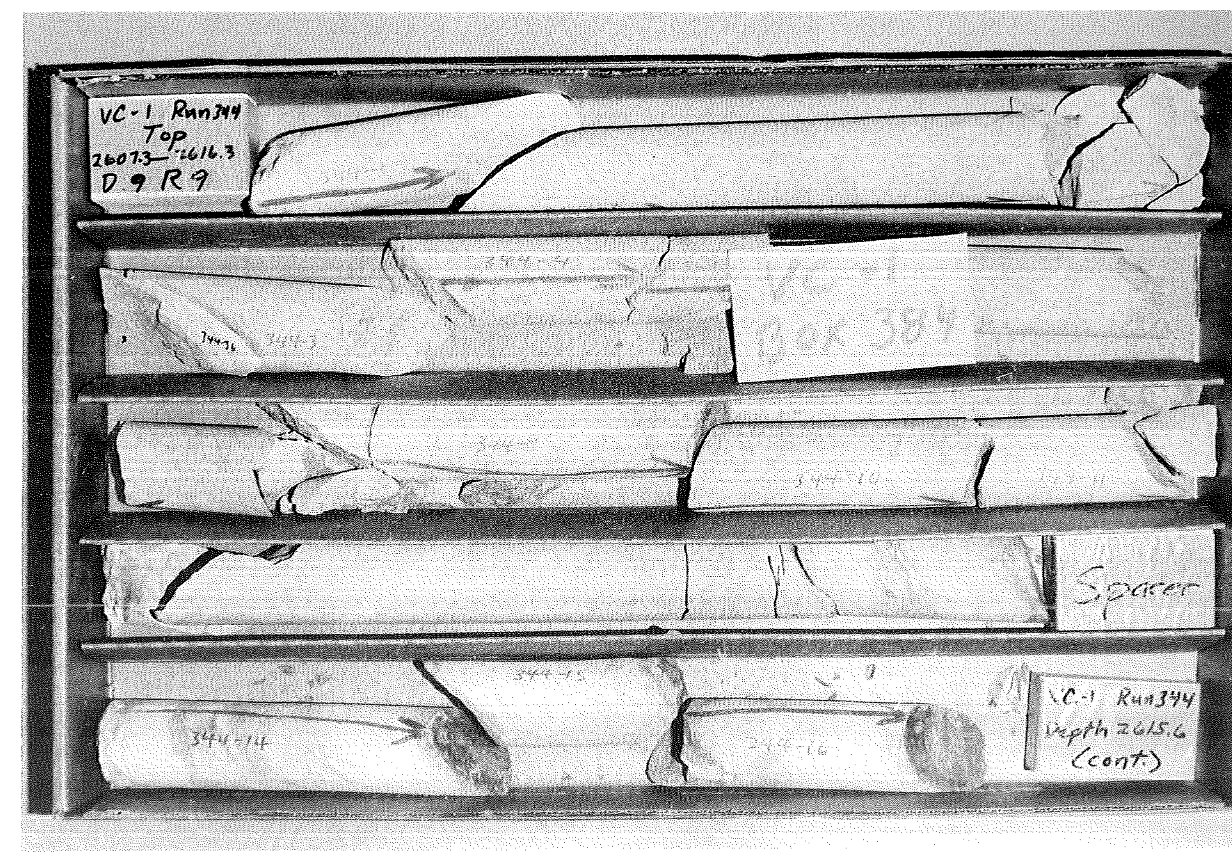

Run 340 VC-1
Top
2567.3-2577.3
D10 R9.5
(cont.)

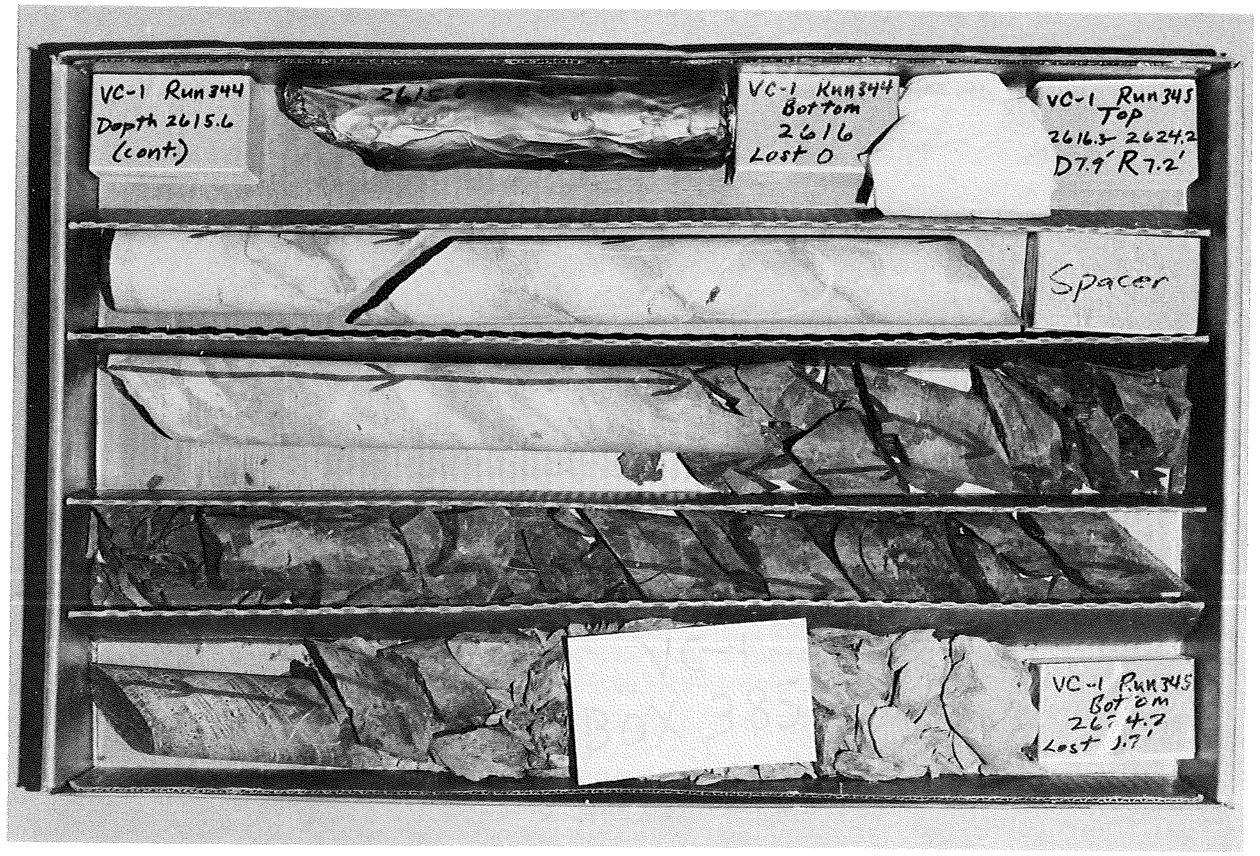

VC-1 Run 340
Depth ~2575.7
(cont.)
VC-1 Run 340
Bottom
2577.3
Lost 0.5'
Spacer
2577.3-2587.3
D10 R10

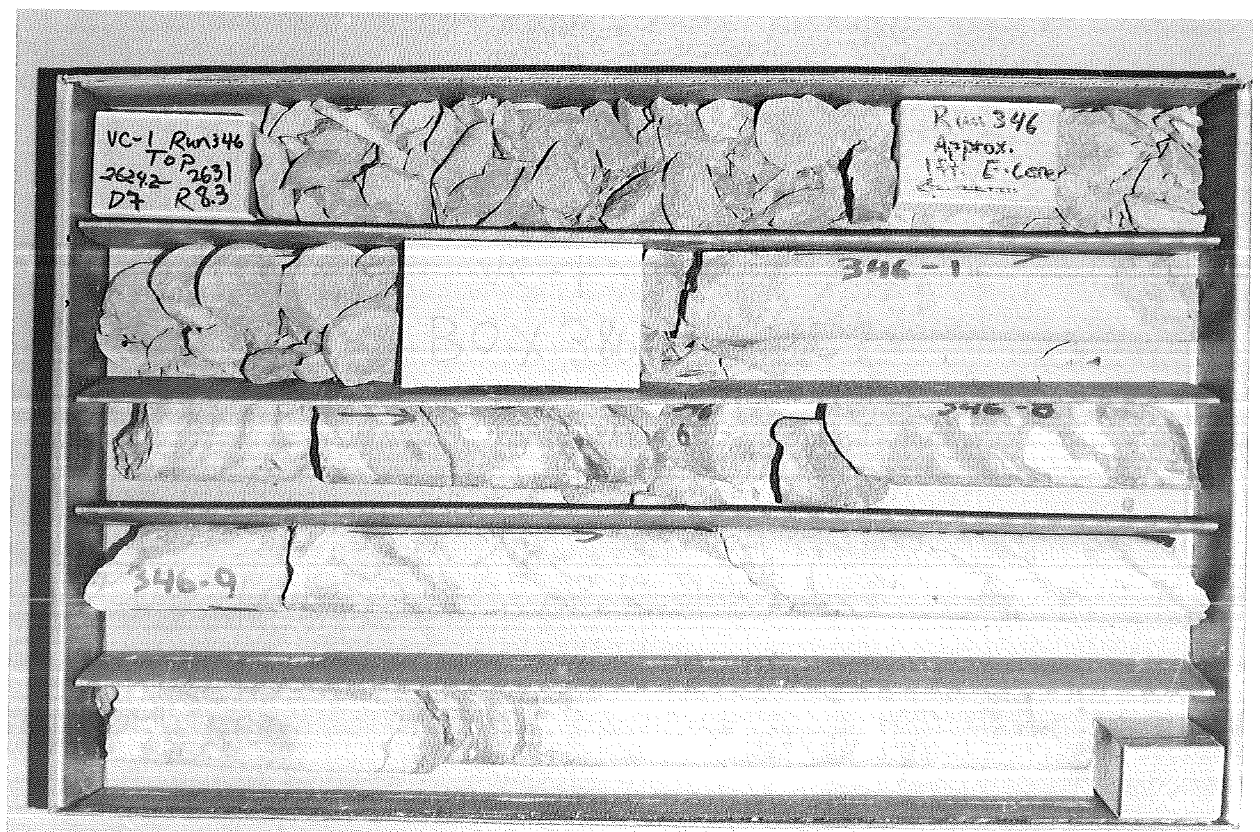

VC-1 Run 341
Depth 2584.1
(cont.)
Spacer
VC-1 Run 341
Bottom
2587.3
Lost 0
VC-1 Run 342
Top
2587.3 – 2597.3
D 10 R 10
VC-1 Run 342
Depth 2591.8
(cont.)

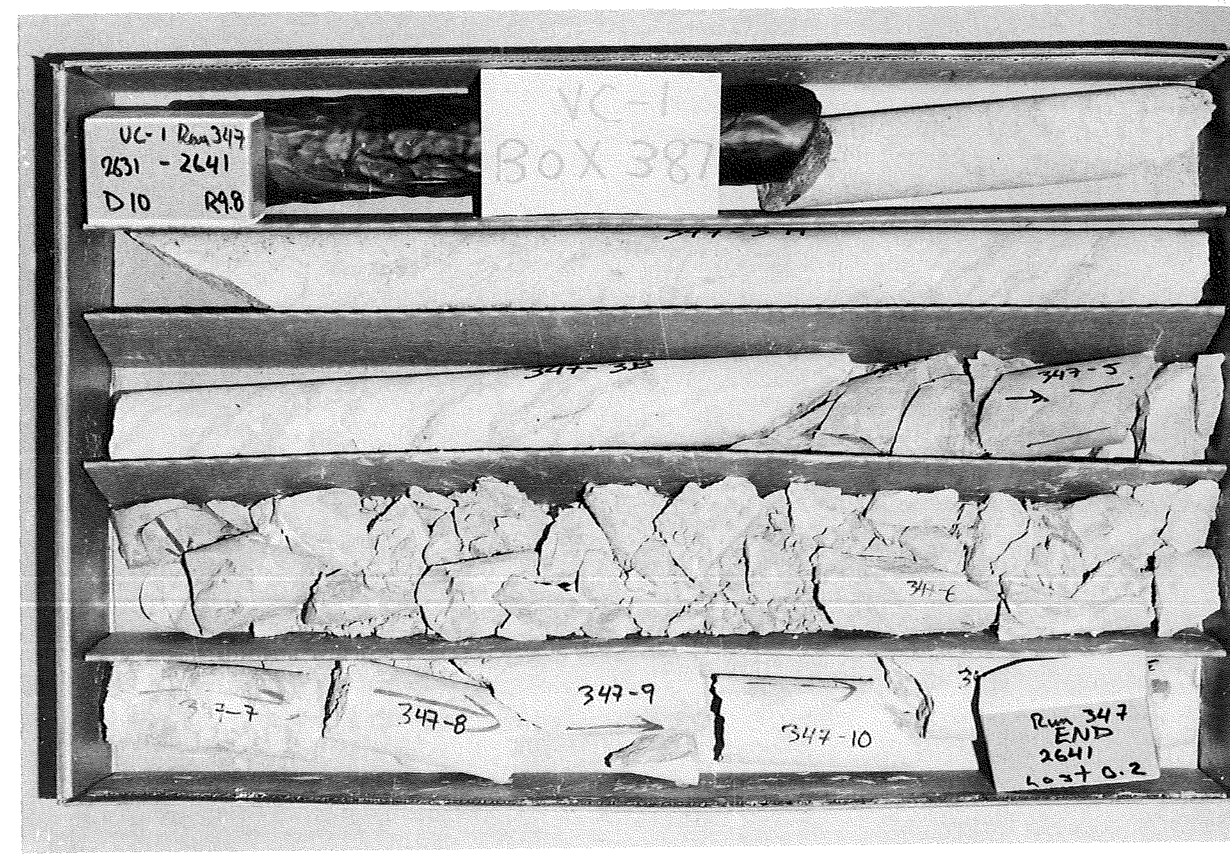

VC-1 Run 342
Depth 2591.8
Bottom
Lost 0
VC-1
Box 382
D 10 R 10


VC-1 Run 343
Spacer
VC-1
Box 383
VC-1 Run 343
Bottom
2607.3
Lost 0

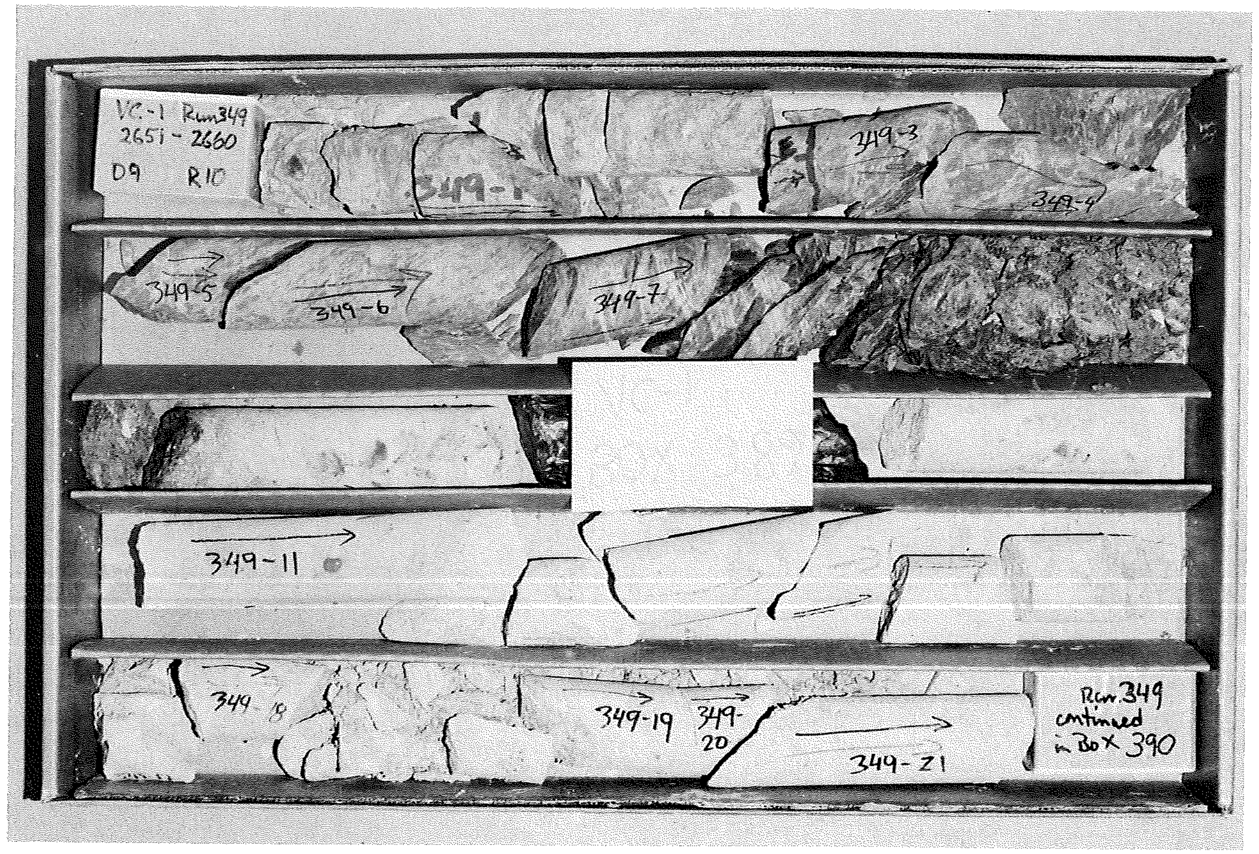

VC-1 Run 344
Top
2607.3 – 2616.3
D 9 R 9
VC-1
Box 384
Spacer
VC-1 Run 344
Depth 2615.6
(cont.)

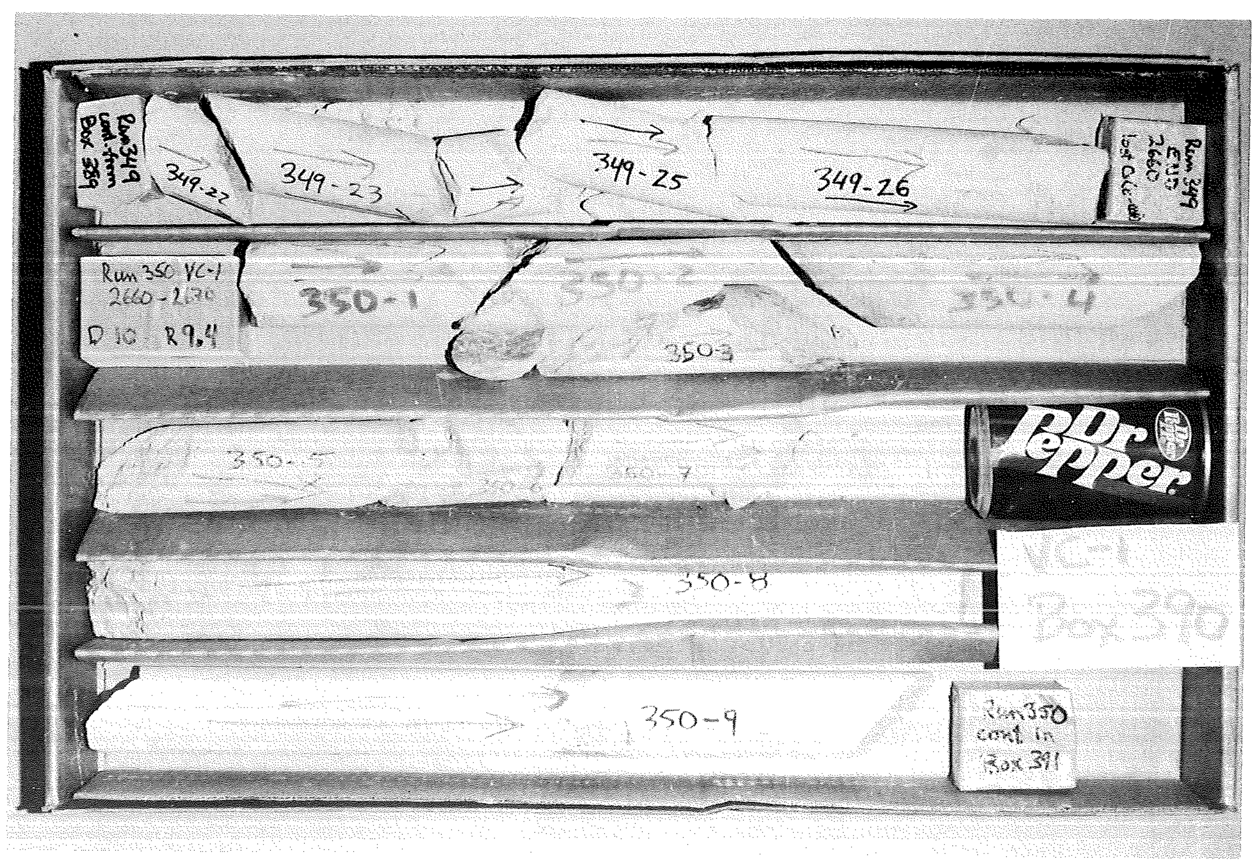

VC-1 Run 344
Depth 2615.6
(cont.)
VC-1 Run 344
Bottom
2616
Lost 0
VC-1 Run 345
Top
2616.3-2624.2
D7.9' R7.2'
Spacer


VC-1 Run 346
TOP
2624.2-2631
D7 R8.3
346-1
346-9


VC-1 Run 347
2631 - 2641
D10 R9.8
VC-1
BOX 387
347-7
347-8
347-9
347-10
Run 347
END
2641
Lost 0.2

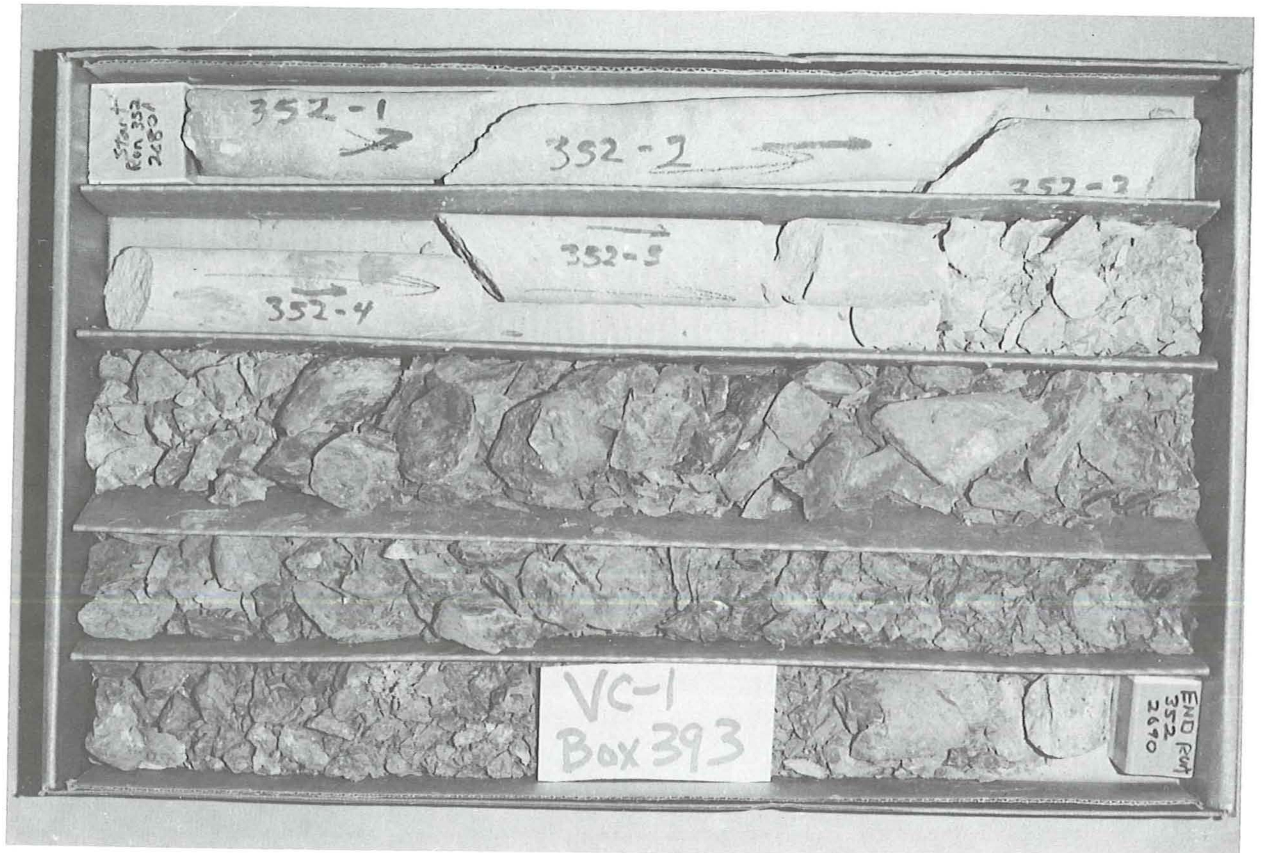

VC-1 Run 348
2641-2651
D10 R9
348-10
348-12
348-14
348-15
348-18
348-19
348-20


VC-1 Run349
2651 - 2660
D9 R10
349-3
349-4
349-5
349-6
349-7
349-11
349-19
349-21
Run 349 continued in Box 390


349-23
349-25
349-26
Run 350 VC-1
D10
350-1
350-3
350-8
350-9
Run350 cont. in Box 391
VC-1
Box 390
Dr Pepper

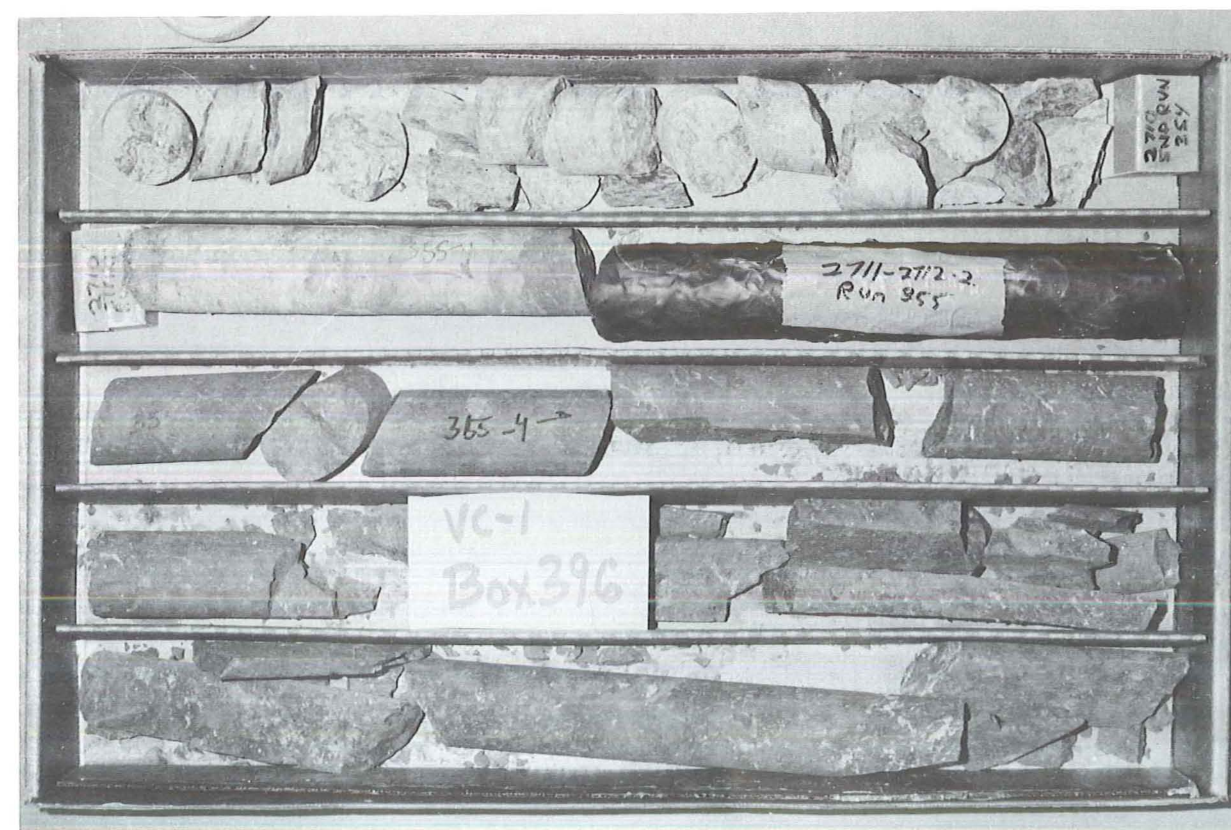

Run350 cont. from BX390
350-11 to Dey & Kranz
350-13
VC-1
Box 391
351-1
351-3

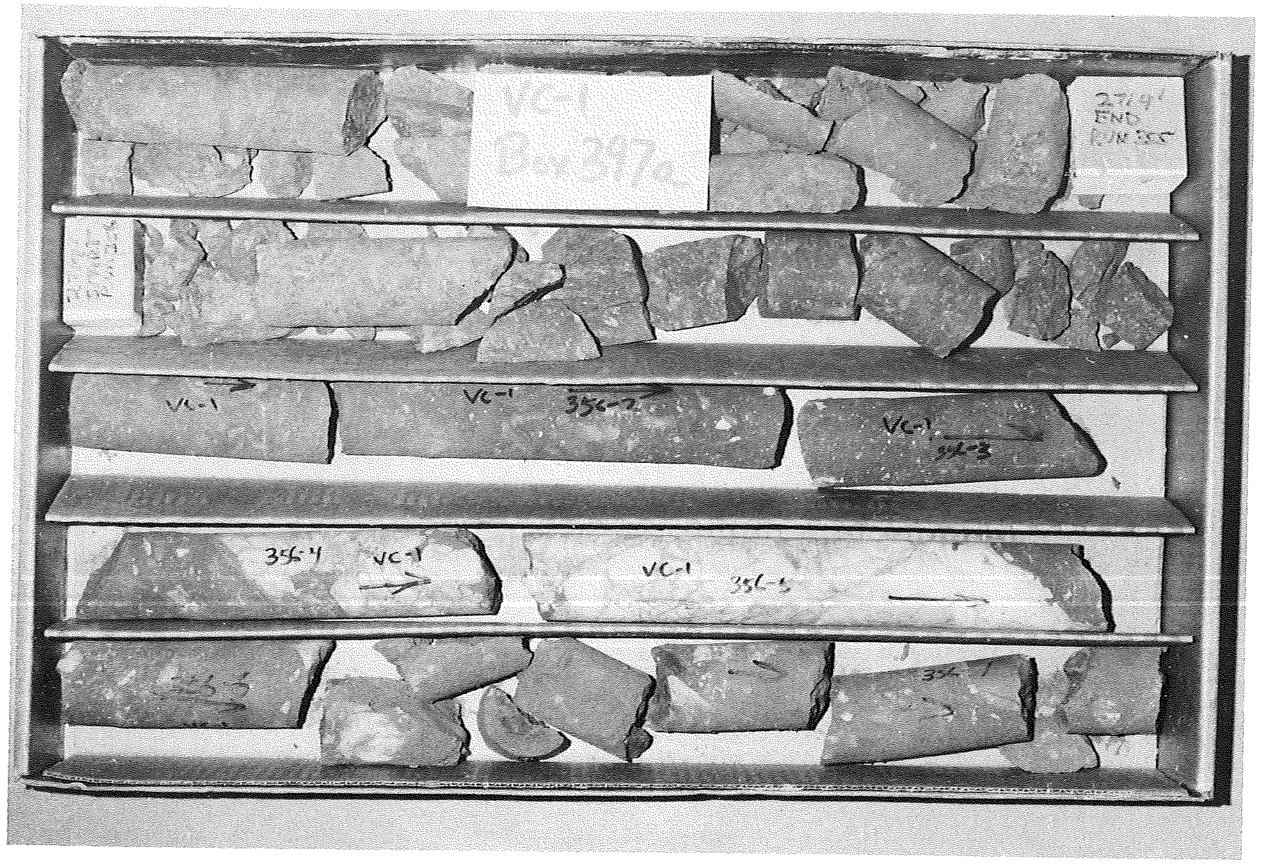

Run351 cont. from BX-391
351-7
351-10
VC-1
Box 392


352-1
352-2
352-4
VC-1
Box 393

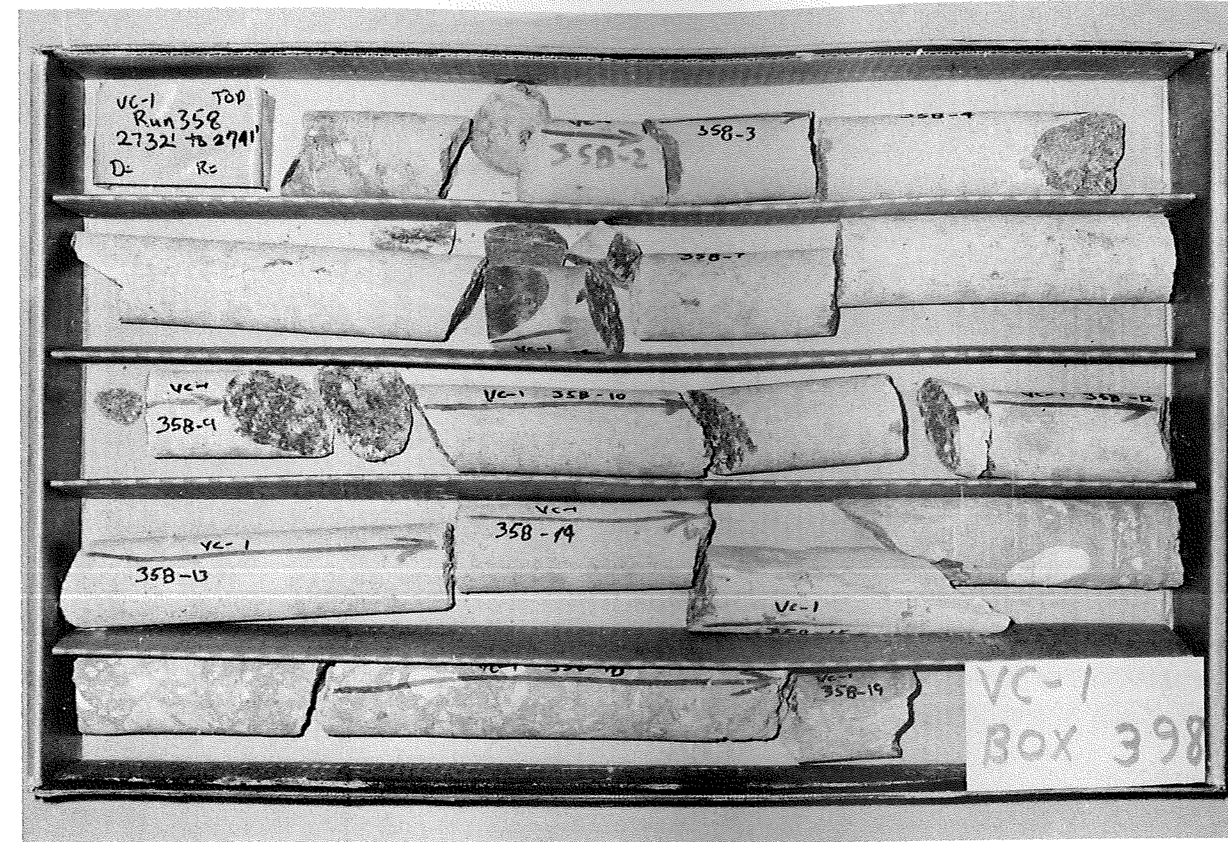

VC-1
Box 394
PEPSI

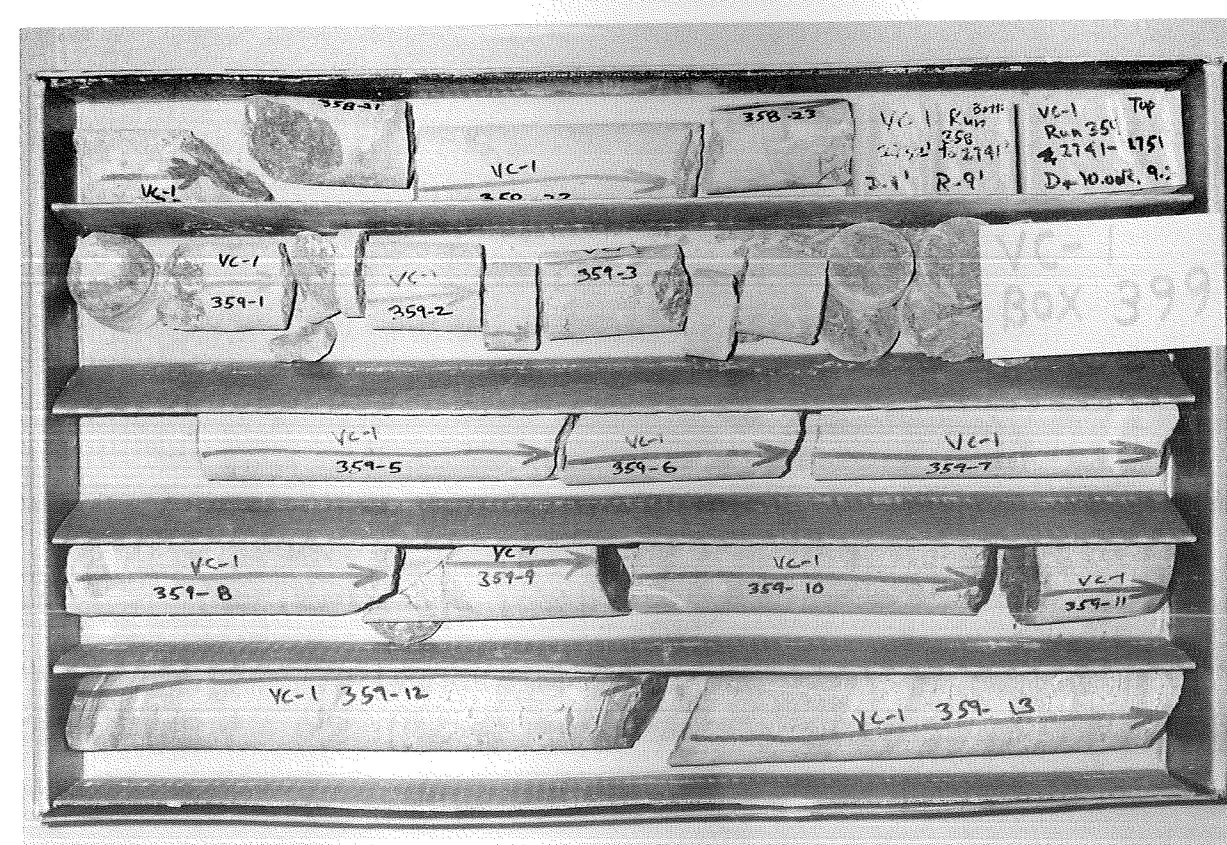

VC-1
Box 395

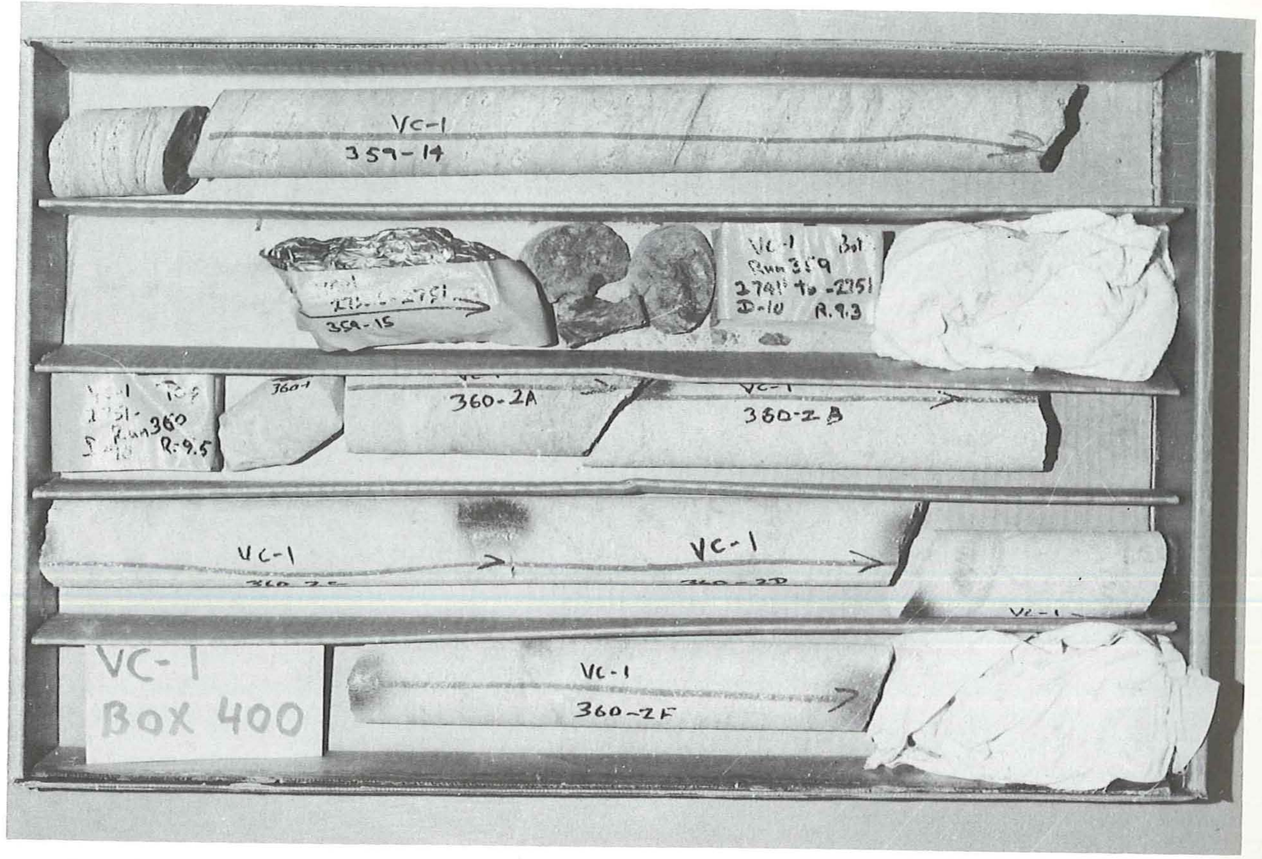

Run 355
365-4
VC-1
Box 396

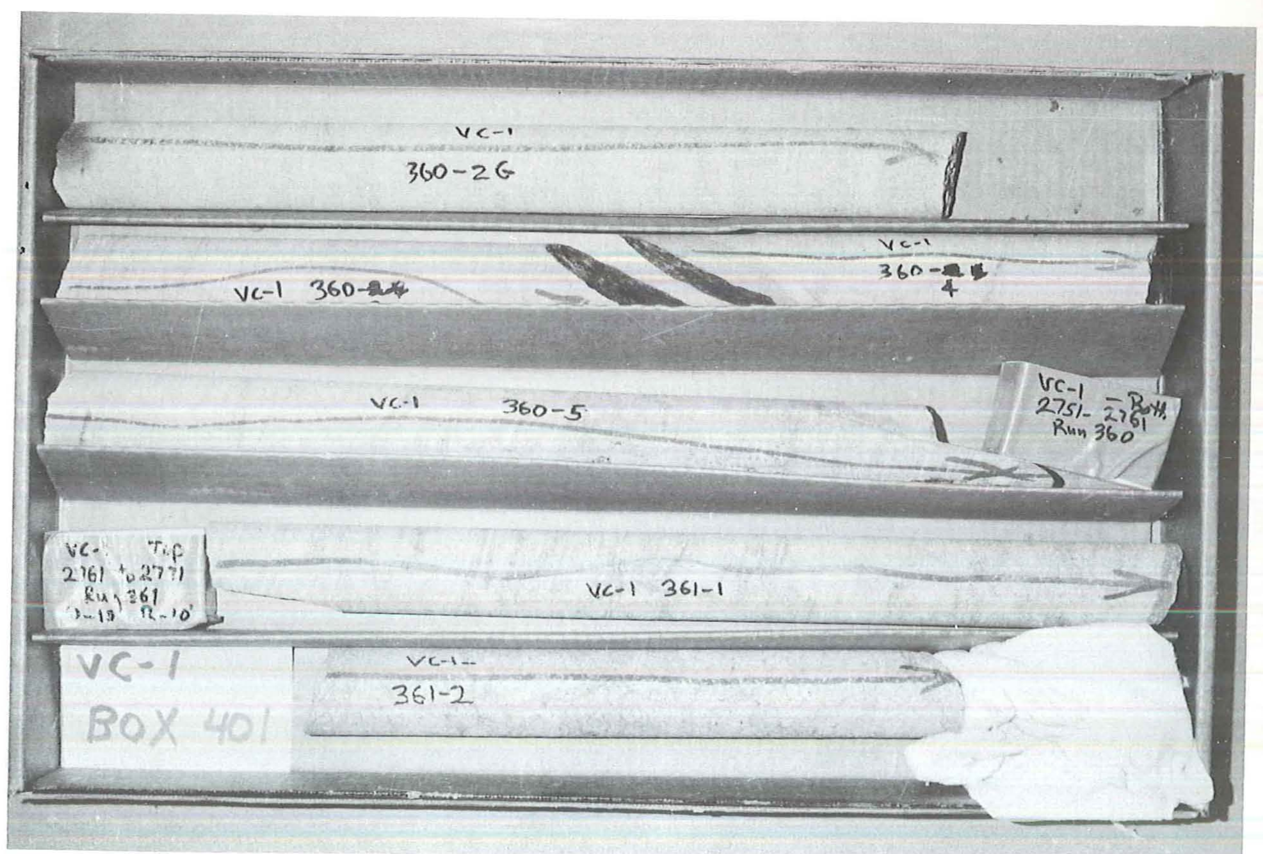

VC-1
Box 397a

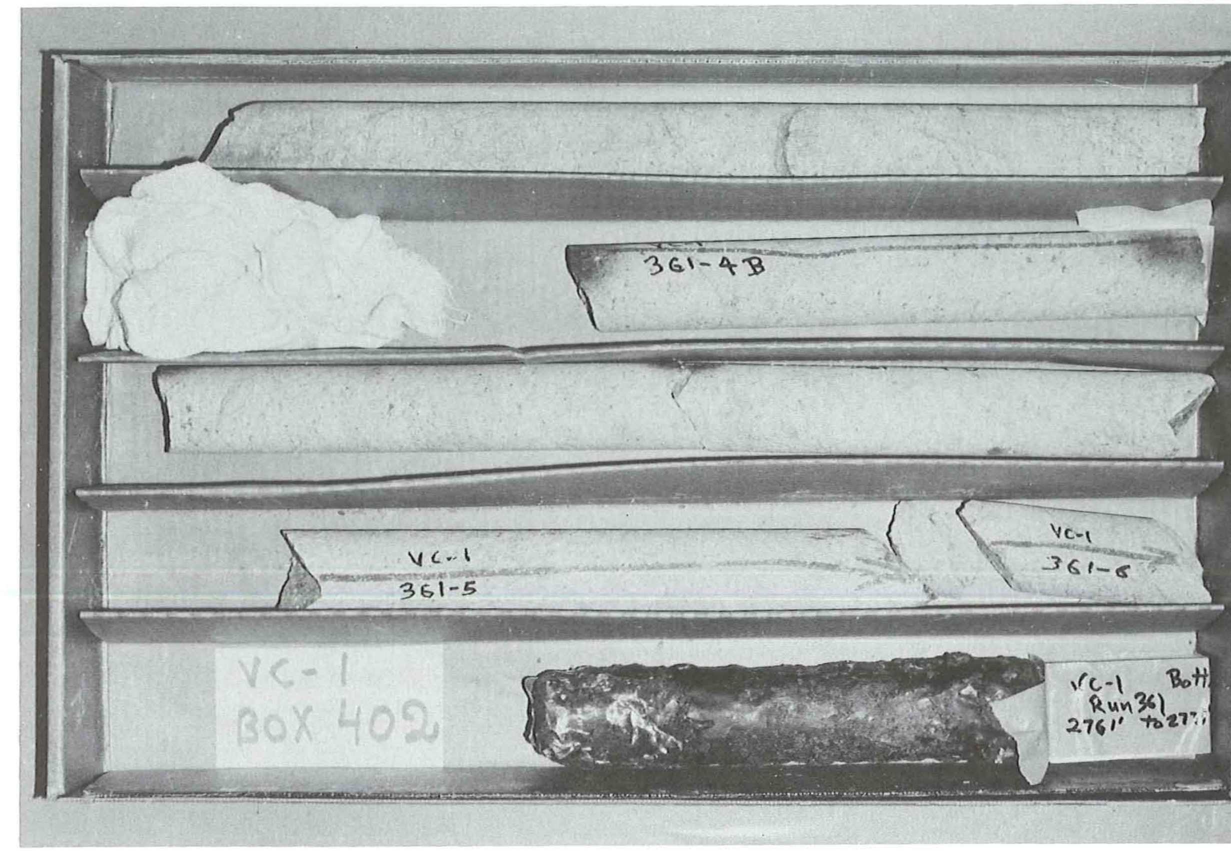

VC-1 Top
Run 357
2726 to 2732
D= 6' R=6'
VC-1
Box 397b

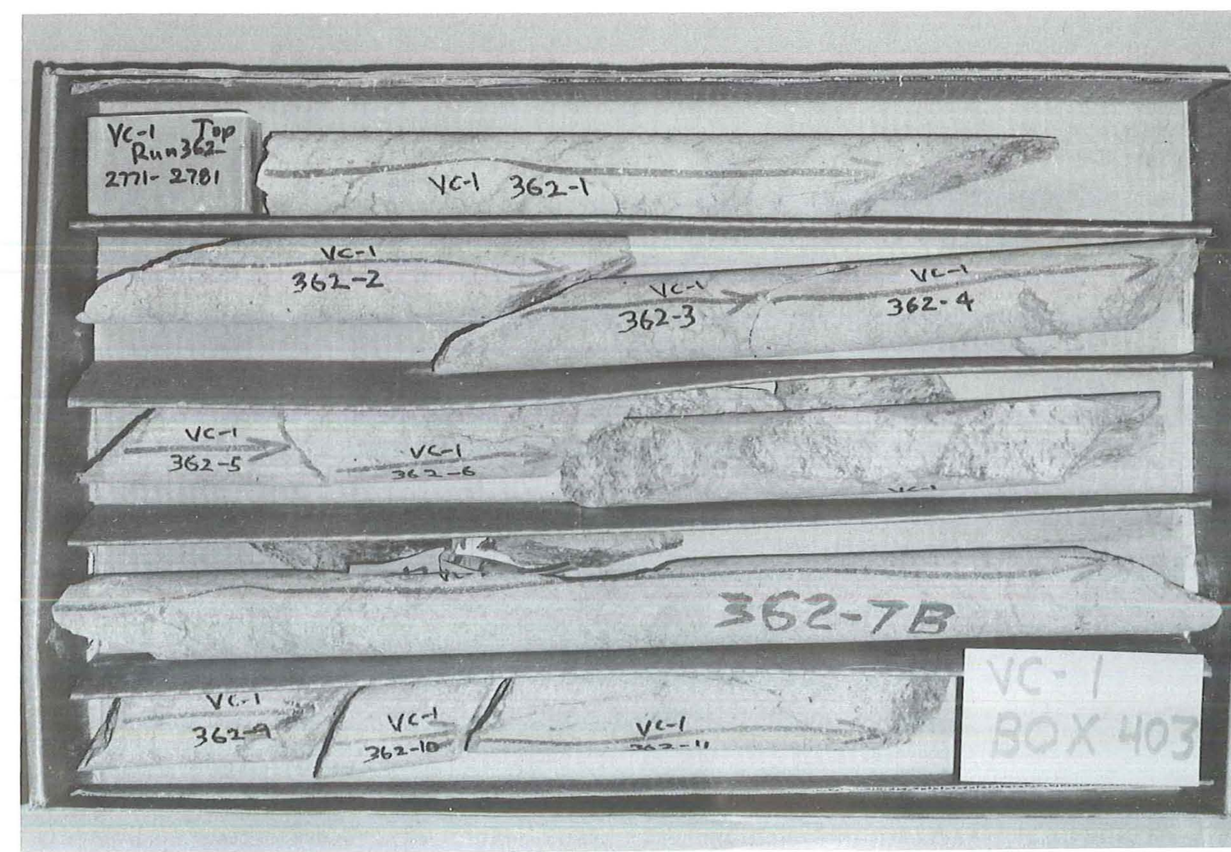

VC-1 Top
Run 358
2732' to 2741'
VC-1
BOX 398

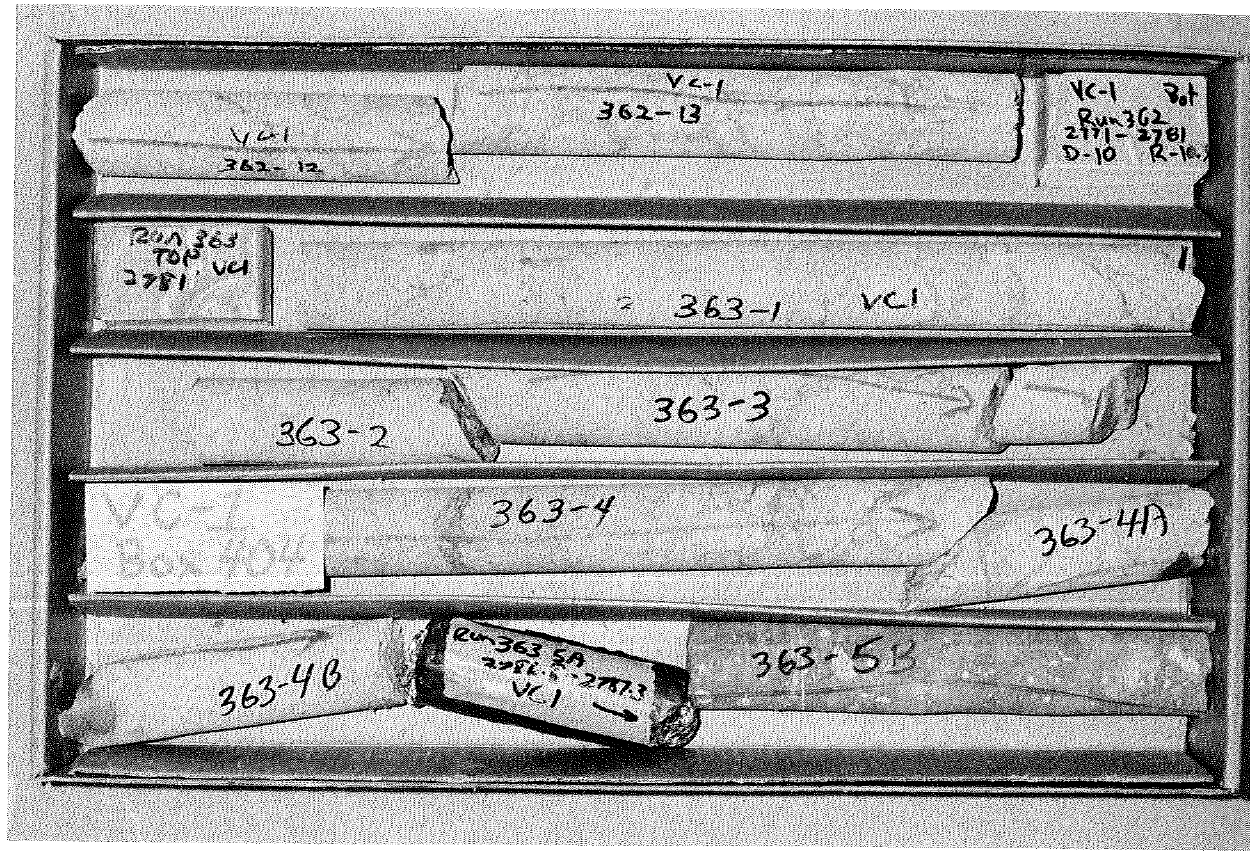

VC-1
BOX 399

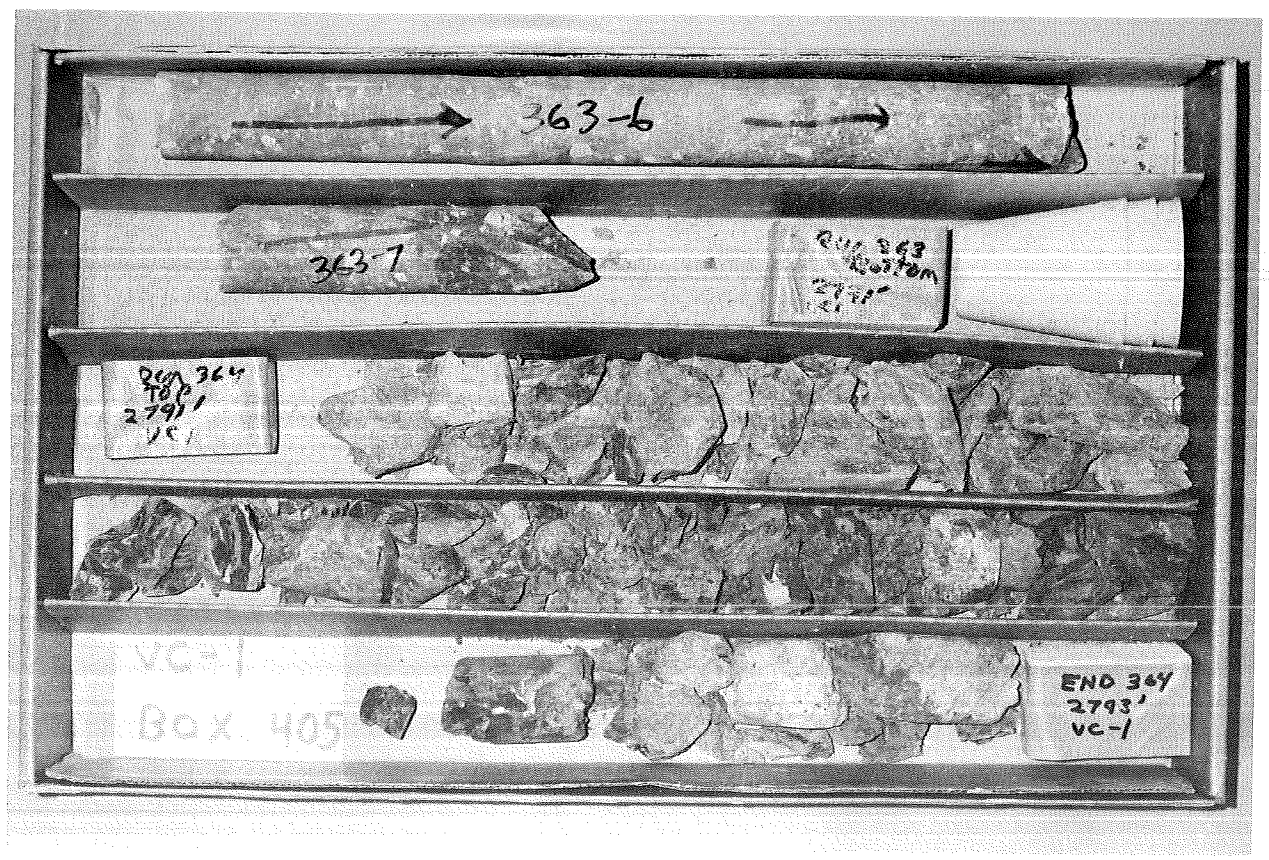

VC-1
359-14
360-2A
360-2B
VC-1
360-2F
VC-1
BOX 400

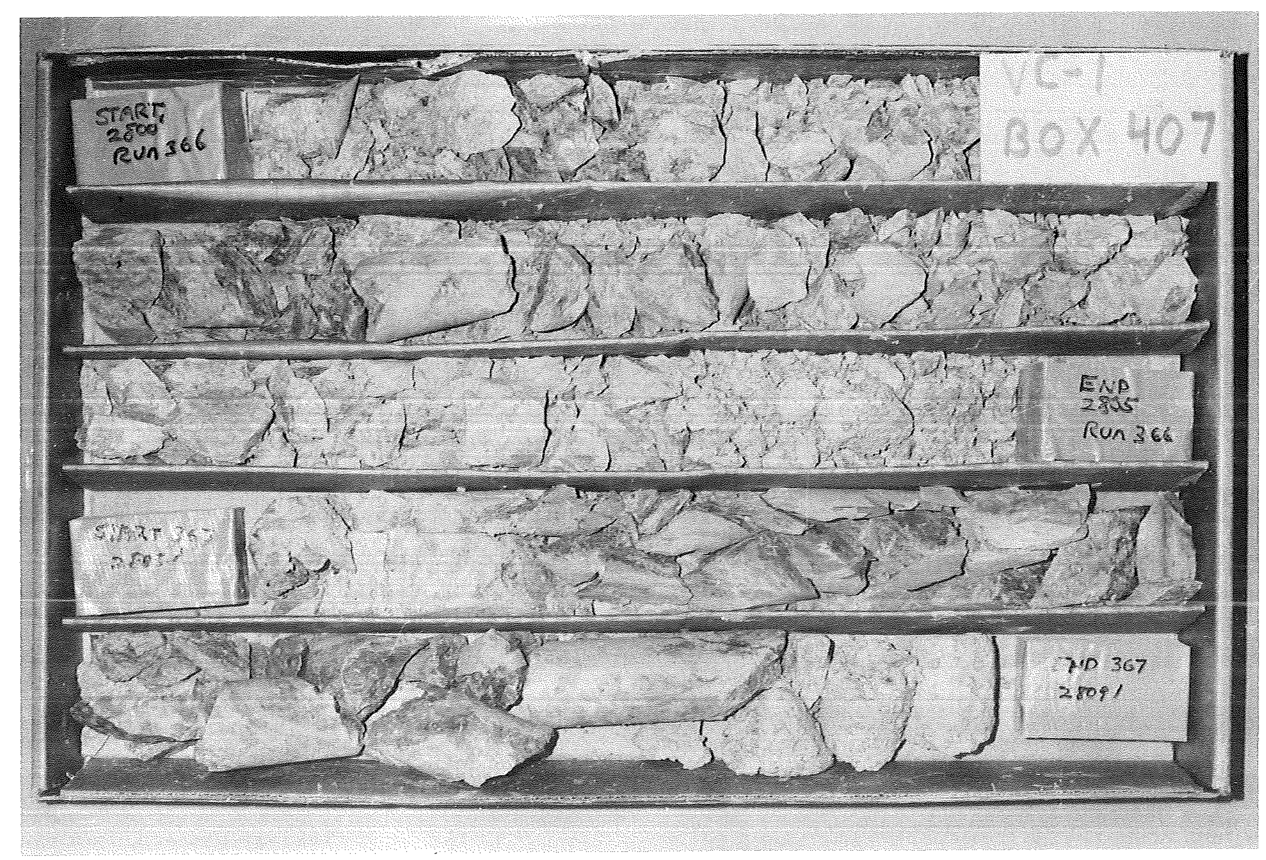

VC-1
360-2G
VC-1 360-5
VC-1 361-1
361-2
VC-1
BOX 401


361-4B
VC-1
361-5
VC-1
361-6
VC-1
BOX 402


VC-1 Top
Run362
2771- 2781
VC-1 362-1
VC-1
362-2
VC-1
362-3
VC-1
362-4
VC-1
362-5
362-7B
VC-1
BOX 403







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