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U.S. GEOLOGICAL SURVEY

CALIFORNIA MARGIN SITE-SURVEY CRUISE
R/V MAURICE EWING
CRUISE EW-9504

San Diego, CA to Eureka, CA
May 17 to June 7, 1995

P-wave Velocity, Wet Bulk Density, Magnetic Susceptibility, Acoustic Impedance, and Visual Core Descriptions of Sediment Recovered During Research Cruise EW9504: Data, Techniques, and Procedures

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Introduction

The data presented in this report catalog measured compression-wave (P-wave) velocity, wet bulk density, magnetic susceptibility and calculated acoustic impedance of sediment-core samples collected as part of the 1995 California Margin Site Survey (CMSS) cruise aboard R/V Maurice Ewing (EW9504). Visual sediment descriptions are included for ease of correlation of sediment properties with sediment facies. The project was a National Science Foundation/Ocean Drilling Program (NSF/ODP) site-survey cruise in preparation for ODP drilling along the California margin scheduled for the spring of 1996. The piston-coring sites are located along the northern Baja California, California, and southern Oregon margins (Fig. 1). The existing seismic sections in the vicinity of the coring sites are described in detail in Lyle and Galloway (1994). The cruise, conducted aboard R/V Maurice Ewing, departed San Diego, CA, on May 17, 1995, and returned to Eureka, CA, on June 7, 1995. Operations included digital 4-channel seismic-reflection profiling with dual 80-in^3 water guns, an Edo Western 3.5-kHz system, a Krupp-Atlas Hydro-Sweep multibeam swath-mapping system, and bottom sampling using the Woods Hole Oceanographic Institution (WHOI) piston corer as well as an Oregon State University (OSU) Ocean Instruments Multi-Corer. All piston cores and selected mulit-core samples were logged with the USGS Multi-Sensor Logger (USGS-MSL) prior to splitting. Split sections were described for visual attributes and logged on the OSU Multi-Spectral Logger and the ODP color scanner. This report describes the physical- and acoustical-properties data generated aboard ship using the USGS Multi-Sensor Logger and also presents the visual core descriptions. The seismic-reflection and Hydro-Sweep data are described elsewhere (Lyle, et al., in prep.).

Table 1 gives location, water depth, core length, and ODP site designation for each of the 15 piston cores and 2 multicores. The WHOI piston corer is a modification of a standard marine piston corer; the major differences being a 4200 lb weight stand with steel barrels lined with standard (nominally 11.8 cm OD, 10.1 cm ID) PVC-Schedule 40 water pipe. Most trigger cores were collected using the identical liner but without an external steel corer barrel.

Deck Handling and Core Archiving Conventions

Each core was cut into 1.5-m (±) sections. Section 1 was designated the bottom-most section of the core, thus the top section is of variable length. Each section was capped with a pre-trimmed end cap and secured in place with electrical tape. The standard size cap plug has a 7-cm-long lip that was trimmed to about 2.5 cm for improved USGS-MSL logging. Once capped, each section was stored upright until logged on the USGS-MSL. Multi-Sensor logging was the first processing station for each core.

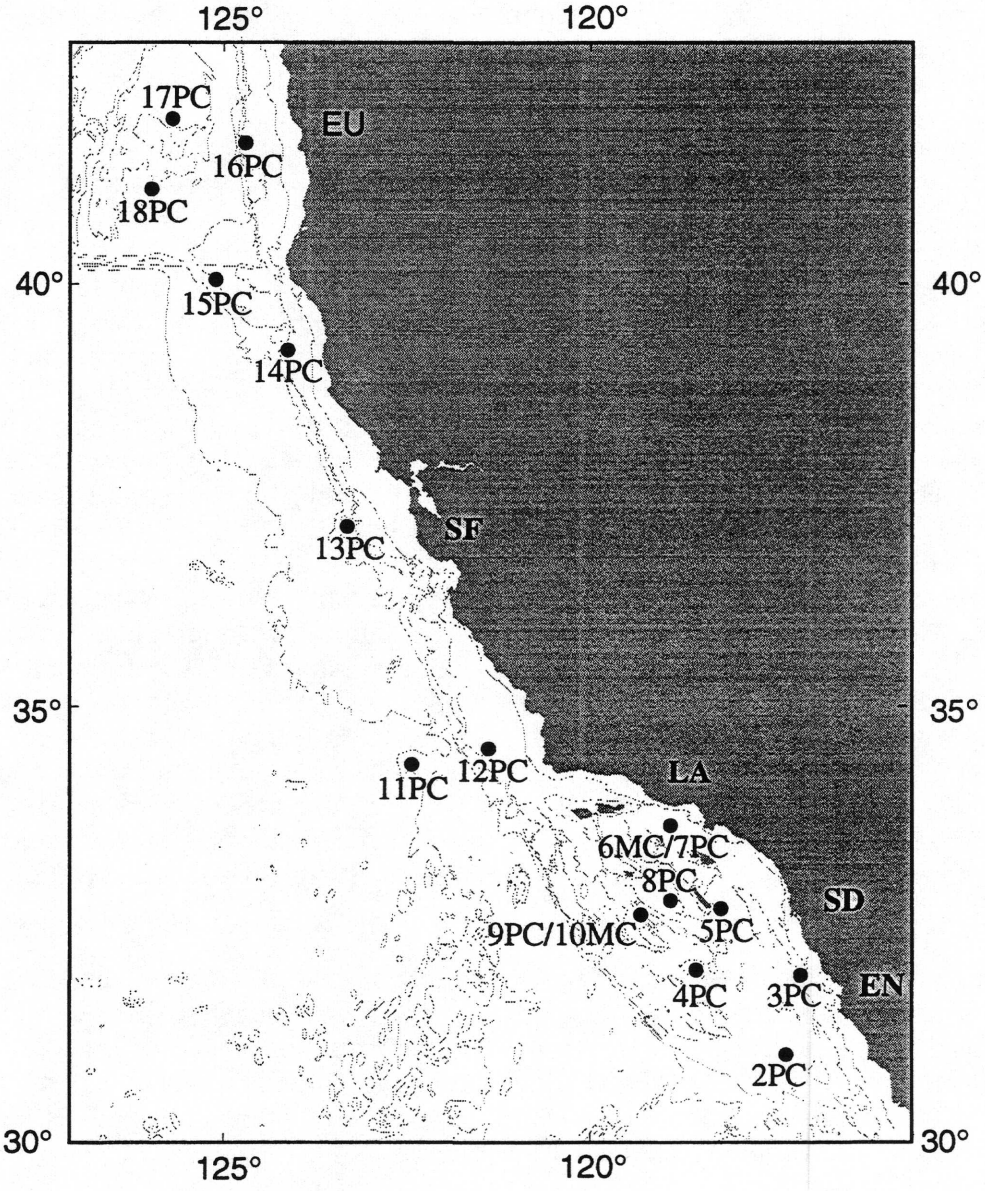

Figure 1. Location of core stations on cruise EW9504. Cities indicated are Ensenada (EN), San Diego (SD), Los Angeles (LA), San Francisco (SF), and Eureka (EU).

R/V Maurice Ewing Laboratory

The USGS-MSL system was set up on the port side of the Dry Staging Lab aboard R/V Ewing for cruise EW9504. This location was chosen so that the ^{137}Cs source for the gamma-ray attenuation "porosity" evaluator (GRAPE)was positioned to emit gamma rays over the side of the ship and away from any passages or personnel working in the lab. The area surrounding the entire logger operation was cordoned off and posted as a radiation area, and all personnel other than those other than those listed on the USGS-MSL Nuclear Regulatory Commission license were required to use a parallel passage away from the MSL system. The location proved ideal under operating conditions. Figure 2 shows the working layout of the lab.

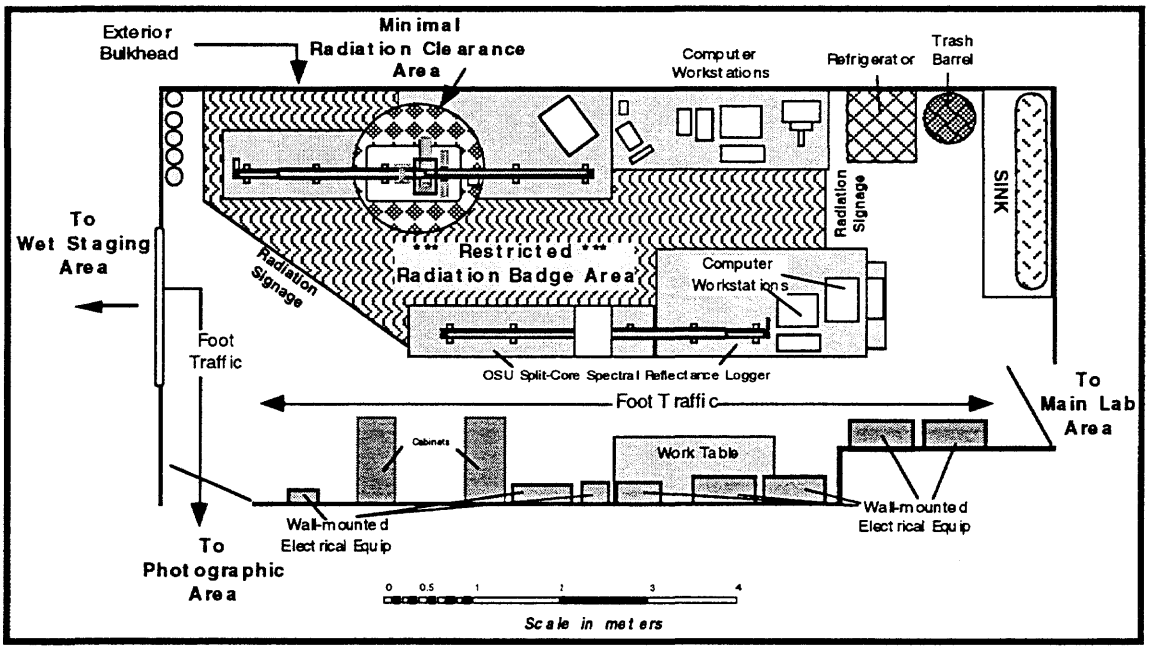

Figure 2. Plan view of R/ V Maurice Ewing dry staging area showing relative location of USGS and OSU logging systems and allowable foot traffic patterns.

USGS Multi-Sensor Logging System

The USGS-MSL system is described in detail by Kayen (1994) and Cowen et al. (1994) and many of the principles are described in Boyce (1970). The following description is exerpted from that report. The USGS-MSL consists of a 4-m-long tracking system, a compression-wave (P-wave) velocity and core-diameter sensor, a GRAPE, and a magnetic-susceptibility sensor (Fig. 3), all controlled by a Macintosh

SE/30 driven by acquisition software written as a HyperCard© stack (Kayen and Phi, in press). Whole-core sections, up to 1.5 m in length can be logged with the MSL.

The tracking system is run by a computer-controlled stepper motor that advances the core section at a selectable interval that was set to 1 cm during the cruise. Each core section was run consecutively through the sensors, starting with the top (sediment surface) section and progressing through to the bottom of the core. The trigger-weight cores were analyzed in an identical manner.

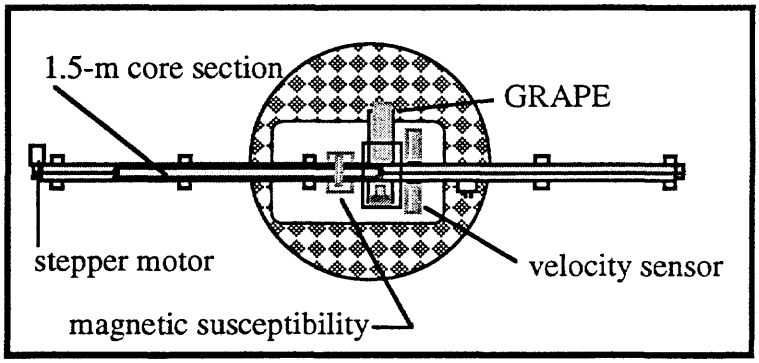

Figure 3. Plan view of USGS Multi-Sensor Logger showing position of each device. Electronics and computer not shown.

P-wave velocity sensor

The P-wave velocity sensor is a two-component station. In addition to the sonic transducers, the station incorporates a very accurate (± 0.1 mm) distance-measuring sensor that measures the separation of the P-wave velocity transducers. The total travel distance is measured by two rectilinear displacement transducers, each calibrated to the face of the two acoustic transducers. The displacement transducers monitor the separation of the transducer heads, and thus can be used to measure the outside diameter of the core section.

The P-wave velocity sensor is composed of two identical 500-kHz transducers that measures travel time of a sonic pulse through the liner and the sediment. The 500-kHz pulse is produced at a pulse-repetition rate of 1 kHz. P-wave velocity is sensitive to temperature, so sediment temperature was measured just prior to, and just after, each core section was run. The system was calibrated to a water standard at a measured temperature before and after each complete core was analyzed.

The P-wave velocity of the sediment is calculated from the measured core diameter and P-wave travel time, correcting for liner thickness, electronic-signal delays, and core-liner travel time. The P-wave velocity (V_p) is calculated as:

$$V_p = \frac{D-2L}{T-2T_{liner} - T_{electronics}} \quad (1)$$

where D is the whole core outer diameter, L is the liner thickness, T is the total travel time, T_{liner} is the liner travel time, and $T_{electronics}$ is the electronic signal delay within the transducers, wiring, and electronics packages.

Gamma-Ray Attenuation Porosity Evaluator (GRAPE) sensor

The GRAPE sensor utilizes a 12 milli-curie ^{137}Cs capsule (active element CsCl) to produce gamma rays at 0.662 MeV. The source capsule is housed in a 70-mm-diameter primary lead shield and collimator. The collimating hole is about 11 mm in diameter and 52-mm long. Additional lead shielding is fitted around the base of the source (Fig. 4) and, during logging operations, a lead-lined box is placed over both the detector and the source. A Harshaw-type 6S6/1.5B NaI(TI) scintillation detector, with photo-multiplier tube and dynode chain, is used for counting gamma rays.

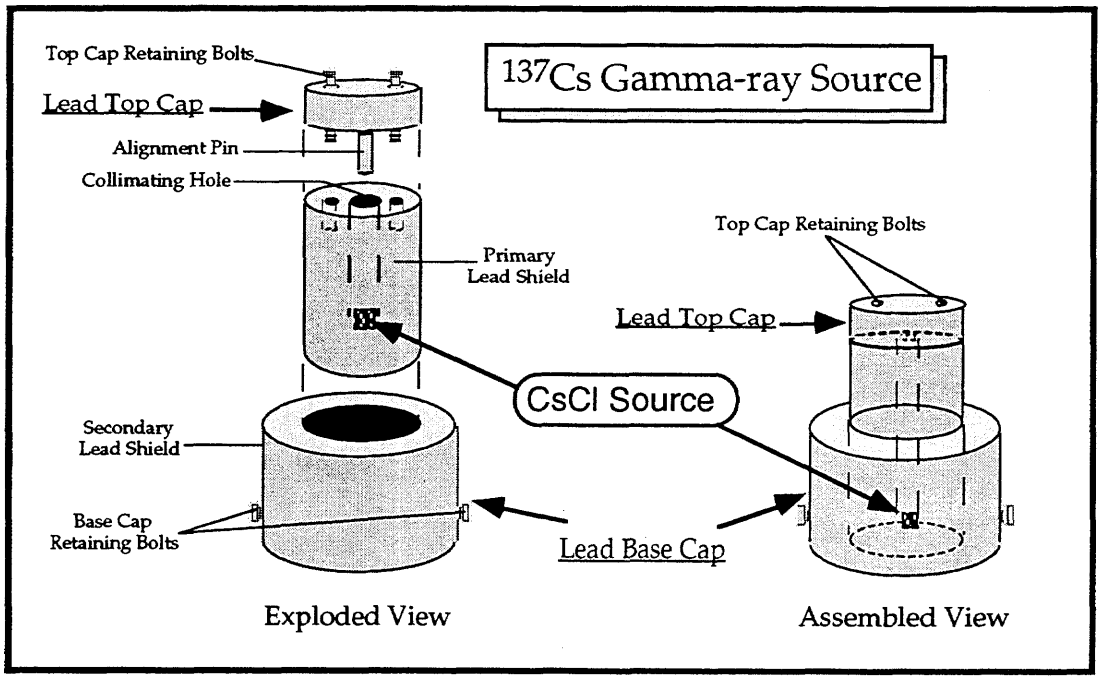

Figure 4. Exploded and assembled views showing the construction and lead shielding of the ^{137}Cs source.

Core (sediment and liner) bulk density (ρ_b) is calculated as a Lambert's Law attenuation of the gamma-ray and Compton scattering of gamma rays by hydrogen (in pore water) (Whitmarsh, 1971). The number of gamma rays that pass through the core is detected during a defined time interval. This count is termed the attenuated counts (I). The number of gamma rays that pass through only air is termed the unattenuated counts (I_o). For a core of thickness d, the attenuated gamma-ray count can be related to the unattenuated count, sediment thickness, core bulk density, and the Compton scattering coefficient (μ), by using Lambert's Law as follows:

$$I = Io^{(-\mu\rho_b d)} \qquad (2)$$

Then, the bulk density of the core can be determined as:

$$\rho_b = \frac{I}{\mu d} \ln \frac{I_o}{I} \quad (3)$$

However, to obtain an accurate determination of the sediment wet bulk density, corrections must be made to account for the influence of the core liner. This is done empirically using standards (water and aluminum) to determine separate Compton-scattering coefficients and, hence, a bulk-density correction for the liner. The full expression for the sediment bulk density, accounting for the core liner is:

$$\rho_b = \frac{\{\ln \frac{I_o}{I} - 2L\, \rho_{liner} * \mu_{liner}\}}{\mu_{sed}(D-2L)} \quad (4)$$

where D is the outside diameter of the core liner, L is the liner thickness, ρ_{liner} is the liner density, μ_{liner} is the liner Compton scattering coefficient, and μ_{sed} is the sediment Compton scattering coefficient. Although neither calculated nor displayed in this report, porosity (η) can be calculated from wet bulk density (ρ_b), density of sea water (Gsw), and average grain specific gravity (Gs) by the relationship :

$$\eta = \frac{\rho_b - Gs}{Gsw - Gs} \quad (5)$$

Magnetic-susceptibility sensor

Magnetic susceptibility of the sediment is directly measured by a 140-mm diameter Bartington MS-2 transducer coil. No liner corrections are required when using non-magnetic PVC liner material. The sensor was electronically zeroed at the beginning of each section scan.

System Calibration

Diameter Calibration

The electronic distance-measuring system of the outside diameter of the liner was calibrated with a pair of stainless steel rods, one exactly 110-mm and the other 120-mm long. The calibration setting between the P-wave velocity transducers was adjusted with the shorter steel rod prior to each section scan. Periodically, the distance was checked by zeroing the distance between the transducers, then placing the longer rod and noting the reading.

Velocity Calibrations

Compressional-wave velocity (V_p) was calibrated to water, which has a known velocity similar to that of many fine-grained surface marine sediments. The compressional-wave velocity of distilled water at standard pressure and temperature is 1.4917 km/s. The water-filled standard used for the calibration was constructed of the same Schedule-40 core liner used for the piston core. Because compression-wave velocity is sensitive to temperature, we measured the water temperature and corrected the raw calculated velocity to an equivalent velocity at 23°C at standard pressure using known correction factors (U.S. Naval Oceanographic Office, 1962). We

empirically determined a travel-time delay ($2T_{liner} + T_{electronics}$) that corrects the measured raw compressional-wave velocity to the standard's known velocity. The empirically determined travel-time delay was applied to each measured velocity to derive a corrected sediment V_p (see equation 1 above).

Density Calibrations

Density measurements of the sediment were calibrated to the known densities of water and aluminum. These two standards serve as end-members that fully bracket the densities typically found for near-surface marine sediment. The density of water represents the lower bound and aluminum represents the upper bound. In addition, the respective Compton scattering coefficients of water and aluminum are similar to that of the primary sediment constituents (solid-phase alumino-silicate minerals and liquid-phase water).

The water-aluminum standard was constructed by inserting a solid cylinder of machined 6250-Aluminum into a section of the Schedule-40 core liner. The 13-cm-long aluminum cylinder was press-fit and caulked into the central part of the liner so that the uppermost section could be filled with water. The bottom-most part was left empty. A calibration run consisted of recording the number of scintillation detections per second through a) liner and water, b) liner and aluminum, c) liner and air, and d) air alone. Finally, an empirical Compton scattering coefficient was determined for the water and aluminum that gave water densities of 1.00 g/cm^3 and aluminum densities of 2.70 g/cm^3.

Calibration standards were repeatedly run during the cruise, as well as always prior to analyzing each piston core, between the piston core and trigger core, and after the trigger core. If the standard was found to be out of calibration, which only rarely happened, then multiple calibrations were run until we obtained acceptable values. If an out-of-calibration condition occurred, the appropriate data files were modified with the appropriate calibration adjustments to obtain corrected values.

Magnetic Susceptibility Calibrations

Magnetic susceptibility was calibrated before and after each core using a reference standard provided by Bartington with the sensor. The reference standard should read 390 (10^{-6}) cgs at the center of the sensor. The diameter of the WHOI core liner was so large, relative to the diameter of the susceptibility sensor, it was not possible to place the horizontal centerline of the core at the center of the susceptibility sensor. Measurements of the clearances between liner and sensor were taken with a vernier calipers and the results are shown in Figure 5. The core was offset vertically ~3.45 mm. A distance-sensitivity test was run by placing the reference standard inside a short piece of WHOI core liner and recording measurements from 20 cm before the standard was at the middle of the sensor until the standard was 20 cm beyond the center of the sensor. This provides both an absolute reference reading at the centerline of the sensor, as well as a record of the directional sensitivity of the sensor. Figure 6 is a diagram of the device used to measure the distance-sensitivity of

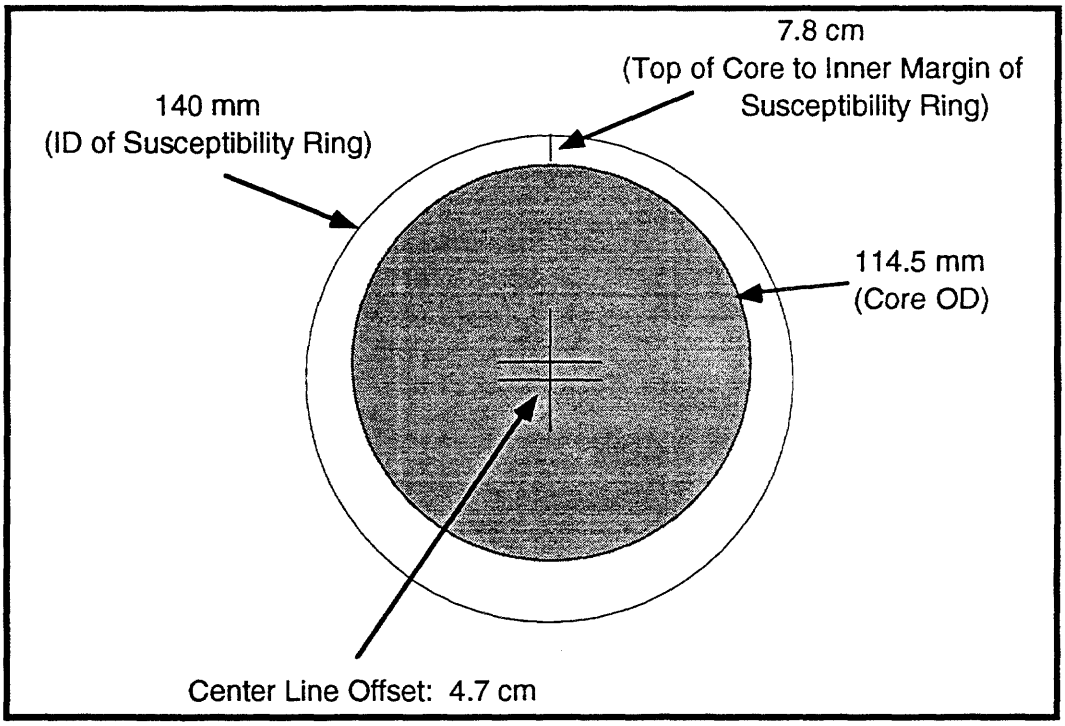

Figure 5. Clearances of WHOI core liner in the Bartington 140 mm magnetic-susceptibility sensor.

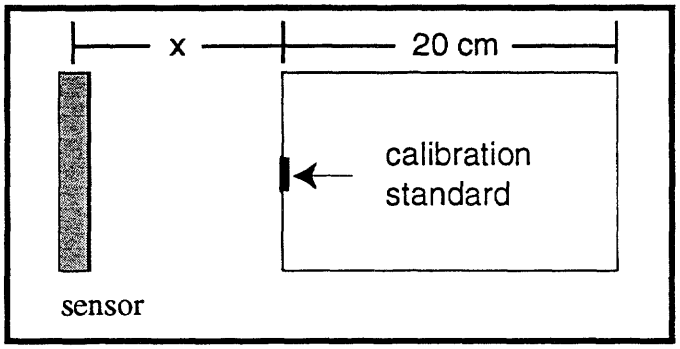

Figure 6. Diagram of magnetic susceptibility calibration standard.

the magnetic-susceptibility sensor. When the calibration standard was as far as 13 cm (~1 core diameter) away from the sensor, non-zero magnetic-susceptibility readings were measured (Fig. 7). Similarly, non-zero readings were measured when the calibration standard was as far as 13 cm beyond the sensor. This relatively broad sensitivity is inherent to the Bartington magnetic-susceptibility loop and can not be adjusted.

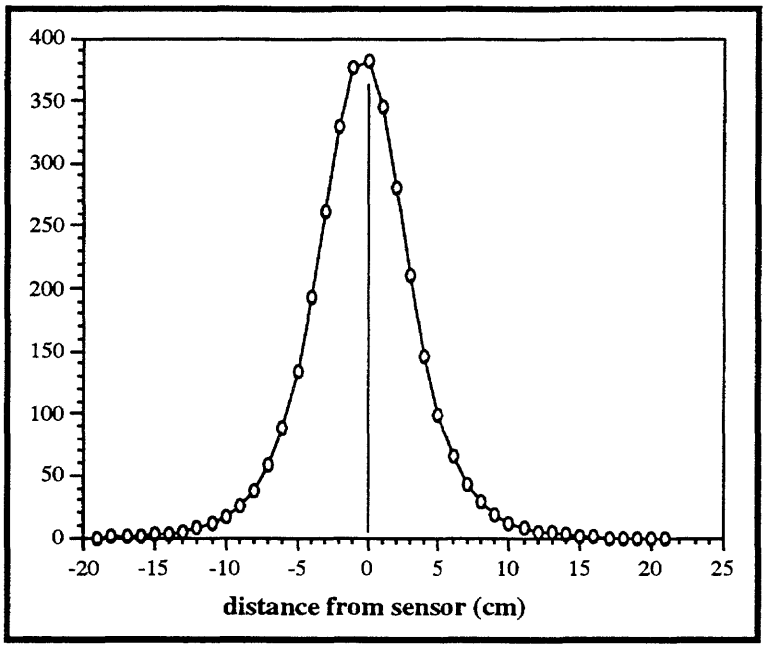

Figure 7. Example of magnetic-susceptibility calibration using the Bartington standard of 390 x 10^{-6} cgs. Vertical scale is magnetic susceptibility in 10^{-6} cgs.

A calibration was run before and after each core by placing the standard at the center of the loop and recording readings for about 10 s.

Visual Core Descriptions:

The sediments recovered in each section of core (usually about 1.5-m long) were described from split cores on a standard form used by the OSU Core Lab. Sediment colors were coded using the Munsell Soil Color Chart or the Geological Society of America Rock Color Chart. Sediment components were identified using smear slides of sediment in water (but without mounting medium and coverslip) examined under a petrographic microscope. Usually at least one smear slide per section was prepared and described. The graphic and written descriptions, including smear-slide descriptions, were transferred to a 1.5-m log form on a Macintosh computer using MacDraw graphic software. Sediment lithologies and degree of bioturbation were coded on the graphic logs according to the keys in Figure 8.

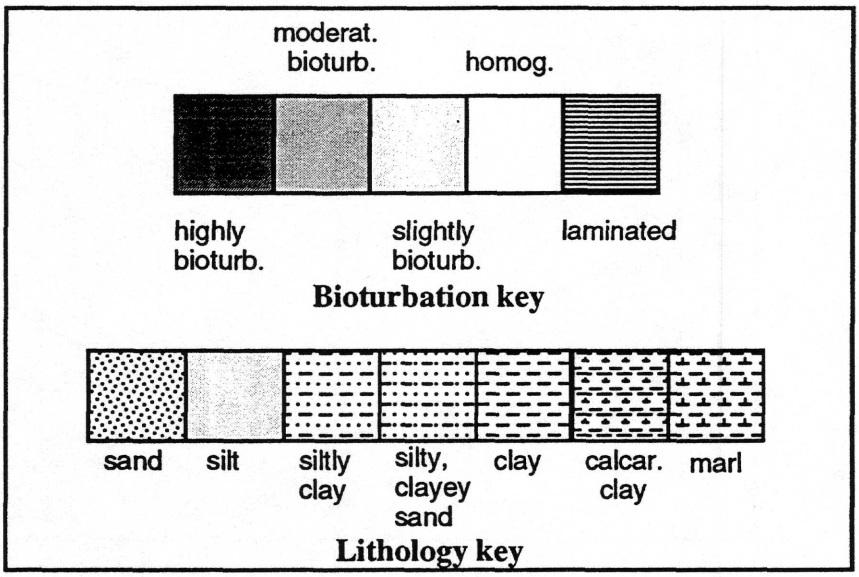

Figure 8. Keys for bioturbation and lithology used on visual core description forms.

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Results

This section contains the coring summary (Table 1), visual core description, and P-wave velocity, wet bulk density, magnetic susceptibility, and acoustic impedance plots for each core and each section of each core. The cores occur in consecutive order, starting with EW9504-02PC. Sadly, core EW9504-01PC remains stuck in the seafloor somewhere off the Baja California margin. Cores EW9504-06MC and EW9504-10MC are Ocean Instruments Multicores. Each of the Multicorer drops collected 8 tubes with approximately 45 cm of sediment, although only one or two of the tubes were logged, split, and described. Cores with PC designations are piston cores.

Table 1 (cont.) . Summary of piston (PC) and trigger (TC) core lengths and station data.

	EW9504-06MC		Santa Monica Basin		Lat	Lon	water depth (m)
06MC	length	top of section	bottom of section	end temp	33° 37.88	118° 46.60	855
section 1	47	0	47				
8 samples							

	EW9504-07PC		Santa Monica Basin	BA-4	Lat	Lon	water depth (m)
07PC	length	top of section	bottom of section	end temp	33° 37.98	118° 48.15	878
section 4	120	0	120	12.9	entire core run at 55 microsec delay		
section 3	151	120	271	13.1	poor to no coupling mid section; sig strength 0; no Vp		
section 2	150	271	421	13.7	Vp Sig stength zero thruout section		
section 1	151	421	572	14.7	Vp Sig stength zero thruout section		

07TC	length	top of section	bottom of section	end temp	
run1	49	0	49	14.4	Run at 55 microsec delay; options 30/100
run2	49	0	49	14.6	Run at 45 microsec delay; options 30/100
run3	49	0	49	14.9	Run at 40 microsec delay; options 30/100
run4	49	0	49	15.4	Run at 35 microsec delay; options 30/100
run5	49	0	49	15.8	Run at 55 microsec delay; options 30/80
run6	49	0	49	16.0	Run at 55 microsec delay; options 30/70

	EW9504-08PC		San Nicolas Basin		Lat	Lon	water depth (m)
08PC	length	top of section	bottom of section	end temp	32°48.05'N	118°48.00'W	1442
section 5	115	0	115	12.0			
section 4	135	115	250	12.5	no Vp signal...gas?		
section 3	151	250	401	13.3			
section 2	150	401	551	13.4			
section 1	149	551	700	14.1			

	EW9504-09PC		Tanner Basin	CA-15	Lat	Lon	water depth (m)
09PC	length	top of section	bottom of section	end temp	32° 51.51	119° 57.48	1194
section 5	128	0	128	10.6			
section 4	143	128	271	12.3	No Vp signal in uppper part of section		
section 3	151	271	422	12.1	No Vp signal in uppper part of section		
section 2	150	422	572	12.9	No Vp signal in uppper part of section; ~490 cm begin receiving		
section 1	147	572	719		mult. overlapping wave forms-still locked on "normal" signal		

Table 1. Summary of piston (PC) and trigger (TC) core lengths and station data.

EW9504-01PC site CA-2 : Corer & pinger left in bottom

EW9504-02PC site CA-2 Animal Basin

2PC	length	top of section	bottom of section	end temp	Lat	Lon	water depth (m)
					31-25.92	117-35.091	2042
section 6	19	0	19				
section 5	151	19	170	13.7			
section 4	150	170	320	13.9			
section 3	150	320	470	14.7	Poor acoustic coupling 320 to 350 cm		
section 2	147	470	617	15.2	Actual core length 146.5; thus start for sec is 0.5 cm		
section 1	150	617	767		above physical top of section		

EW9504-03PC site BA-5 Descanso Plain

3PC	length	top of section	bottom of section	end temp	Lat	Lon	water depth (m)
					32-04.392	117-21.850	1299
section 5	86	0	86	12.9	Broken cutting blade in top of core caused Mag Sus kick		
section 4	150	86	236	14.2	top of section looks like flow-in or missing		
section 3	150	236	371	15.1	bottom 23 cm is styrofoam		
section 2	150	371	521	15.9	top 30 cm is styrofoam		
section 1	149	521	670	16.9			

EW9504-04PC site BA-1 East Cortez Basin

4PC	length	top of section	bottom of section	end temp	Lat	Lon	water depth (m)
					32-17.01	118-23.73	1759
section 6	131	3	134	11.8			
section 5	149	137	286	operator error			
section 4	139	286	425	operator error	section cut short start temp in styrofoam		
section 3	150	425	575	14.4	bottom 43 cm styrofoam		
section 2	150	575	725	15.0	top few cm styrofoam	no velocity in top 30 cm	
section 1	149	725	874	15.9	no velocity (?) top 24 cm		

EW9504-05PC site CAM-3 San Clemente Basin

5PC	length	top of section	bottom of section	end temp	Lat	Lon	water depth (m)
					32° 28.55'N	118° 07.49'W	1818
section 5	94	0	94	12.0			
section 4	134	94	228	12.3	no Vp for first 43 cm, gaps thereafter		
section 3	150	228	378	13.4			
section 2	150	378	528	14.0			
section 1	146	528	674	14.2	Den freq. drops to 1.0 g/cc; Vp const - broken sections w/ water?		

Table 1 (cont.) . Summary of piston (PC) and trigger (TC) core lengths and station data.

	EW9504-09TC		Tanner Basin	CA-15	Lat	Lon	water depth (m)
09TC	length	top of section	bottom of section	end temp	32° 51.51	119° 57.48	1194
run1	63	0	63				
10MC	**EW9504-10MC**		Tanner Basin	CA15	Lat	Lon	water depth (m)
8 samples	length	top of section	bottom of section		32° 51.64'N	119° 57.15'W	1190
	36	0	36				
	EW9504-11PC		west of Pt Conceptior	CA-11A	Lat	Lon	water depth (m)
11PC	length	top of section	bottom of section	end temp	34° 29.22'N	122° 19.10'W	3861
section 6	72	2	74	11.3			
section 5	150	74	224	12.3			
section 4	137	224	361	12.9			
section 3	151	361	512	13.6			
section 2	150	512	662	13.8			
section 1	151	662	813	14.2			
	EW9504-11TC		west of Pt Conceptior	CA-11A	Lat	Lon	water depth (m)
11TC	length	top of section	bottom of section	end temp	34° 29.22'N	122° 19.10'W	3861
section 2	100	0	100	14.3			
section 1	143	100	243	15.5			
	EW9504-12PC		southern Santa Lucia	CA-9	Lat	Lon	water depth (m)
12PC	length	top of section	bottom of section	end temp	34° 32.81'N	121° 06.46'W	940
section 7	96	0	96	12.1			
section 6	151	96	247	12.8	no Vp..GAS; program crashed at end of section, playing with standards		
section 5	151	247	398	13.4	load new program; gas-charged sed..no Vp		
section 4	143	398	541	13.5	gas-charged sed..no Vp		
section 3	151	541	692	14.5	gas-charged sed..no Vp		
section 2	150	692	842	14.9	gas-charged sed..no Vp		
section 1	151	842	993	15.3	gas-charged sed..no Vp		
				1			
	EW9504-12TC		southern Santa Lucia	CA-9	Lat	Lon	water depth (m)
12TC	length	top of section	bottom of section	end temp	34° 32.81'N	121° 06.48'W	940
section 2	57	0	57	15.6			
section 1	150	57	207	15.9			

Table 1 (cont.) . Summary of piston (PC) and trigger (TC) core lengths and station data.

	EW9504-13PC		south of Guide Smt	CA-8	Lat		Lon	water depth (m)
13PC	length	top of section	bottom of section	end temp	36° 59.42'N	123°	16.07'W	2510
section 10	111	0	111	10.6				
section 9	151	111	262	11.5				
section 8	151	262	413	11.3				
section 7	151	413	564	11.7				
section 6	141	564	705	12.3	gas...no Vp			
section 5	151	705	856	12.6	gas...no Vp			
section 4	150	856	1006	13	gas...no Vp			
section 3	151	1006	1157	13.4	gas...no Vp			
Extruded Sect	5	1157	1162	--	5 cm bagged after being extruded from section			
section 2	144	1162	1306	13.5	gas...no Vp			
section 1	149	1306	1455	13.4	gas...no Vp			

	EW9504-13TC		south of Guide Smt	CA-8	Lat		Lon	water depth (m)
13TC	length	top of section	bottom of section	end temp	36° 59.42'N	123°	16.07'W	2510
section 2	124	0	124	13.9				
section 1	143	124	267	14.2				

	EW9504-14PC	(no TC)	Pt Arena slope	CA-7	Lat		Lon	water depth (m)
14PC	length	top of section	bottom of section	end temp	39° 23.436'N	124°	09.074'W	889
section 8	83	0	83	lost to Mac bomb				
section 7	150	83	233	lost to Mac bomb				
section 6	152	233	385	11.7				
section 5	150	385	535	12.5				
section 4	141	535	676	12.8	no Vp in bottom...gas			
section 3	150	676	826	13.0	no Vp in top...gas			
section 2	150	826	976	14.8	no Vp in top...gas			
section 1	151	976	1127		no Vp in top...(.....			

	EW9504-15PC		Delgada slope	CA-2	Lat		Lon	water depth (m)
15PC	length	top of section	bottom of section	end temp	40°05.75'N	125°	21.60'W	0
section 8	36	0	36	tape at 5.5 to 12 cm				
section 7	150	36	186	operator error	*barrel bent at ~45° angle at 2nd & 3ed pipes from bottom*			
section 6	135	191	326	13.6	did not calibrate dist. measure			
section 5	151	326	477	operator error				
section 4	128	477	605	operator error				
section 3	150	605	755	operator error				
section 2	151	755	906	operator error				
section 1	150	906	1056	operator error				

Table 1 (cont.) . Summary of piston (PC) and trigger (TC) core lengths and station data.

	EW9504-15TC		Delgada slope	CA-2	Lat	Lon	water depth (m)
15TC	length	top of section	bottom of section	end temp	40°05.75'N	125° 21.60'W	0
section 2	0	0	0	operator error			
section 1	0	0	0	operator error			

	EW9504-16PC		Eel River Basin	CA-1	Lat	Lon	water depth (m)
16PC	length	top of section	bottom of section	end temp	41° 40.08'N	124° 49.82'W	901
section 10	24	0	24	12.2	Entire section gas charged (methane?, minor odor		
section 9	150	24	174	13.2	Extruding out bottom; some H2S odor		
section 8	149	174	323	13.0	no Vp, methane		
section 7	140	323	463	12.8	no Vp, methane		
section 6	24	463	487	15.4	no Vp, methane		
section 5	138	487	625	13.3	no Vp, methane		
section 4	150	625	775	13.8	no Vp, methane		
section 3	128	775	903	14.8	no Vp, methane		
section 2	120	903	1023	14.4	no Vp, methane		
section 1	70	1023	1093	16.9	no Vp, methane		

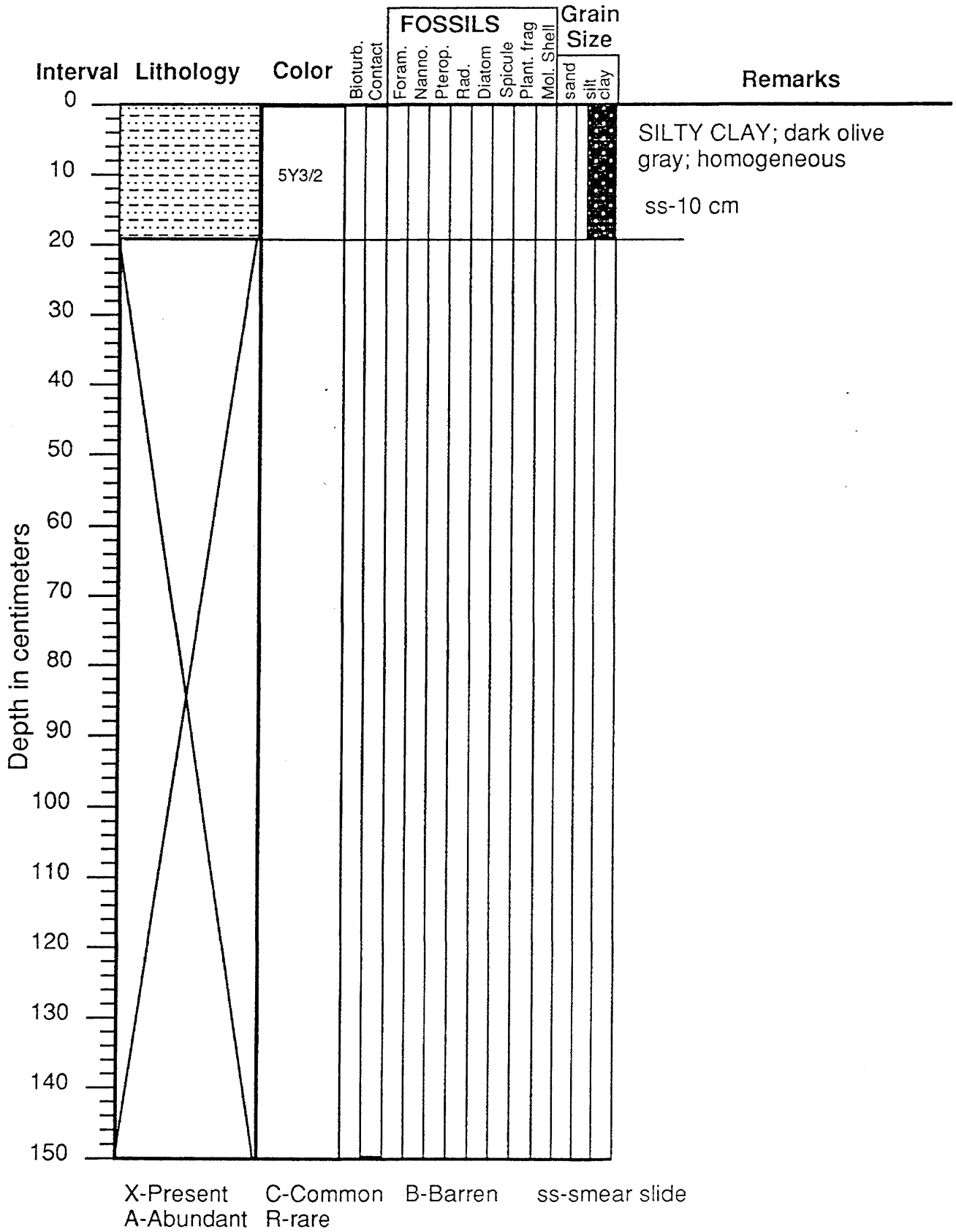
	EW9504-16TC		Eel River Basin	CA-1	Lat	Lon	water depth (m)
16TC	length	top of section	bottom of section	end temp	41° 40.08'N	124° 49.82'W	901
section 2	86	0	86	14.8			
section 1	131	86	217	16.7			

	EW9504-17PC		northern Gorda Swell	CA-3	Lat	Lon	water depth (m)
17PC	length	top of section	bottom of section	end temp	42° 14.55	125° 53.28	2671
section 11	33	0	33	9.8			
section 10	151	33	184	10.6			
section 9	150	184	334	12.2			
section 8	142	334	476	12.2			
section 7	150	476	626	12.6			
section 6	151	626	777	13.0			
section 5	150	777	927	13.8			
section 4	130	927	1057	13.4			
section 3	151	1057	1208	14.0			
section 2	150	1208	1358	14.3			
section 1	151	1358	1509	14.4			

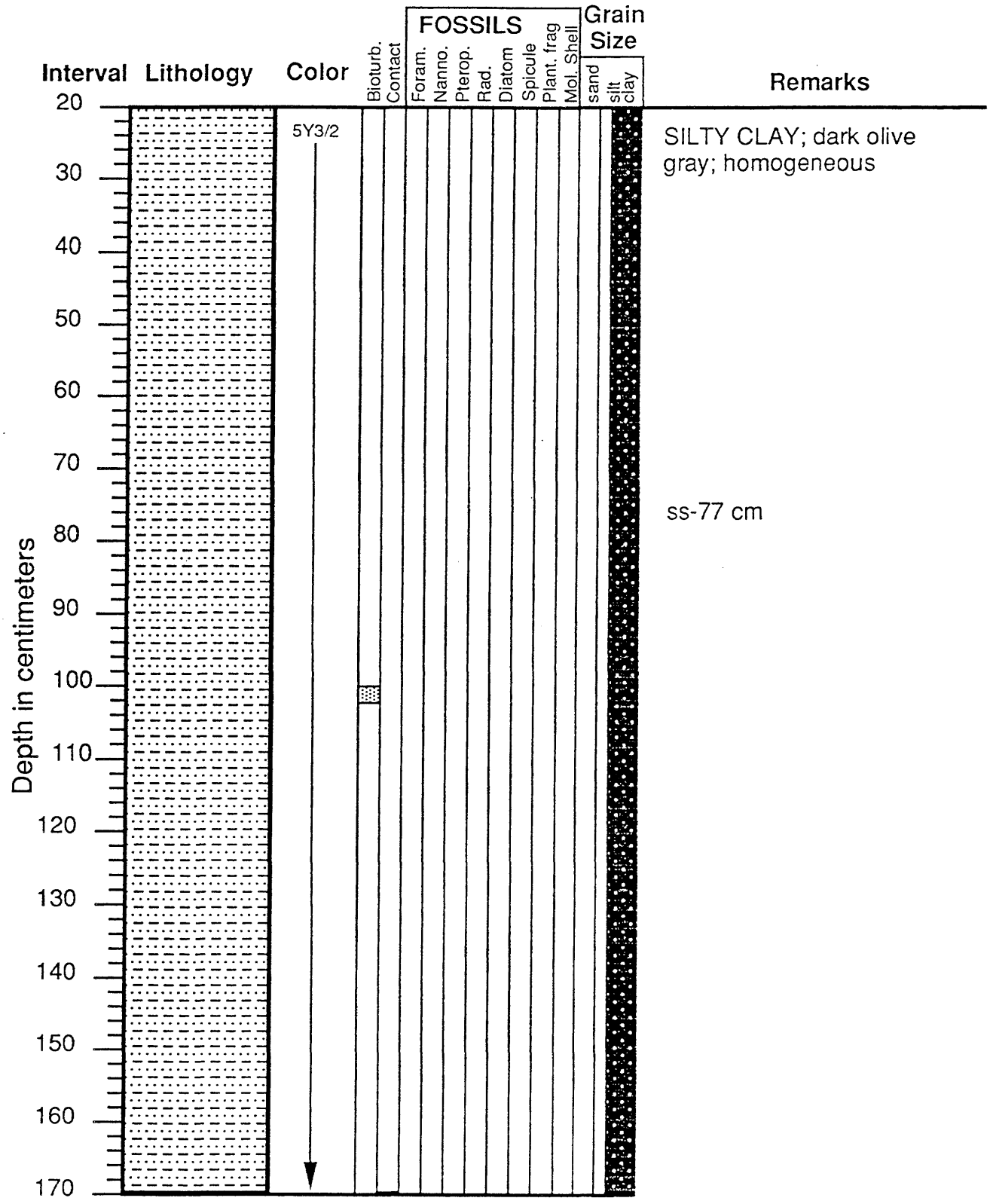
Table 1 (cont.) . Summary of piston (PC) and trigger (TC) core lengths and station data.

	EW9504-17TC		northern Gorda Swell	CA-3	Lat	Lon	water depth (m)
17TC	length	top of section	bottom of section	end temp	42° 14.55	125° 53.28	2671
section 2	124	0	124	11.9			
section 1	151	124	275	12.3			
	EW9504-18PC		southern Gorda Swell	CA-4	Lat	Lon	water depth (m)
18PC	length	top of section	bottom of section	end temp	41°00.04'N	126°26.11'W	3075
section 10	137	0	137	10.6			
section 9	150	137	287	11.6			
section 8	141	287	428	11.6			
	Break to run Trigger Core			-			
section 7	150	428	578	12.7			
section 6	151	578	729	13.7			
section 5	151	729	880	13.0			
section 4	110	880	990	13.5			
section 3	120	990	1110	13.3			
section 2	121	1110	1231	13.2			
section 1	125	1231	1356				
	EW9504-18TC		southern Gorda Swell	CA-4	Lat	Lon	water depth (m)
18TC	length	top of section	bottom of section	end temp	41°00.04'N	126°26.11'W	3075
section 2	72	0	72	11.4			
section 1	150	72	222	11.8			

EW95-04 Core: 02PC Sect.: 6 (0-19 cm)
31 25.92 N, 117 35.091 W, 2042 m

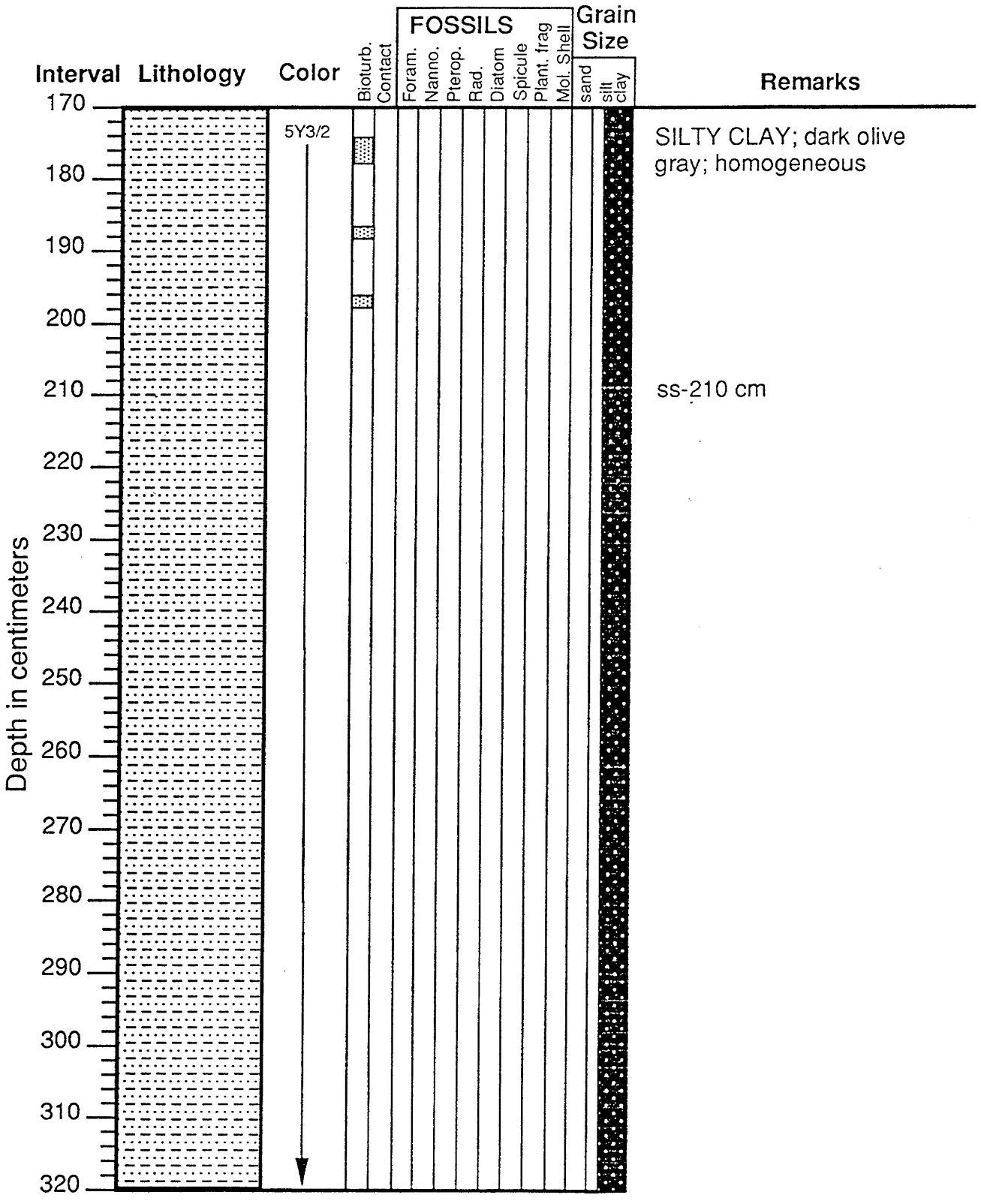


EW95-04 Core: 02PC Sect.: 5 (19-170 cm)
31 25.92 N, 117 35.091 W, 2042 m

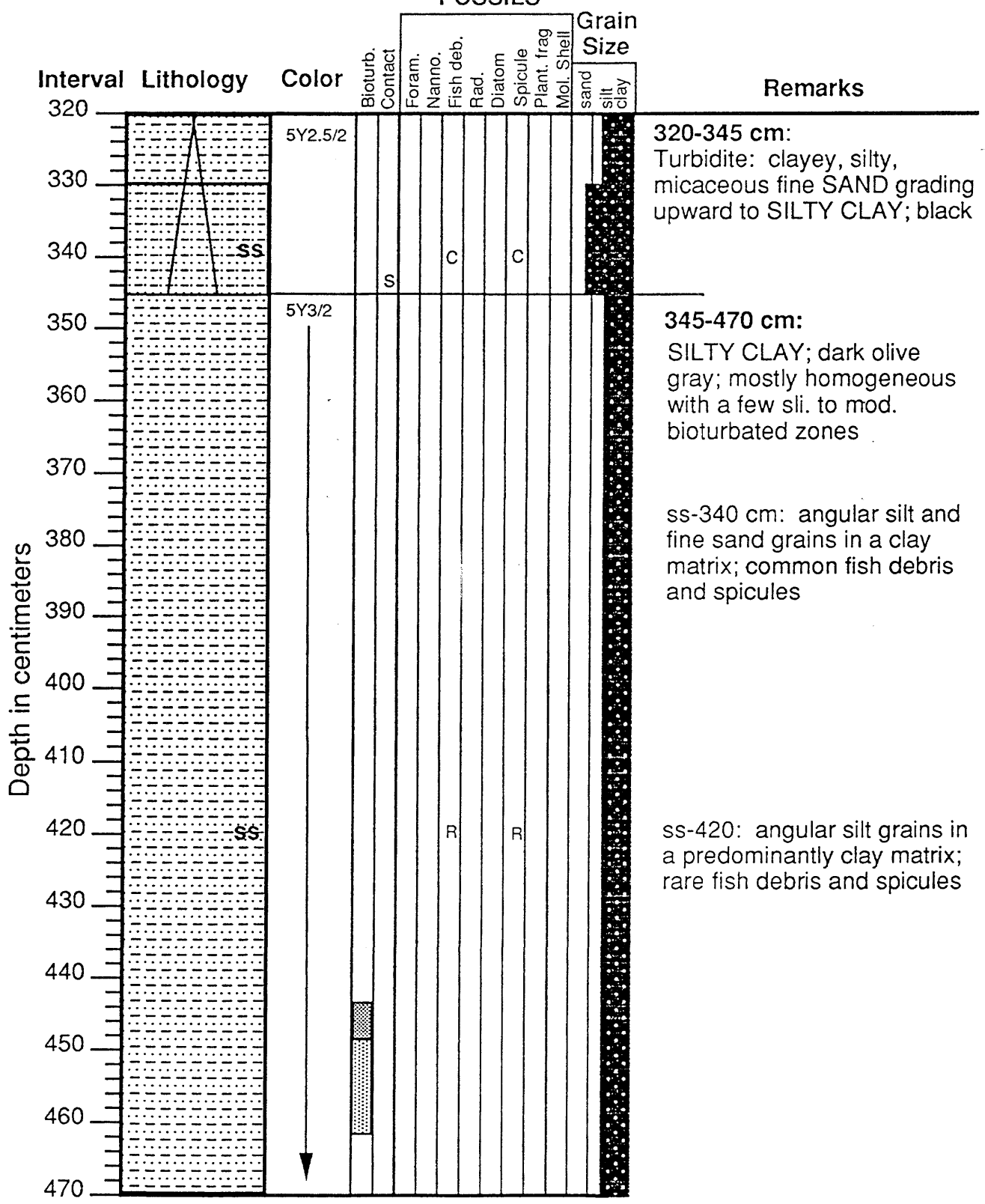


X-Present C-Common B-Barren ss-smear slide
A-Abundant R-rare

EW95-04 Core: 02PC Sect.: 4 (170-320 cm)
31 25.92 N, 117 35.091 W, 2042 m



EW95-04 Core: 02PC Sect.: 3 (320-470 cm)
31 25.92 N, 117 35.091 W, 2042 m



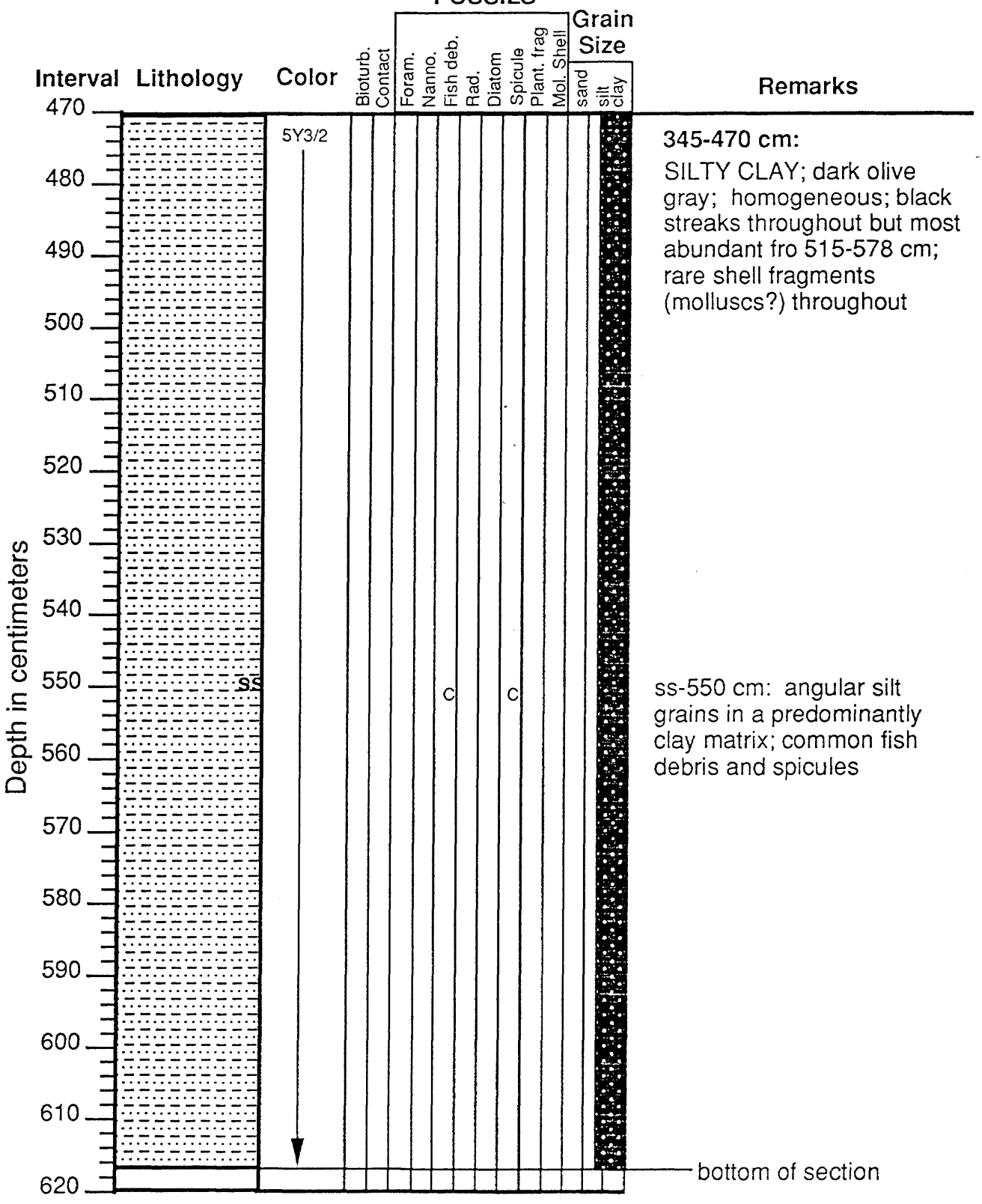
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

graded bed (turbidite)

Contacts: s-sharp; g-gradational; m-mottled

ss-smear slide

EW95-04 Core: 02PC Sect.: 2 (470-617 cm)
31 25.92 N, 117 35.091 W, 2042 m



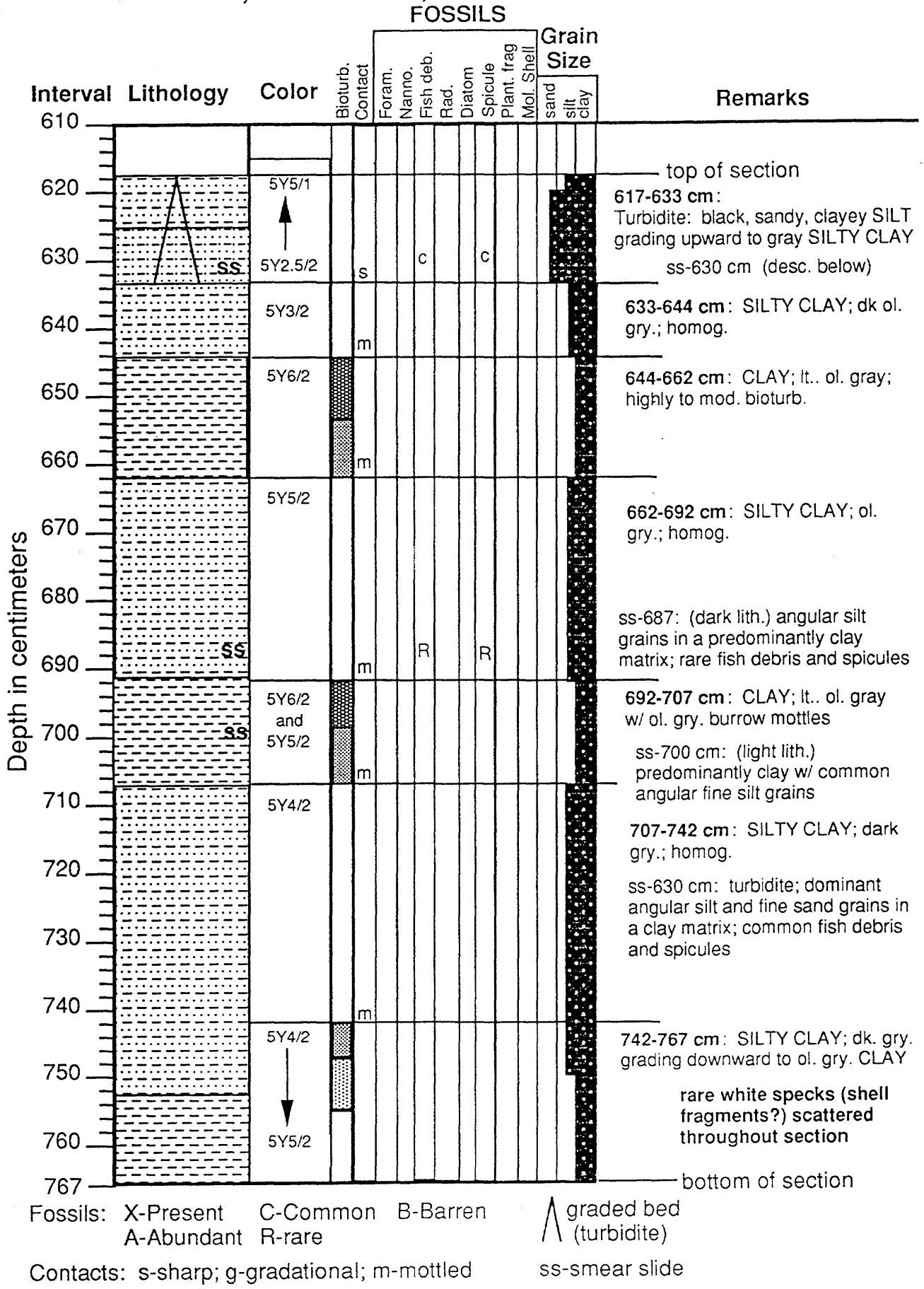
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

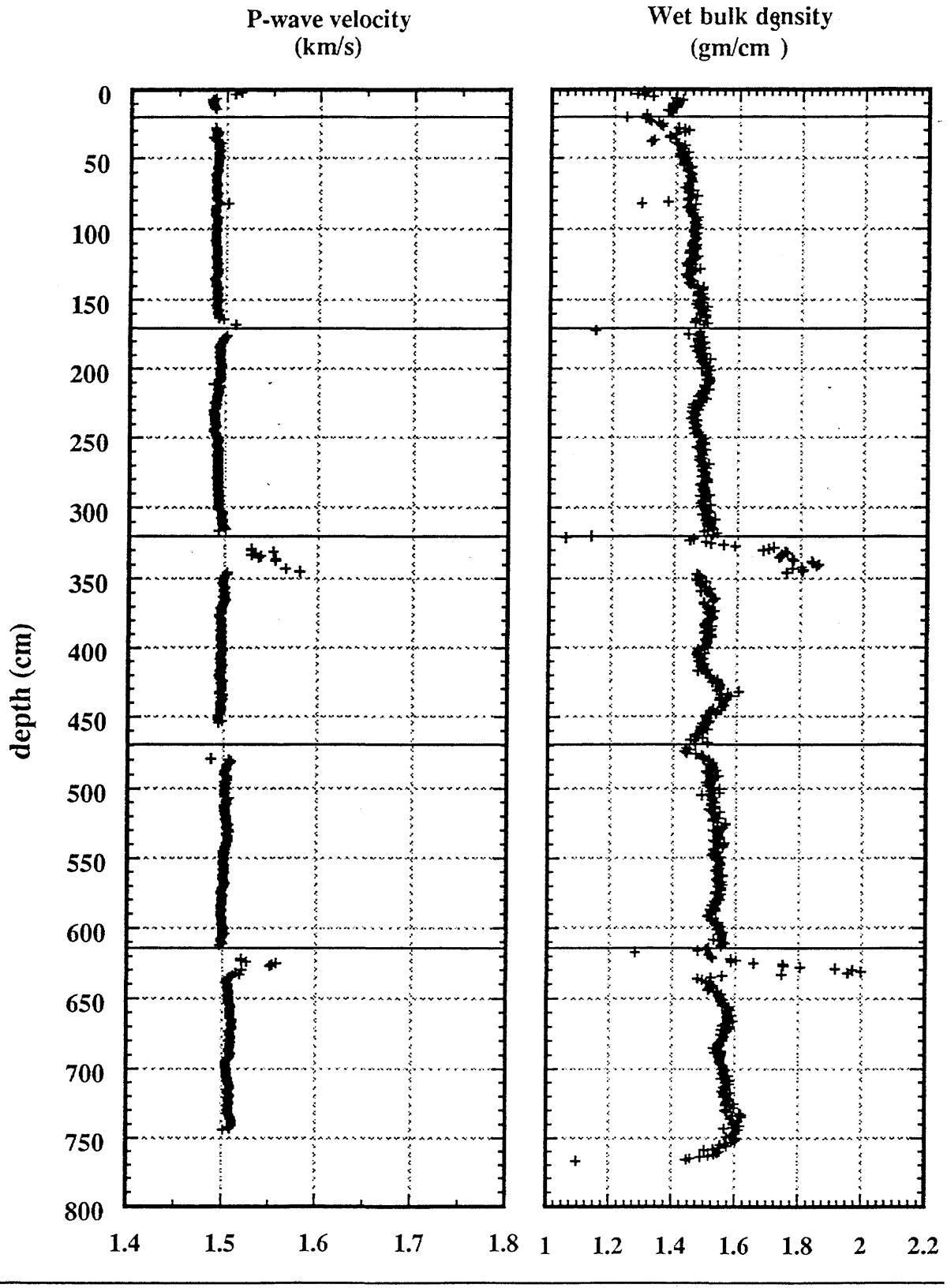
EW95-04 Core: 02PC Sect.: 1 (617-767 cm)
31 25.92 N, 117 35.091 W, 2042 m



CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-02PC
(0-767 cm)



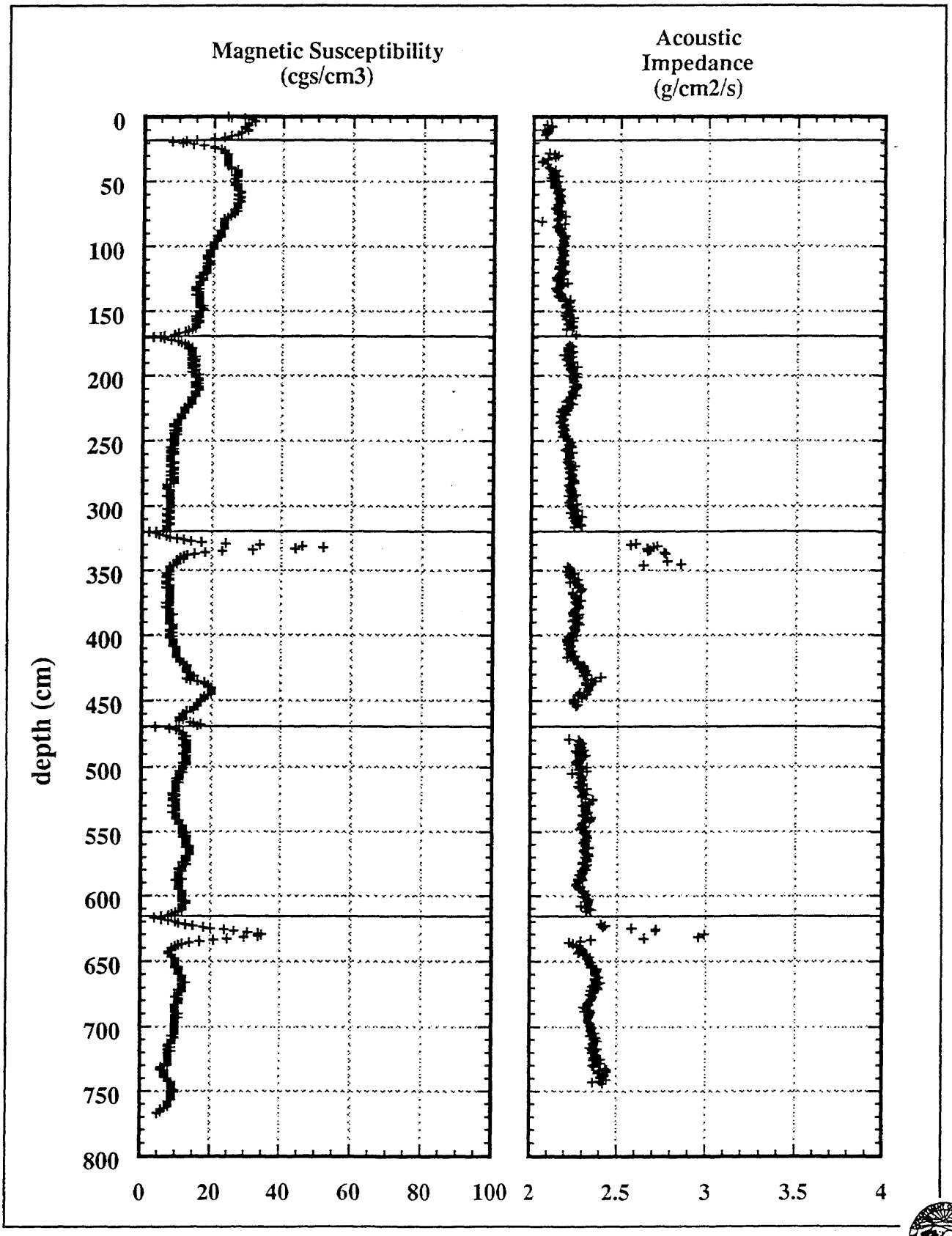
USGS

LAT: 31°25.92'N Depth: 2042 m
LON: 117°35.091'W Drill Site ID: CAM-2

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-02PC
(0-767 cm)



USGS

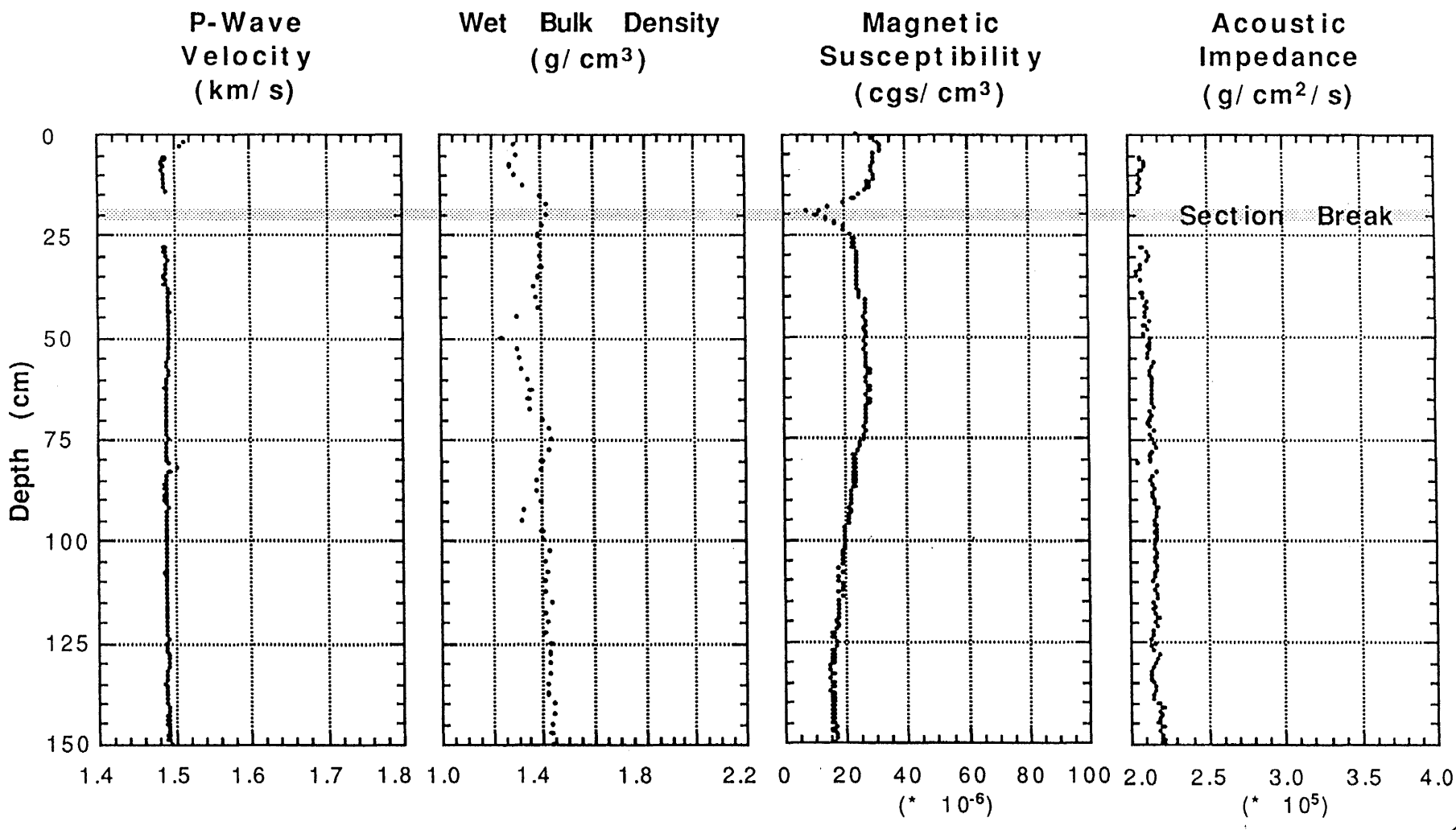
LAT: 31°25.92'N Depth: 2042 m
LON: 117°35.091'W Drill Site ID: CAM-2

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 02PC

(0-150 cm)



LAT: 31°25.92' N
LON: 117°35.091' W

Depth: 2042 M
Drill Site ID: CAM2

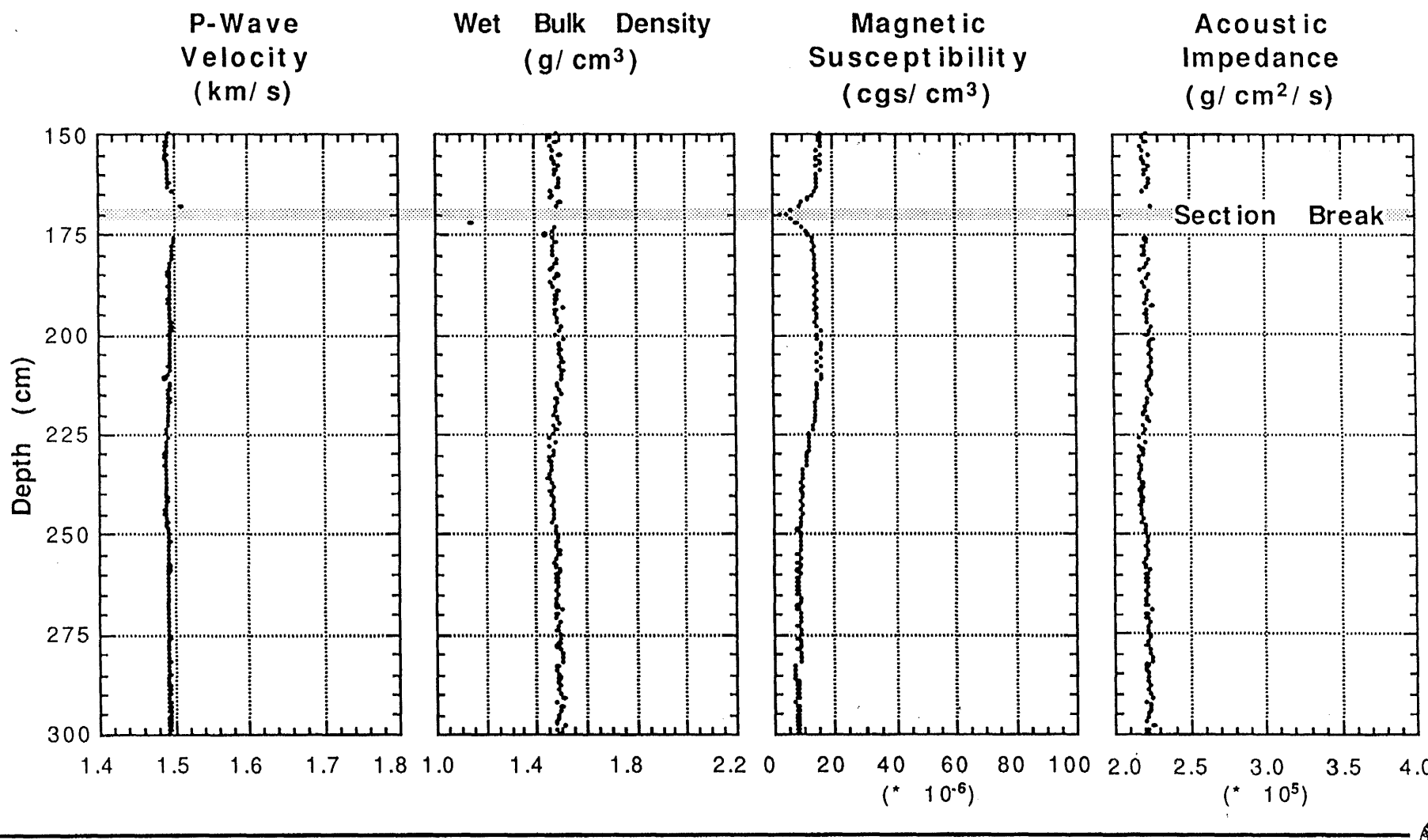
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 02PC

PHYSICAL PROPERTY LOGS

(150-300 cm)



LAT: 31°25.92'N
LON: 117°35.091'W

Depth: 2042 M
Drill Site ID: CAM2

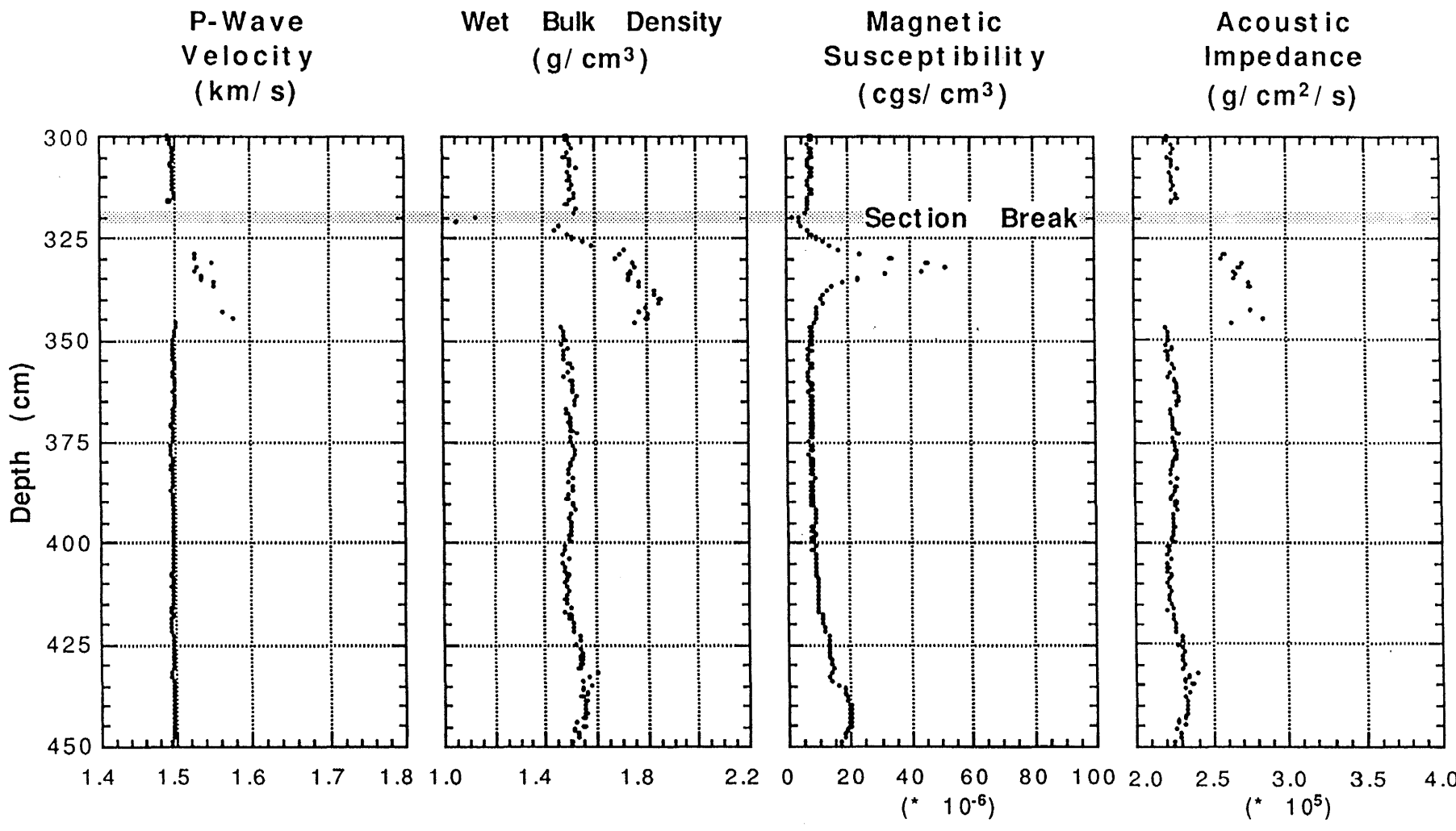
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 02PC

(300-450 cm)



LAT: 31°25.92' N
LON: 117°35.091' W

Depth: 2042 M
Drill Site ID: CAM2

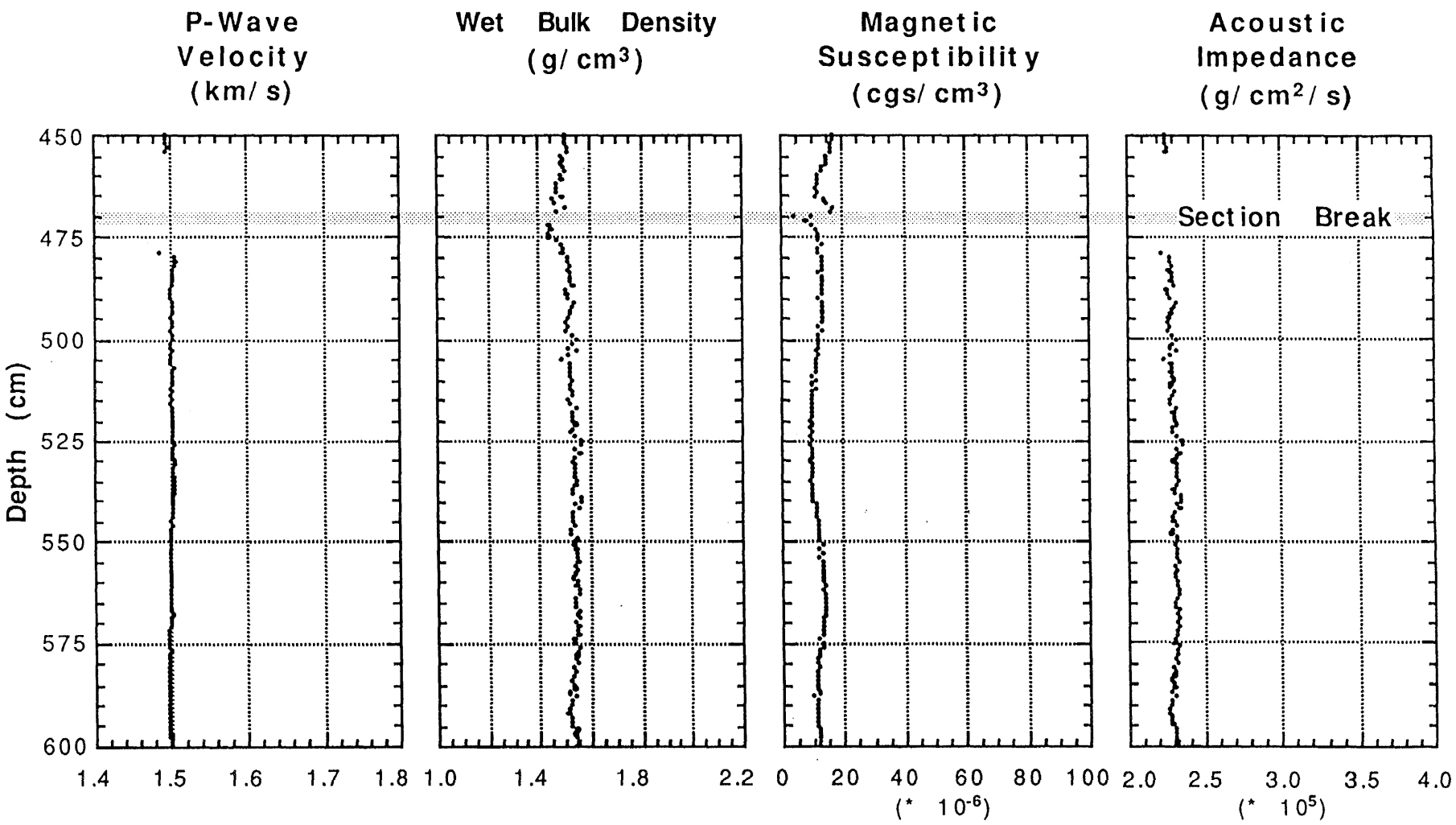
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 02PC

(450-600 cm)



LAT: 31°25.92' N
LON: 117°35.091' W

Depth: 2042 M
Drill Site ID: CAM-2

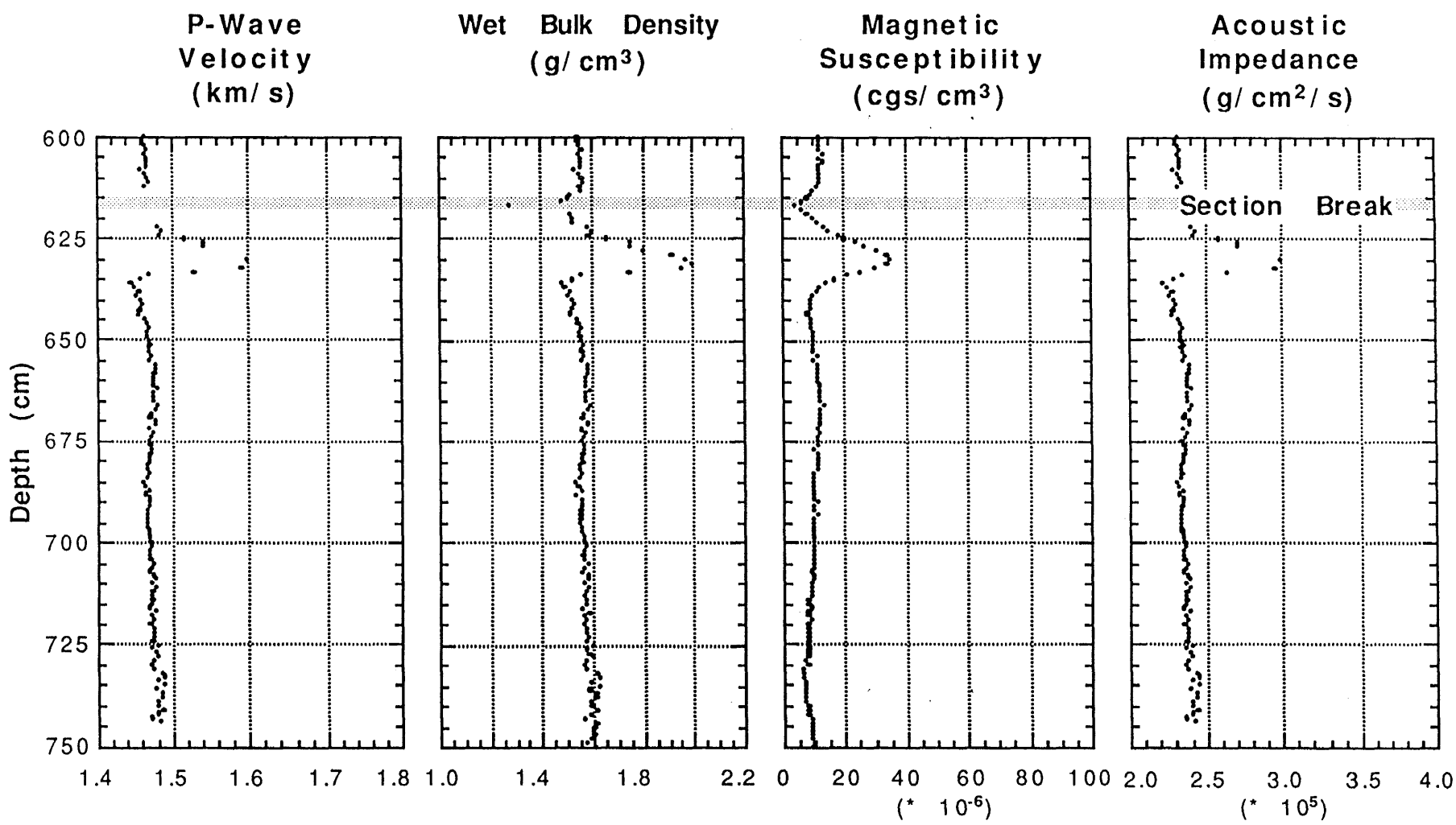
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 02PC

(600-750 cm)



LAT: 31°25.92' N
LON: 117°35.091' W

Depth: 2042 M
Drill Site ID: CAM-2

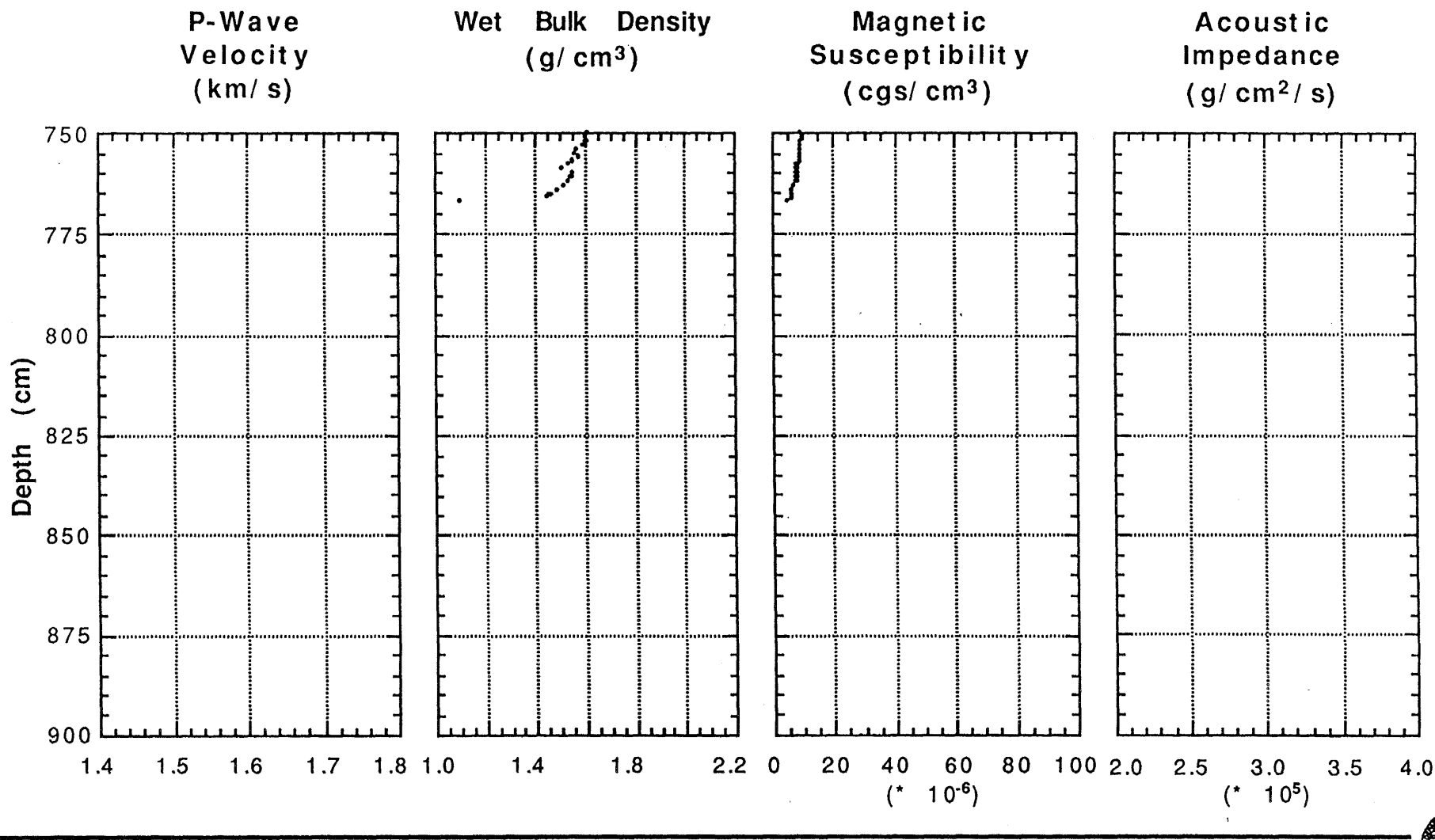
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 02PC

(750-767 cm)

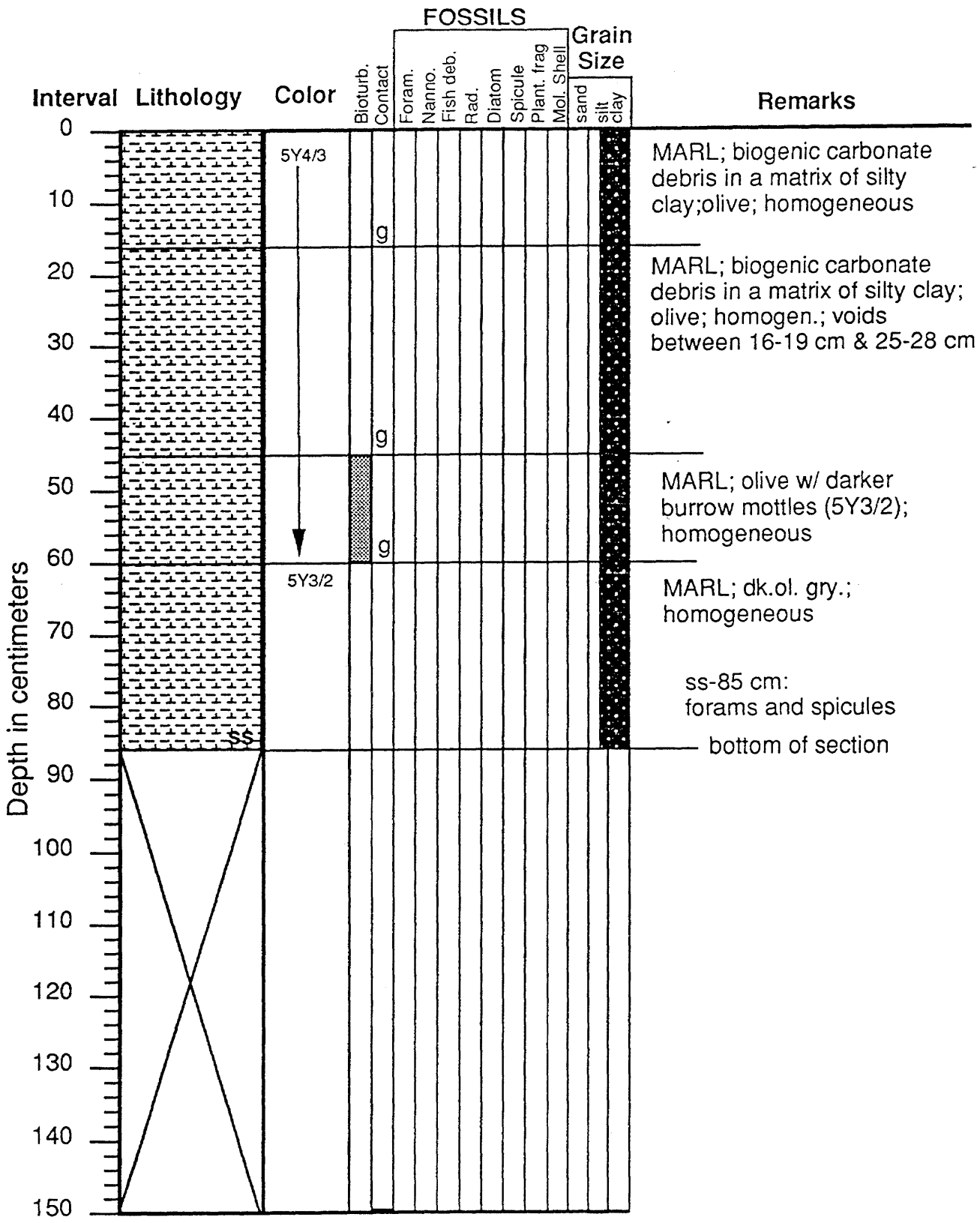


LAT: 31°25.92' N
LON: 117°35.091' W

Depth: 2042 M
Drill Site ID: CAM-2

USGS

EW95-04 Core: 03PC Sect.: 5 (0-86 cm)
32 04.392 N, 117 21.850 W, 1299 m



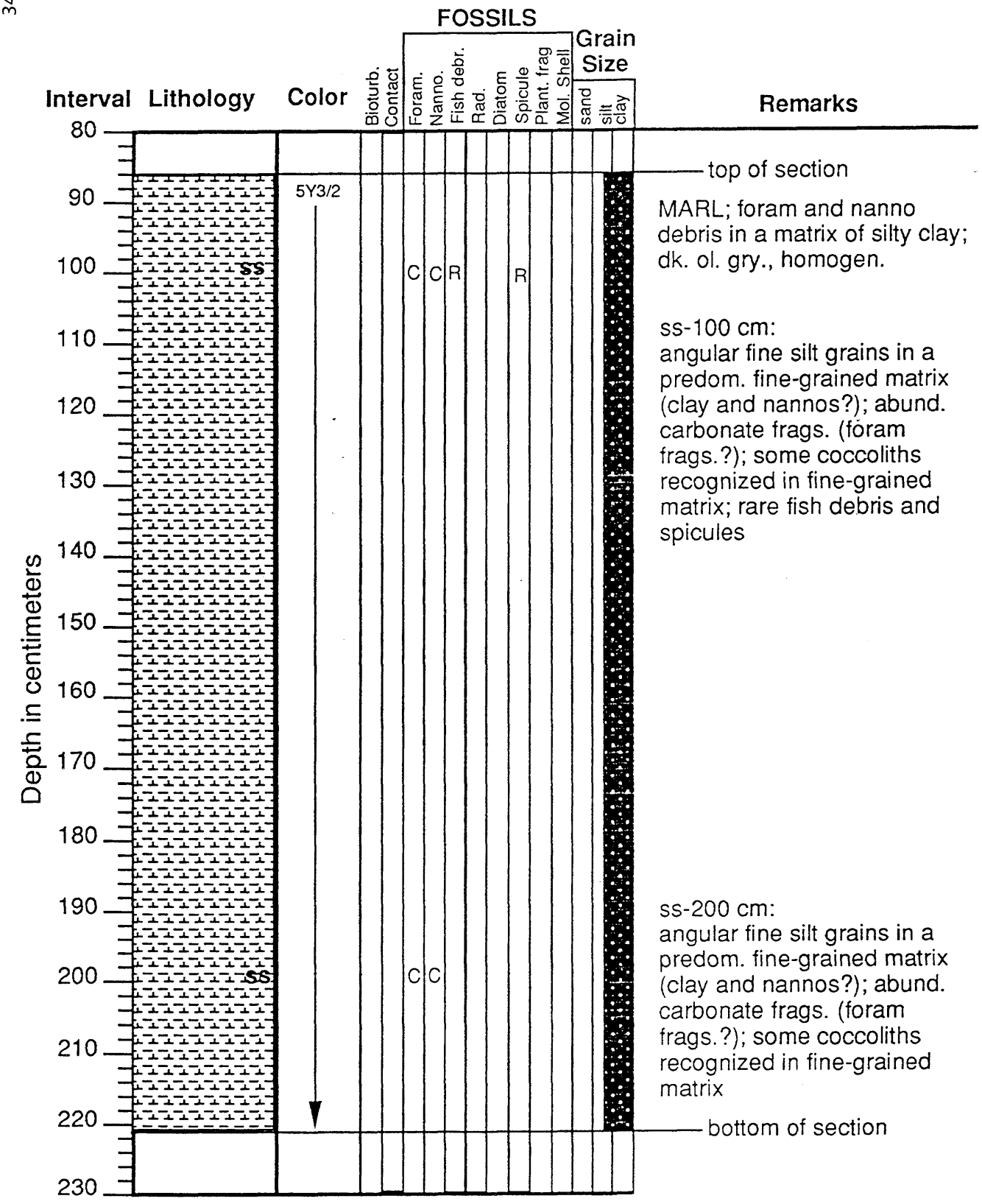
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 03PC Sect.: 4 (86-221 cm)
32 04.392 N, 117 21.850 W, 1299 m



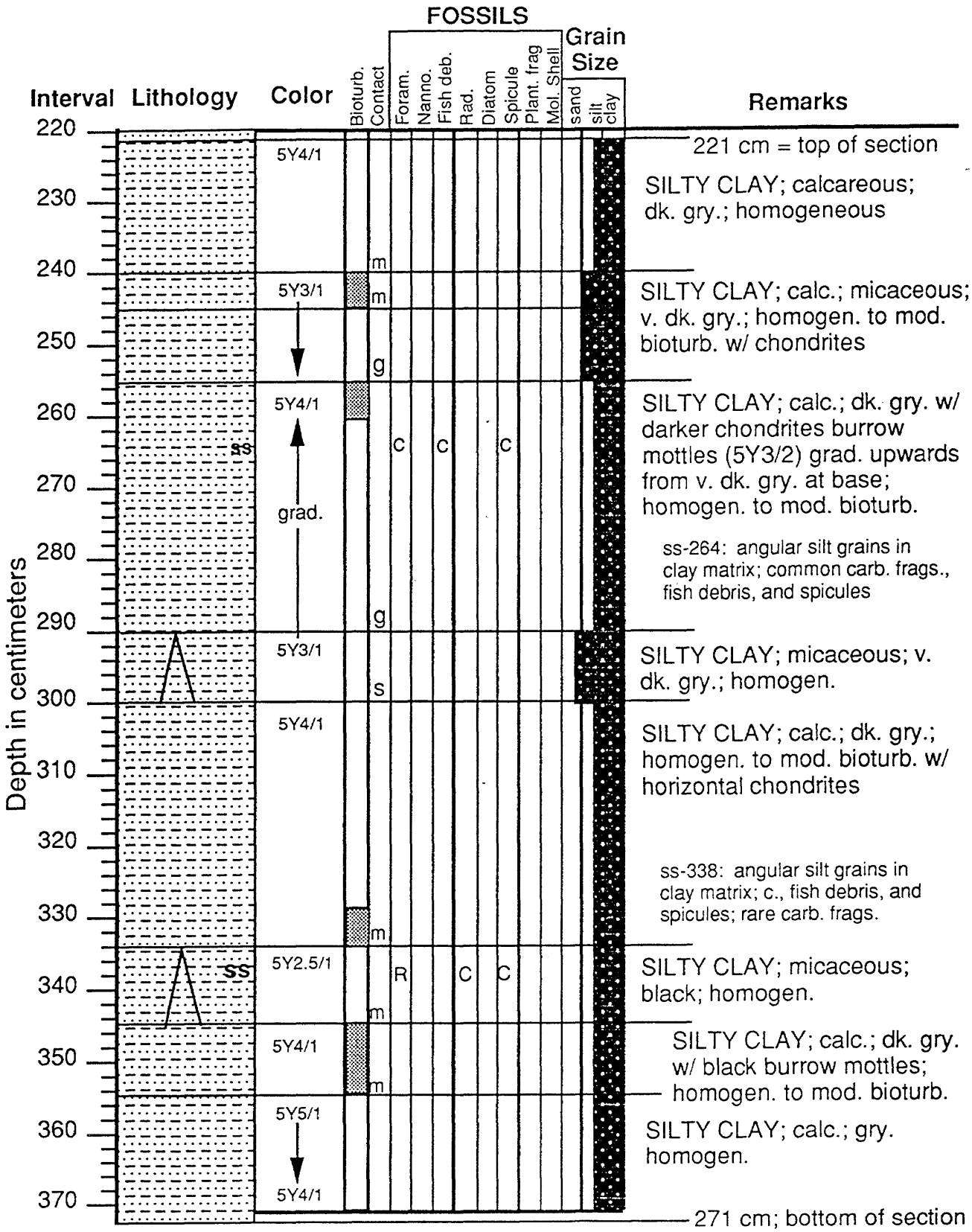
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 03PC Sect.: 3 (221-371 cm)
32 04.392 N, 117 21.850 W, 1299 m



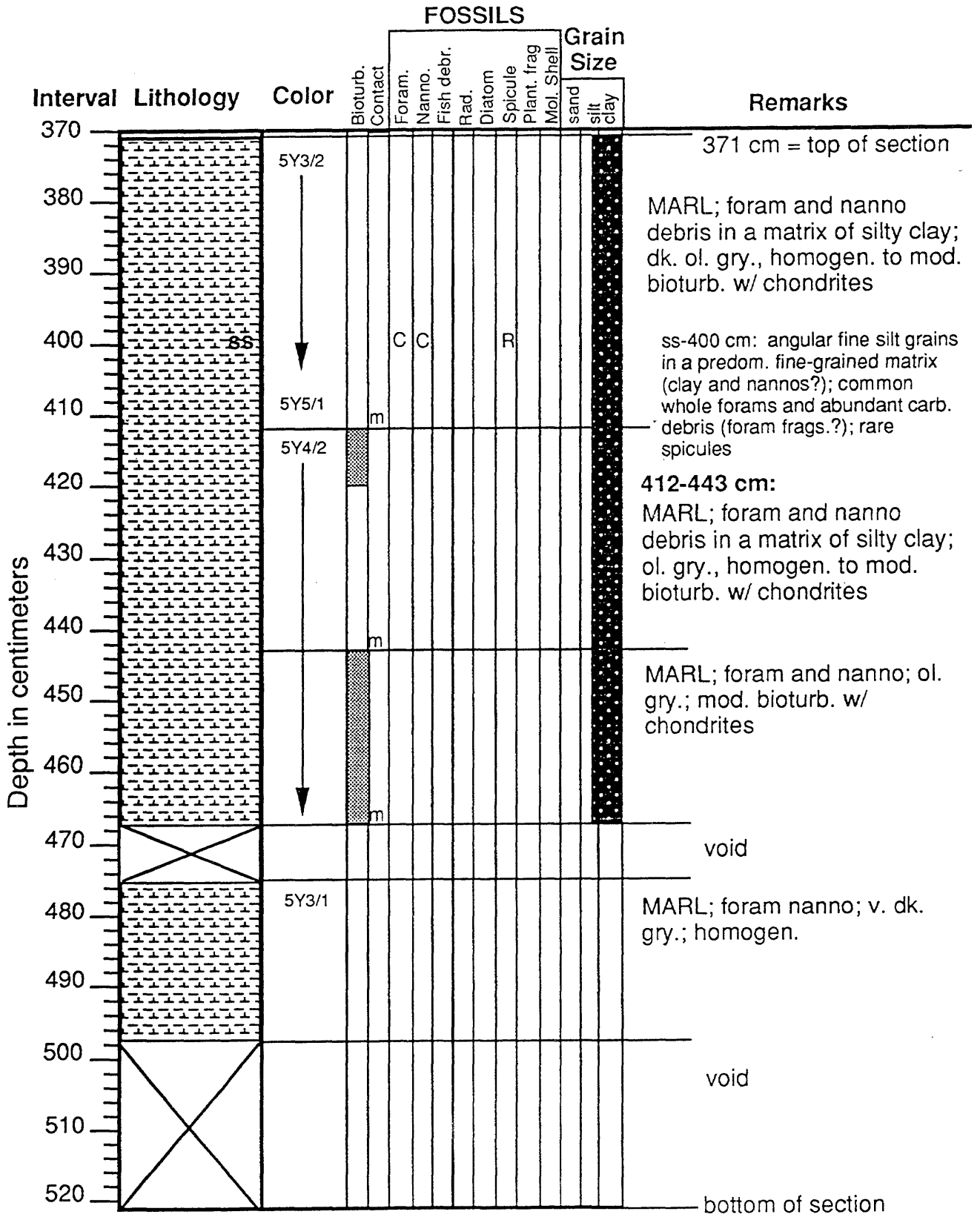
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 03PC Sect.: 2 (371-521 cm)
32 04.392 N, 117 21.850 W, 1299 m



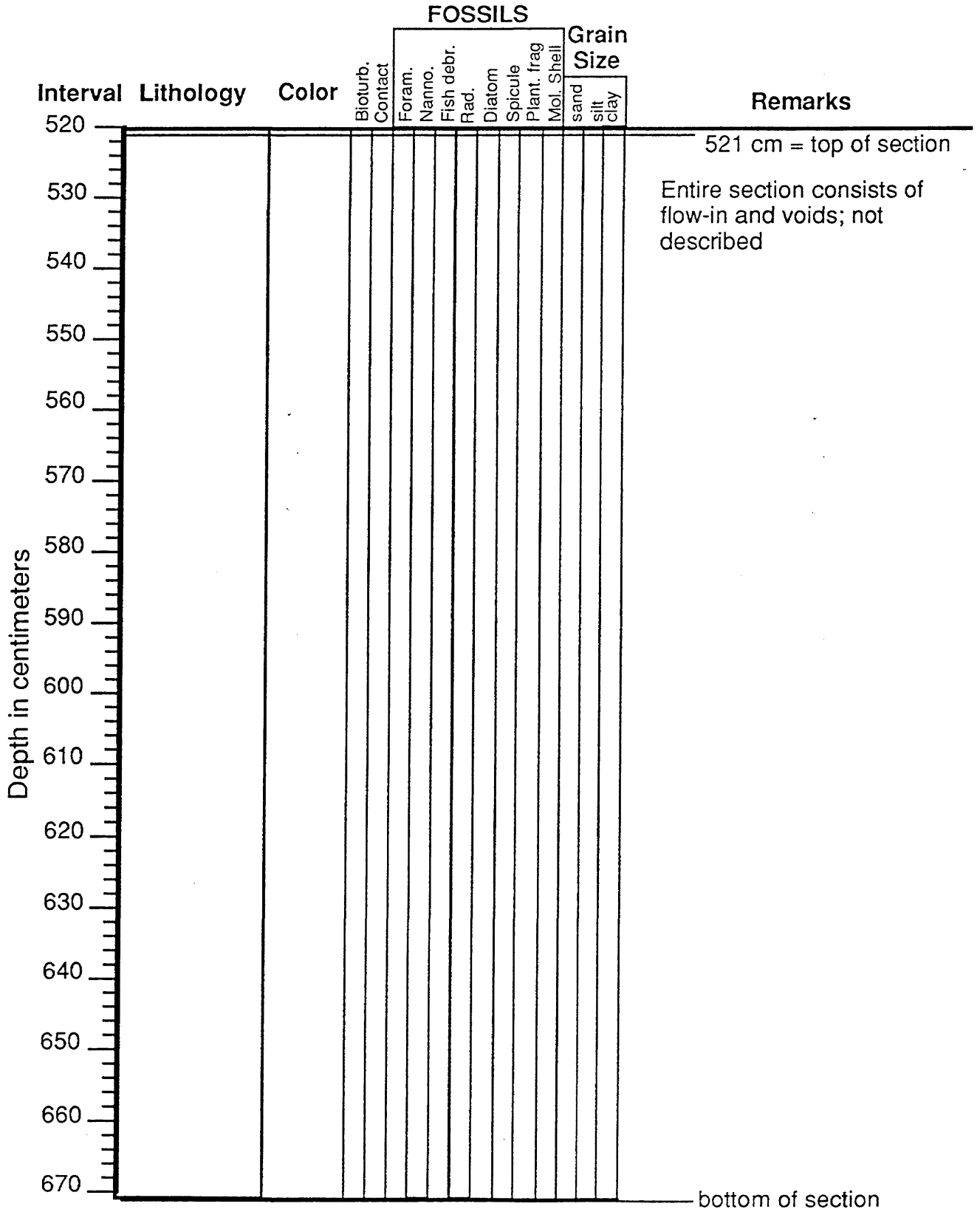
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 03PC Sect.: 1 (521-670 cm)
32 04.392 N, 117 21.850 W, 1299 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

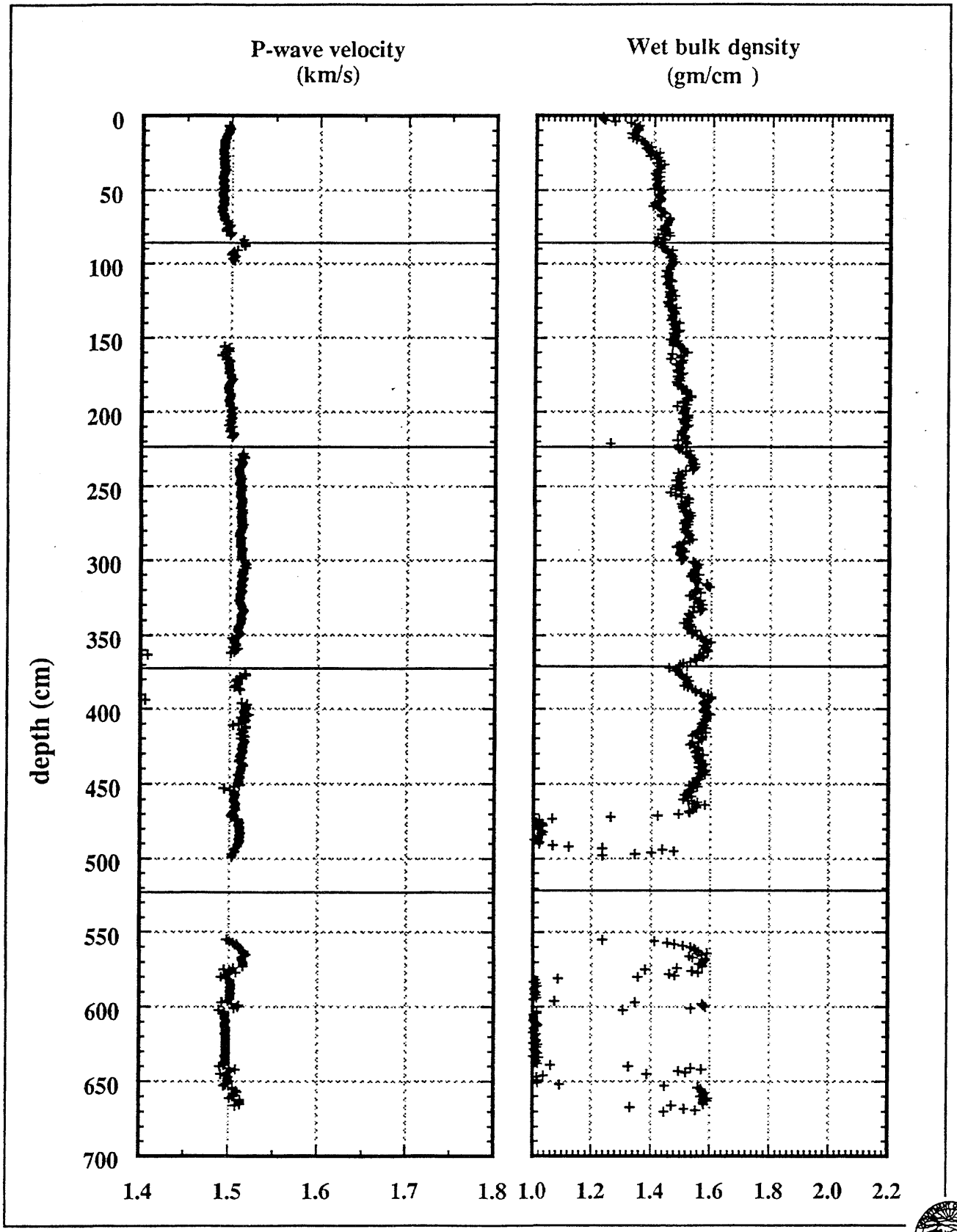
graded bed (turbidite)

ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-03PC
(0-670 cm)



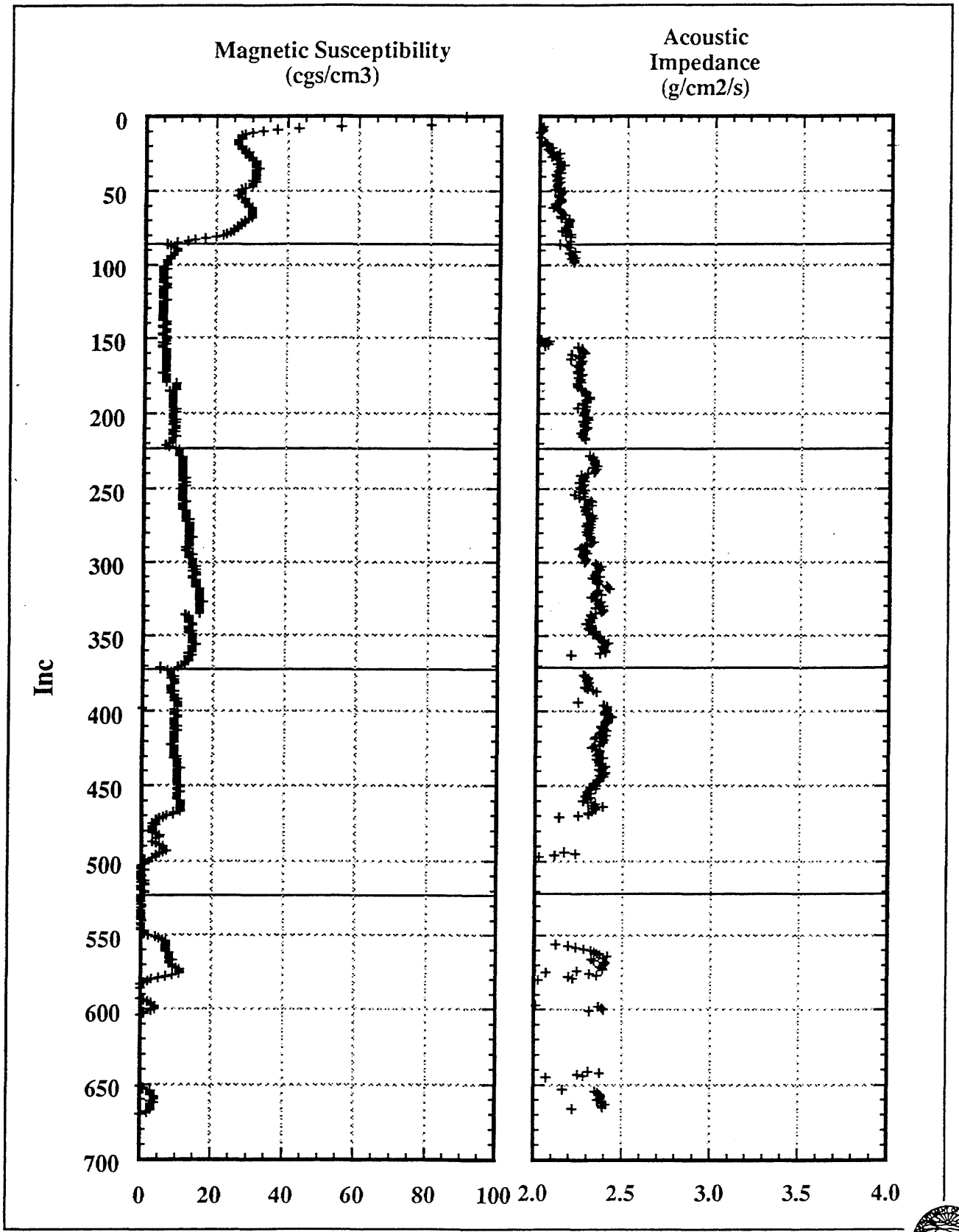
LAT: 32°04.392'N Depth: 1299 m
LON: 117°21.850'W Drill Site ID: BA-5

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-03PC
(0-670 cm)



LAT: 32°04.392'N Depth: 1299 m
LON: 117°21.850'W Drill Site ID: BA-5

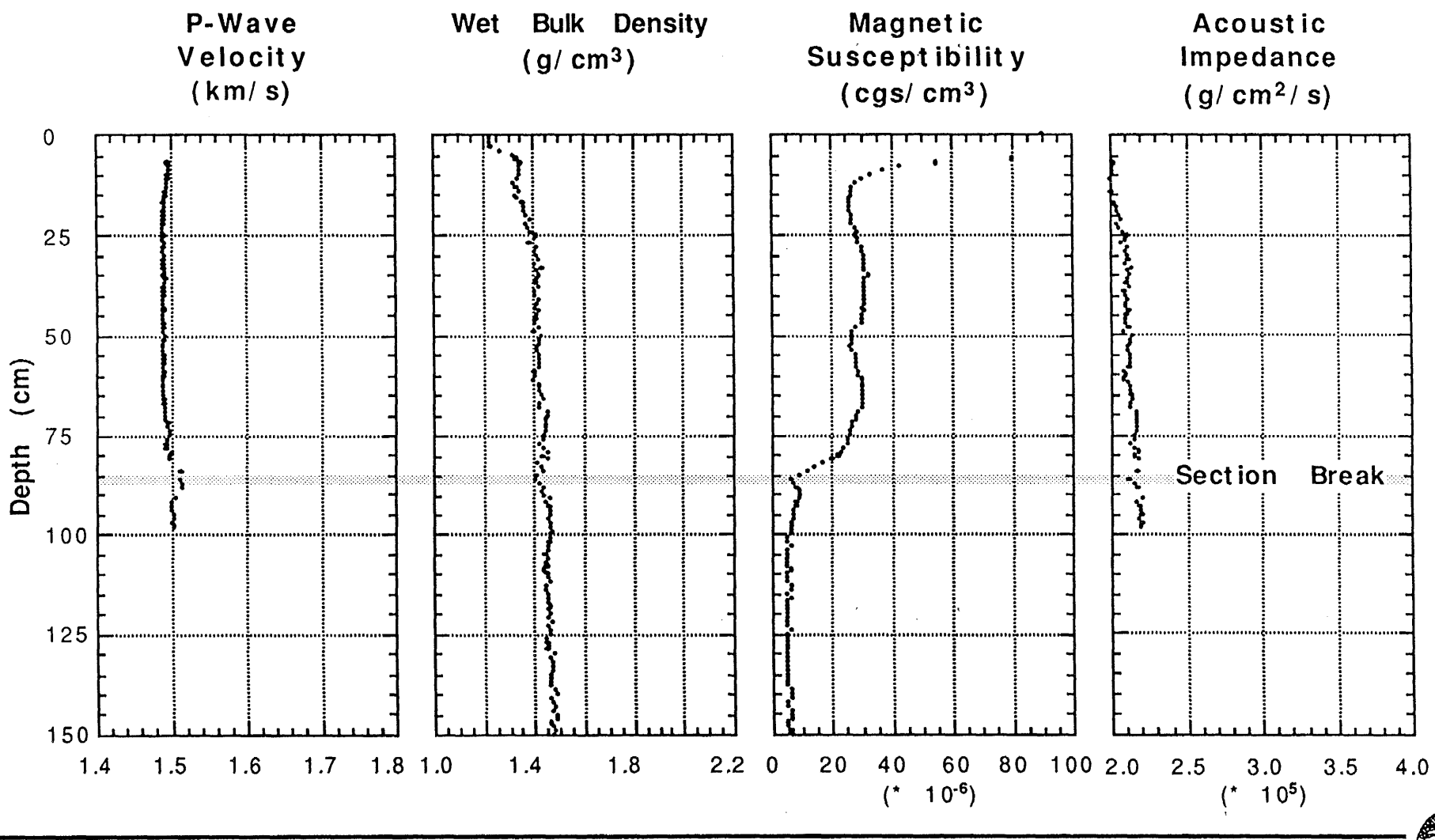
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 03PC

(0-150 cm)



LAT: 32°04.392' N
LON: 117°21.850' W

Depth: 1299 M
Drill Site ID: BA-5

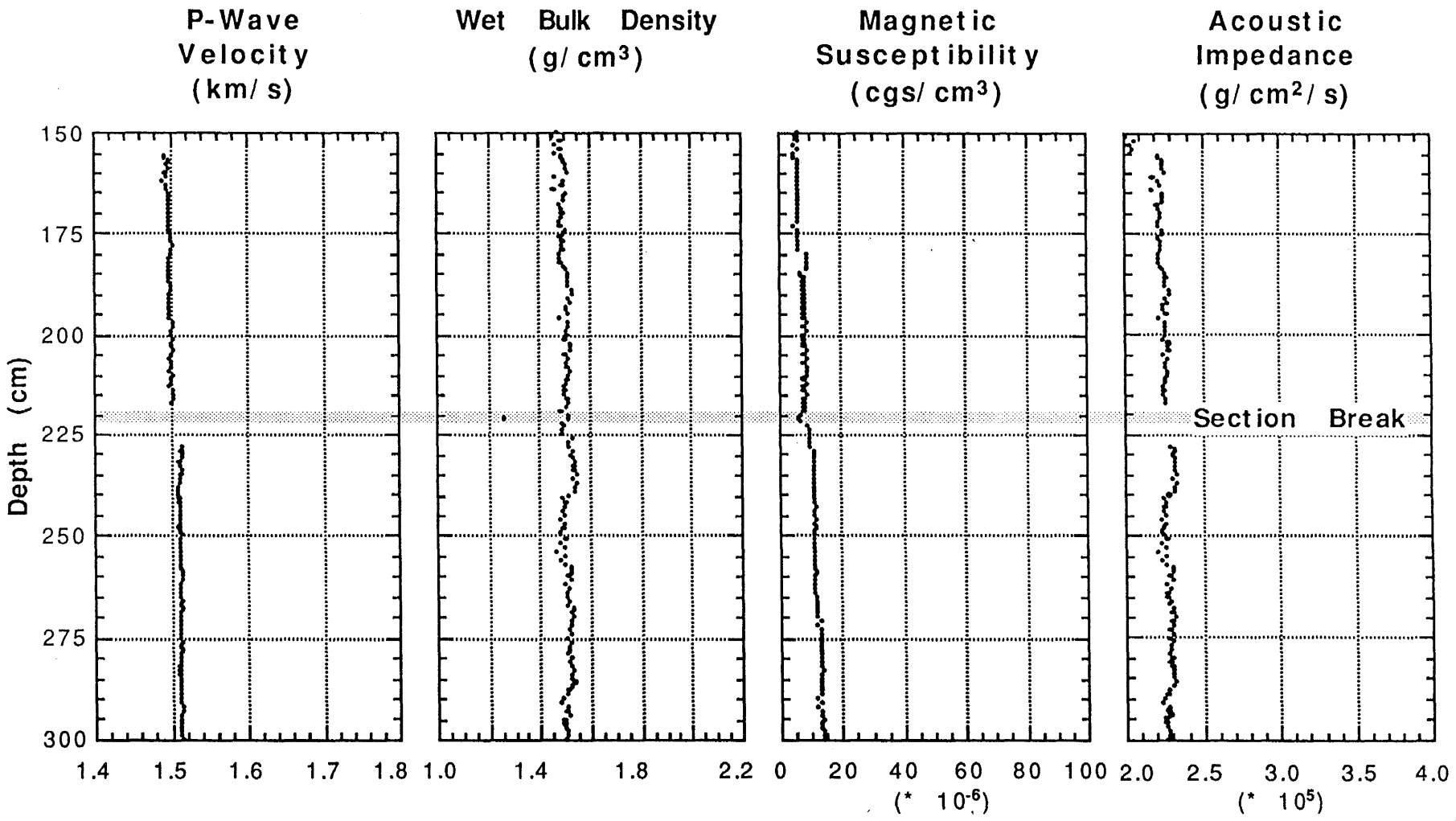
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 03PC

(150-300 cm)



LAT: 32°04.392' N
LON: 117°21.850' W

Depth: 1299 M
Drill Site ID: BA-5

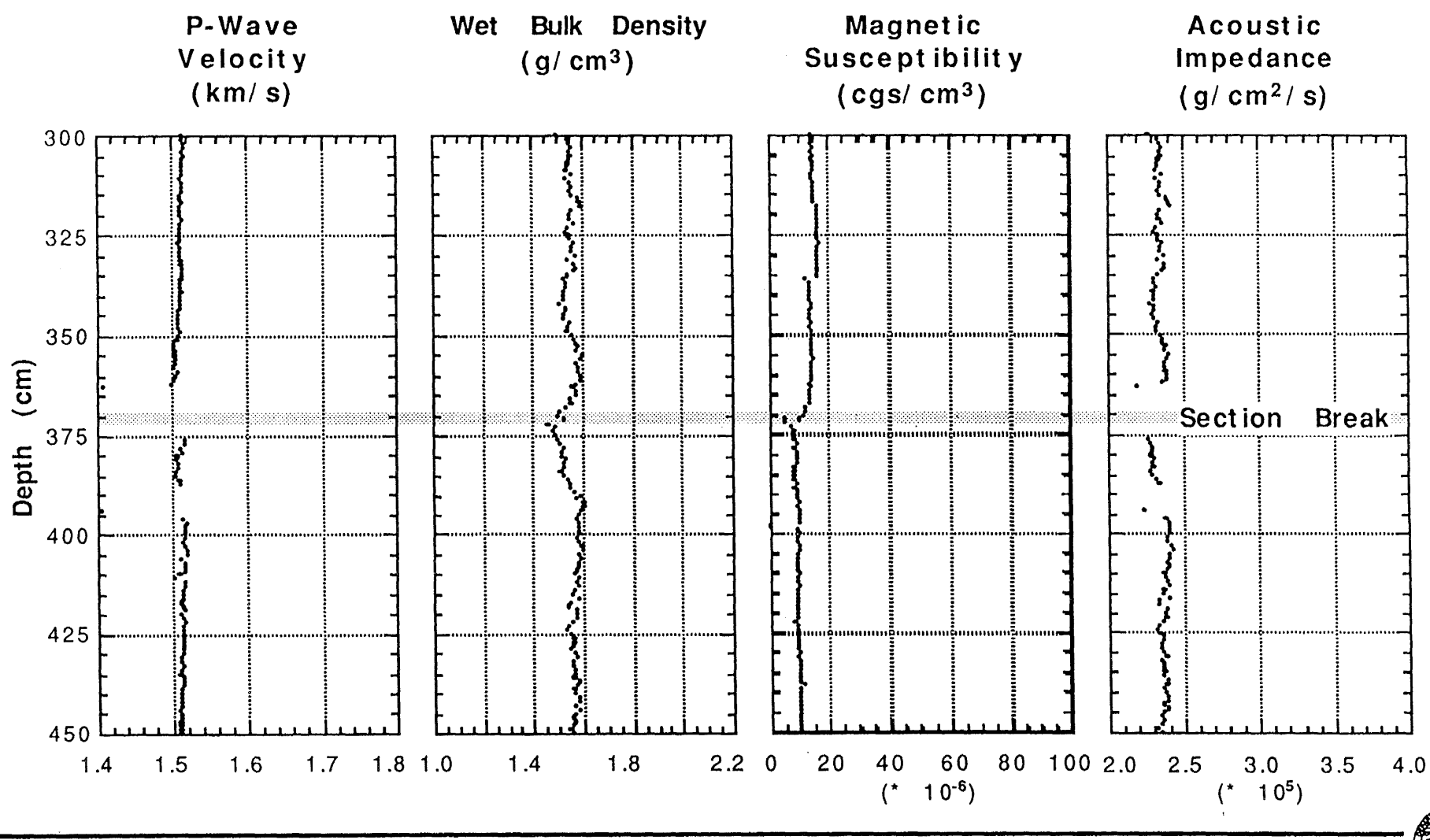
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 03PC

PHYSICAL PROPERTY LOGS

(300-450 cm)



LAT: 32°04.392' N
LON: 117°21.850' W

Depth: 1299 M
Drill Site ID: fBA-5

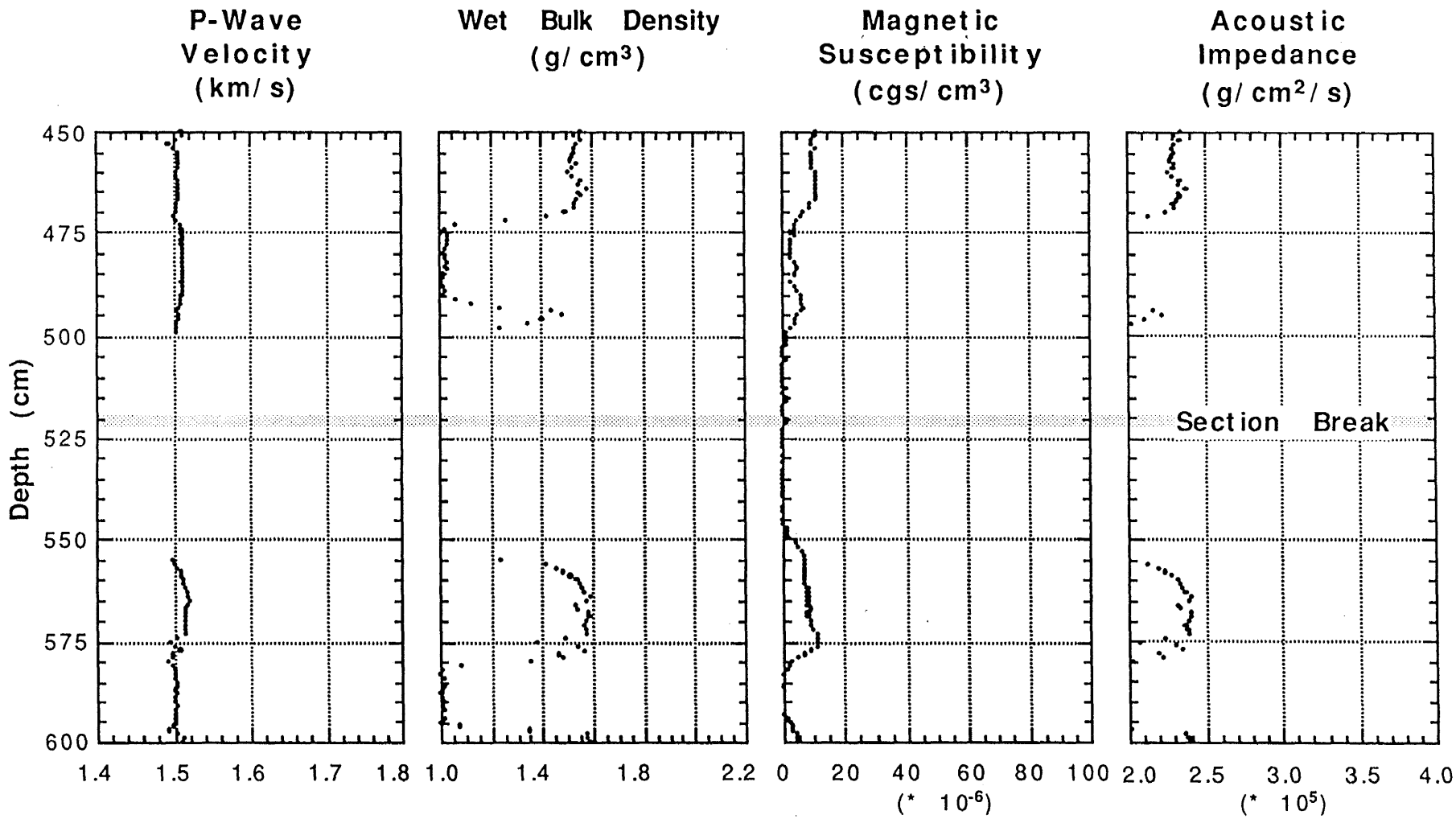
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 03PC

(450-600 cm)



LAT: 32°04.392' N
LON: 117°21.850' W

Depth: 1299 M
Drill Site ID: BA-5

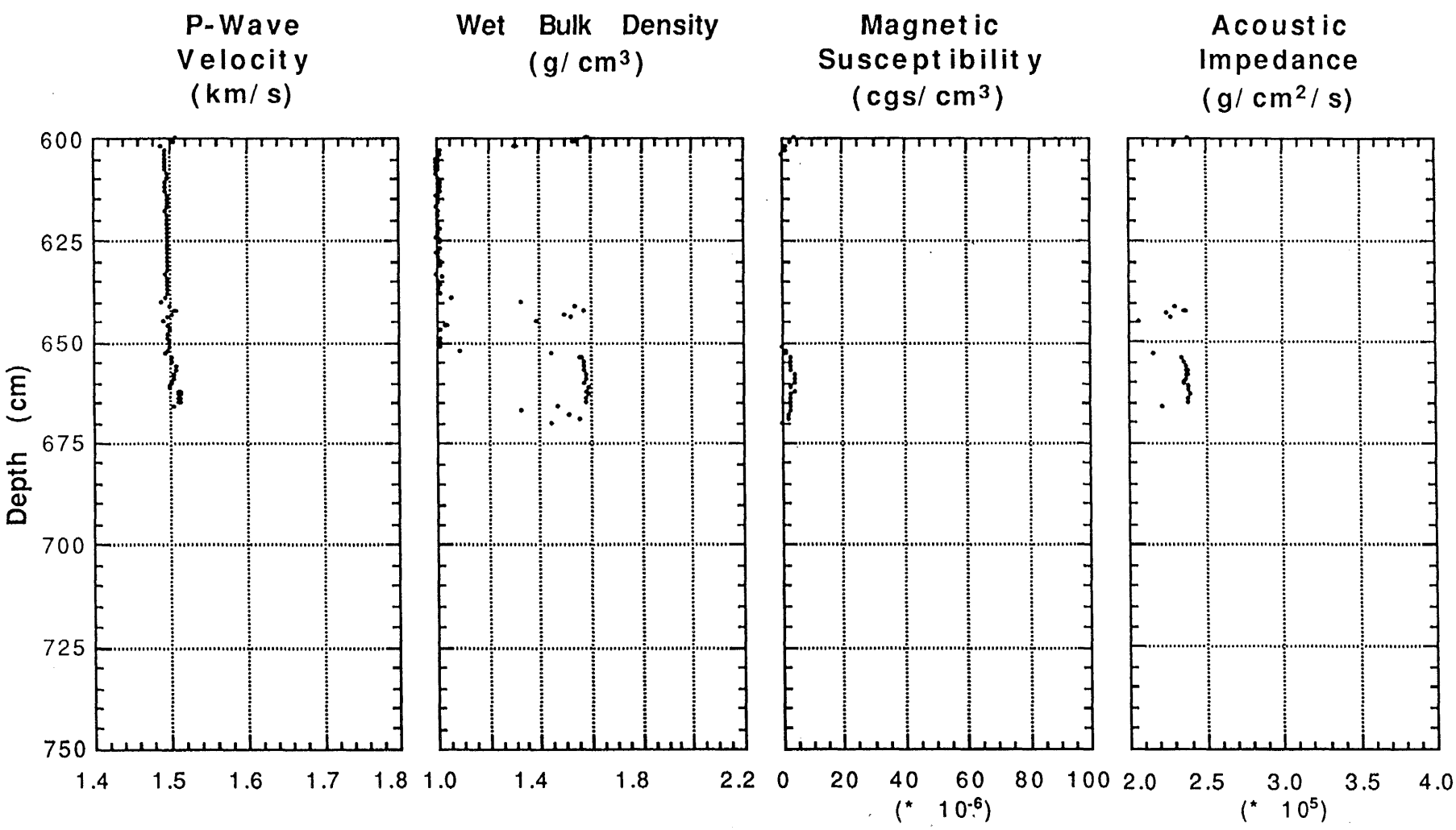
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 03PC

(600-670 cm)

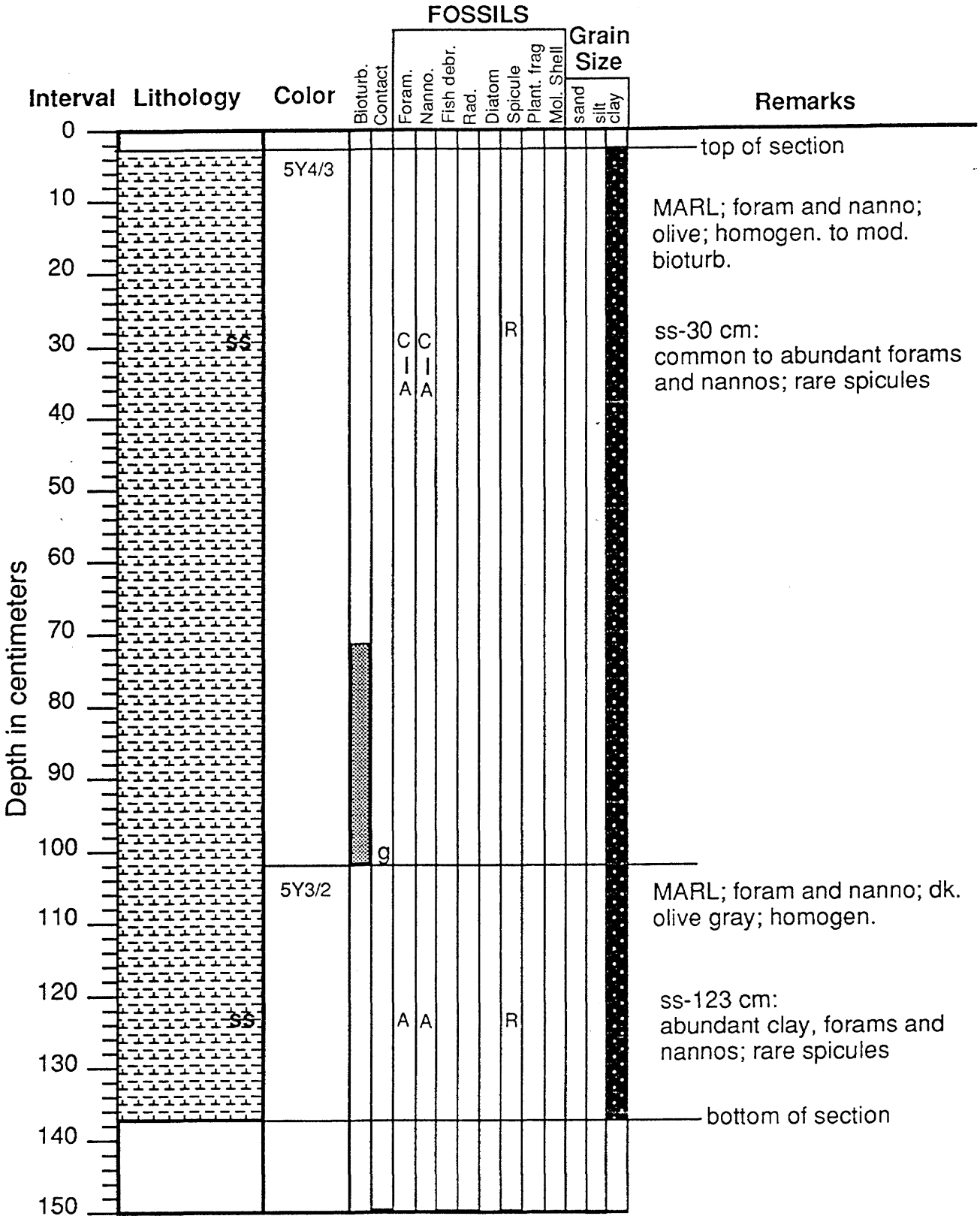


LAT: 32°04.392' N
LON: 117°21.850' W

Depth: 1299 M
Drill Site ID: BA-5

USGS

EW95-04 Core: 04PC Sect.: 6 (3-137 cm)
32 17.01 N, 118 23.73 W, 1759 m



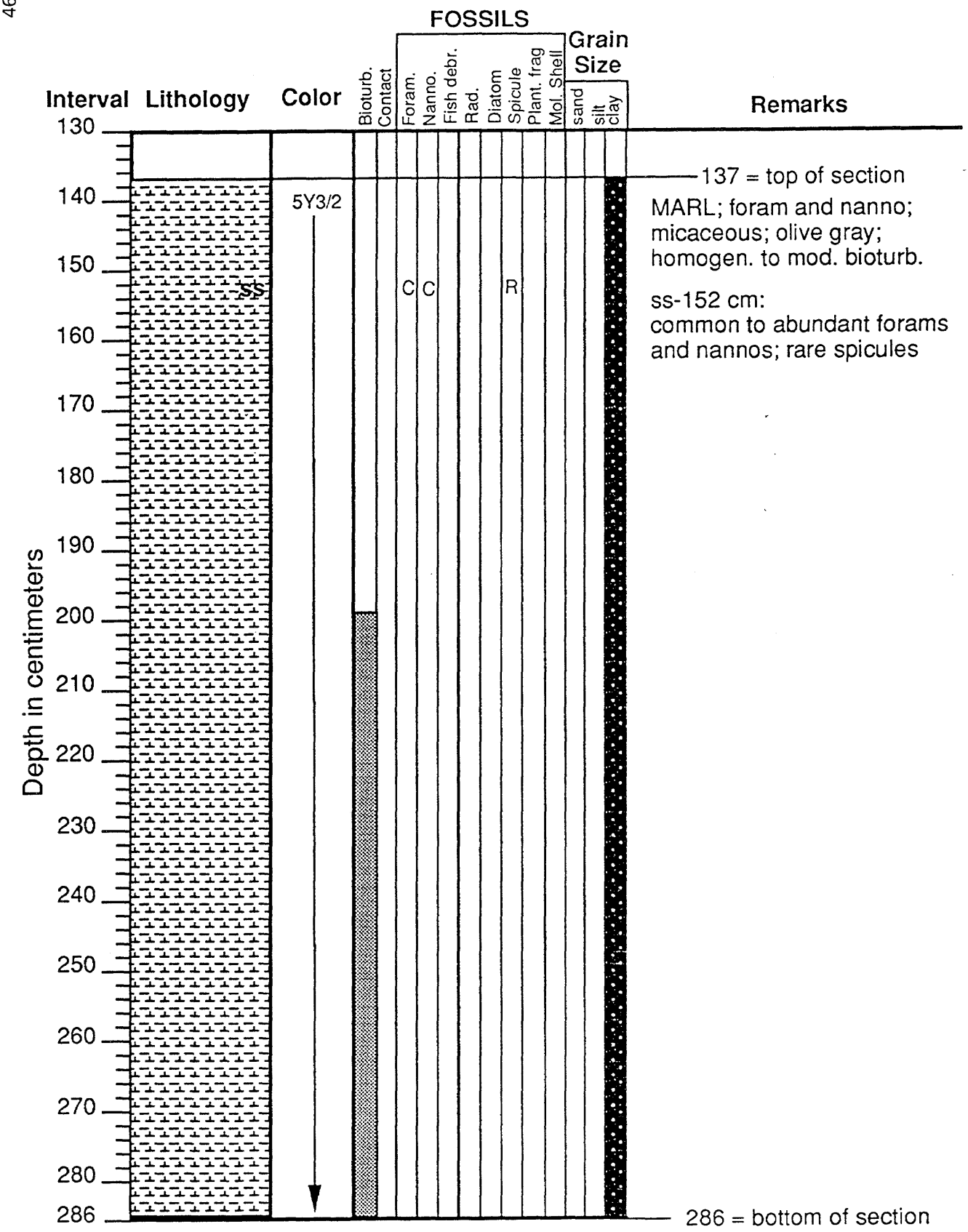
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

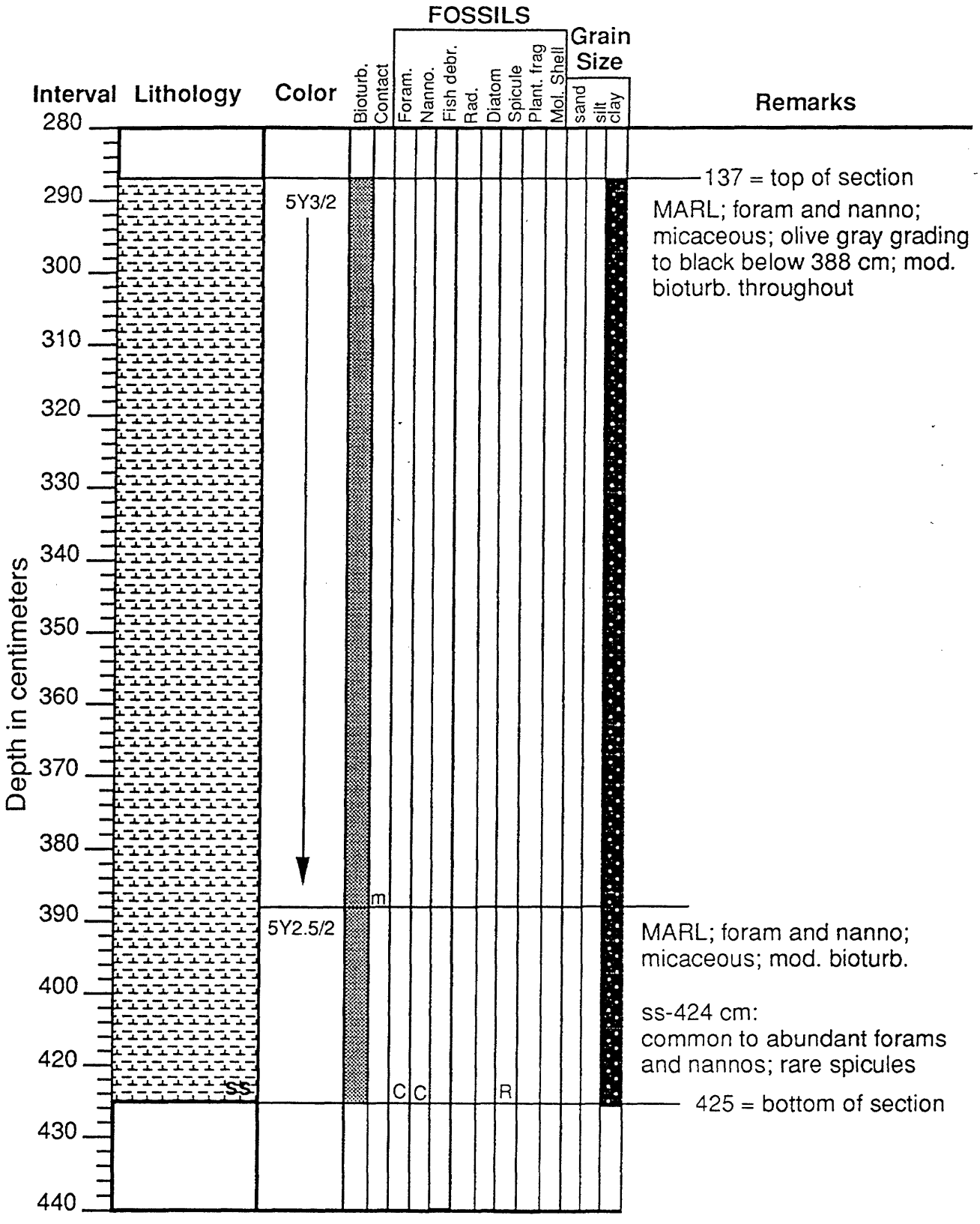
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 04PC Sect.: 5 (137-286 cm)
32 17.01 N, 118 23.73 W, 1759 m



EW95-04 Core: 04PC Sect.: 4 (286-425 cm)
32 17.01 N, 118 23.73 W, 1759 m



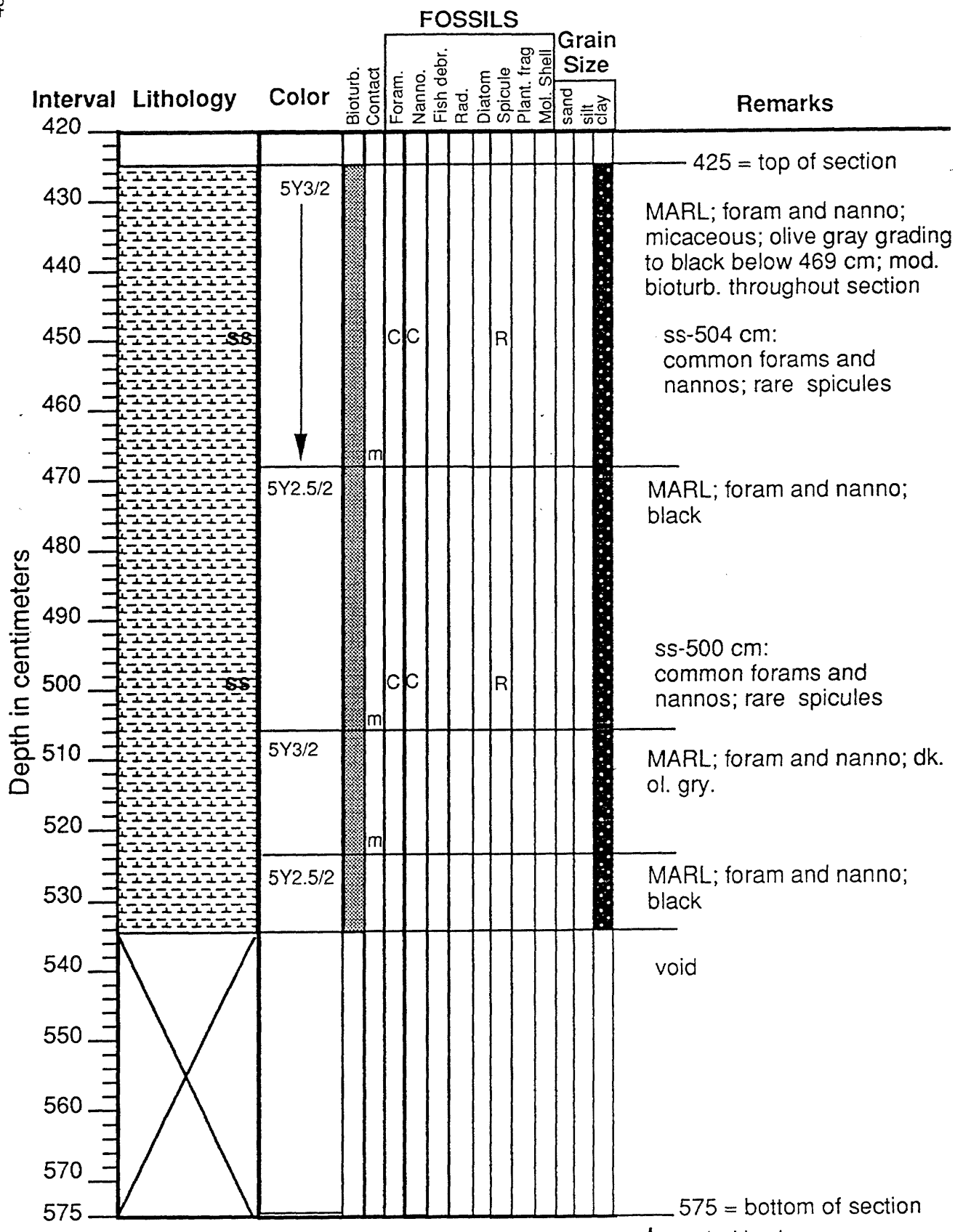
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

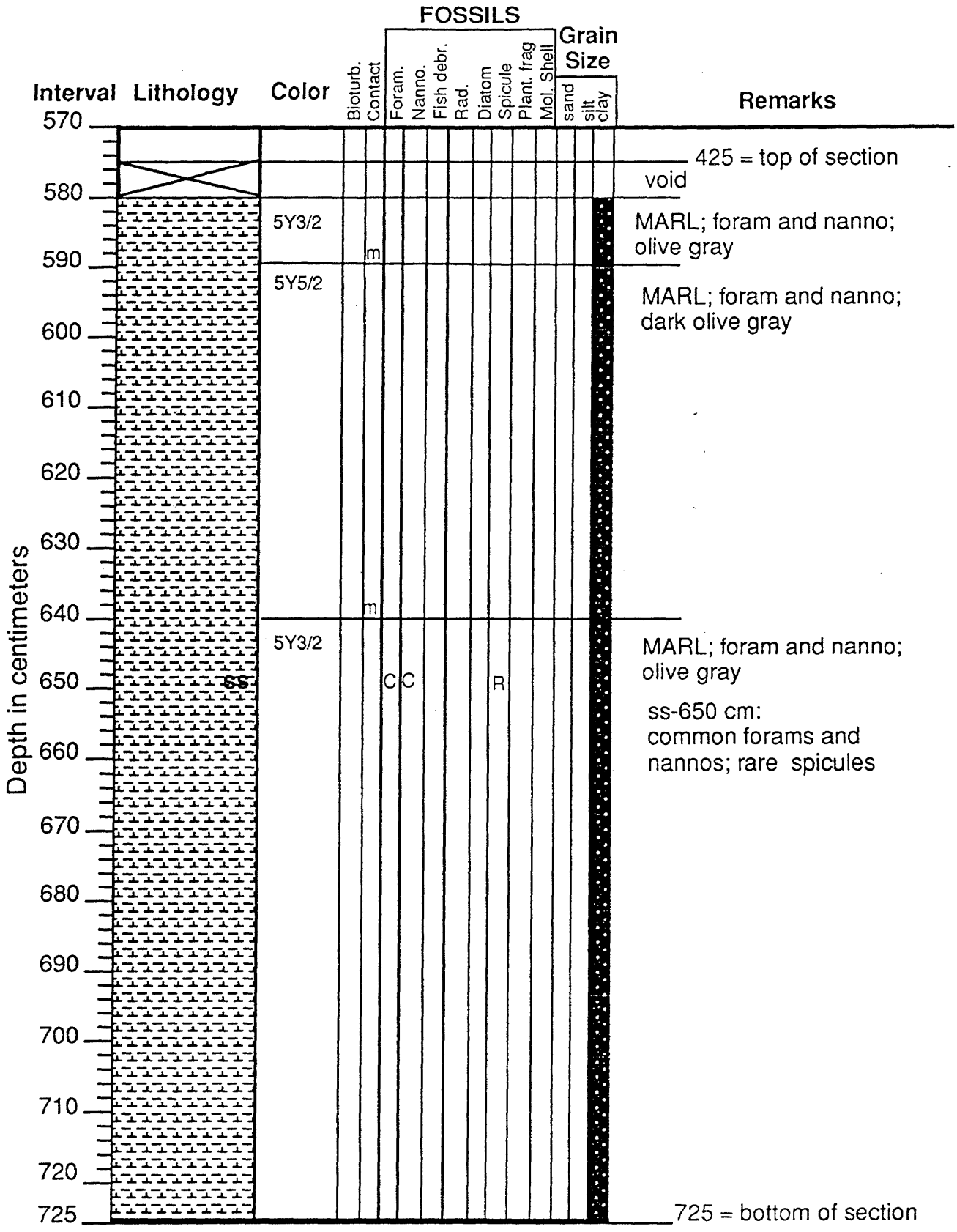
graded bed (turbidite)

ss-smear slide

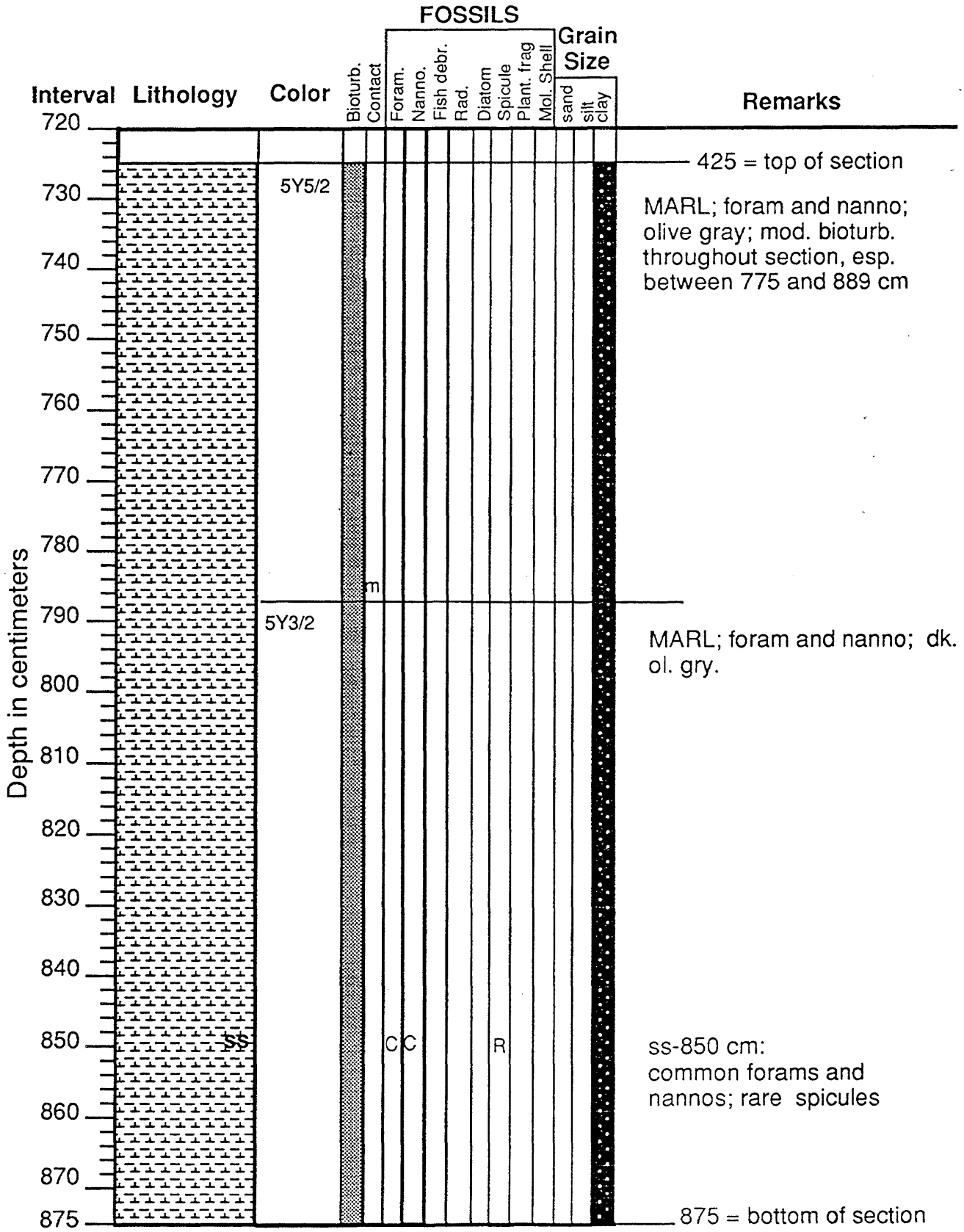
EW95-04 Core: 04PC Sect.: 3 (425-575 cm)
32 17.01 N, 118 23.73 W, 1759 m



EW95-04 Core: 04PC Sect.: 2 (575-725 cm)
32 17.01 N, 118 23.73 W, 1759 m



EW95-04 Core: 04PC Sect.: 1 (725-874 cm)
32 17.01 N, 118 23.73 W, 1759 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

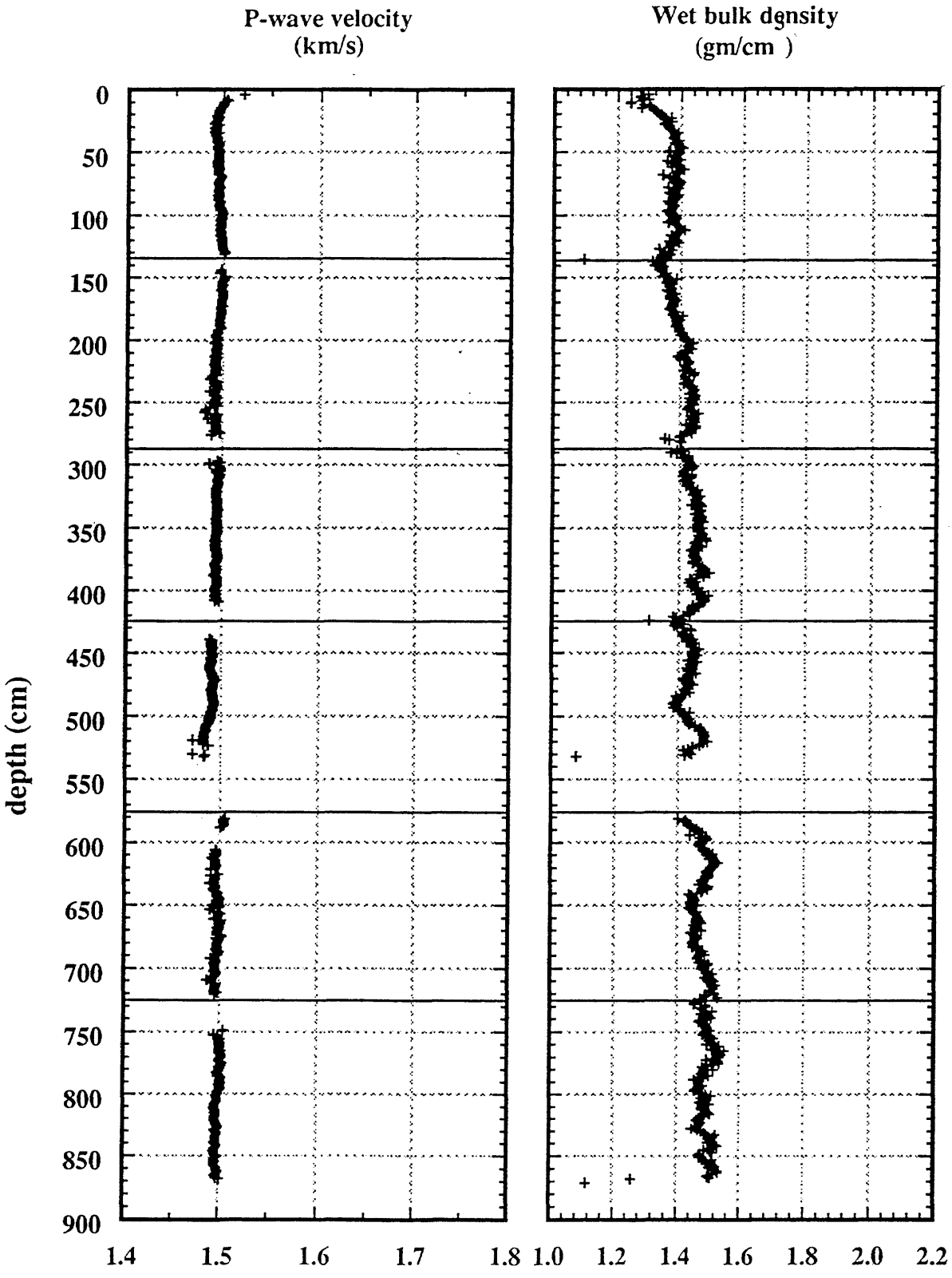
graded bed (turbidite)

ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-04PC
(0-874 cm)

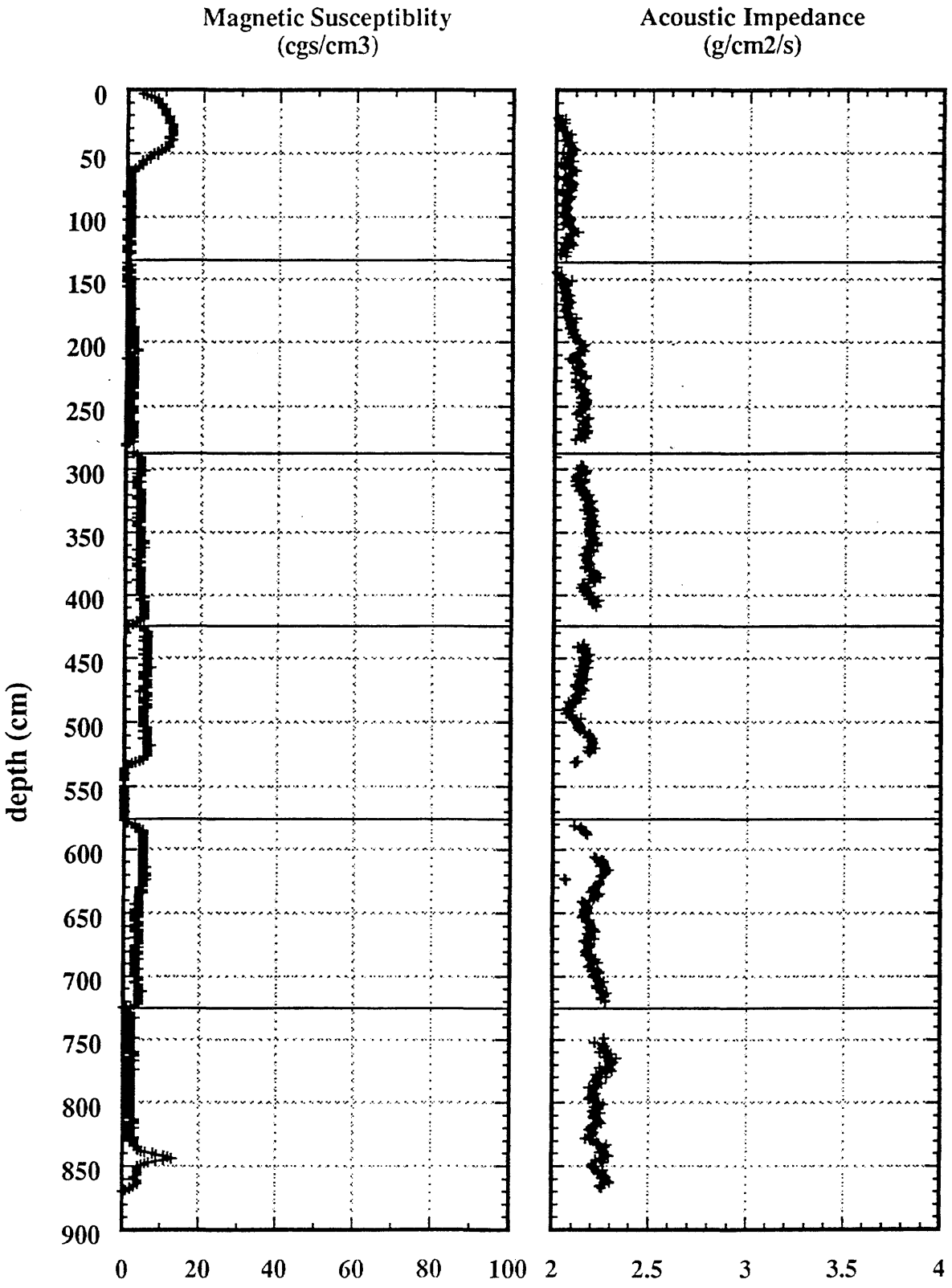


LAT: 32°17.01'N Depth: 1759 m
LON: 118°23.73'W Drill Site ID: BA-1

USGS

CALIFORNIA MARGIN SITE SURVEY
PHYSICAL-PROPERTY LOG

EW9504-04PC
(0-874 cm)



LAT: 32°17.01'N Depth: 1759 m
LON: 118°23.73'W Drill Site ID: BA-1

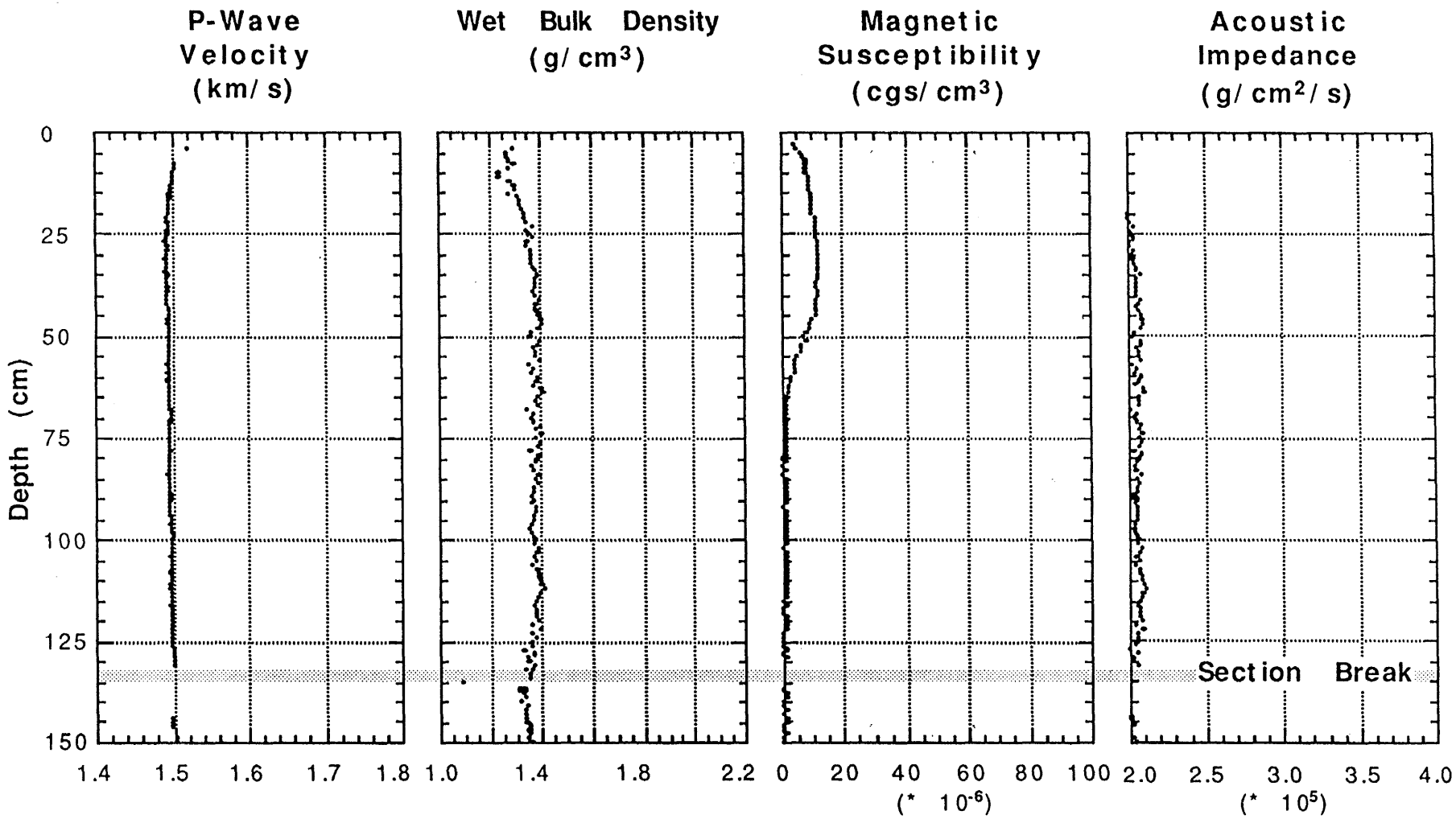
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 04PC

(0-150 cm)



LAT: 32°17.01' N
LON: 118°23.73' W

Depth: 1759 M
Drill Site ID: BA-1

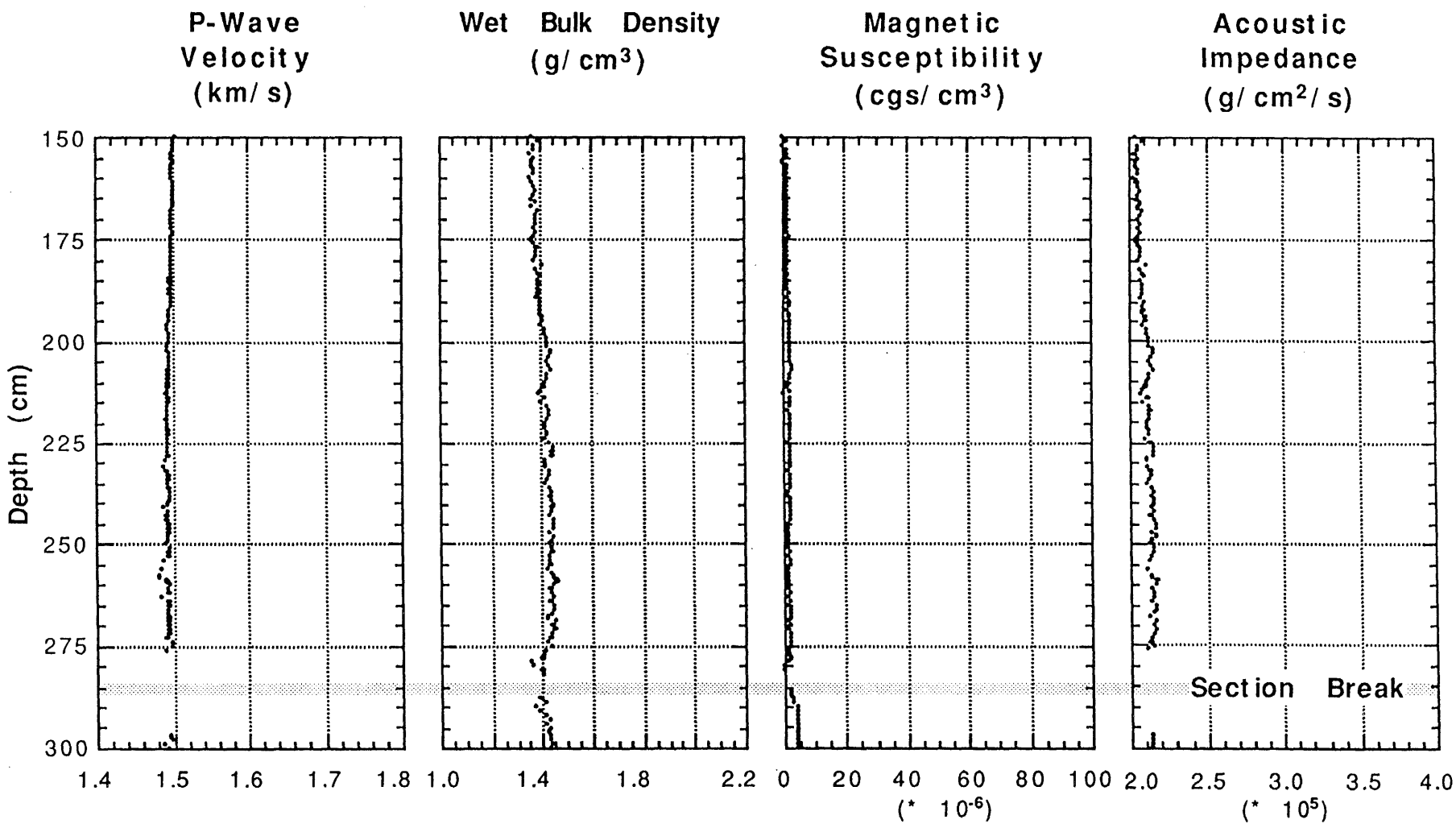
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 04PC

(150-300 cm)



LAT: 32°17.01' N
LON: 118°23.73' W

Depth: 1759 M
Drill Site ID: BA-1

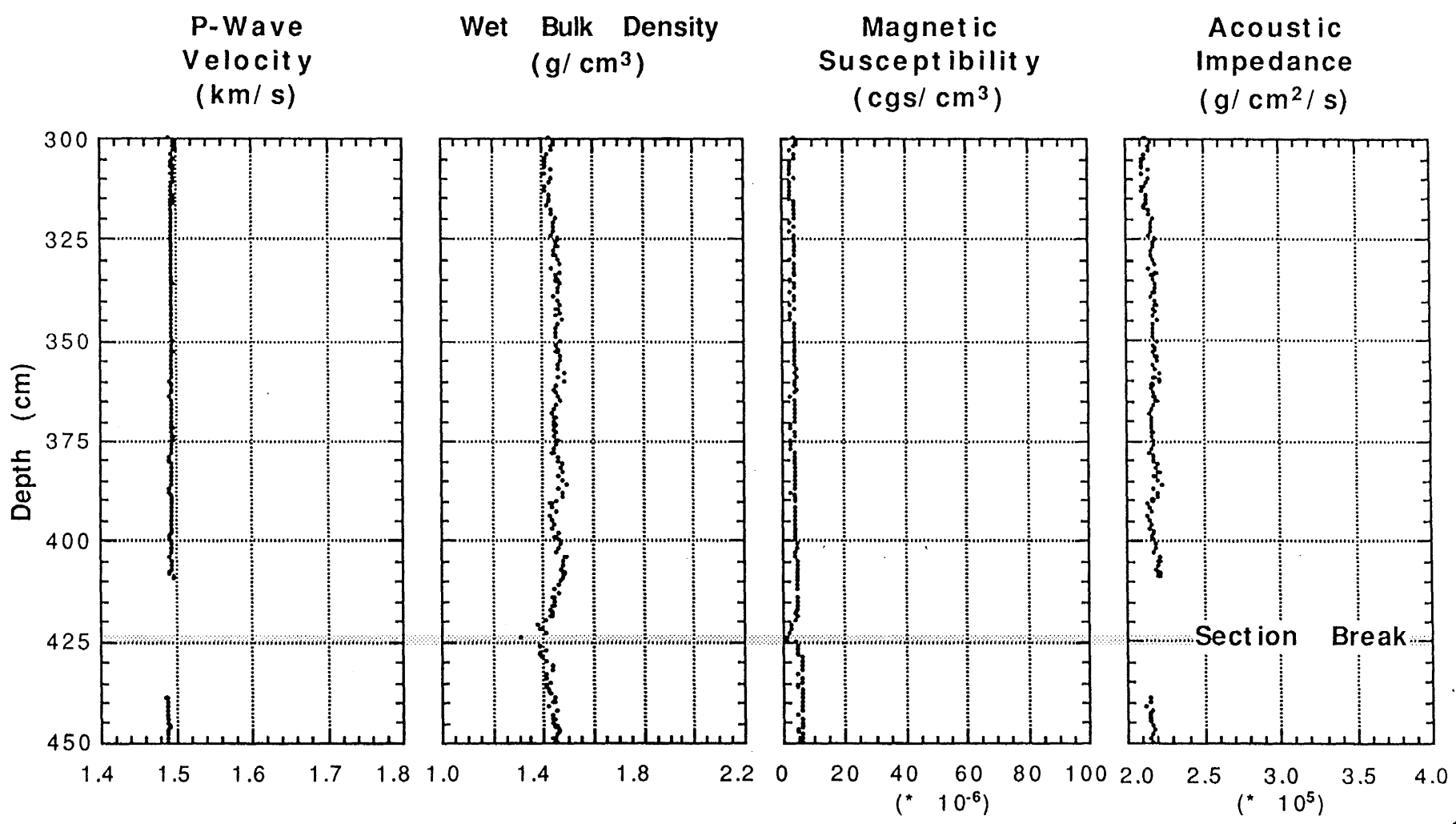
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 04PC

(300-450 cm)



LAT: 32°17.01' N
LON: 118°23.73' W

Depth: 1759 M
Drill Site ID: BA-1

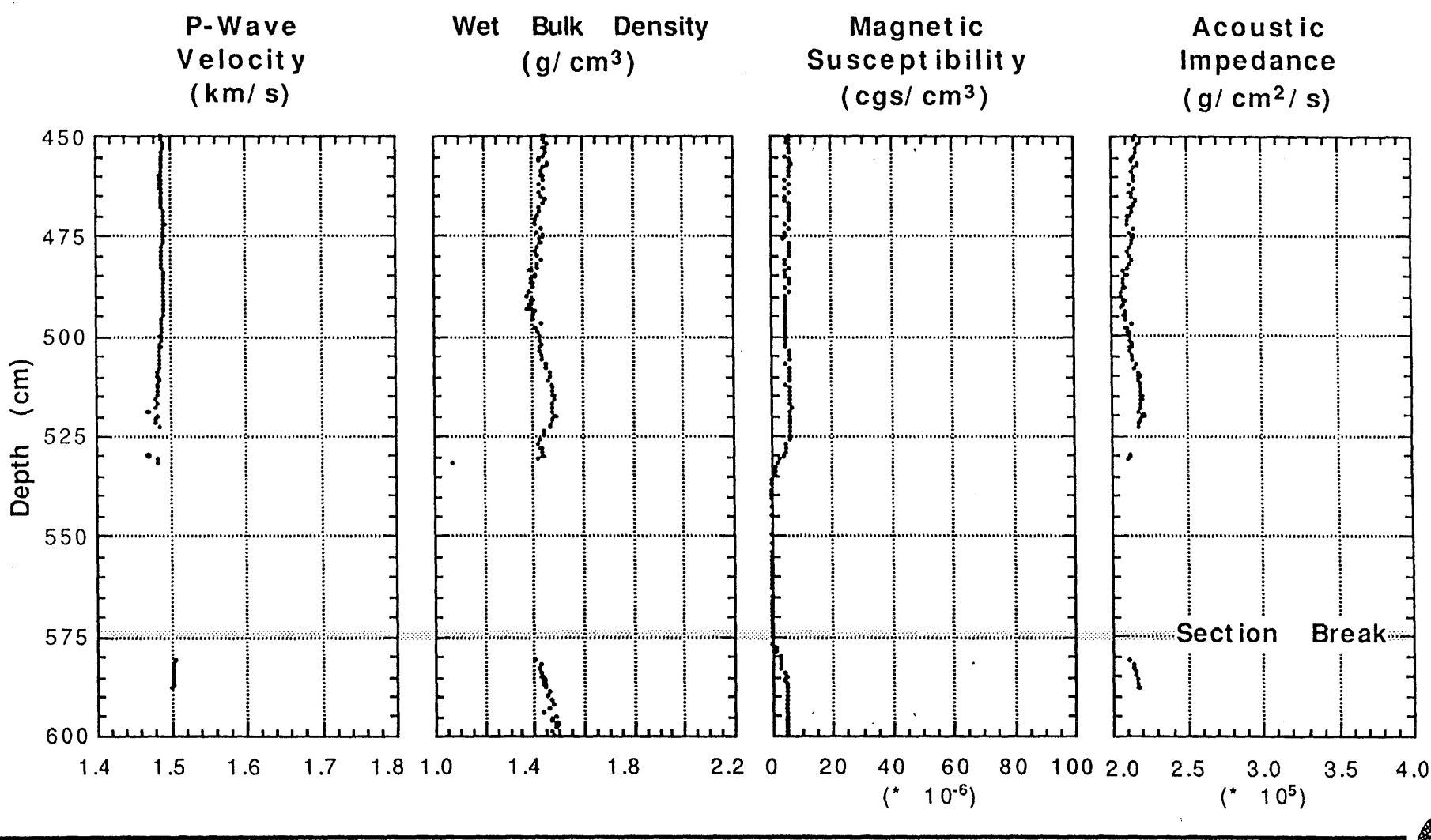
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 04PC

(450-600 cm)



LAT: 32°17.01' N
LON: 118°23.73' W

Depth: 1759 M
Drill Site ID: BA-1

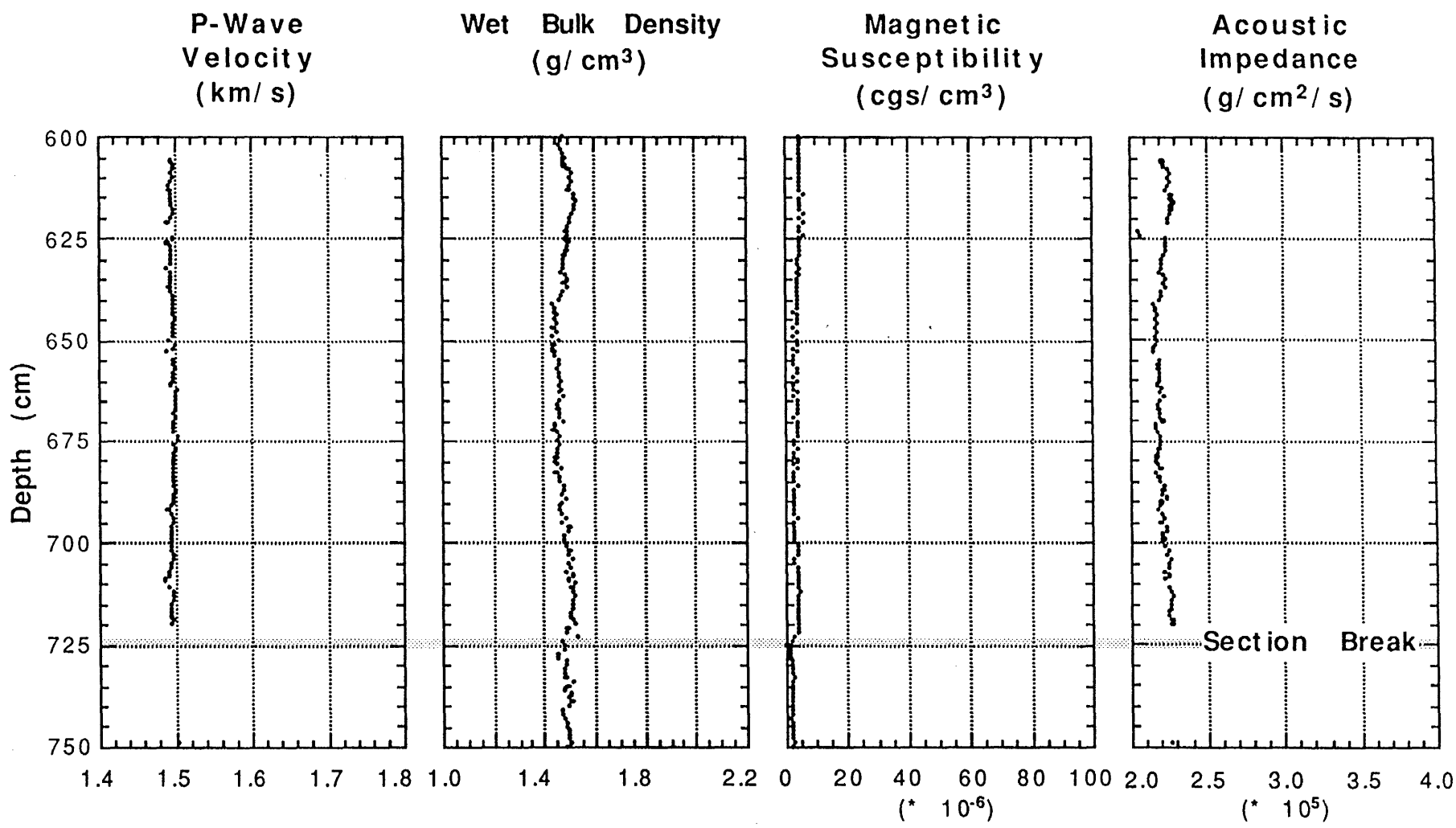
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 04PC

(600-750 cm)



LAT: 32°17.01' N
LON: 118°23.73' W

Depth: 1759 M
Drill Site ID: BA-1

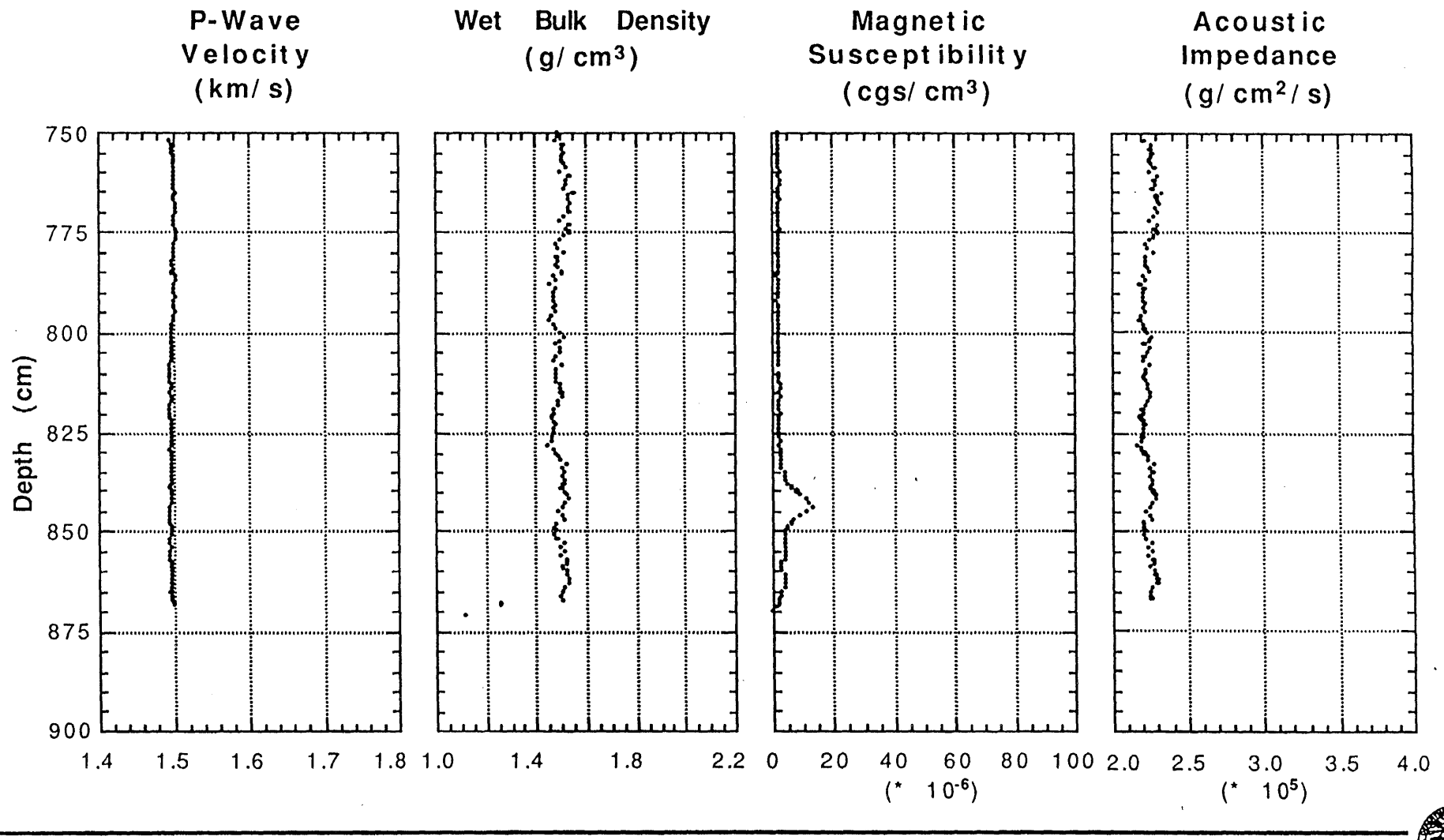
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 04PC

(750-847 cm)

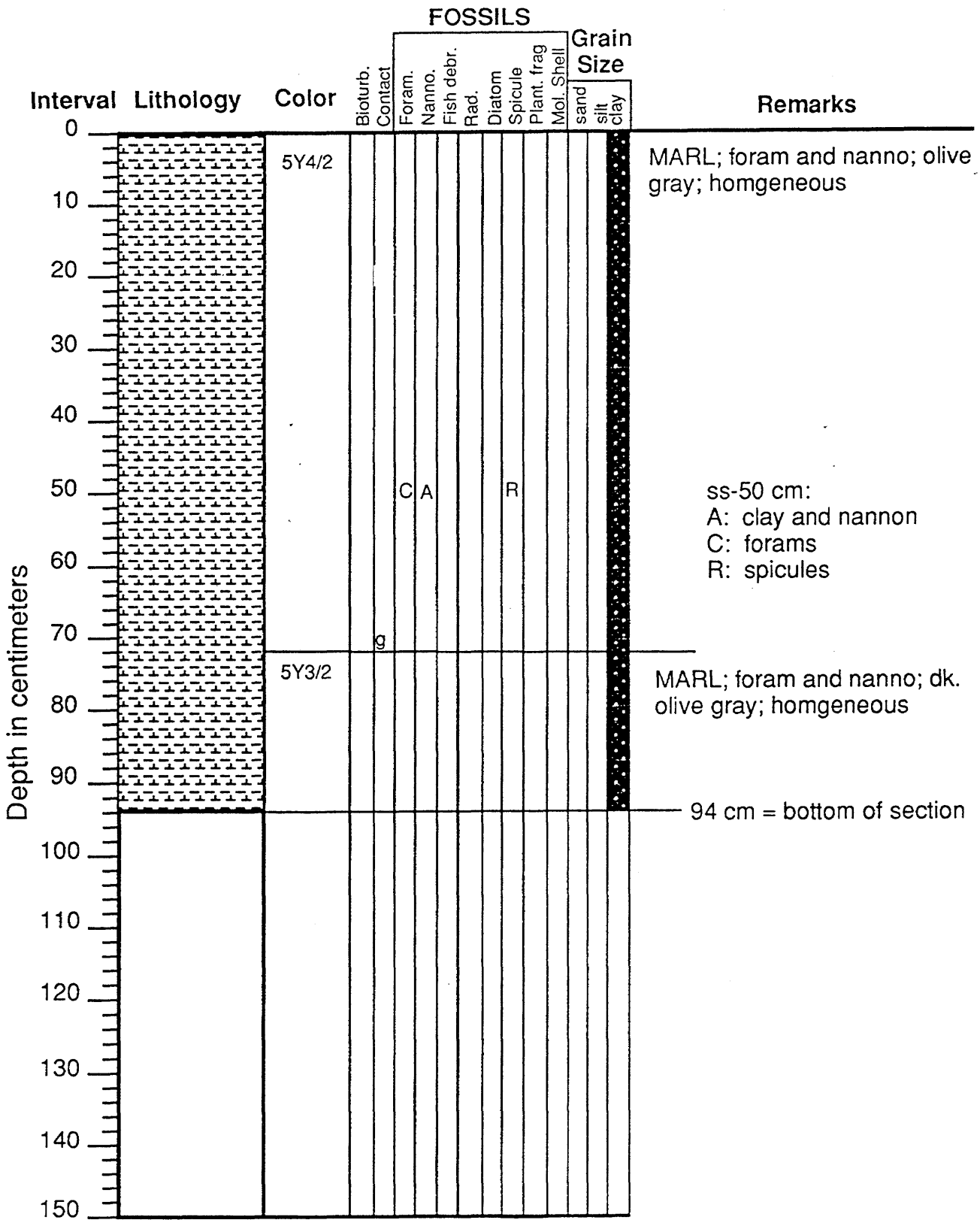


LAT: 32°17.01' N
LON: 118°23.73' W

Depth: 1759 M
Drill Site ID: BA-1

USGS

EW95-04 Core: 05PC Sect.: 5 (0-94 cm)
32 28.55 N, 118 07.49 W, 1818 m



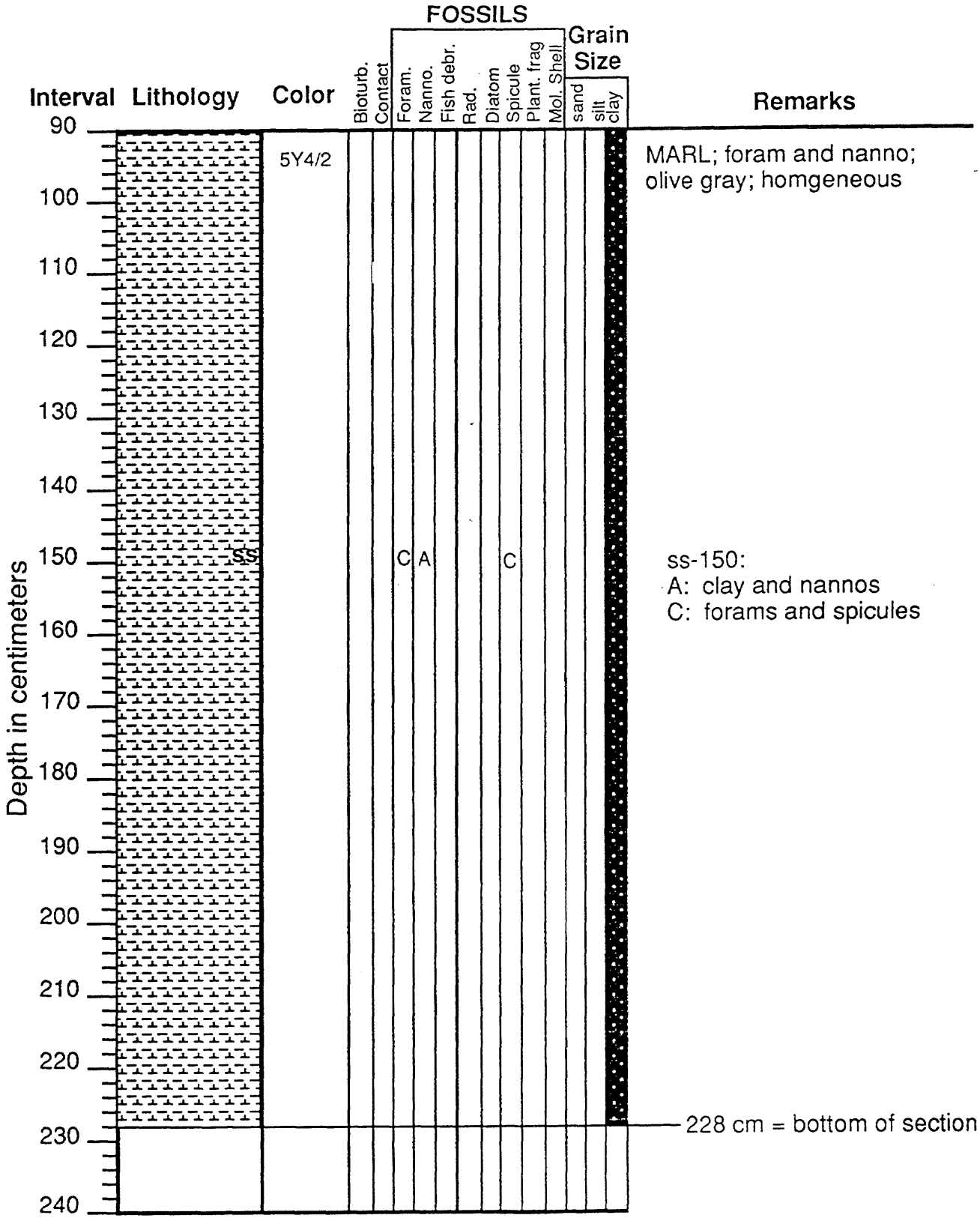
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 05PC Sect.: 4 (94-228 cm)
32 28.55 N, 118 07.49 W, 1818 m



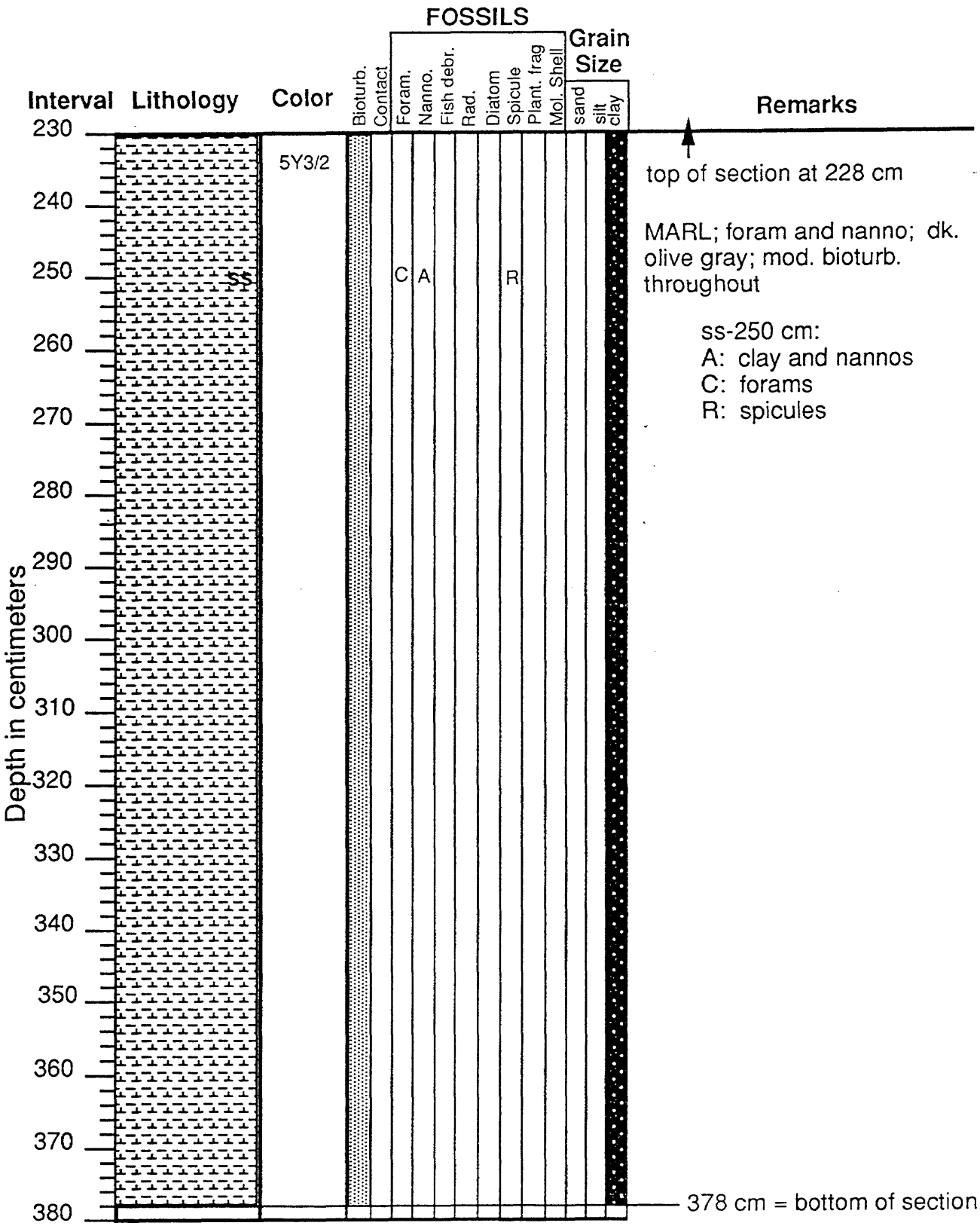
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 05PC Sect.: 3 (228-378 cm)
32 28.55 N, 118 07.49 W, 1818 m



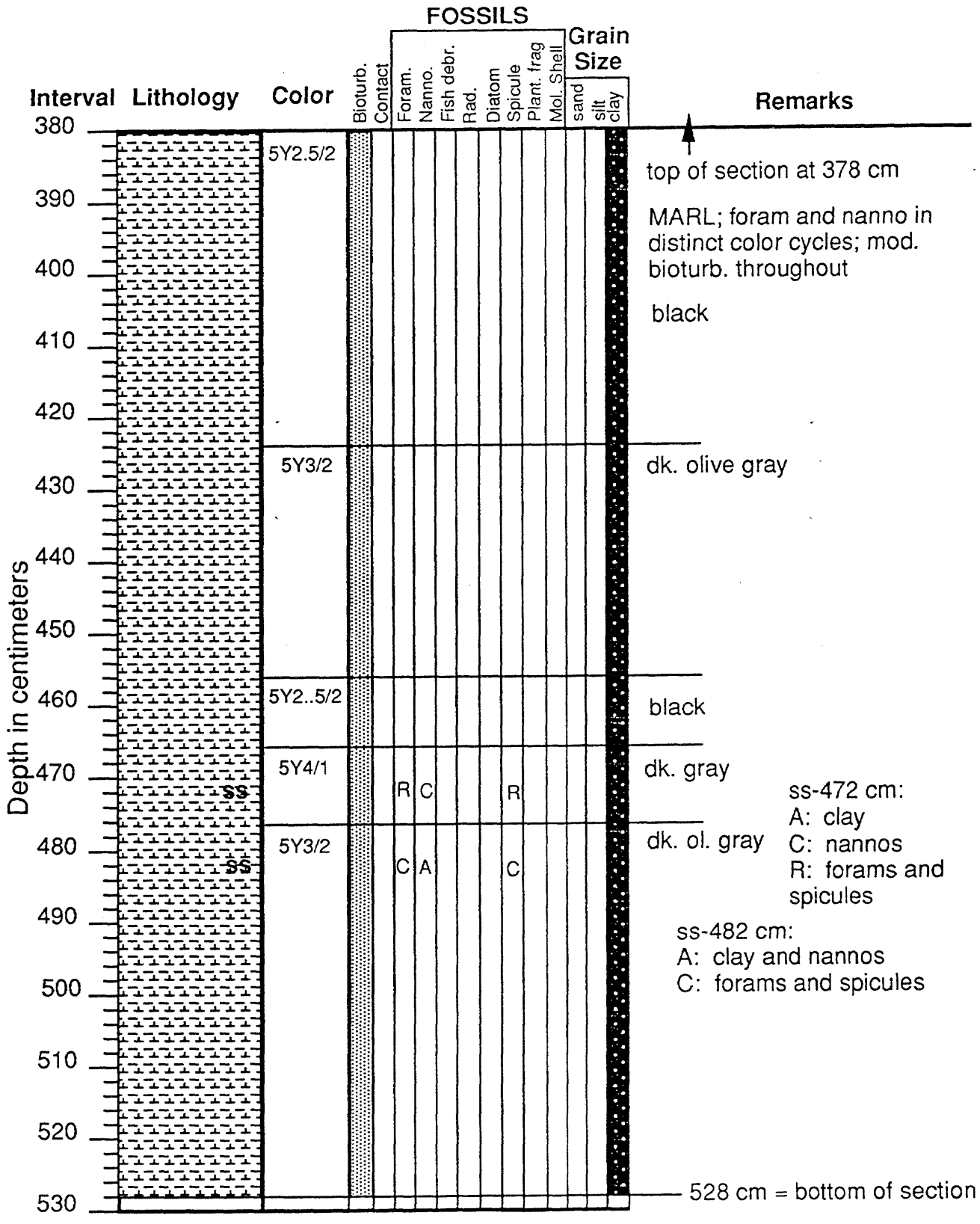
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 05PC Sect.: 2 (378-528 cm)
32 28.55 N, 118 07.49 W, 1818 m



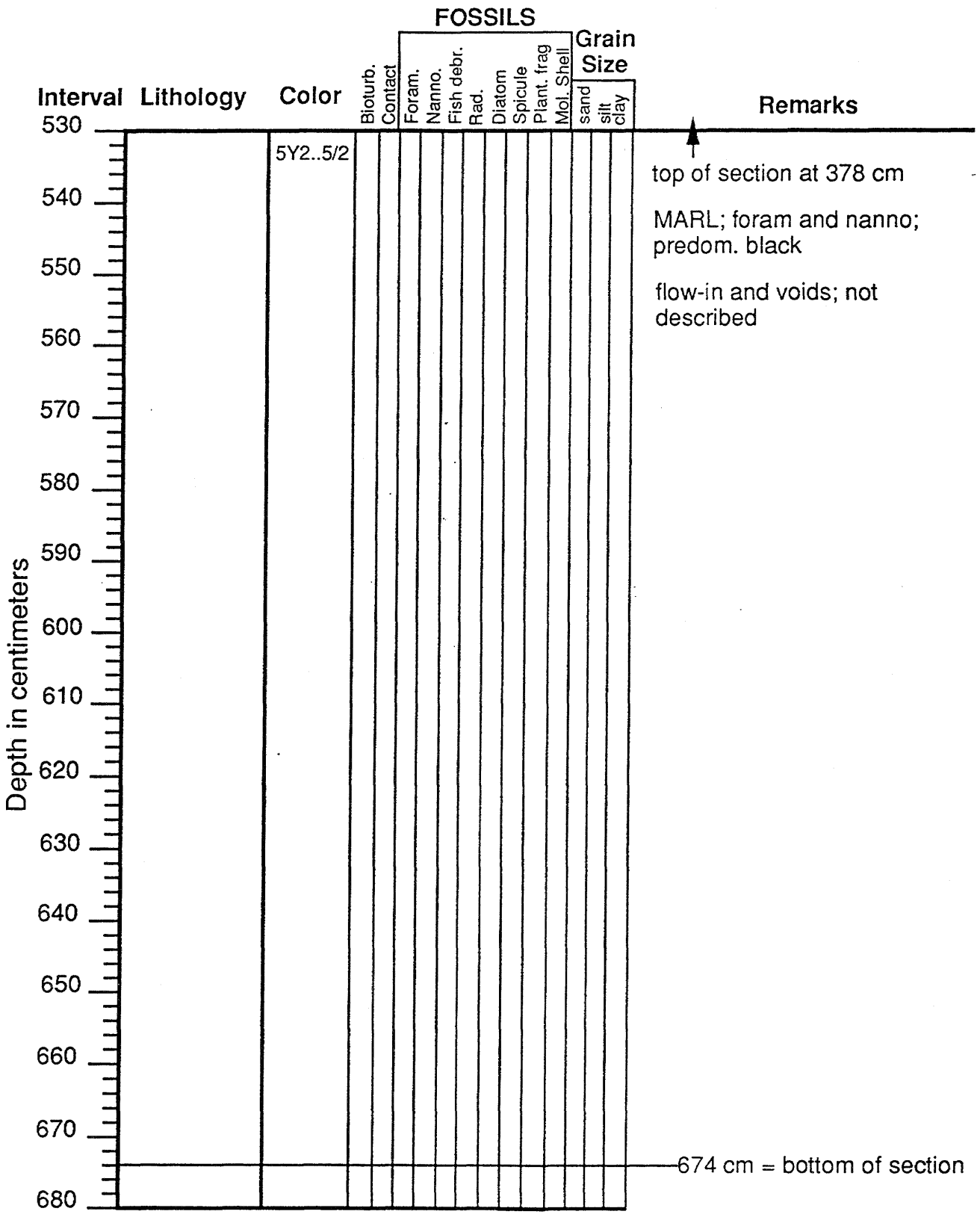
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 05PC Sect.: 1 (528-674 cm)
32 28.55 N, 118 07.49 W, 1818 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

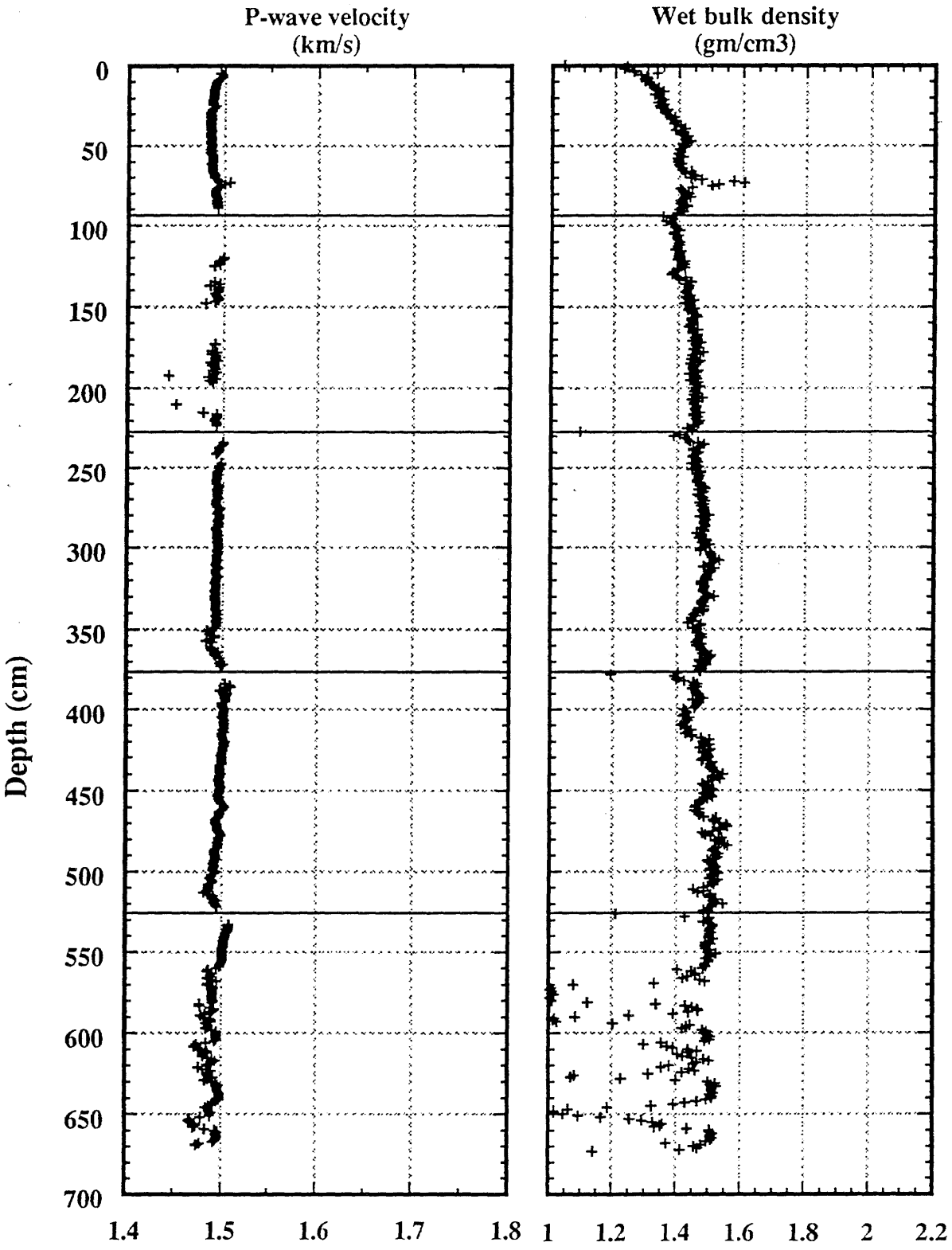
graded bed (turbidite)

ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-05PC
(0-674 cm)

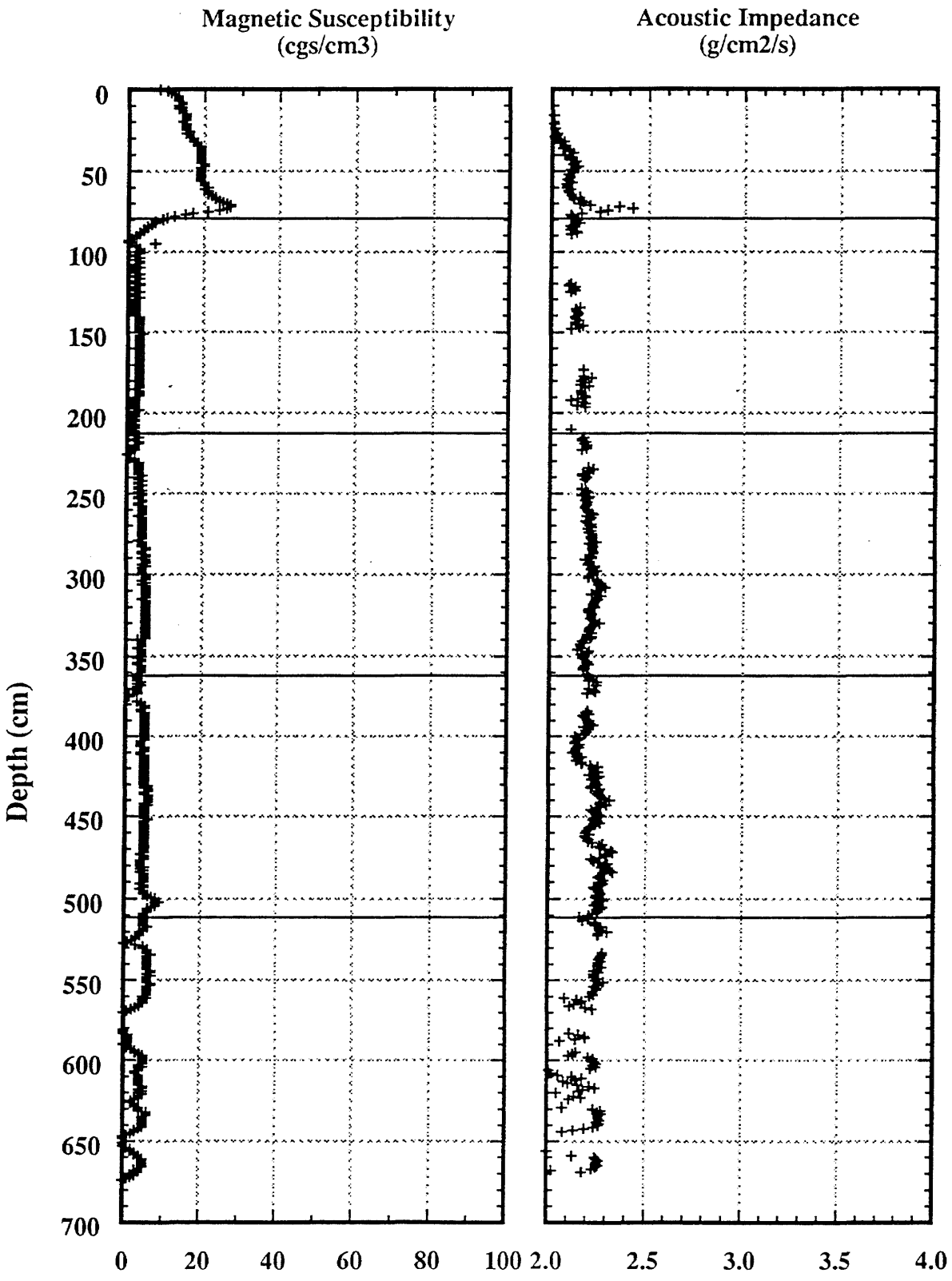


LAT: 32°28.55'N Depth: 1818 m
LON: 118°07.49'W Drill Site ID: CAM-3

USGS

CALIFORNIA MARGIN SITE SURVEY
PHYSICAL-PROPERTY LOG

EW9504-05PC
(0-674 cm)



LAT: 32°28.55'N Depth: 1818 m
LON: 118°07.49'W Drill Site ID: CAM-3

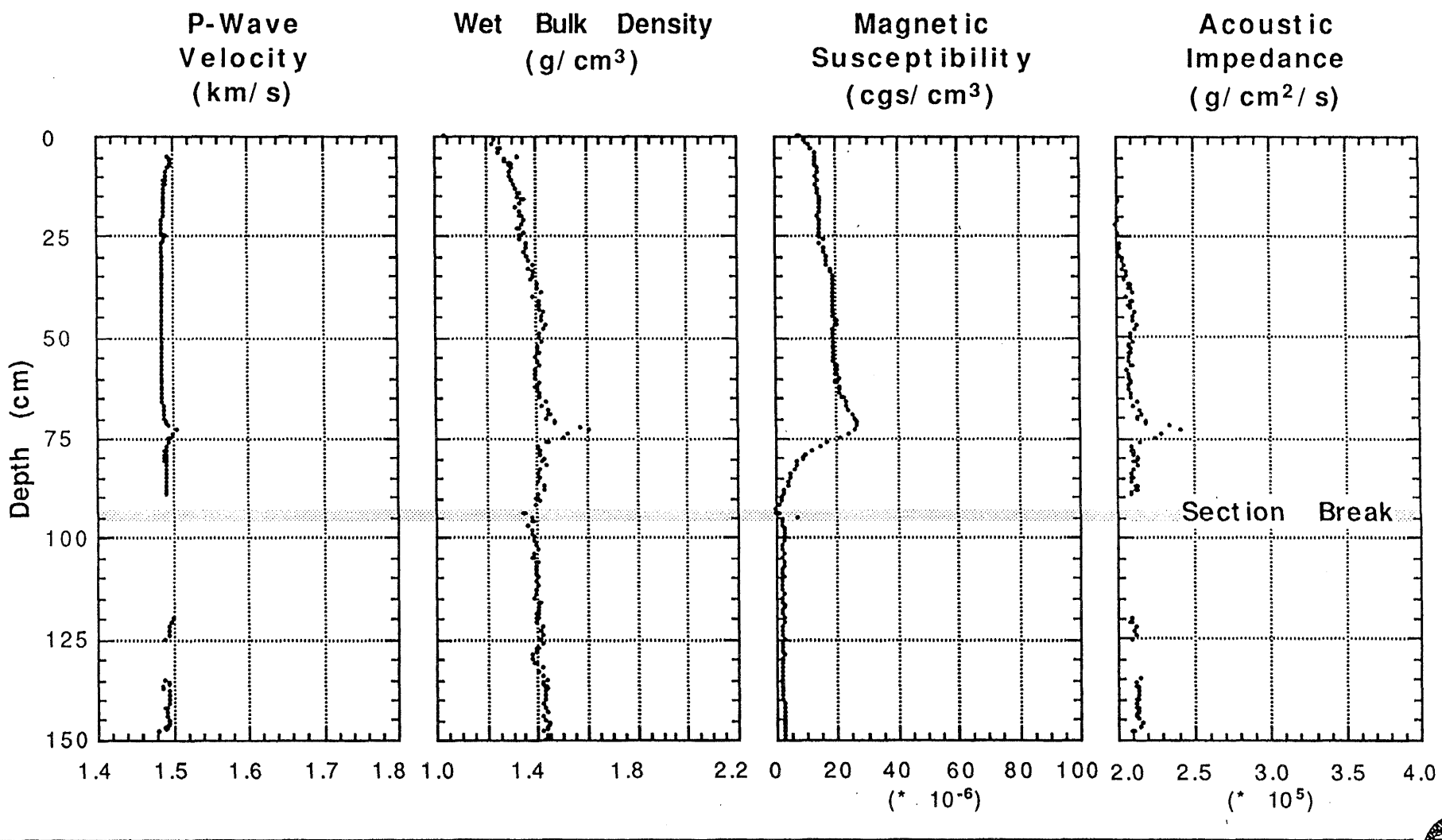
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 05PC

PHYSICAL PROPERTY LOGS

(0- 150 cm)



LAT: 32°28.55' N
LON: 118°07.49' W

Depth: 1818 M
Drill Site ID: CAM-3

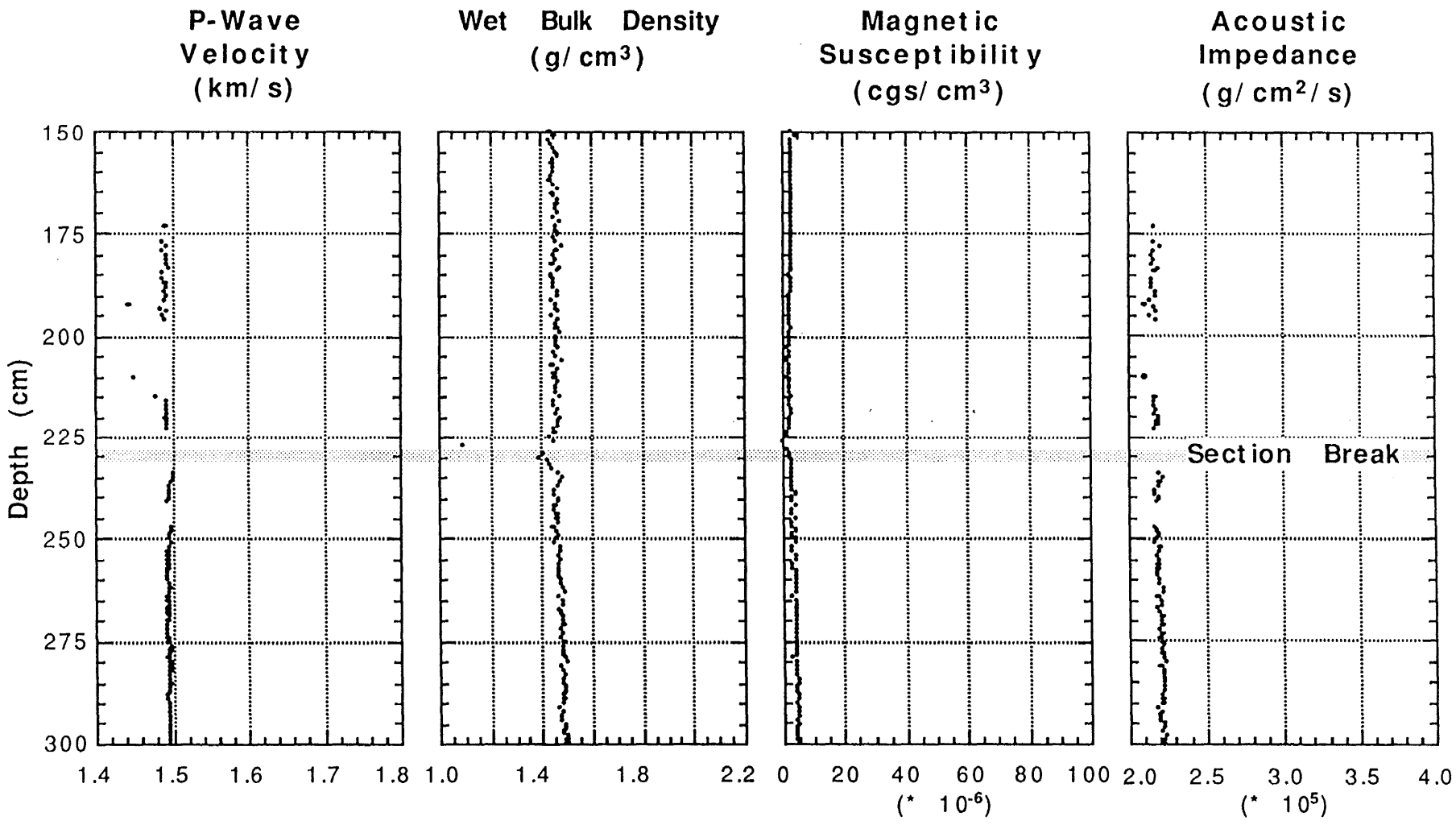
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 05PC

(150-300 cm)



LAT: 32°28.55' N
LON: 118°07.49' W

Depth: 1818 M
Drill Site ID: CAM-1

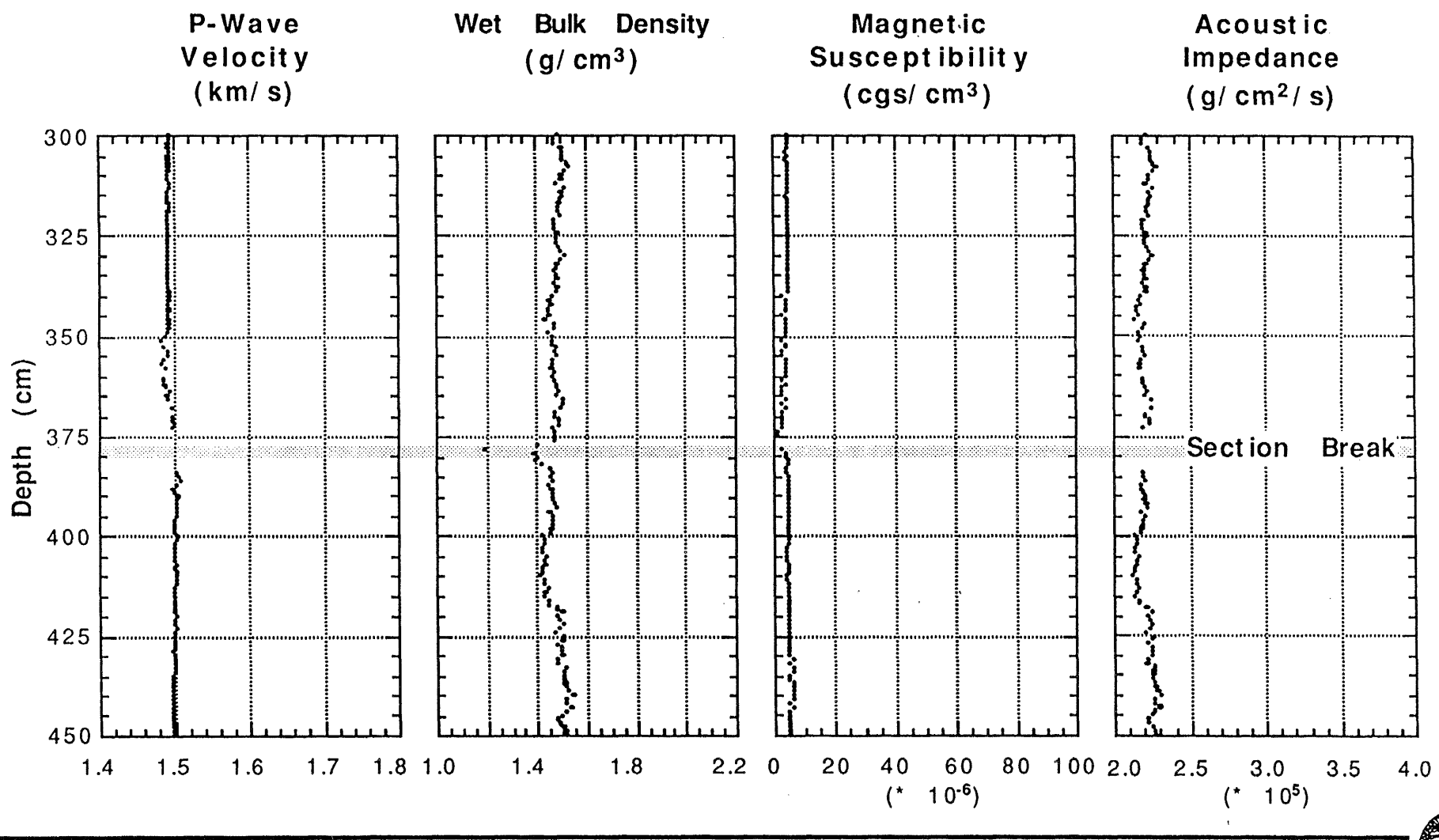
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 05PC

PHYSICAL PROPERTY LOGS

(300-450 cm)



LAT: 32°28.55' N
LON: 118°07.49' W

Depth: 1818 M
Drill Site ID: CAM-1

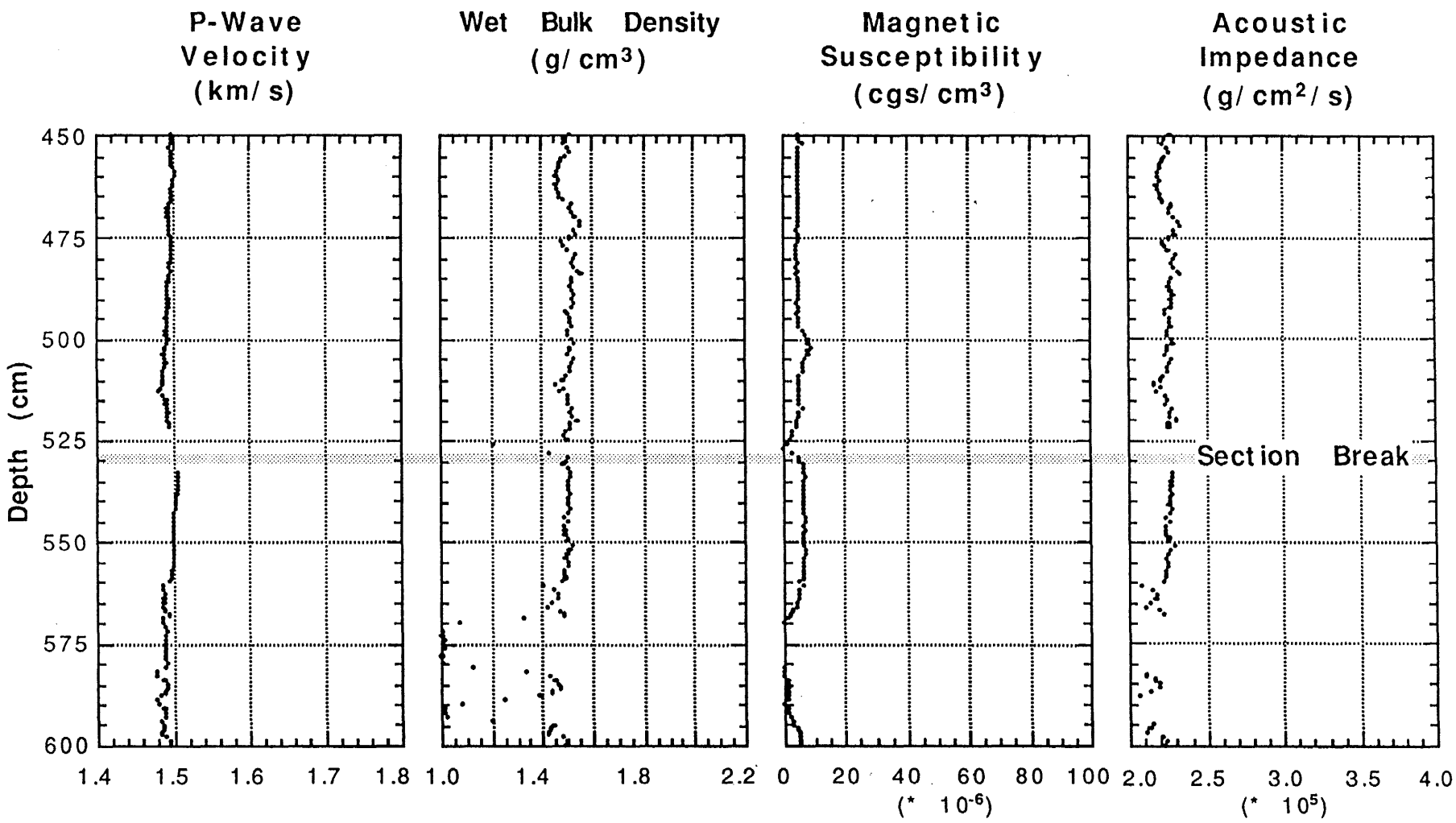
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 05PC

(450-600 cm)



LAT: 32°28.55' N
LON: 118°07.49' W

Depth: 1818 M
Drill Site ID: CAM-3

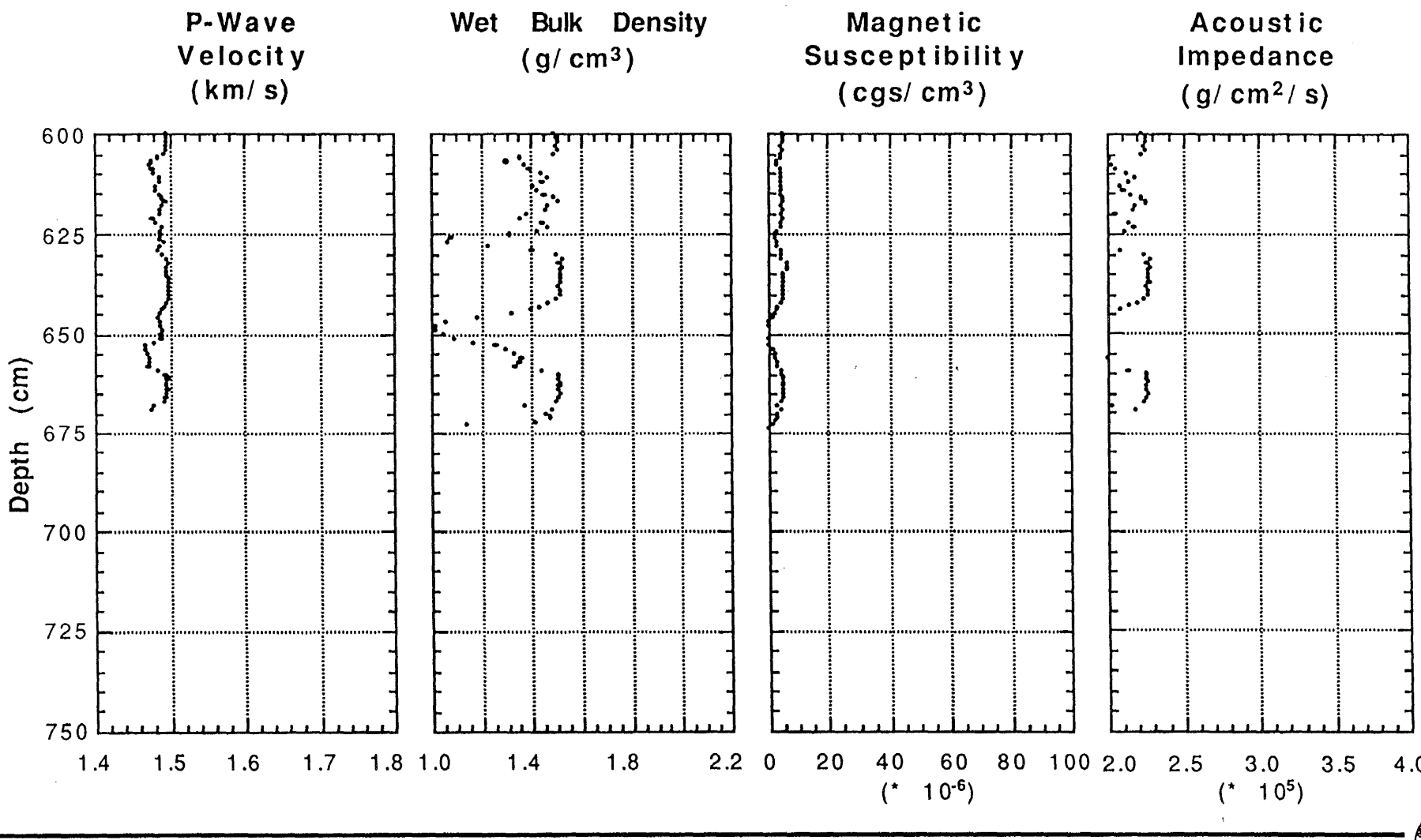
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 05PC

(600-674 cm)

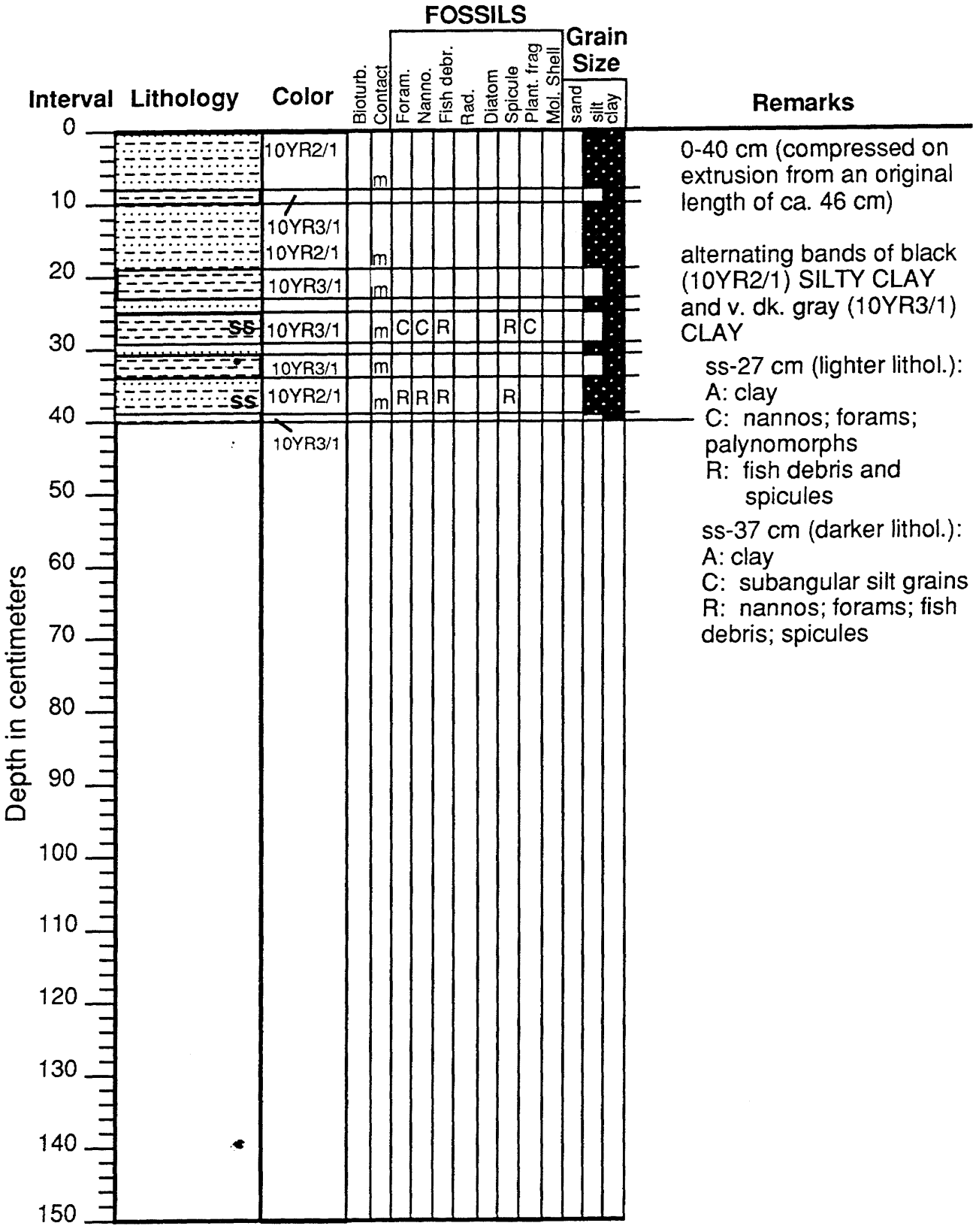


LAT: 32°28.55' N
LON: 118°07.49' W

Depth: 1818 M
Drill Site ID: CAM-3

USGS

EW95-04 Core: 06MC-7 (0-40 cm)
33 37.87N, 118 46.59 W, 879 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

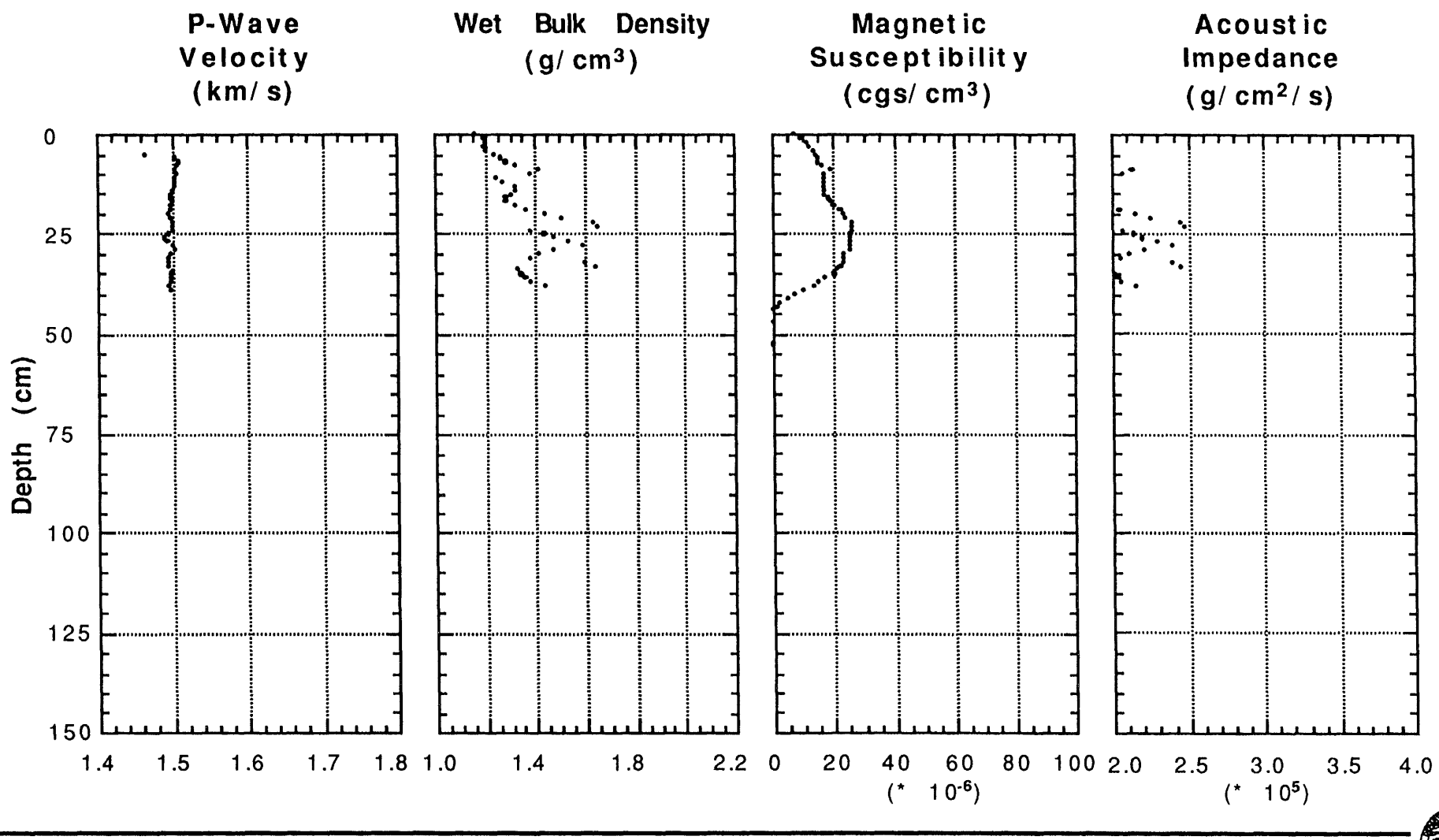
ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 06MC

(0-51 cm)

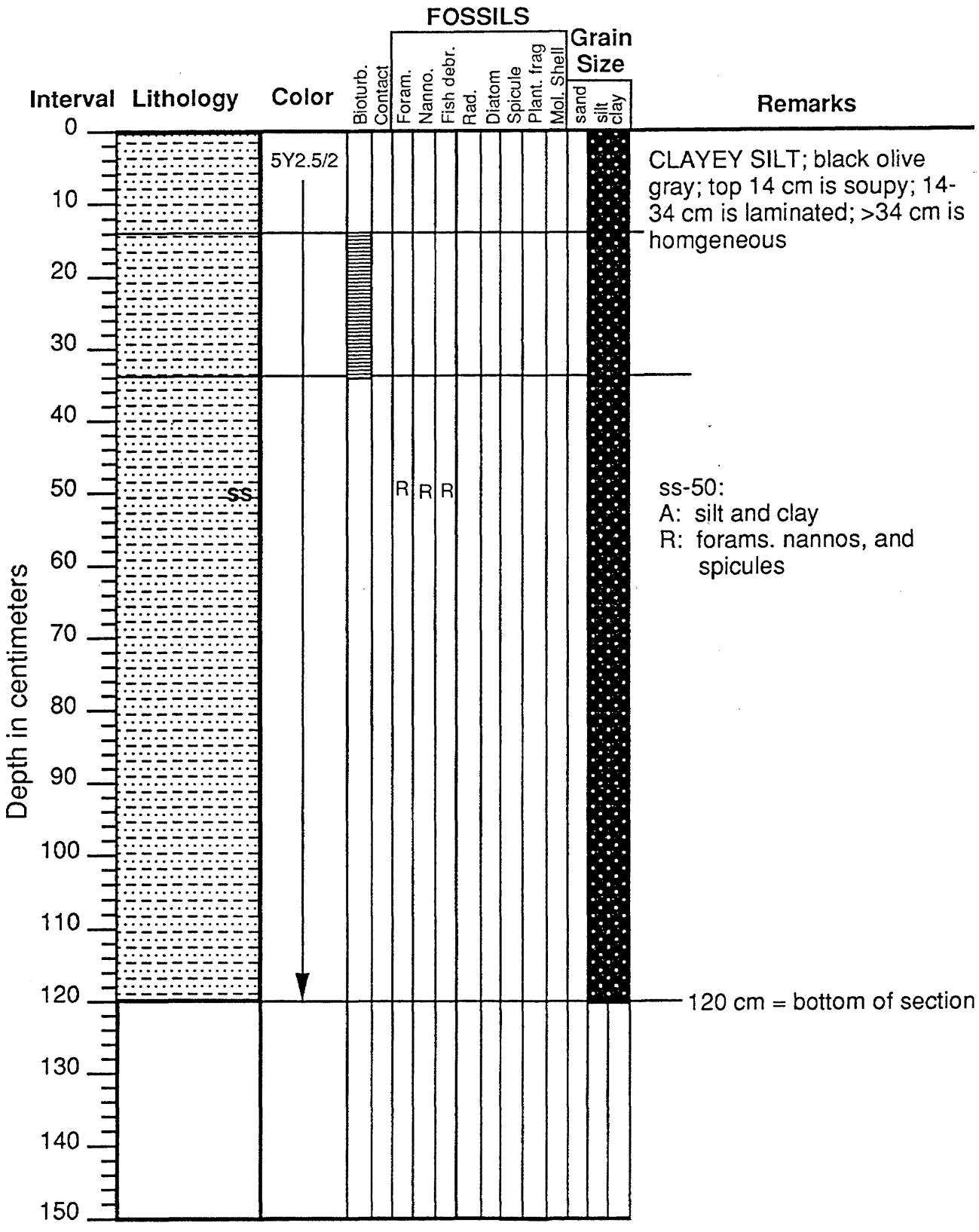


LAT: 33°37.88' N
LON: 118°46.60' W

Depth: 855 M
Drill Site ID: BA-4 Santa Monica Basin

USGS

EW95-04 Core: 07PC Sect.: 4 (0-120 cm)
33 37.98N, 118 48.15 W, 878 m



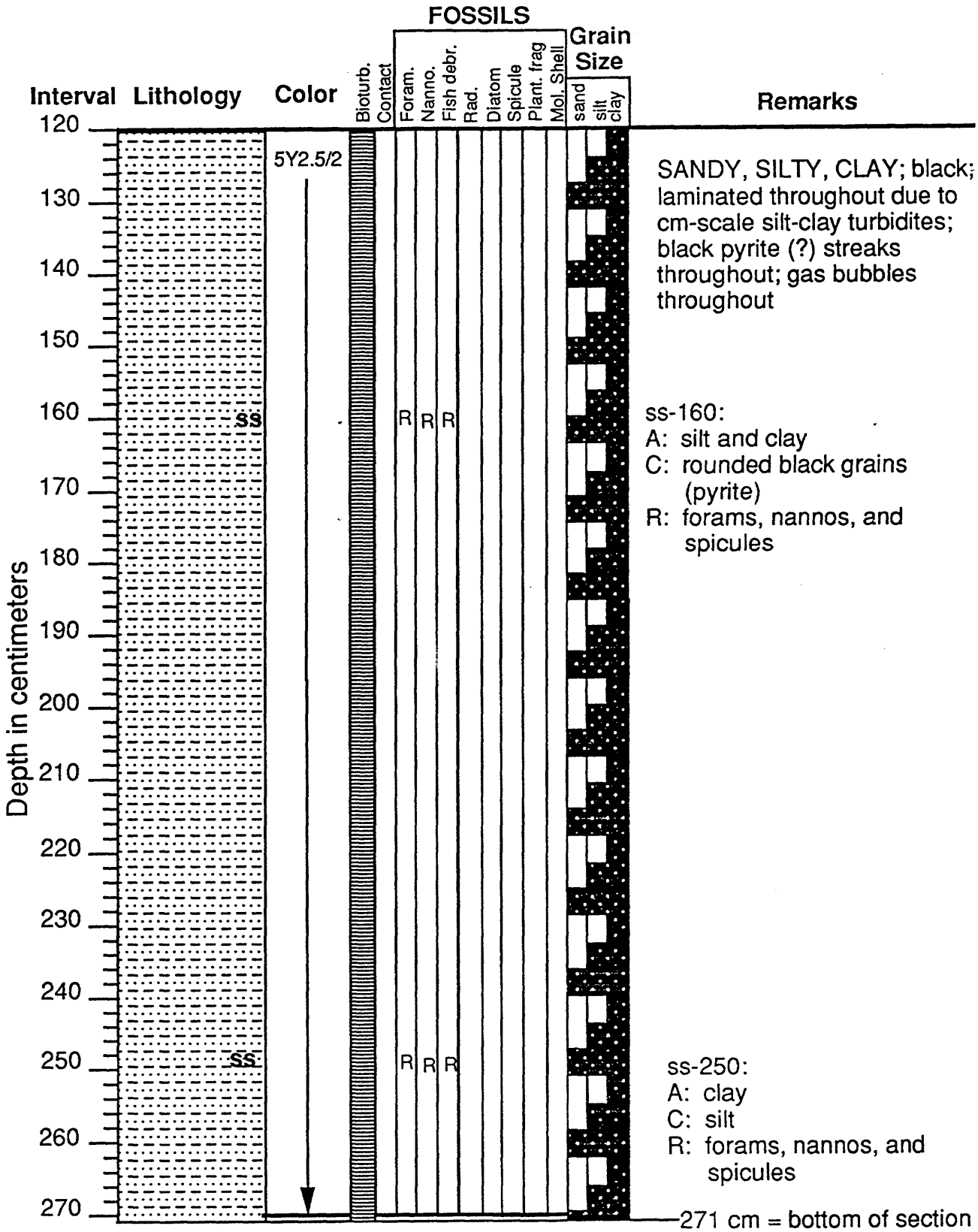
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

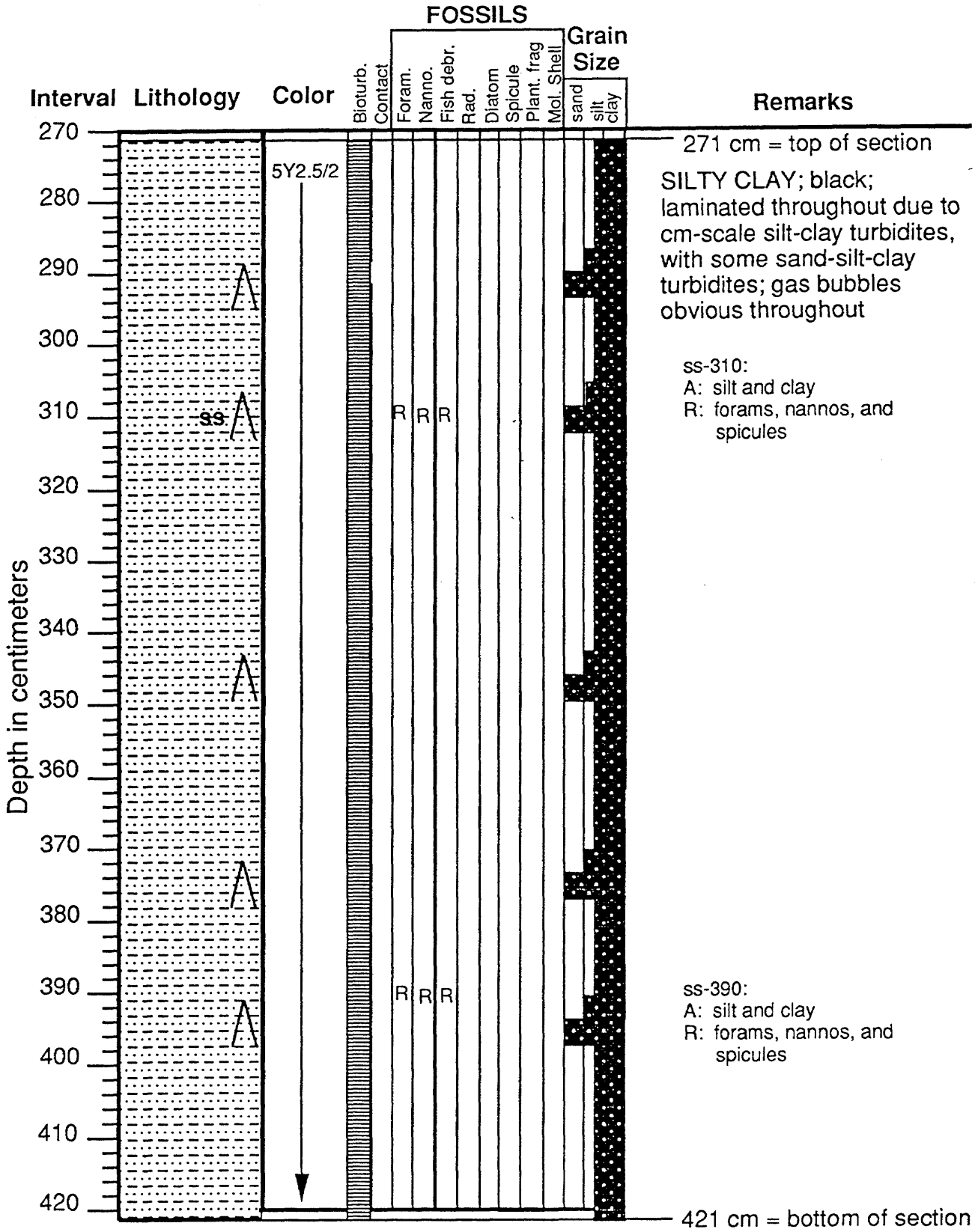
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 07PC Sect.: 3 (120-271 cm)
33 37.98N, 118 48.15 W, 878 m



EW95-04 Core: 07PC Sect.: 2 (271-421 cm)
33 37.98N, 118 48.15 W, 878 m



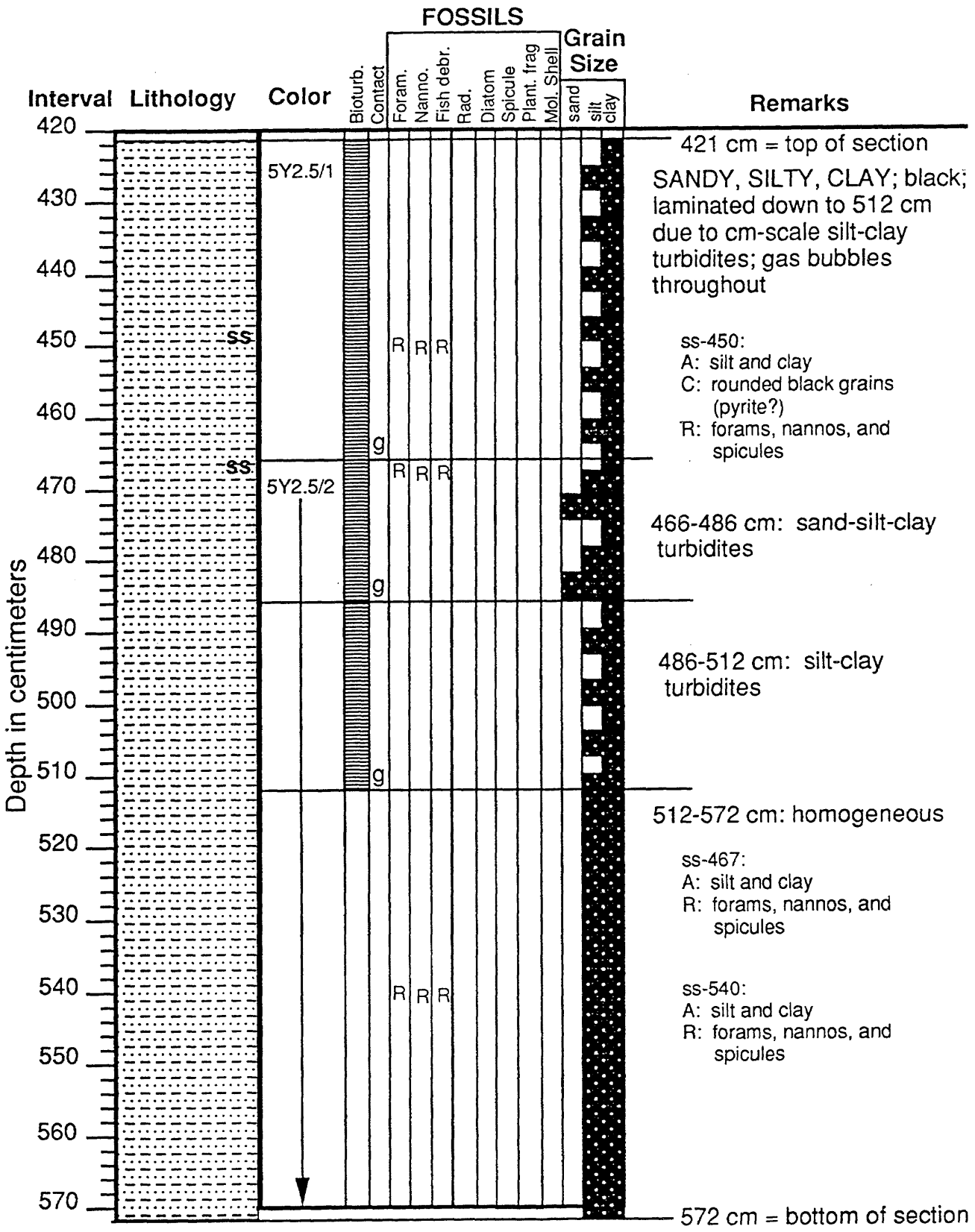
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 07PC Sect.: 1 (421-572 cm)
33 37.98N, 118 48.15 W, 878 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

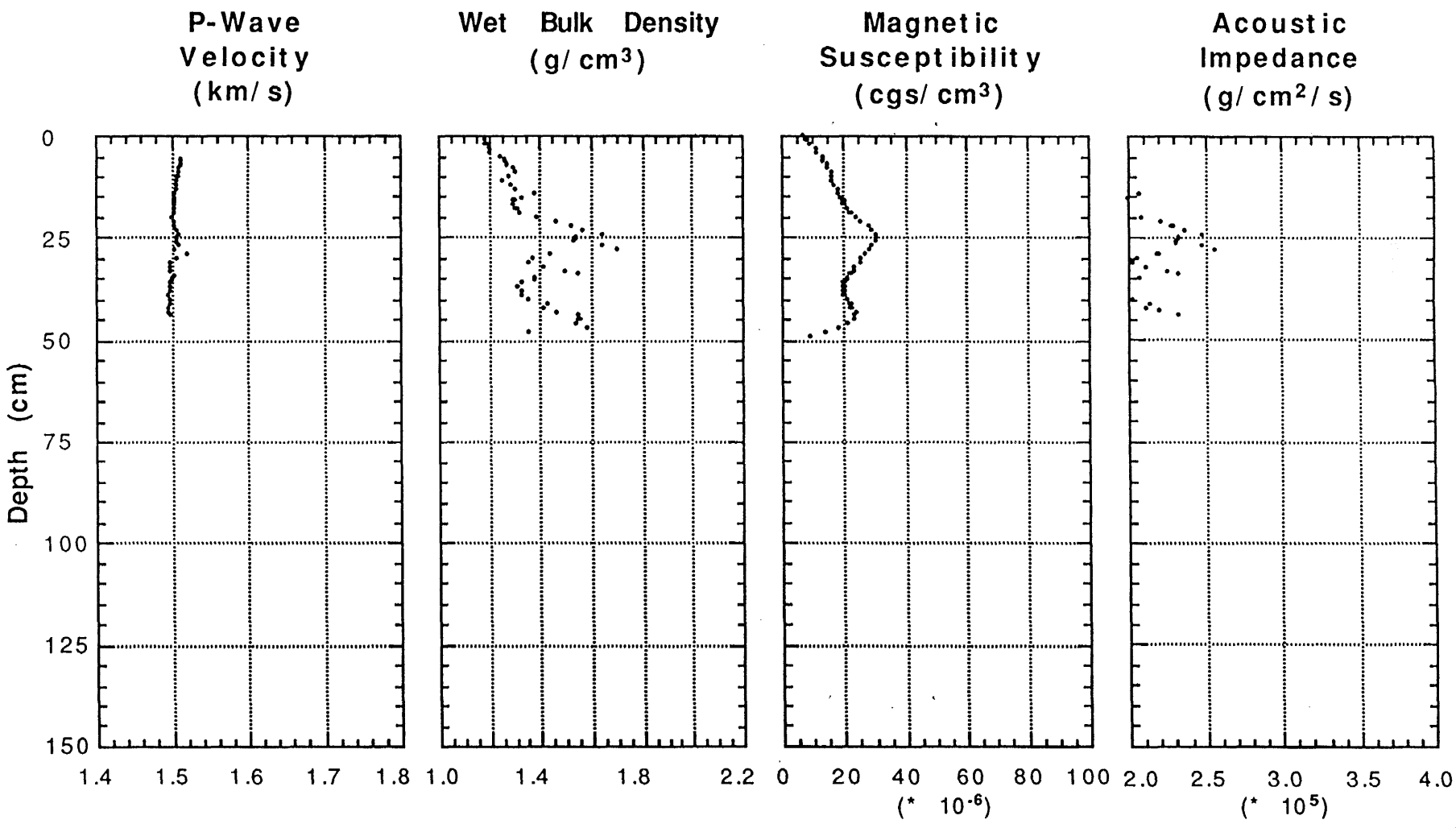
ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 07TC

(0- 49 cm)



LAT: 33°37.98' N
LON: 118°48.15' W

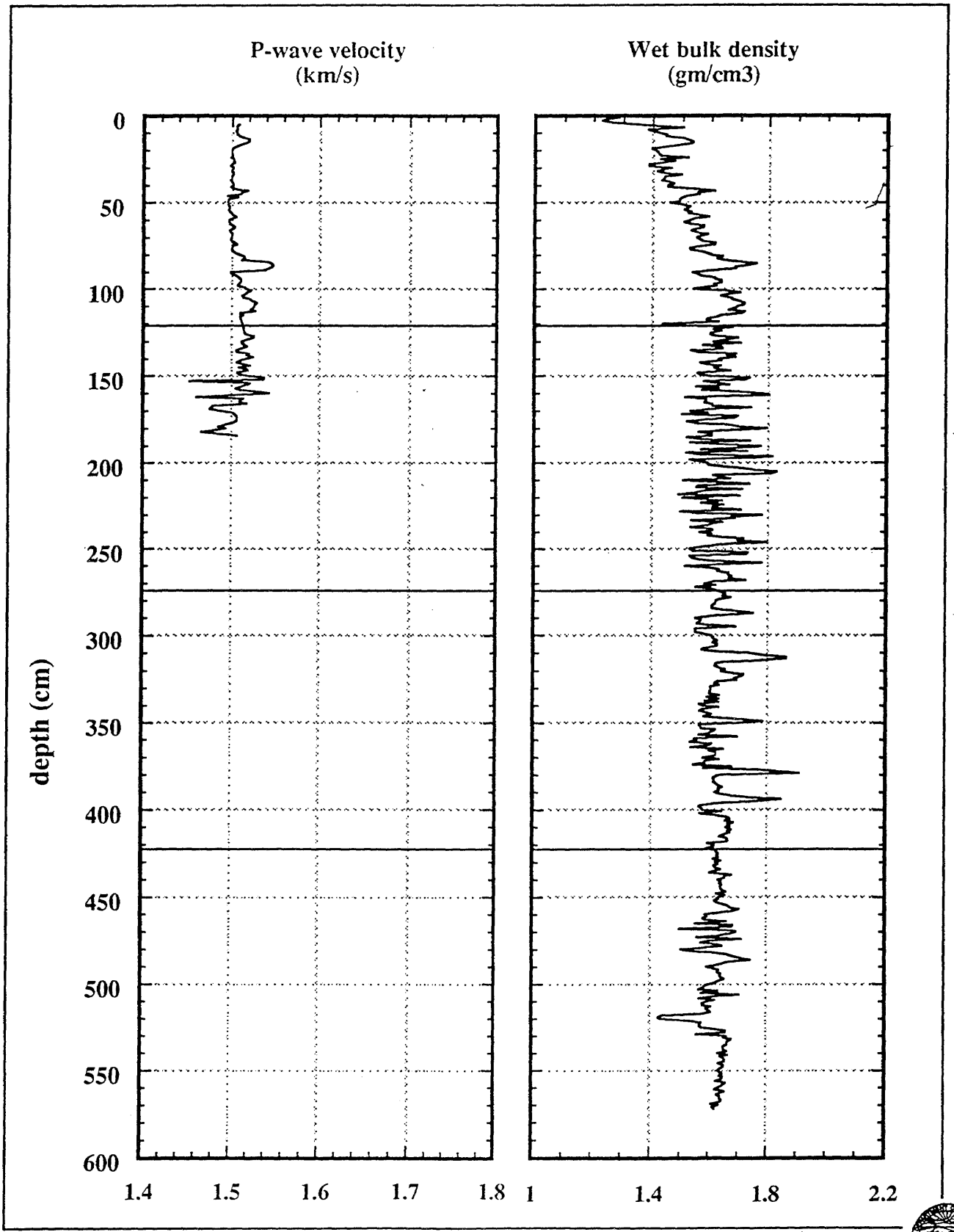
Depth: 878 M
Drill Site ID: BA-4 Santa Monica Basin

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-07PC
(0-572 cm)



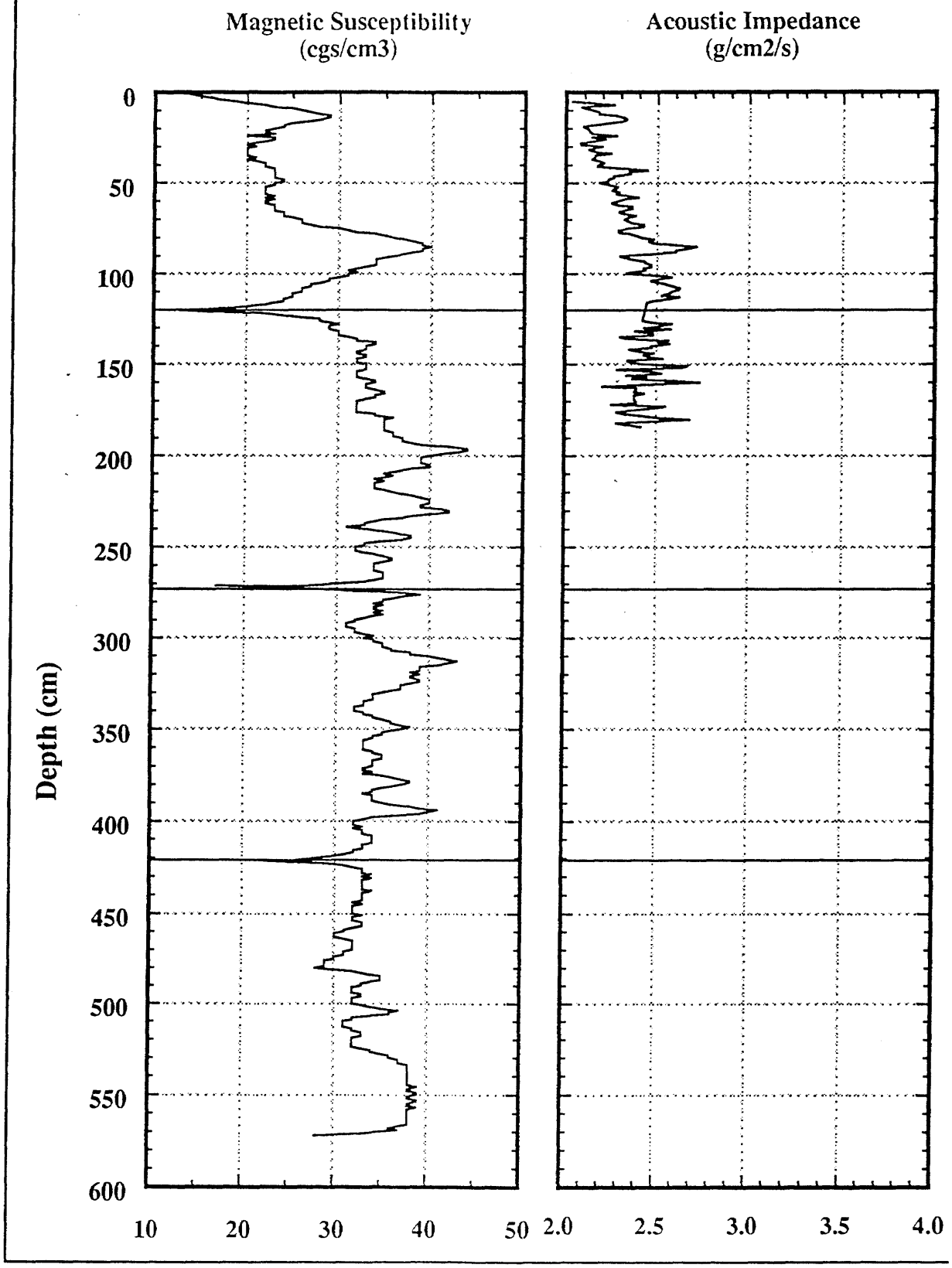
LAT: 33°37.98'N Depth:878 m
LON: 118°48.15'W Drill Site ID: BA4

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-07PC
(0-572 cm)



LAT: 33°37.98'N Depth:878 m
LON: 118°48.15'W Drill Site ID: BA4

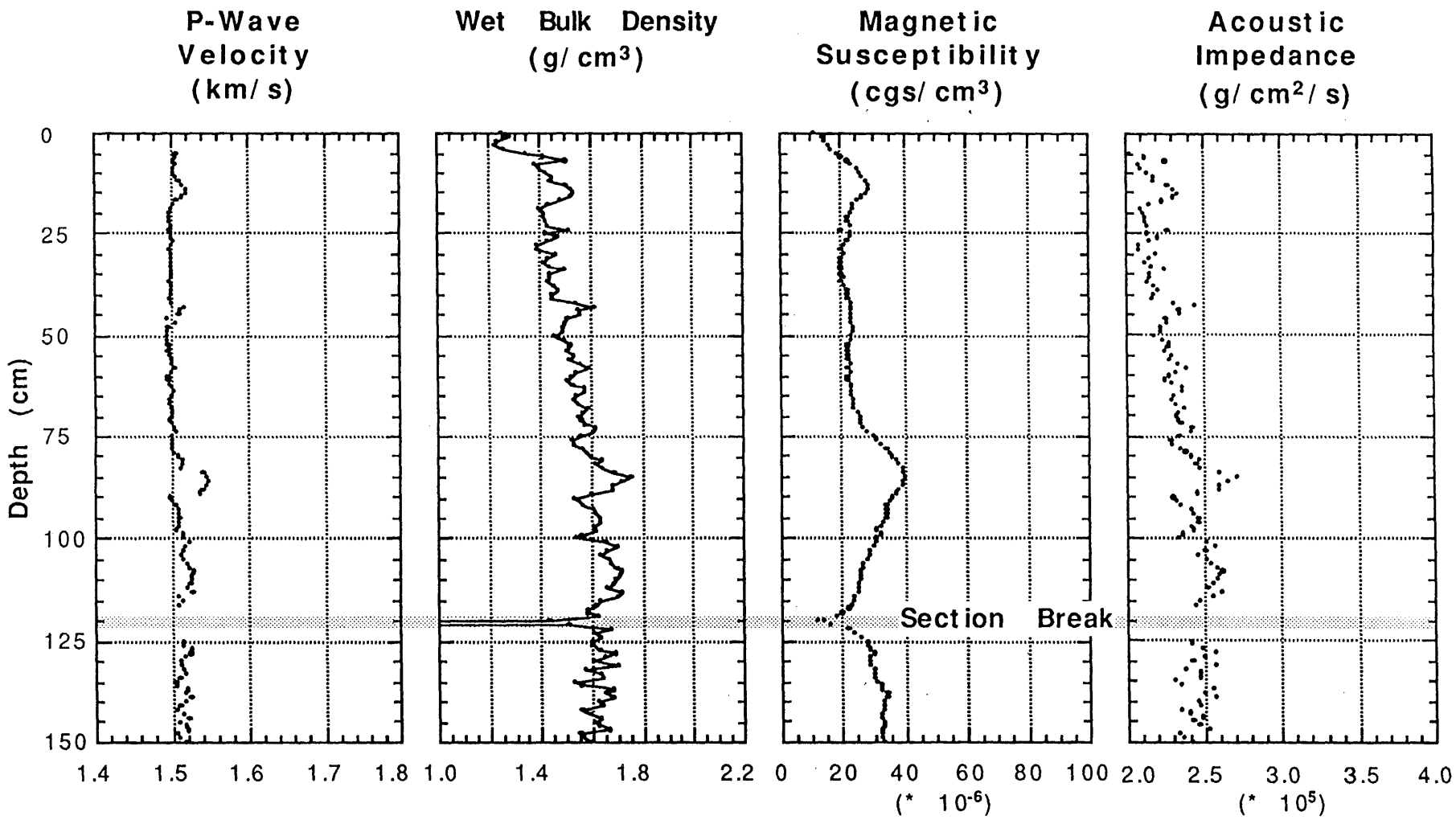
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 07PC

(0-150 cm)



LAT: 33°37.98' N
LON: 118°48.15' W

Depth: 878 M
Drill Site ID: BA4

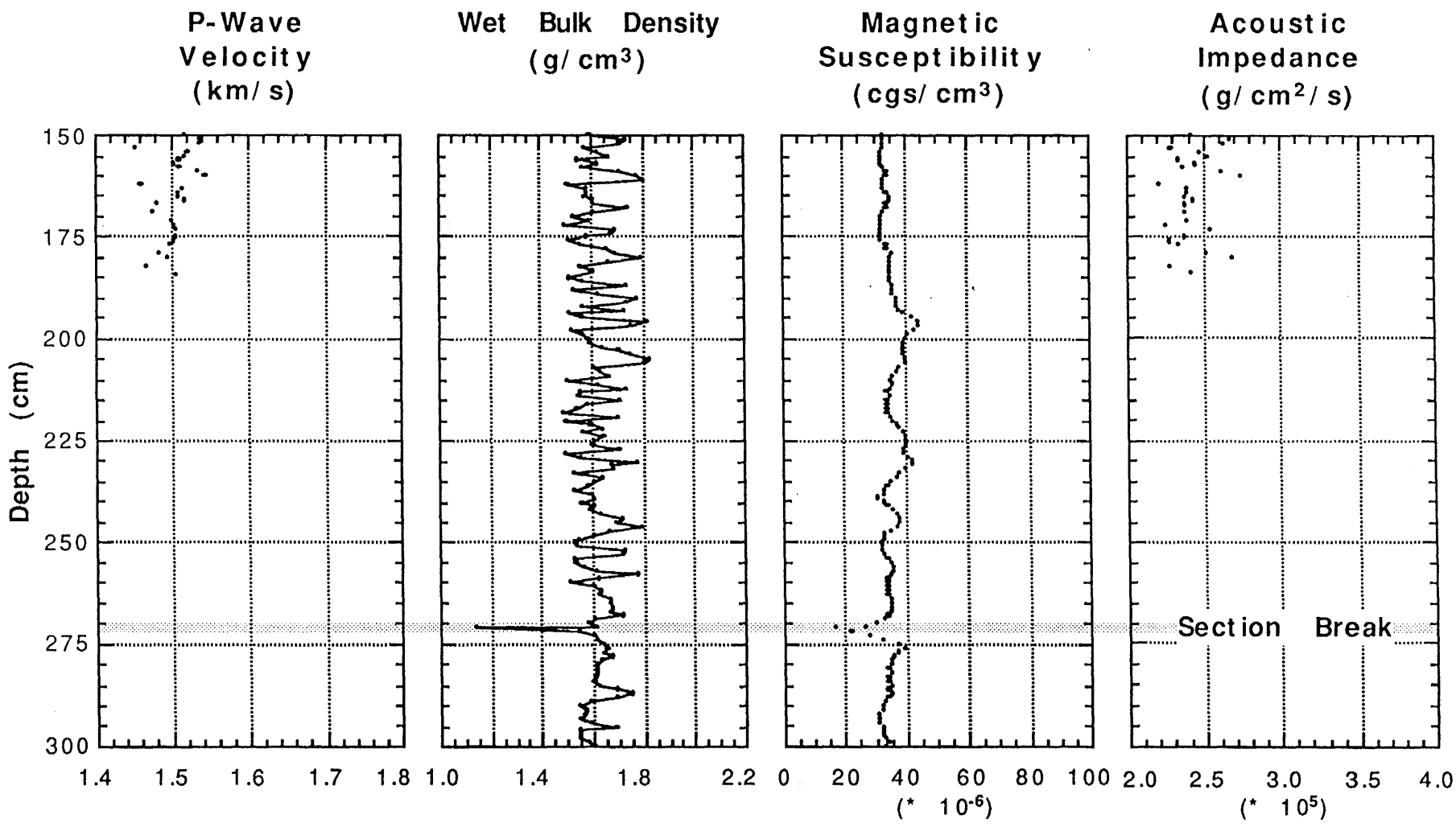
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 07PC

(150-300 cm)



LAT: 33°37.98' N
LON: 118°48.15' W

Depth: 878 M
Drill Site ID: BA4

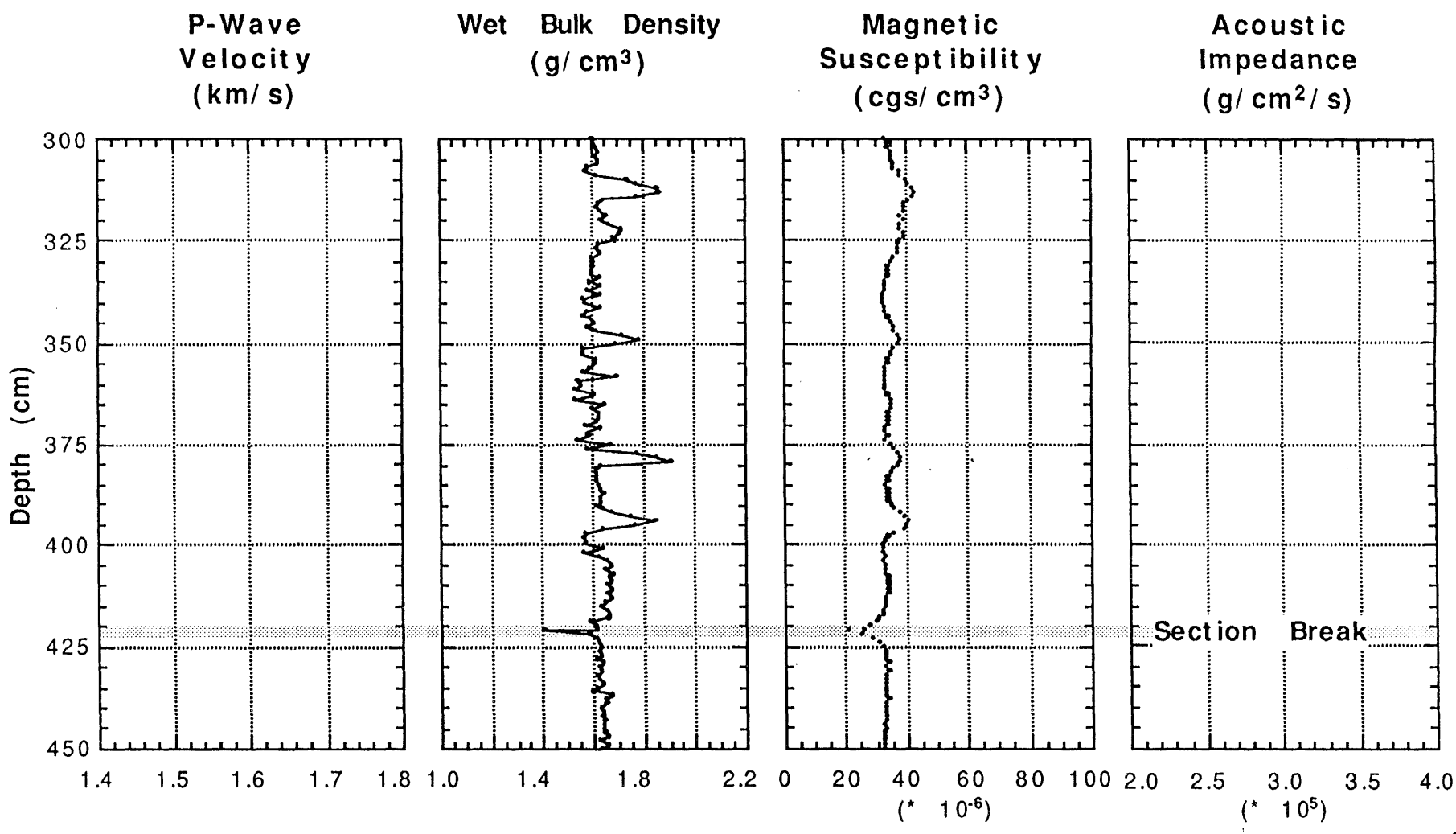
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 07PC

PHYSICAL PROPERTY LOGS

(300-450 cm)



LAT: 33°37.98' N
LON: 118°48.15' W

Depth: 878 M
Drill Site ID: BA4

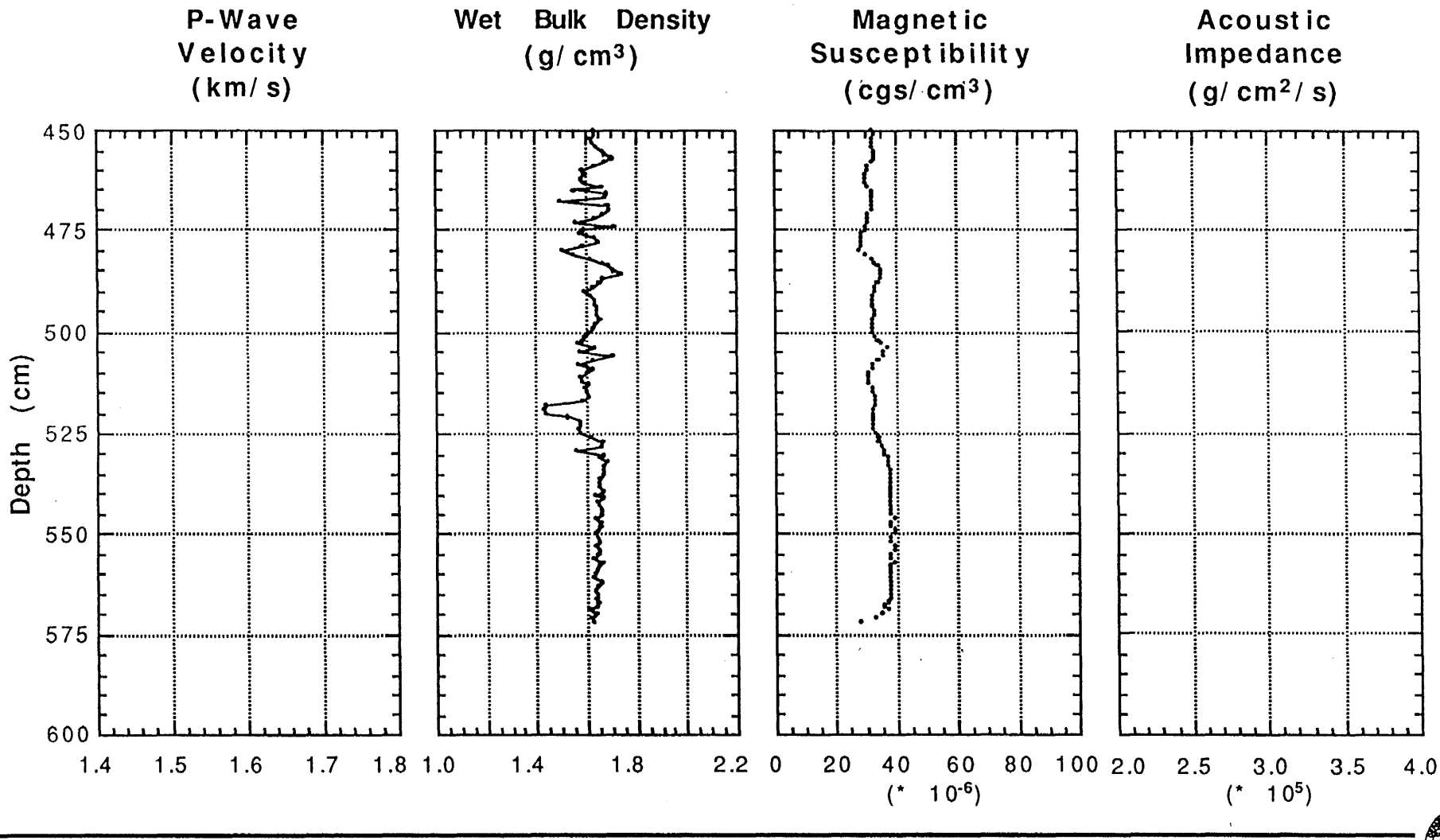
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 07PC

(450-572 cm)

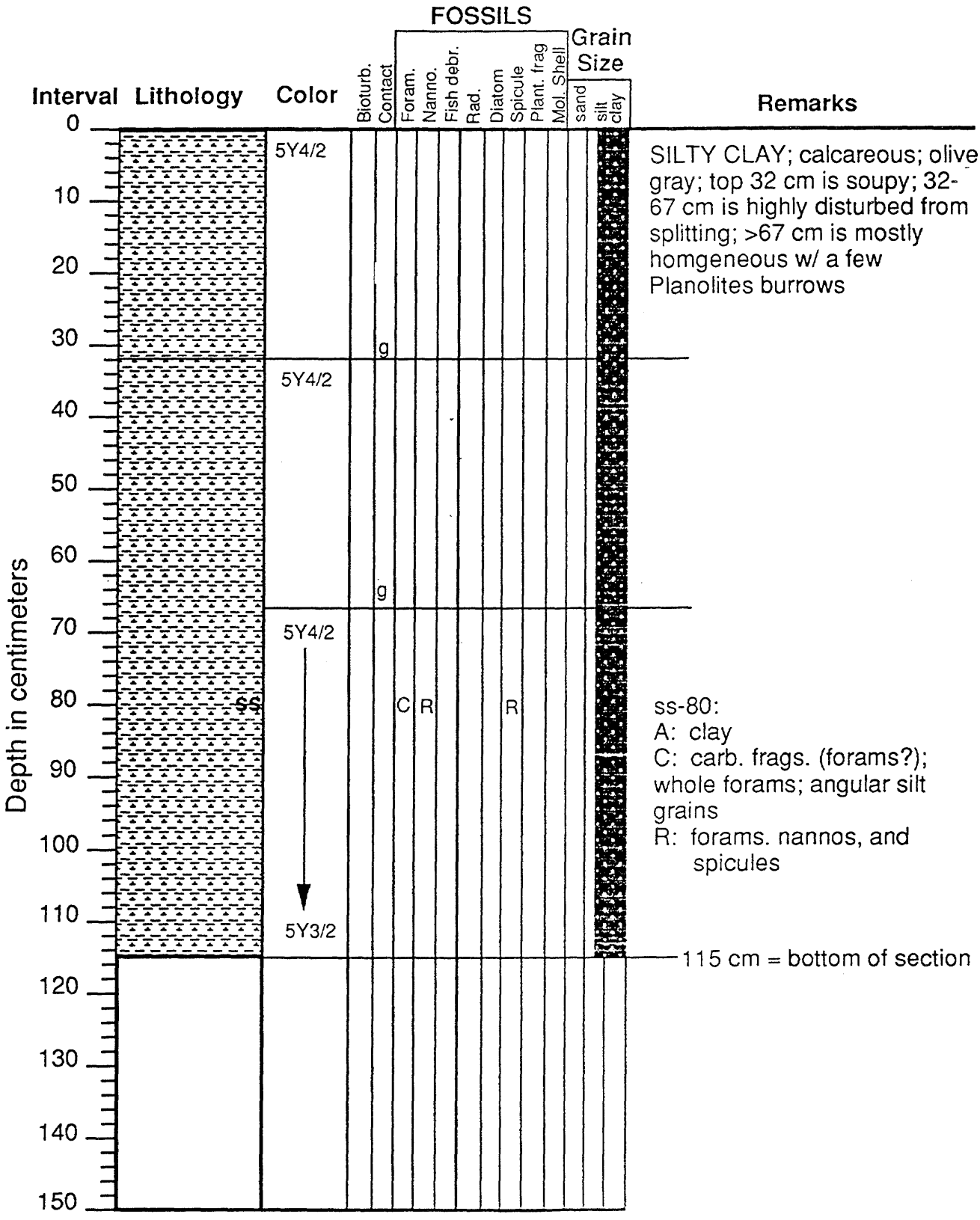


LAT: 33°37.98' N
LON: 118°48.15' W

Depth: 878 M
Drill Site ID: BA4

USGS

EW95-04 Core: 08PC Sect.: 5 (0-115 cm)
33 48.05N, 118 48.00 W, 1428 m



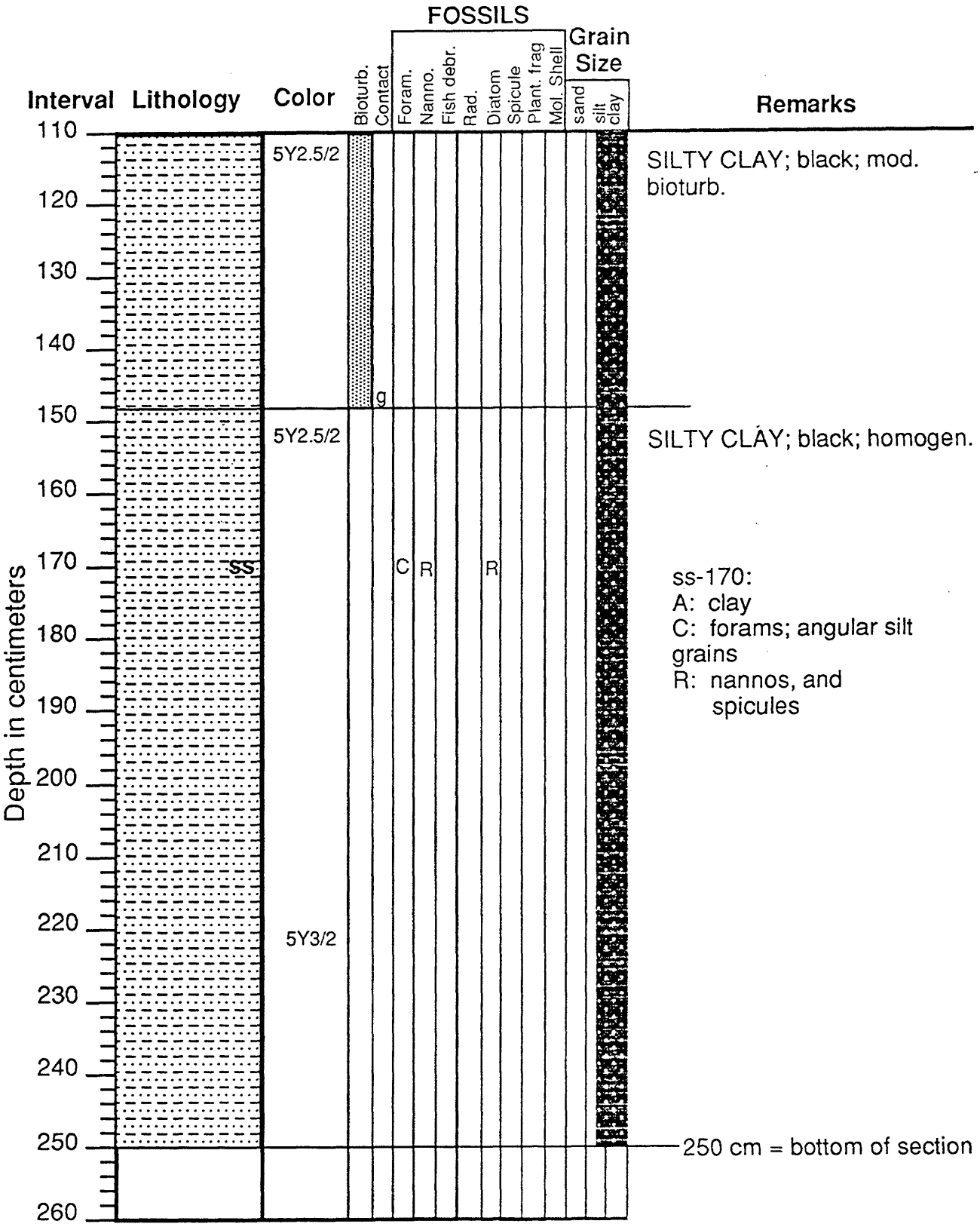
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 08PC Sect.: 4 (115-250 cm)
32 48.05N, 118 48.00 W, 1428 m



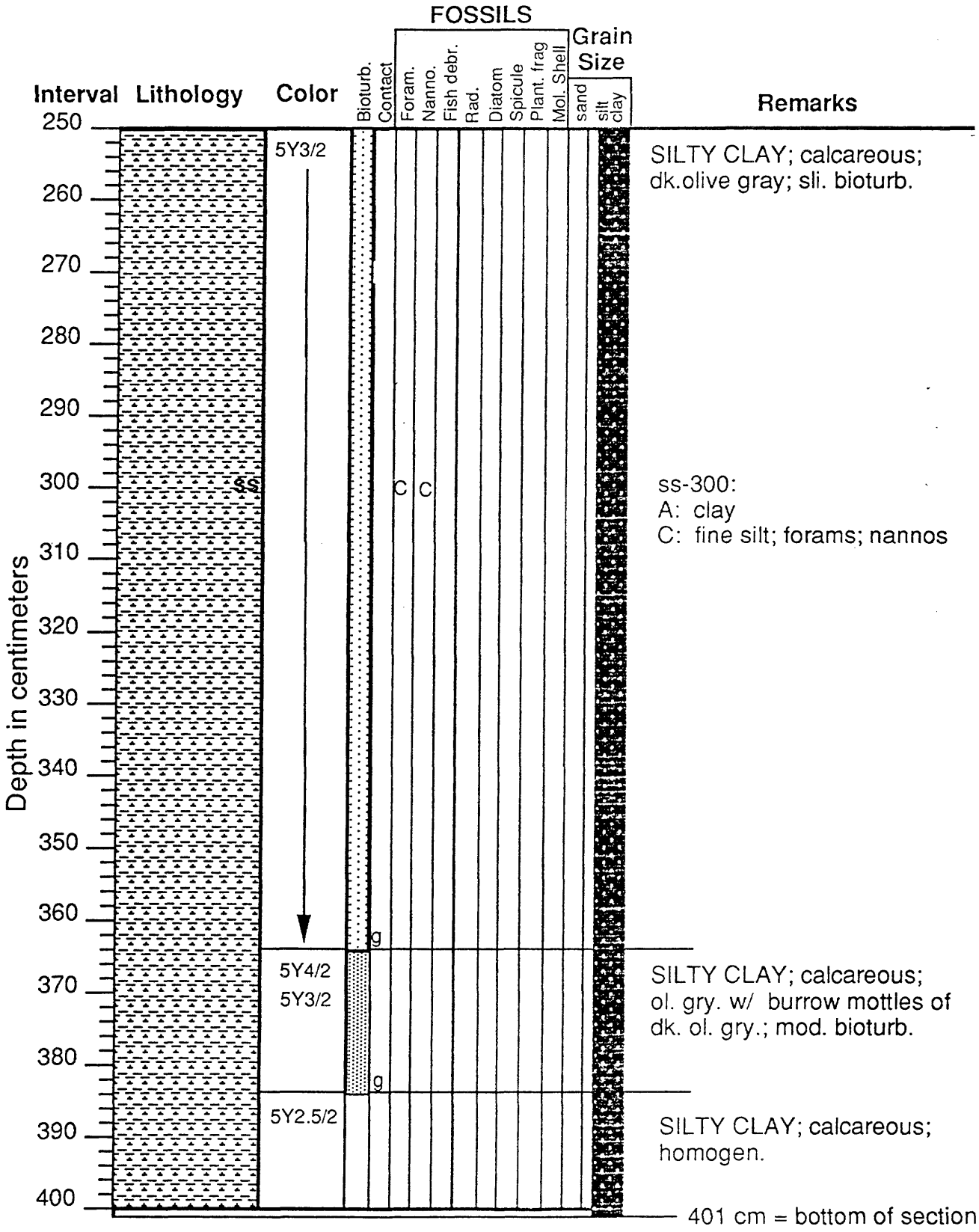
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

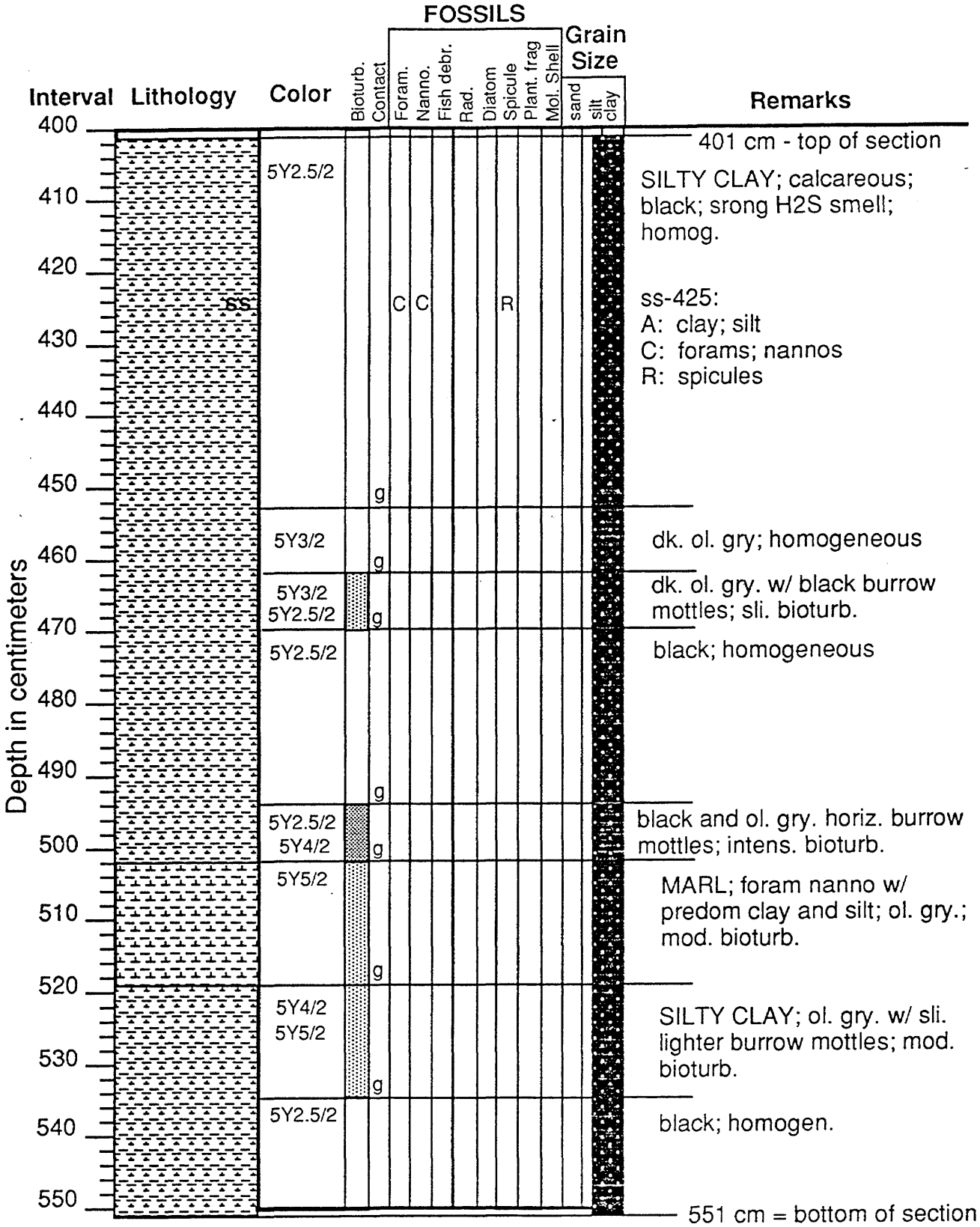
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 08PC Sect.: 3 (250-401 cm)
33 48.05N, 118 48.00 W, 1428 m



EW95-04 Core: 08PC Sect.: 2 (401-551 cm)
33 48.05N, 118 48.00 W, 1428 m



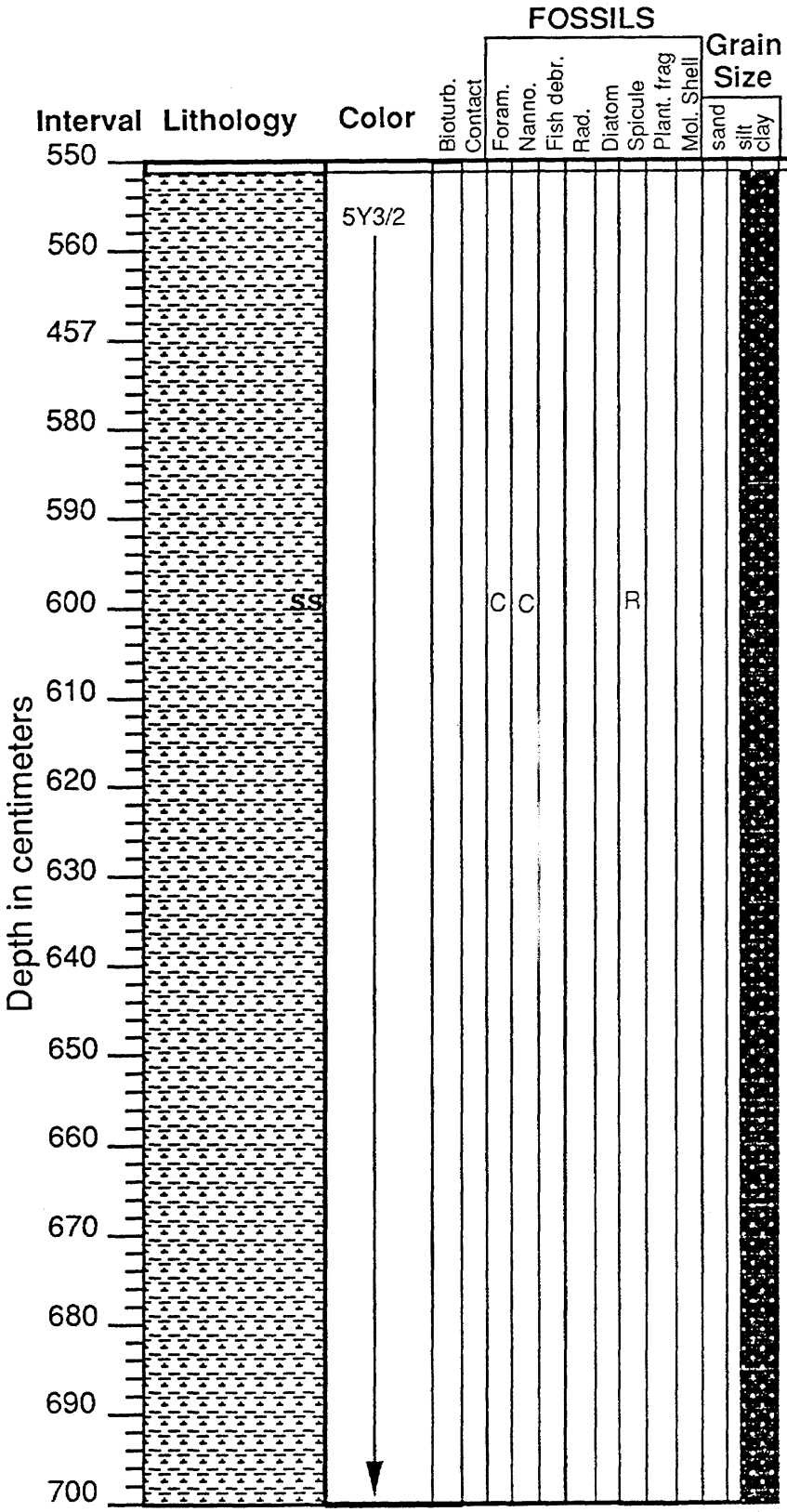
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 08PC Sect.: 1 (551-700 cm)
33 48.05N, 118 48.00 W, 1428 m



551 cm - top of section

SILTY CLAY; calcareous; dk. ol. gry.; homog.

ss-600:
A: clay
C: silt; forams; nannos
R: spicules

Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

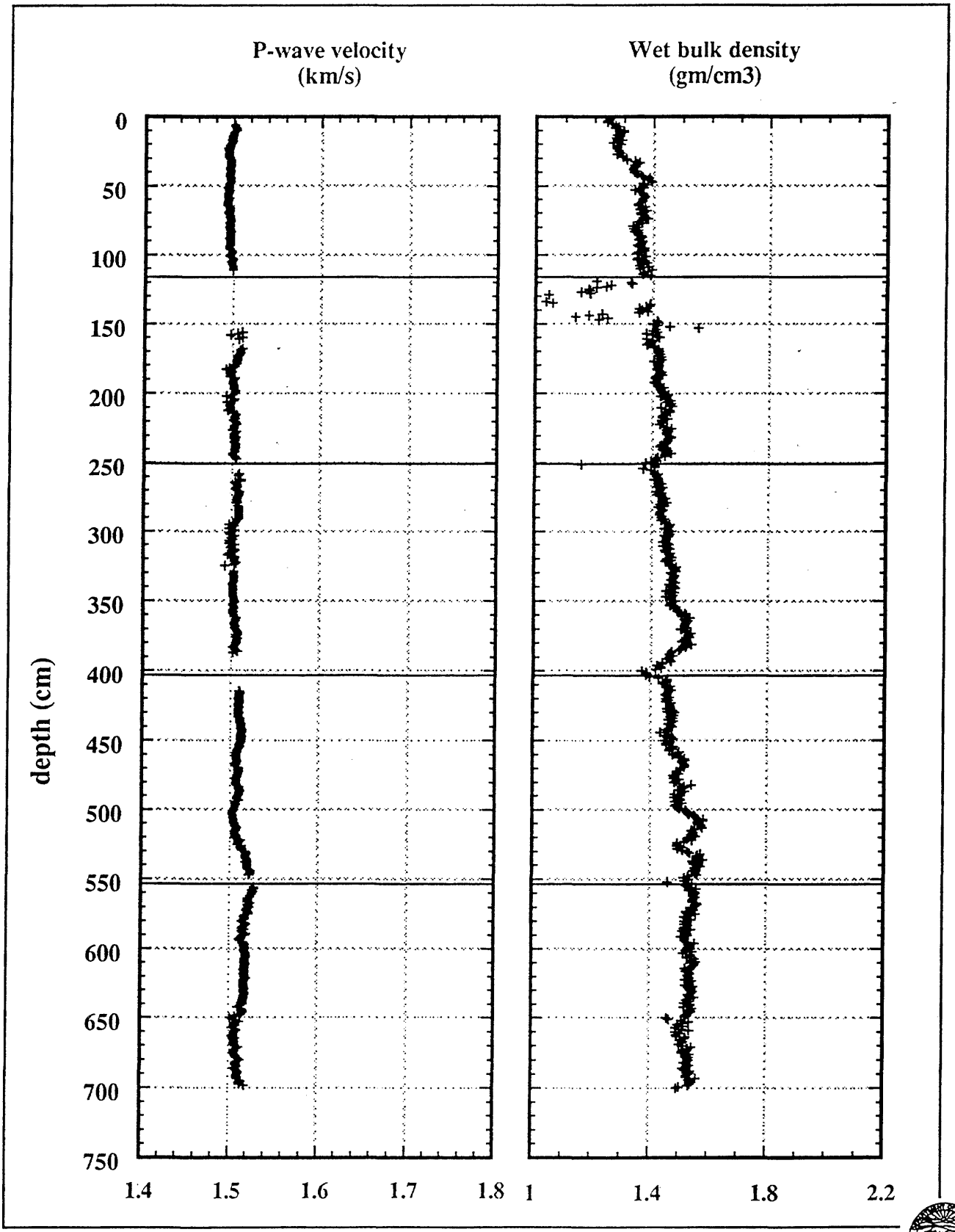
graded bed (turbidite)

ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-08PC
(0-700 cm)



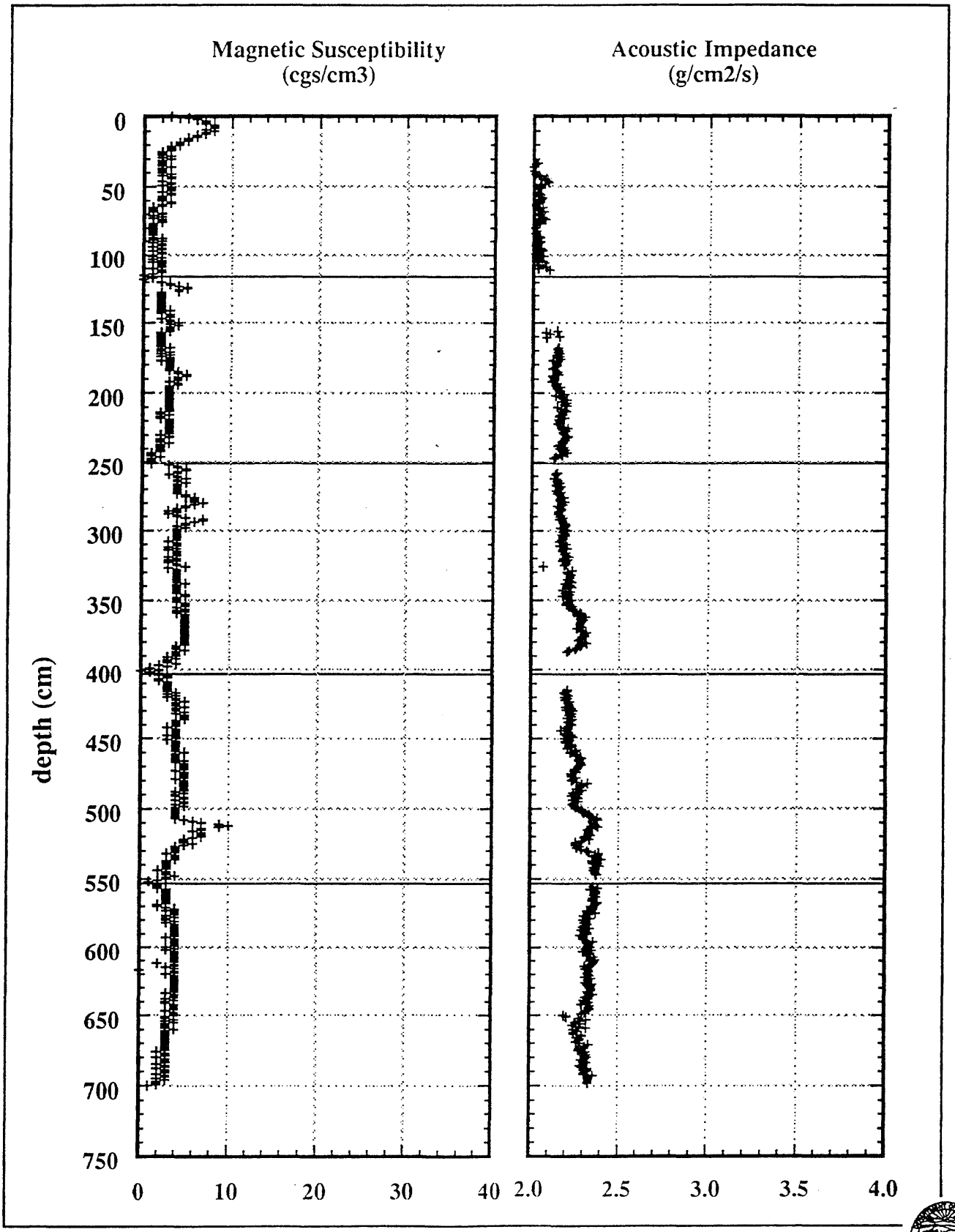
LAT: 32°48.05'N Depth: 1442 m
LON: 118°48.00'W Drill Site ID: BA-2 San Nicolas Basin

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-08PC
(0-700 cm)



LAT: 32°48.05'N Depth: 1442 m
LON: 118°48.00'W Drill Site ID: BA-2 San Nicolas Basin

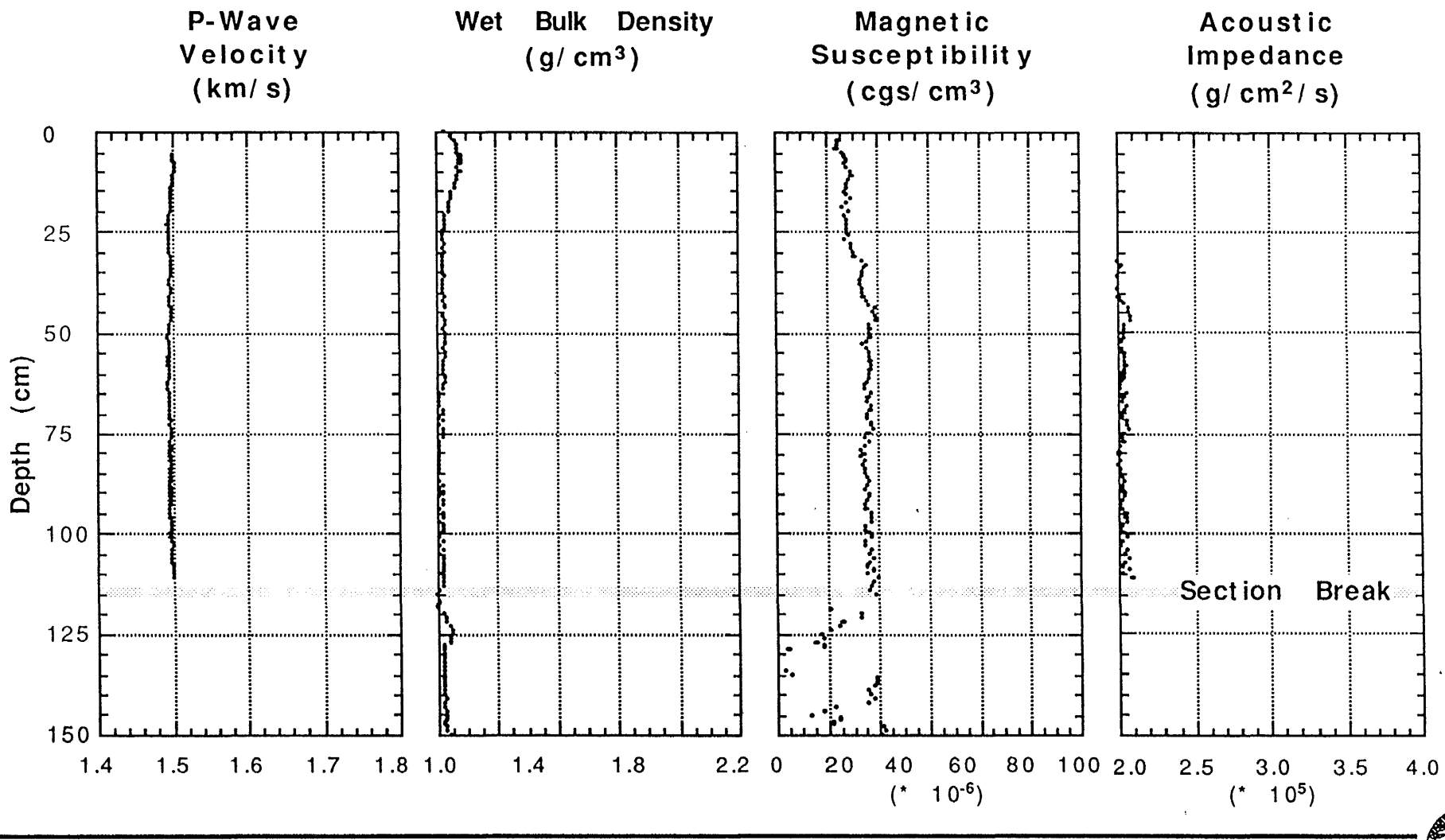
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 08PC

(0-150 cm)



LAT: 32°48.05' N
LON: 118°48.00' W

Depth: 1442 M
Drill Site ID: BA-2 San Nicolas Basin

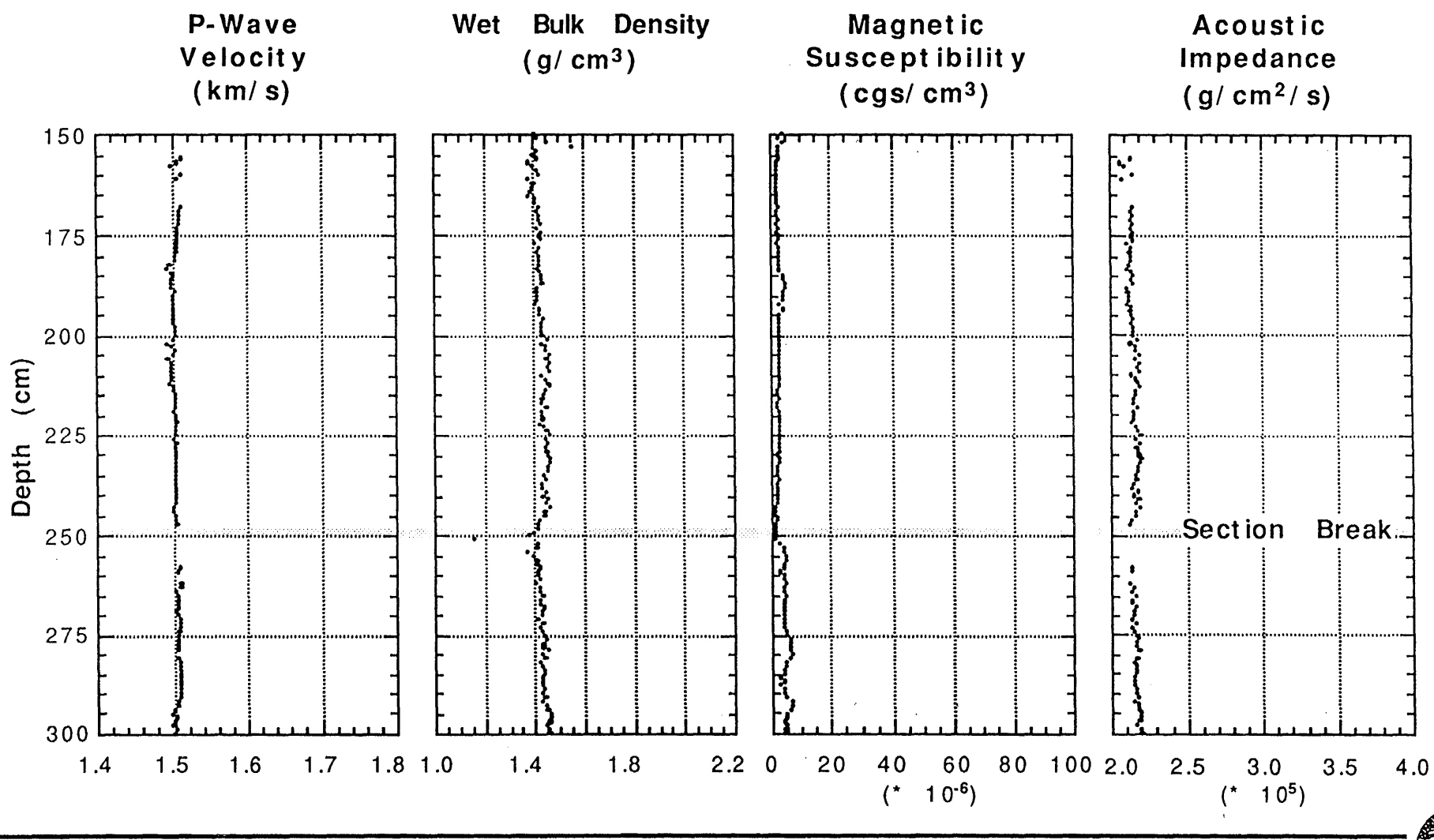
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 08PC

PHYSICAL PROPERTY LOGS

(150-300 cm)



LAT: 32°48.05' N
LON: 118°48.00' W

Depth: 1442 M
Drill Site ID: BA-2 San Nicolas Basin

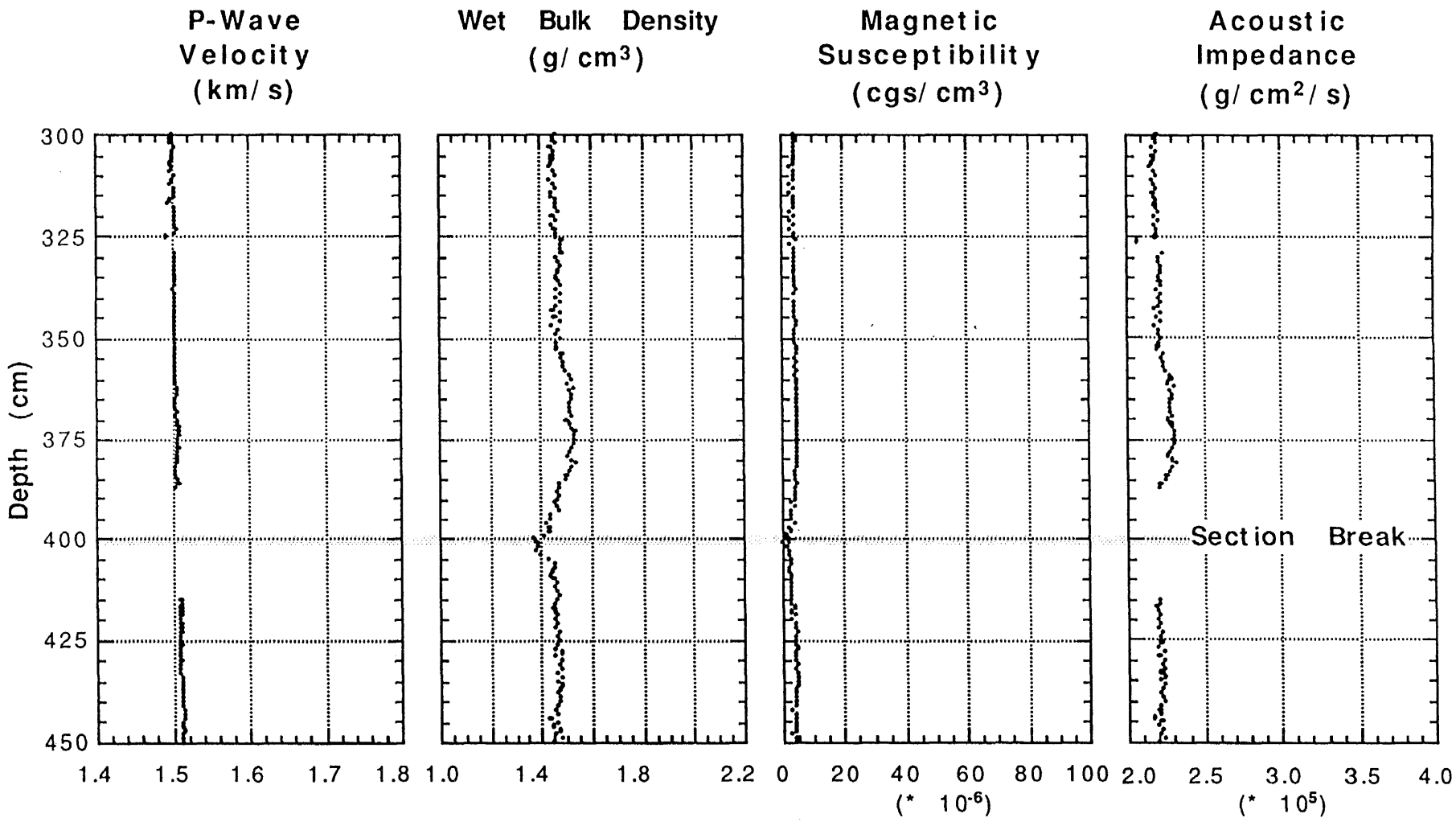
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 08PC

(300-450 cm)



LAT: 32°48.05' N
LON: 118°48.00' W

Depth: 1442 M
Drill Site ID: BA-2 San Nicolas Basin

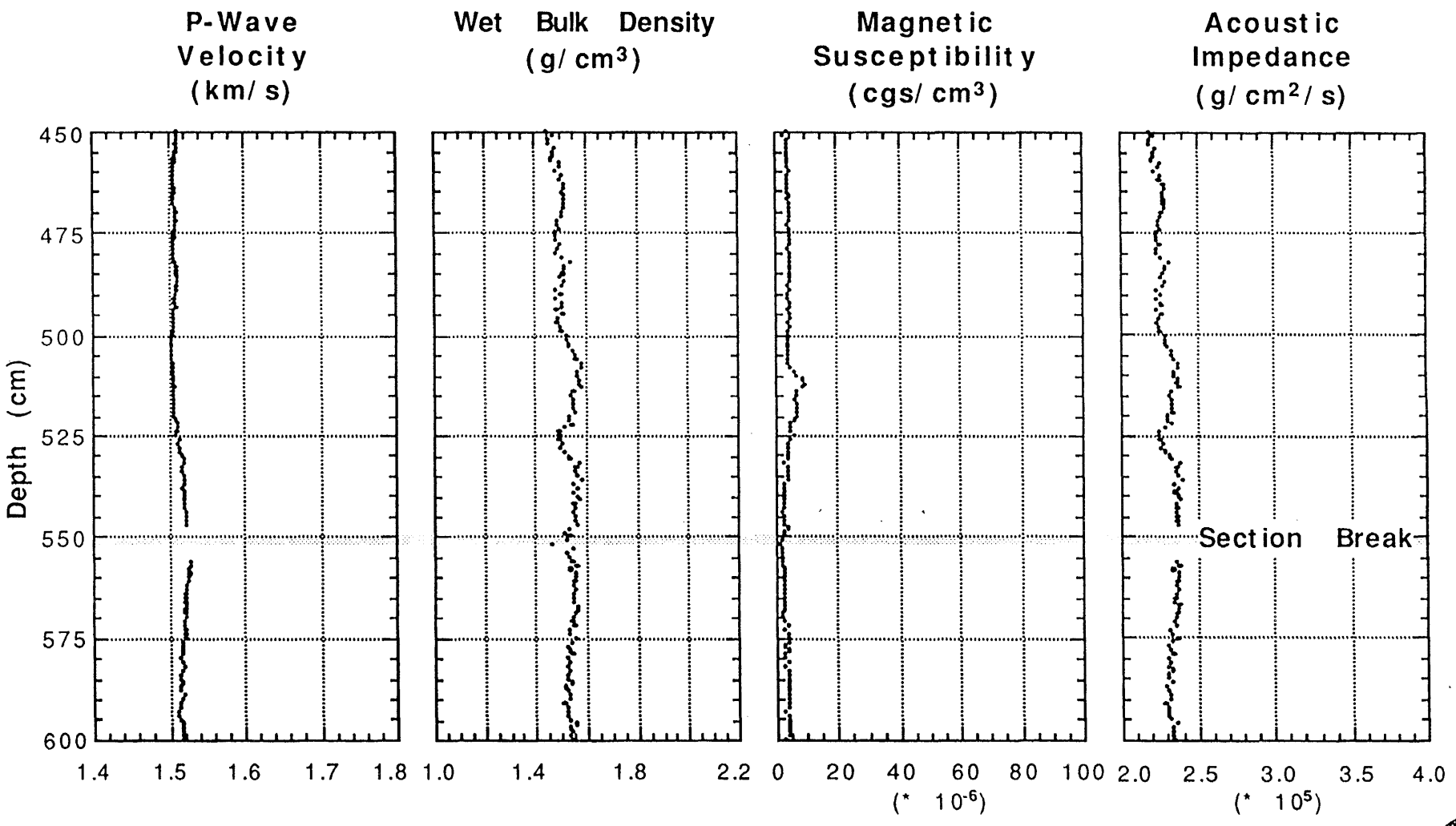
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 08PC

(450-600 cm)



LAT: 32°48.05' N
LON: 118°48.00' W

Depth: 1442 M
Drill Site ID: BA-2 San Nicolas Basin

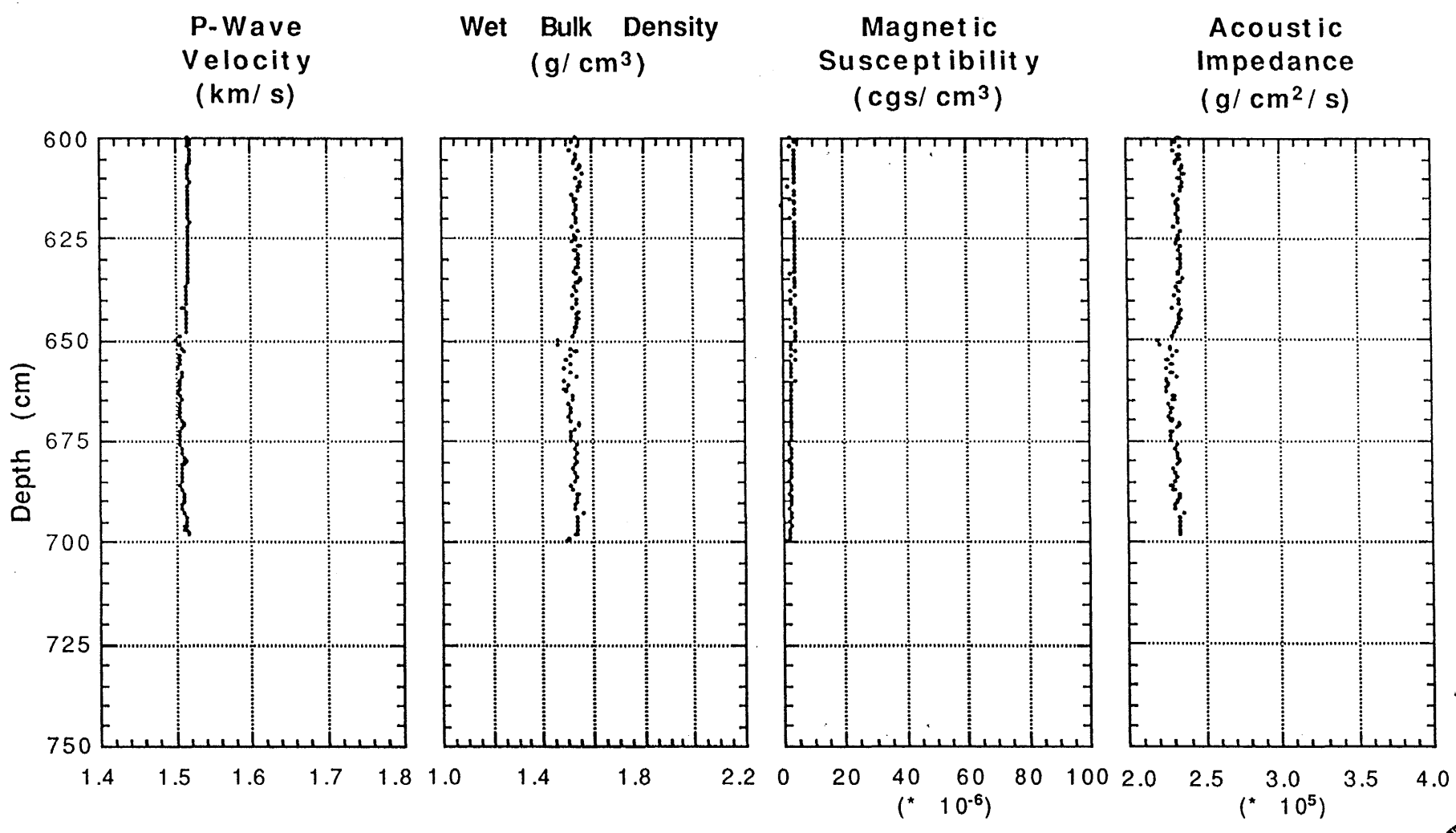
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 08PC

(600-700 cm)

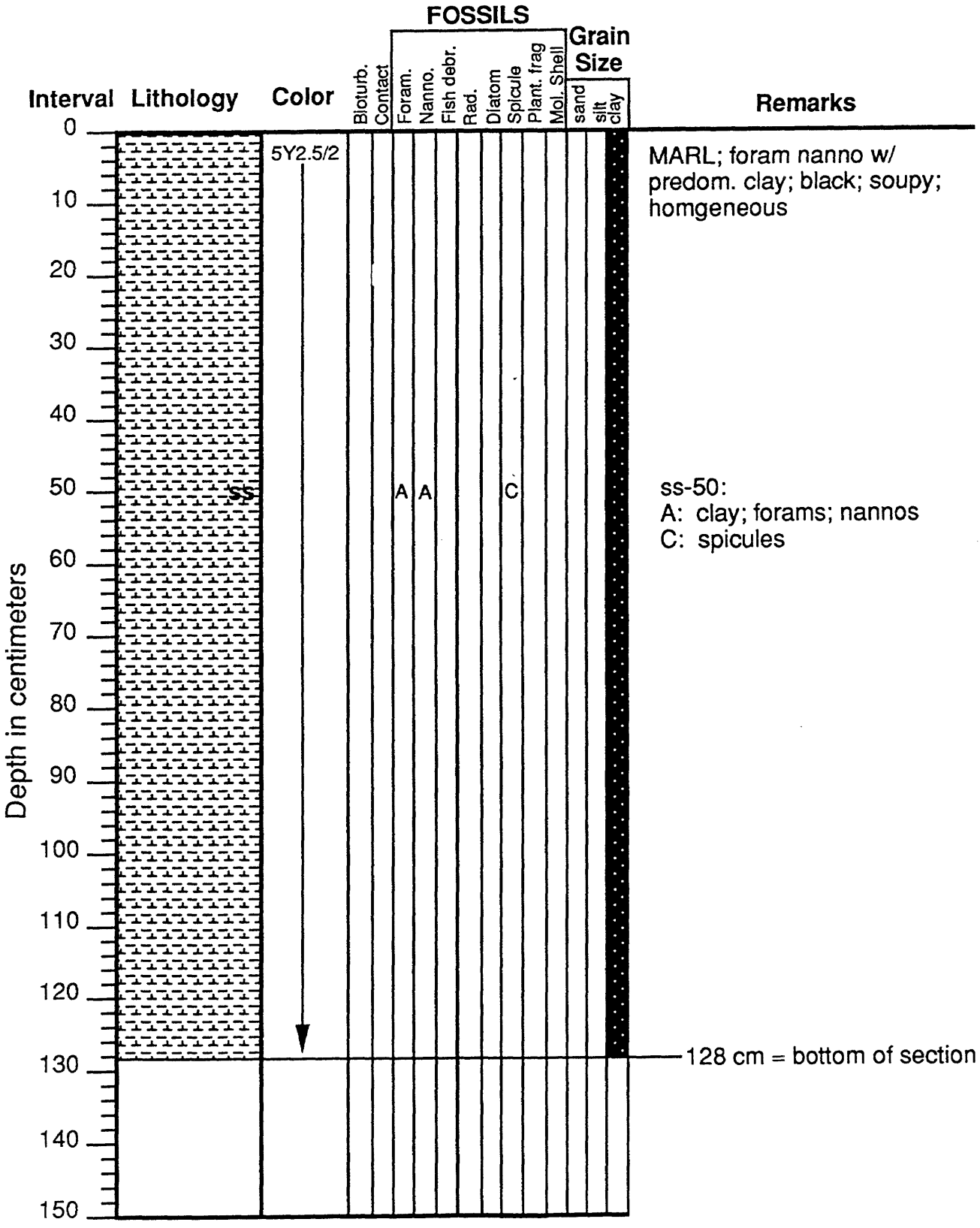


LAT: 32°48.05' N
LON: 118°48.00' W

Depth: 1442 M
Drill Site ID: BA-2 San Nicolas Basin

USGS

EW95-04 Core: 09PC Sect.: 5 (0-128 cm)
33 48.05N, 118 48.00 W, 1428 m



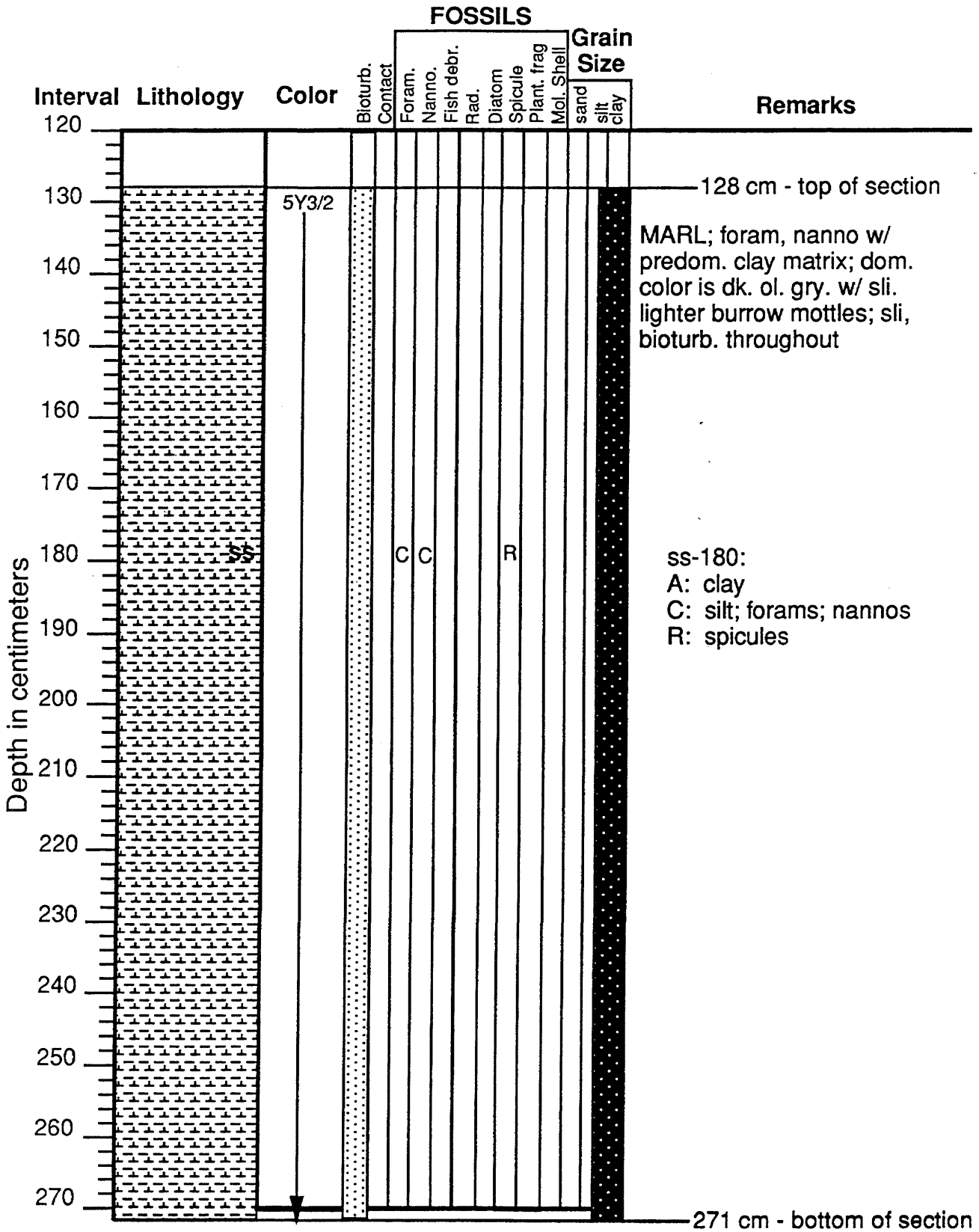
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 09PC Sect.: 4 (128-271 cm)
33 48.05N, 118 48.00 W, 1428 m



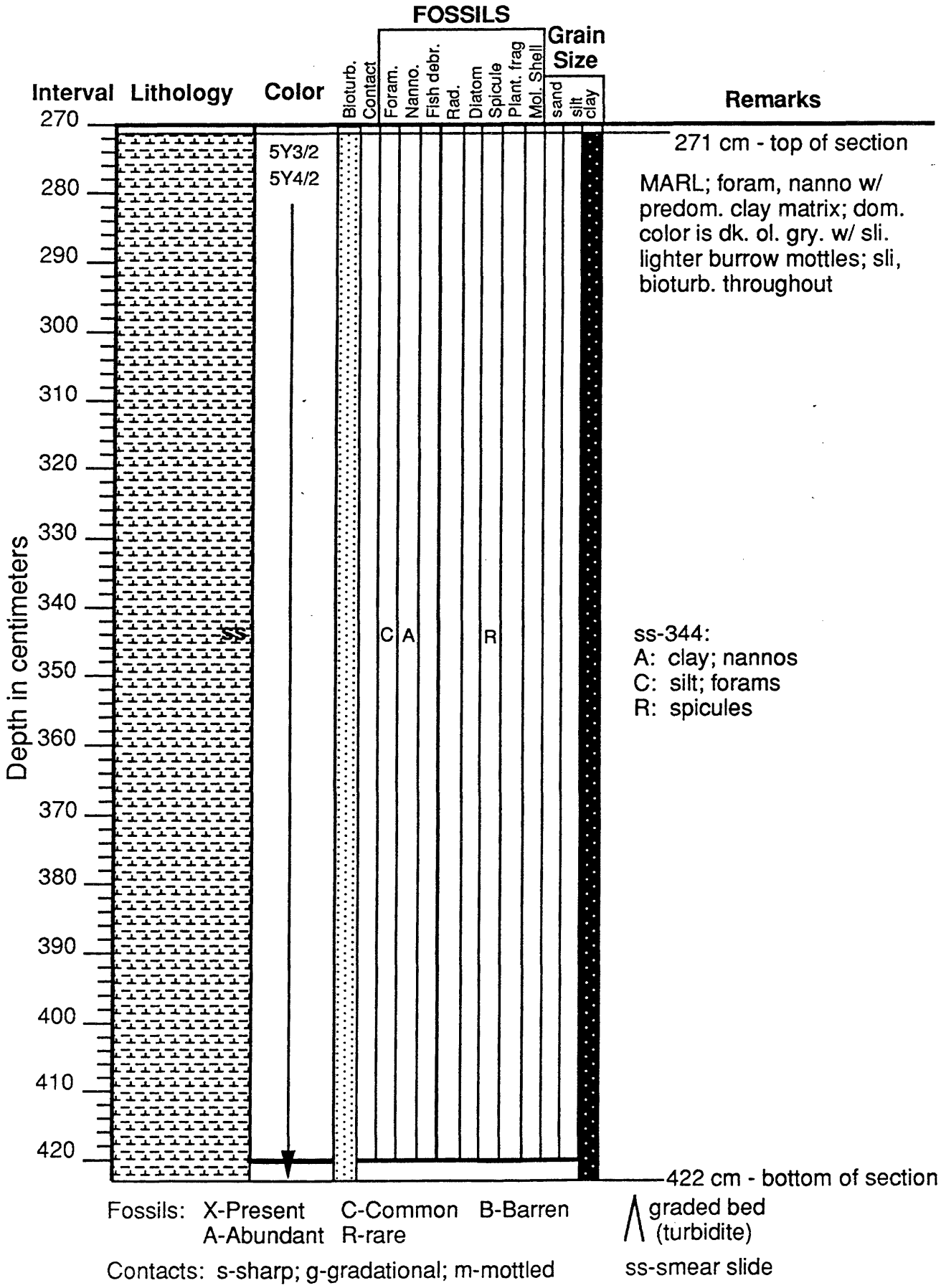
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

graded bed (turbidite)

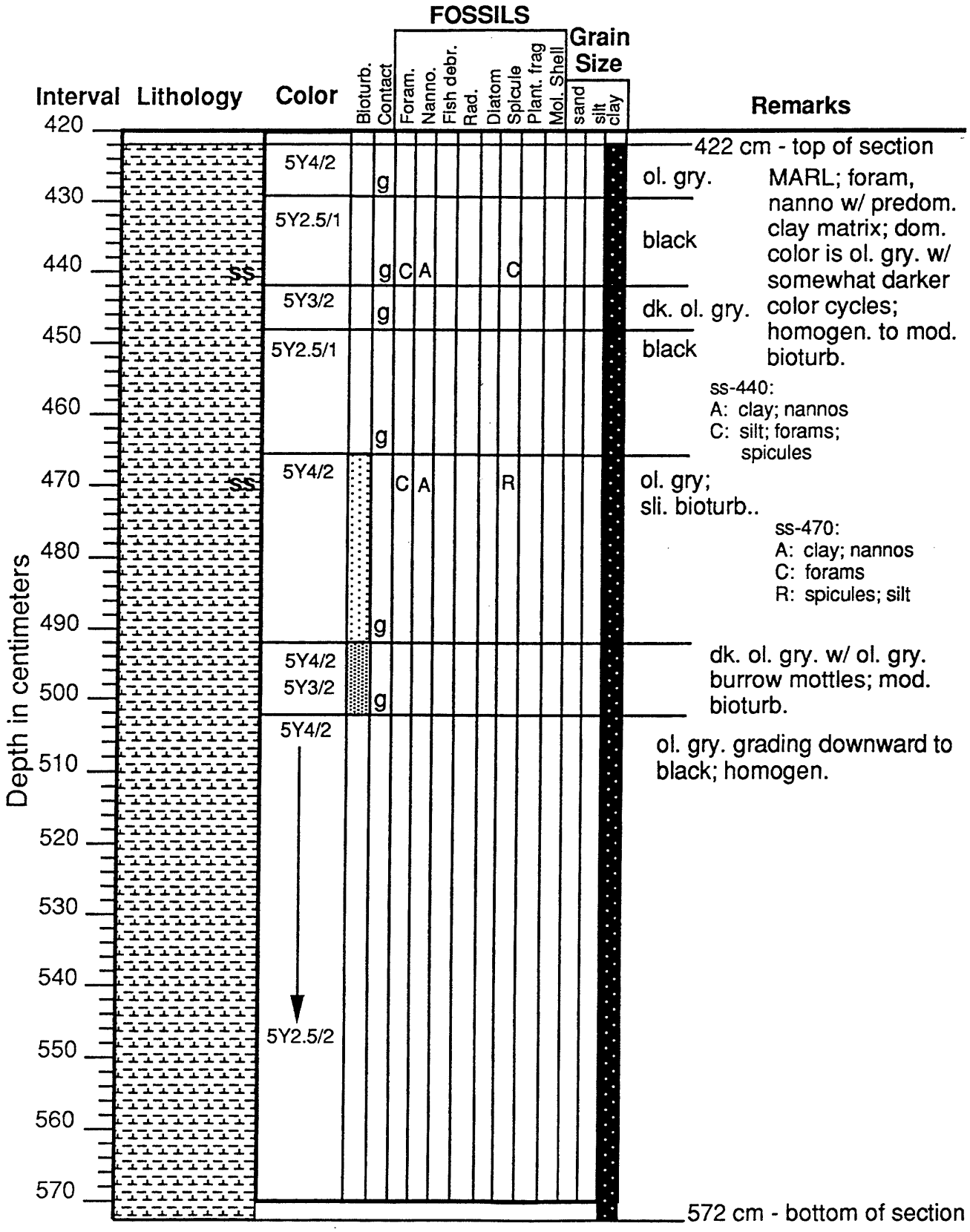
Contacts: s-sharp; g-gradational; m-mottled

ss-smear slide

EW95-04 Core: 09PC Sect.: 3 (271-422 cm)
33 48.05N, 118 48.00 W, 1428 m



EW95-04 Core: 09PC Sect.: 2 (422-572 cm)
33 48.05N, 118 48.00 W, 1428 m



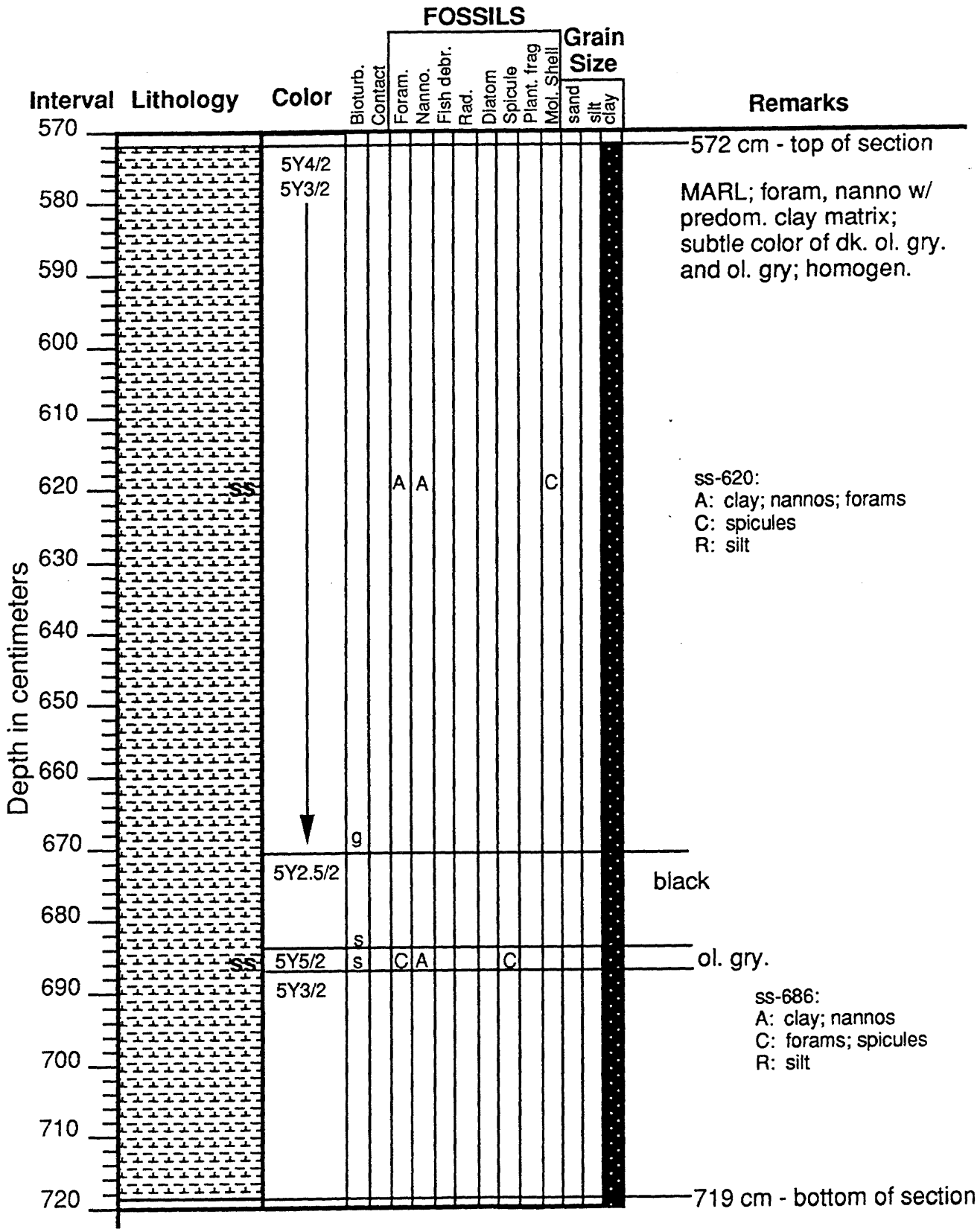
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

graded bed (turbidite)

Contacts: s-sharp; g-gradational; m-mottled

ss-smear slide

EW95-04 Core: 09PC Sect.: 1 (572-719 cm)
33 48.05N, 118 48.00 W, 1428 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

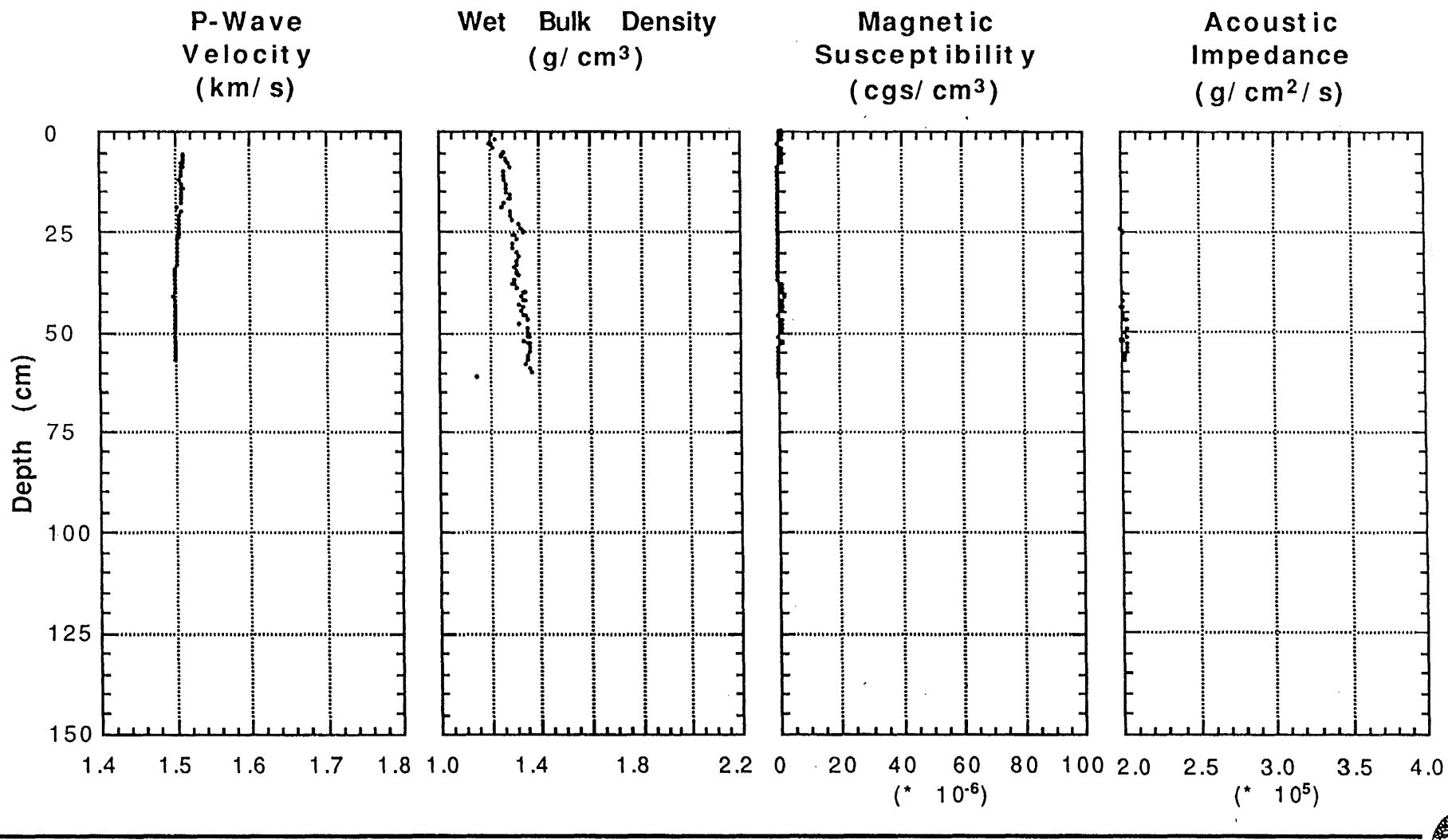
ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 09TC

(0-63 cm)



LAT: 32°51.51' N
LON: 119°57.48' W

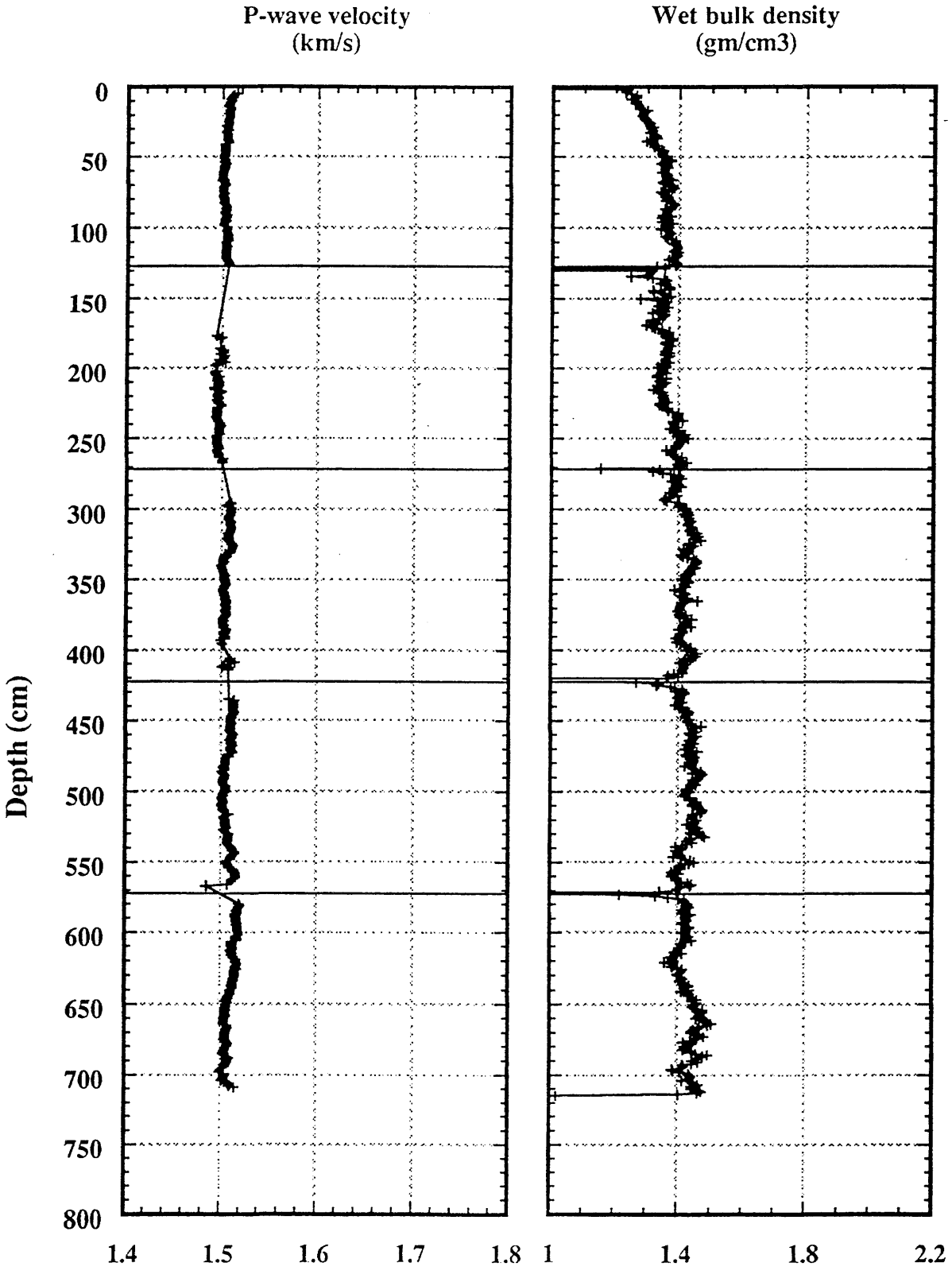
Depth: 1194 M
Drill Site ID: CA 15 - Tanner Basin

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-09PC
(0-719 cm)



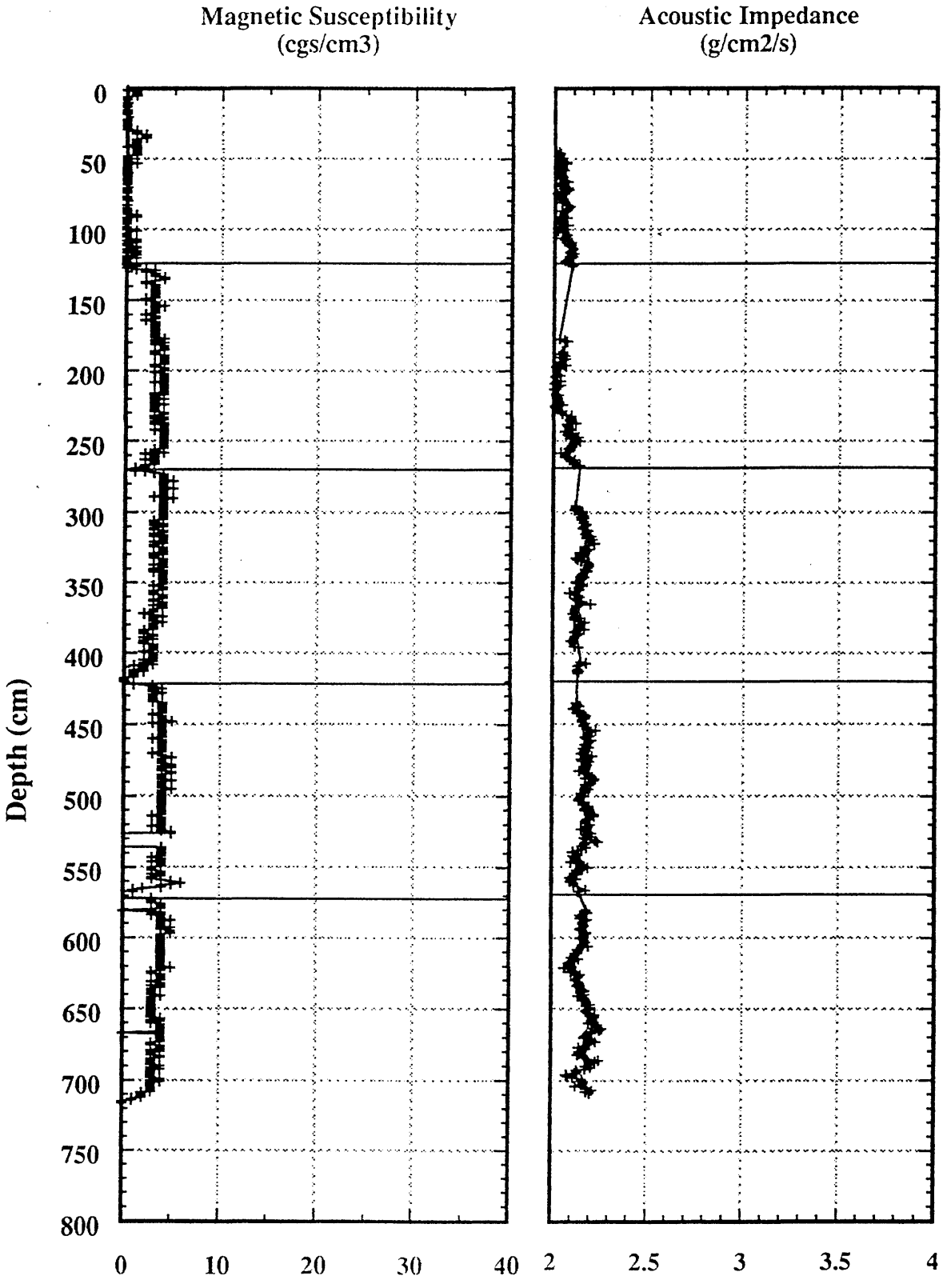
LAT: 32°51.51'N Depth: 1194 m
LON: 119°57.48'W Drill Site ID: CA15

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-09PC
(0-719 cm)



LAT: 32°51.51'N Depth: 1194 m
LON: 119°57.48'W Drill Site ID: CA15

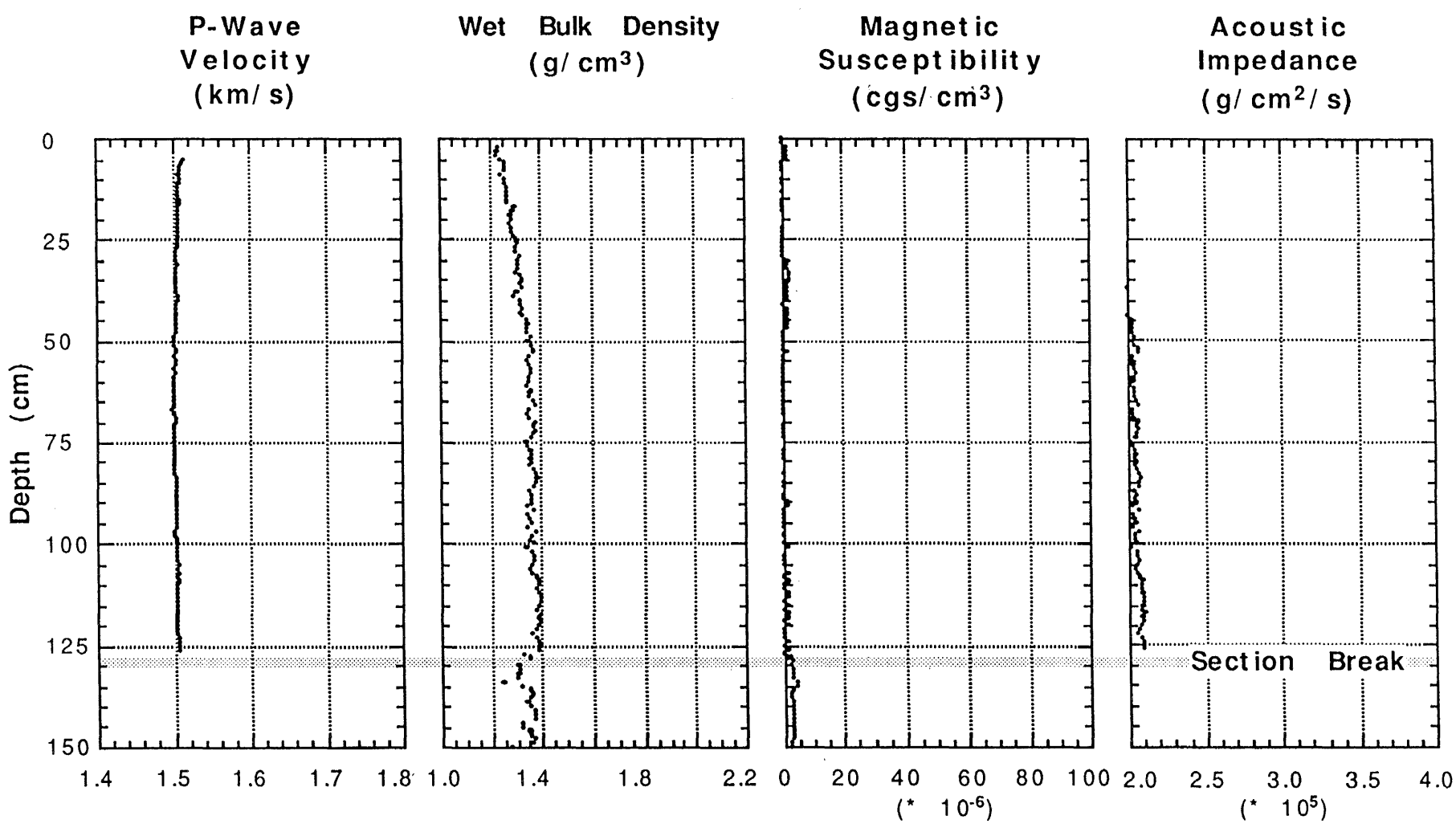
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 09PC

(0-150 cm)



LAT: 32°51.51' N
LON: 119°57.48' W

Depth: 1194 M
Drill Site ID: CA 15 -- Tanner Basin

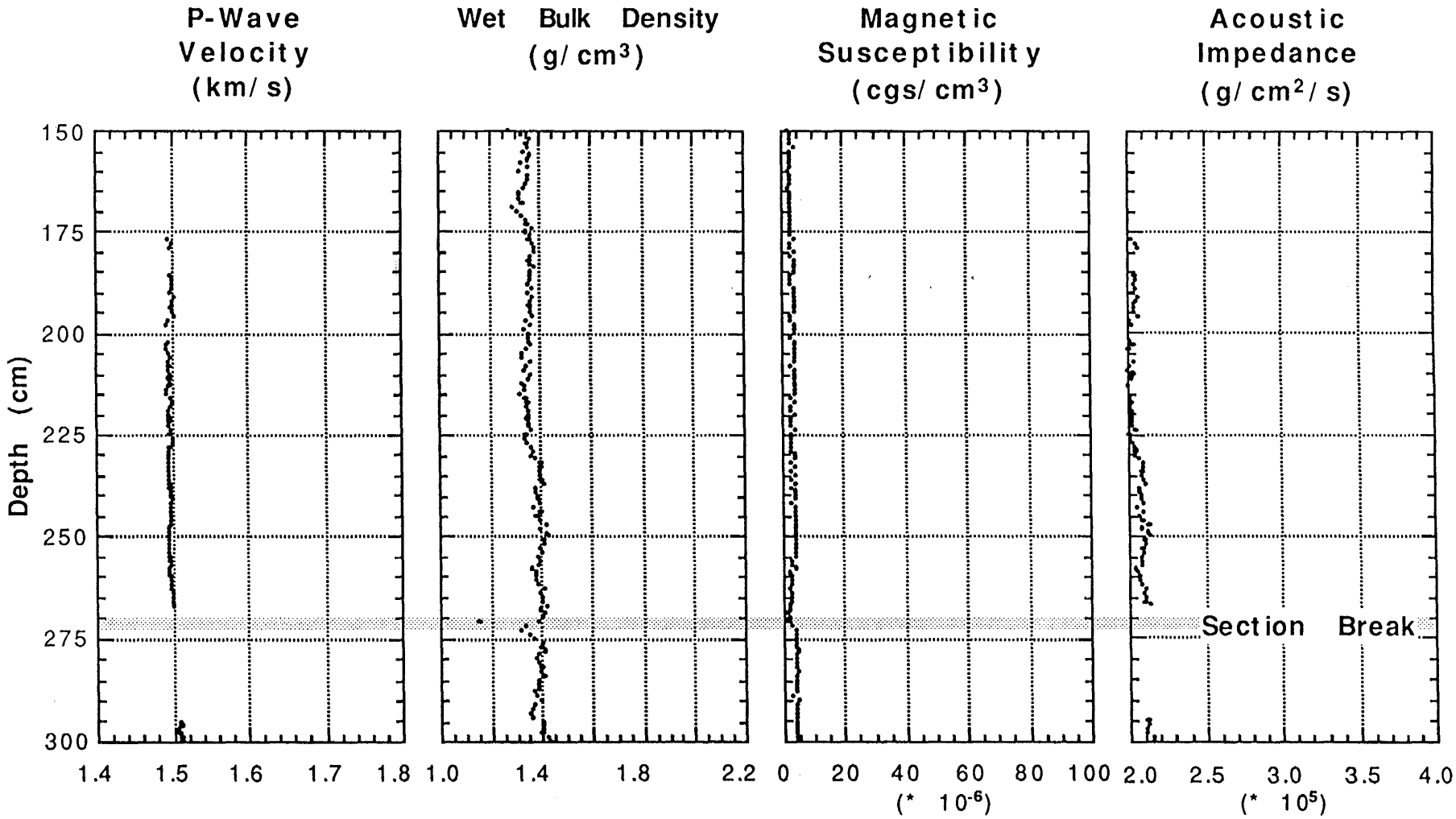
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 09PC

(150-300 cm)



LAT: 32°51.51' N
LON: 119°57.48' W

Depth: 1194 M
Drill Site ID: CA 15 -- Tanner Basin

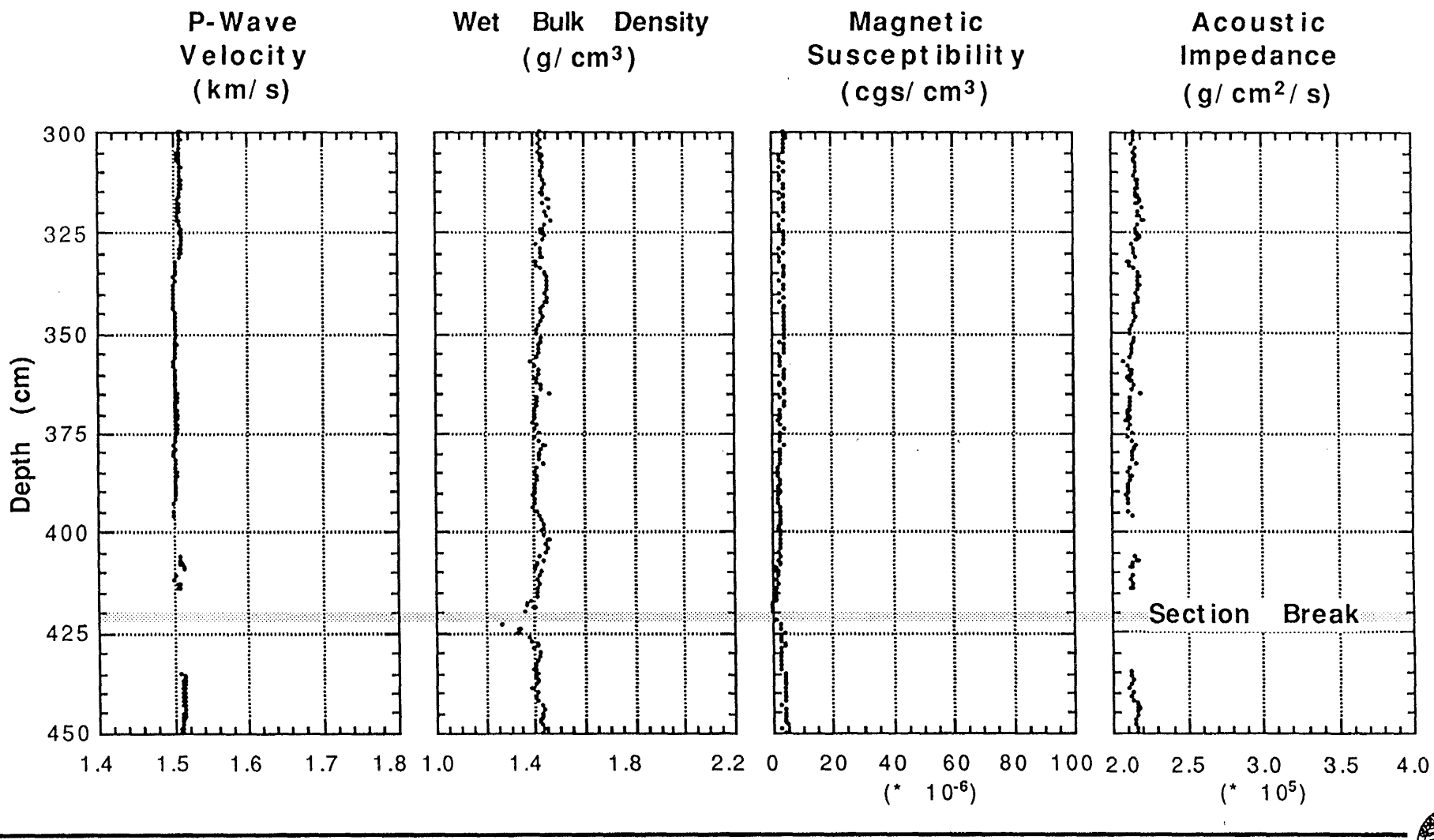
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 09PC

(300-450 cm)



LAT: 32°51.51' N
LON: 119°57.48' W

Depth: 1194 M
Drill Site ID: CA 15 - Tanner Basin

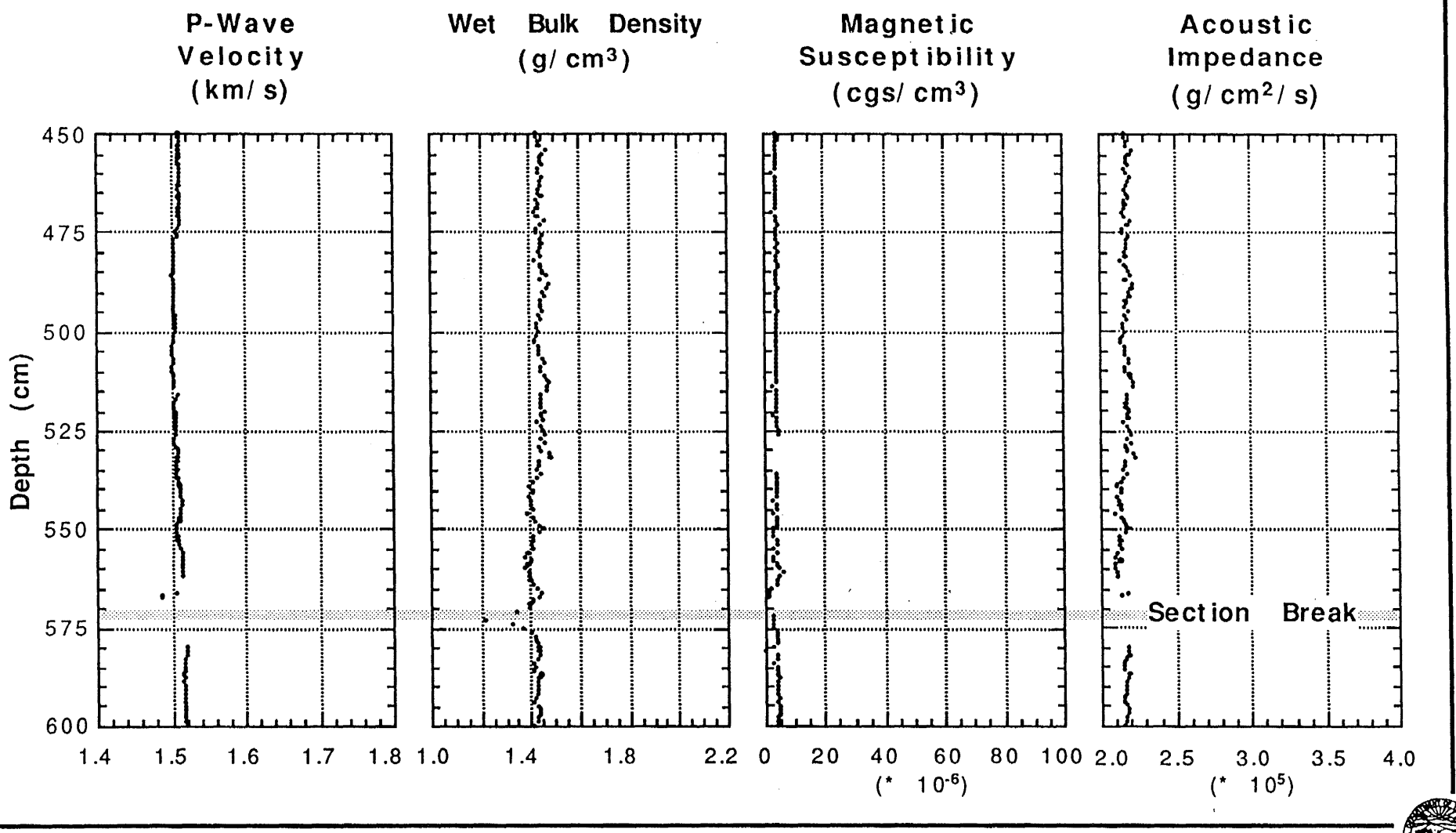
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 09PC

(450-600 cm)



LAT: 32°51.51' N
LON: 119°57.48' W

Depth: 1194 M
Drill Site ID: CA 15 - Tanner Basin

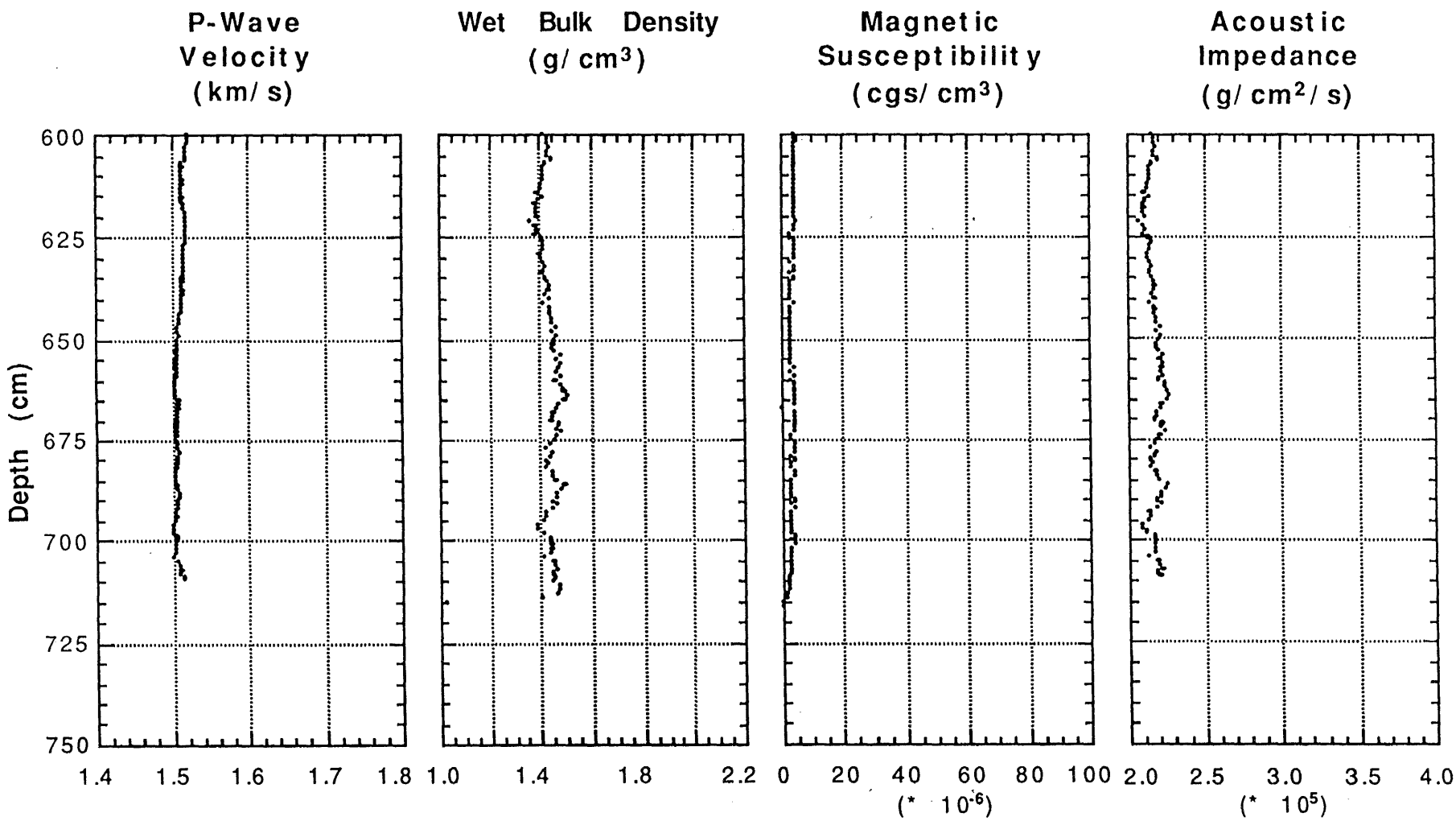
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 09PC

(600-719 cm)

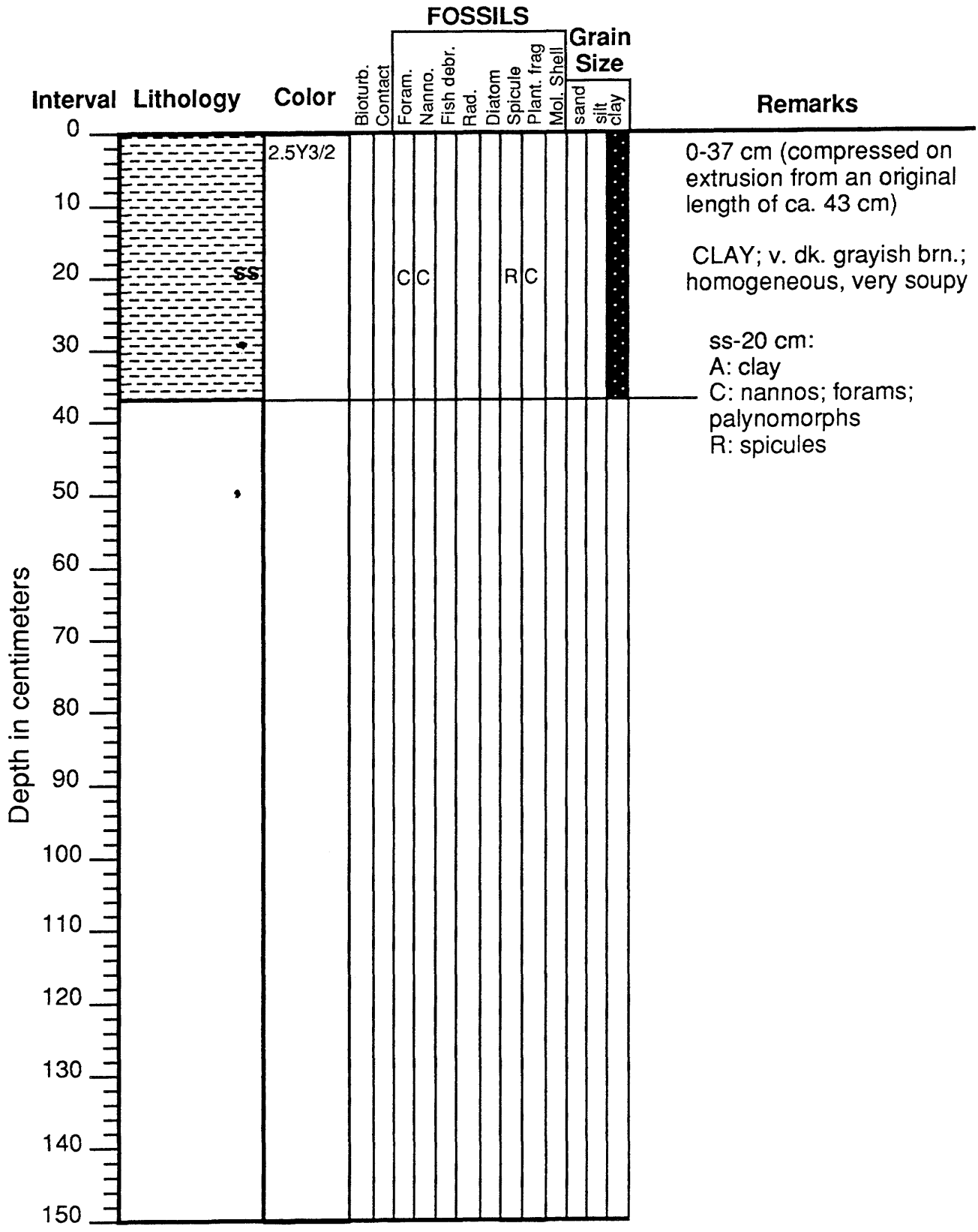


LAT: 32°51.51' N
LON: 119°57.48' W

Depth: 1194 M
Drill Site ID: CA 15 - Tanner Basin

USGS

EW95-04 Core: 10MC-7 (0-37 cm)
32 51.64 N, 119 57.15 W, 1190 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

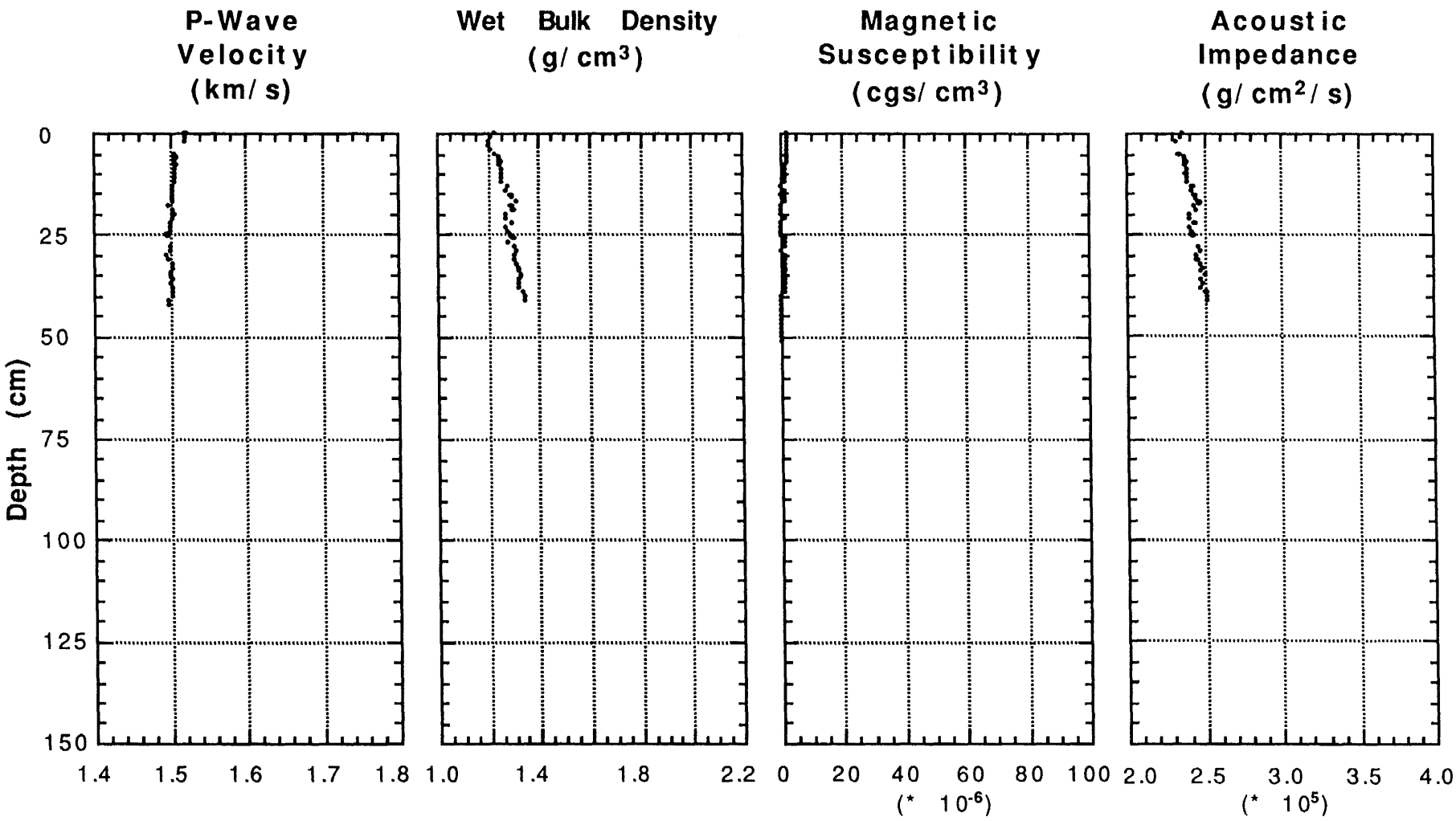
ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 10MC-2

(0-45 cm)



LAT: 32° 51.64' N
LON: 119° 57.15' W

Depth: 1190 M
Drill Site ID: CA-15 Tanner Basin

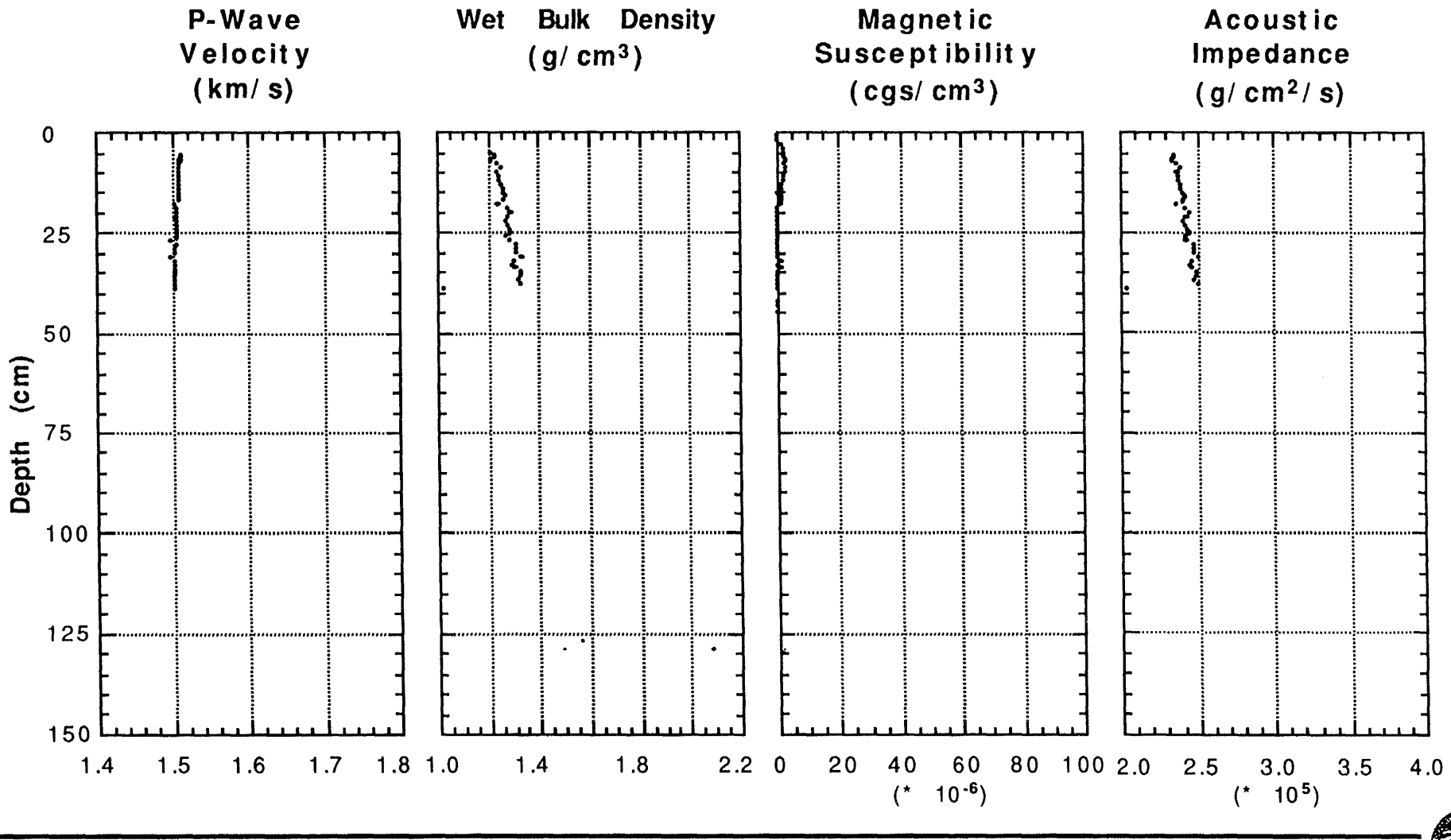
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 10MC-7

(0- 150 cm)

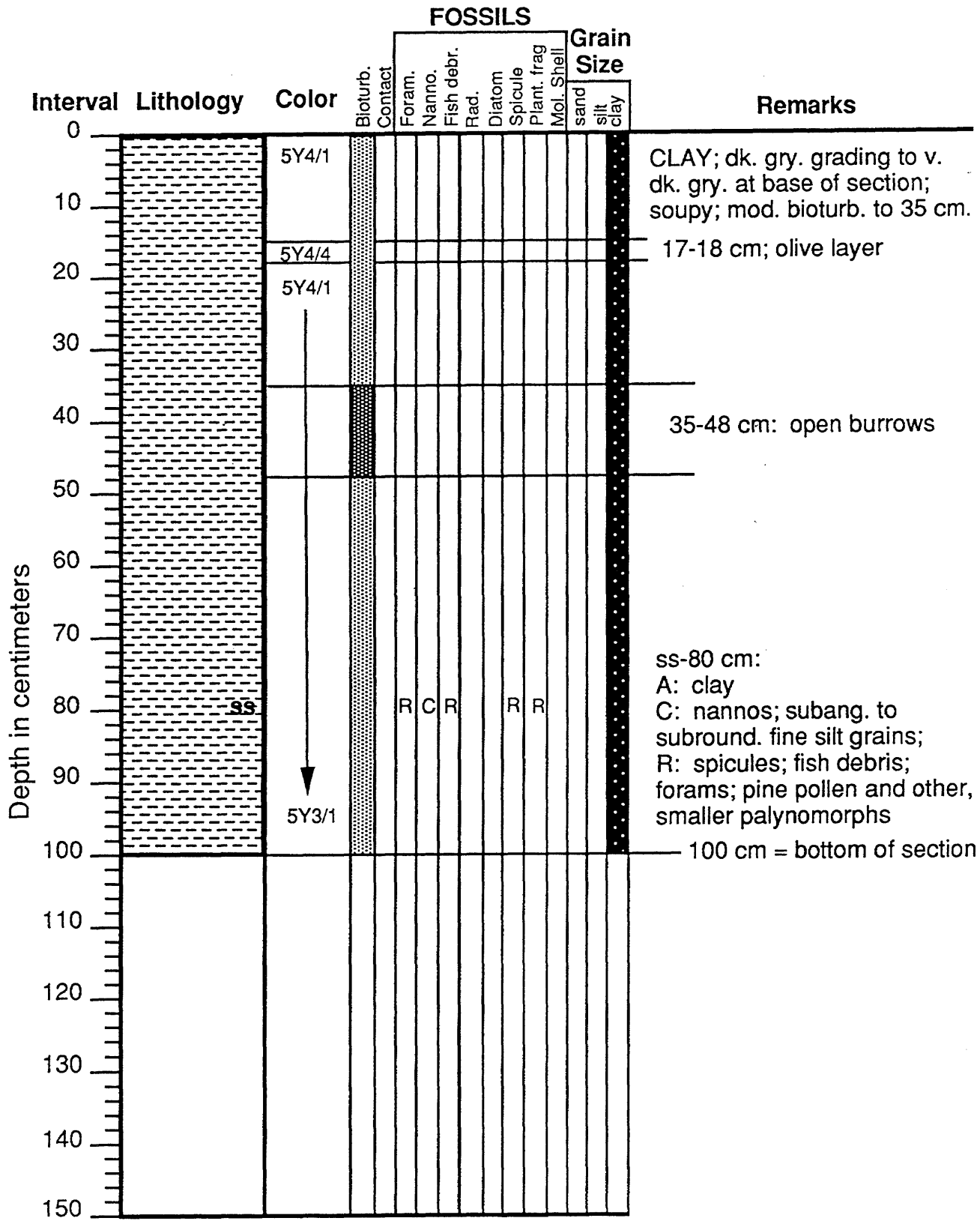


LAT: 32° 51.64' N
LON: 119° 57.15' W

Depth: 1190 M
Drill Site ID: CA-15 Tanner Basin

USGS

EW95-04 Core: 11TC Sect.: 2 (0-100 cm)
34 29.22 N, 122 9.1 W, 3861 m



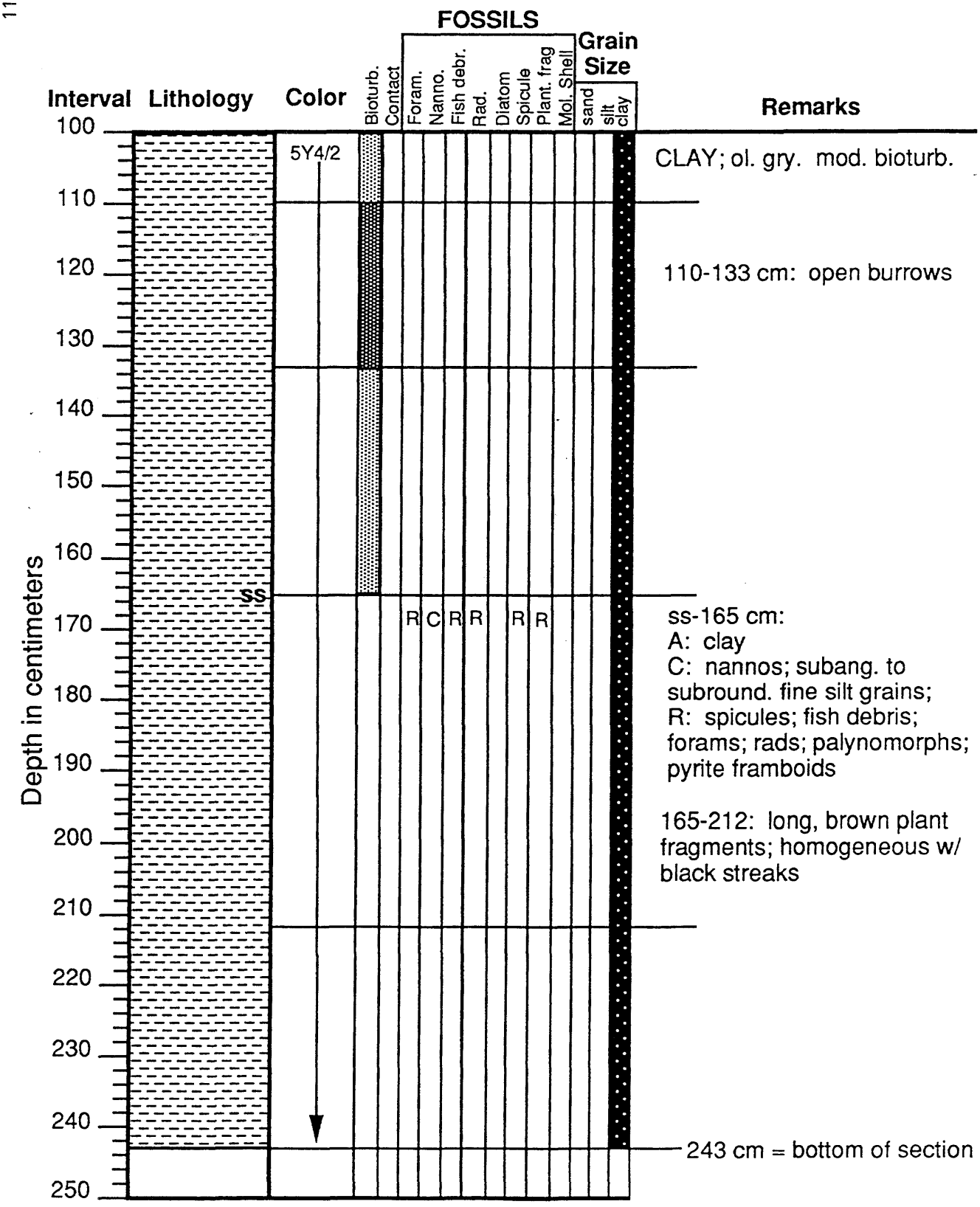
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 11TC Sect.: 1 (100-243 cm)
34 29.22 N, 122 9.1 W, 3861 m



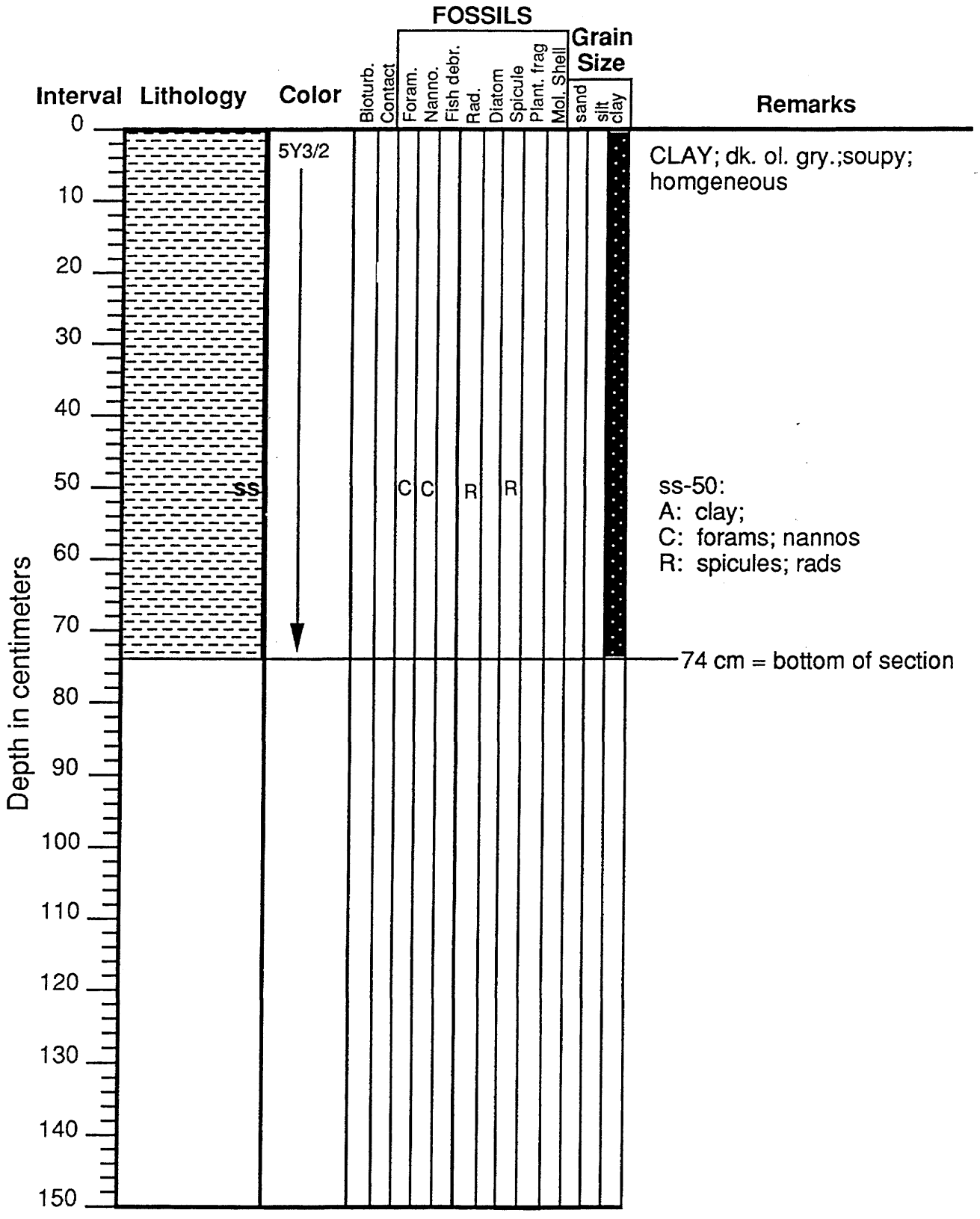
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 11PC Sect.: 6 (0-74 cm)
34 29.22 N, 122 9.1 W, 3861 m



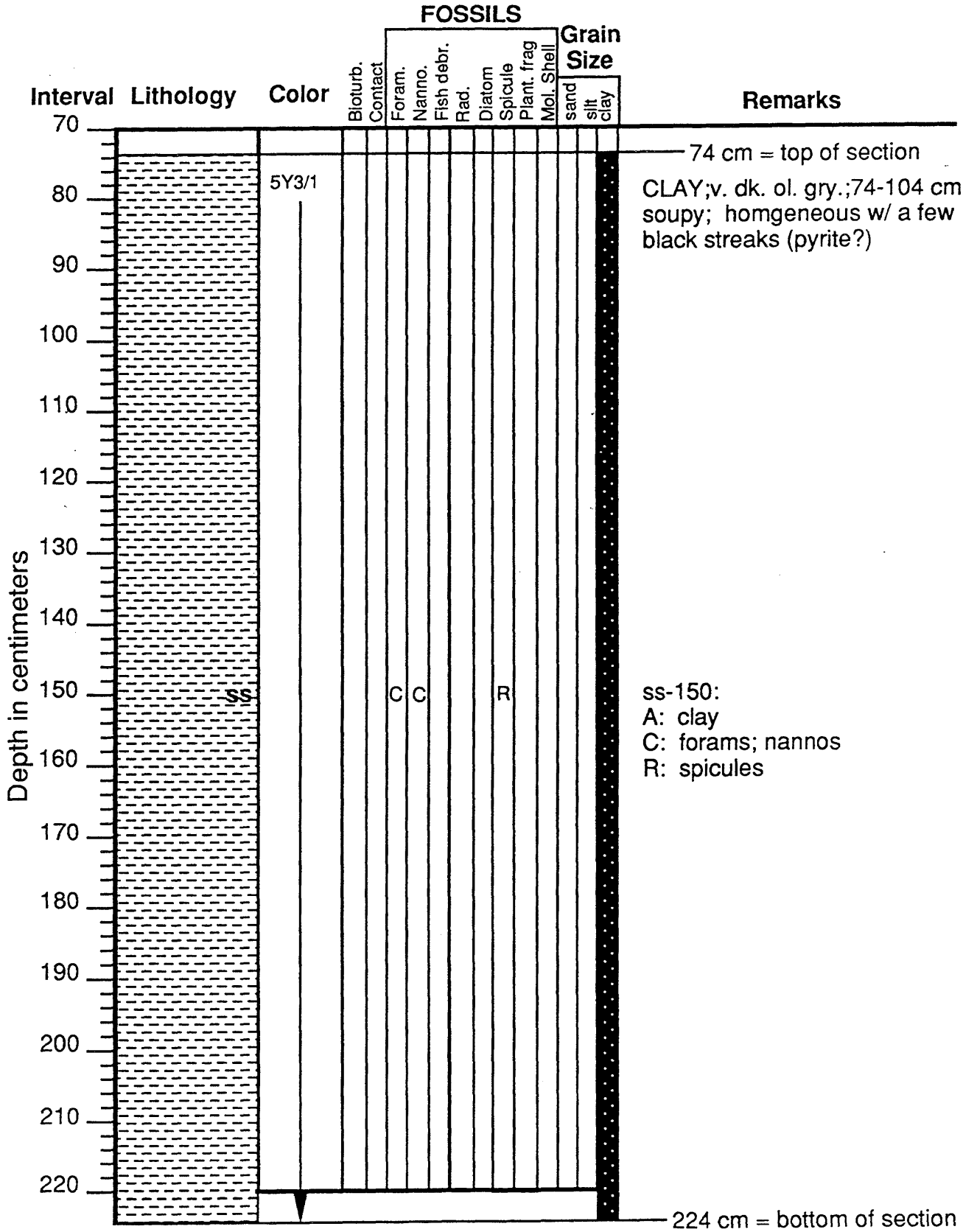
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 11PC Sect.: 5 (74-224 cm)
34 29.22 N, 122 9.1 W, 3861 m



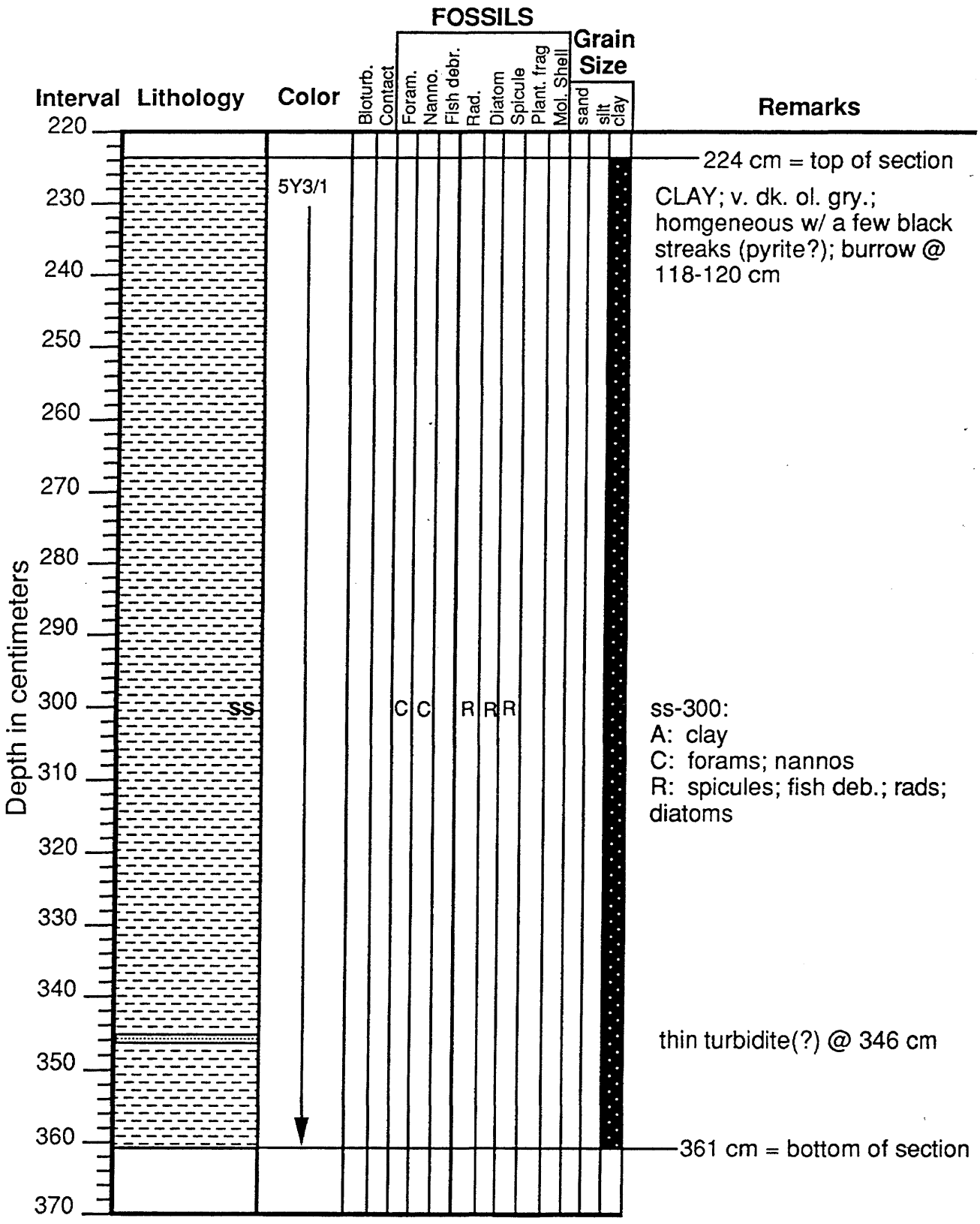
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 11PC Sect.: 4 (224-361 cm)
34 29.22 N, 122 9.1 W, 3861 m



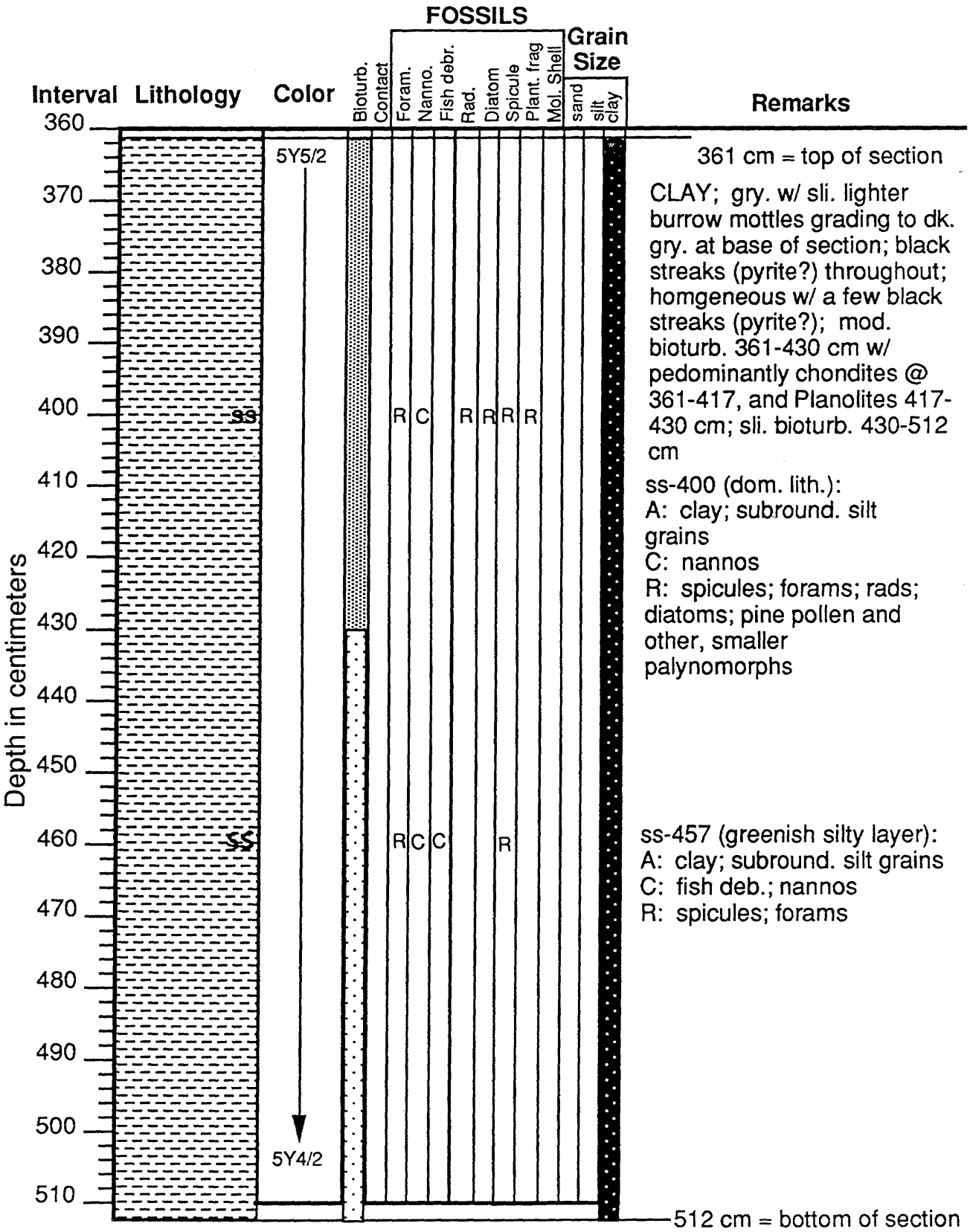
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 11PC Sect.: 3 (361-512 cm)
34 29.22 N, 122 9.1 W, 3861 m



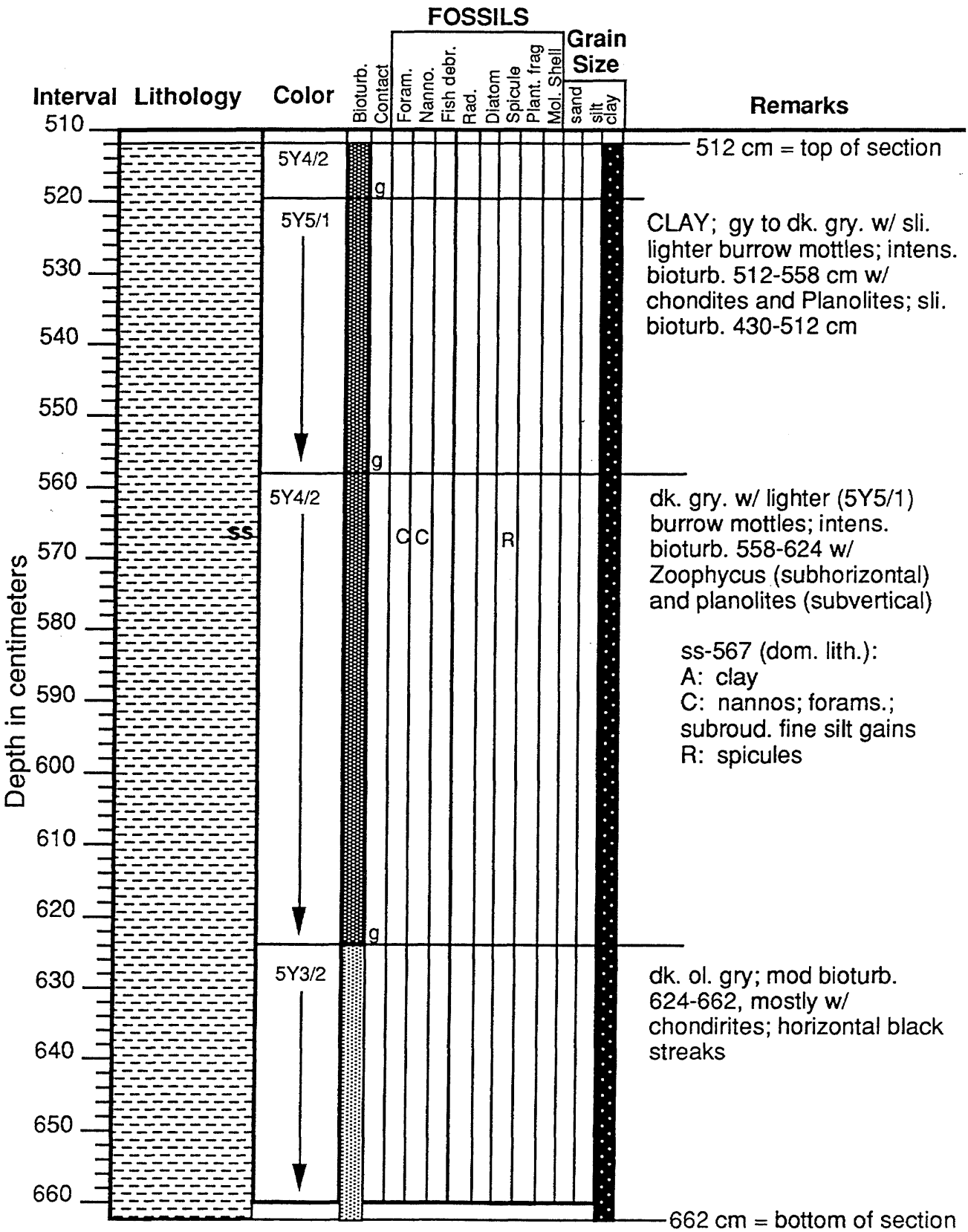
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 11PC Sect.: 2 (512-662 cm)
34 29.22 N, 122 9.1 W, 3861 m



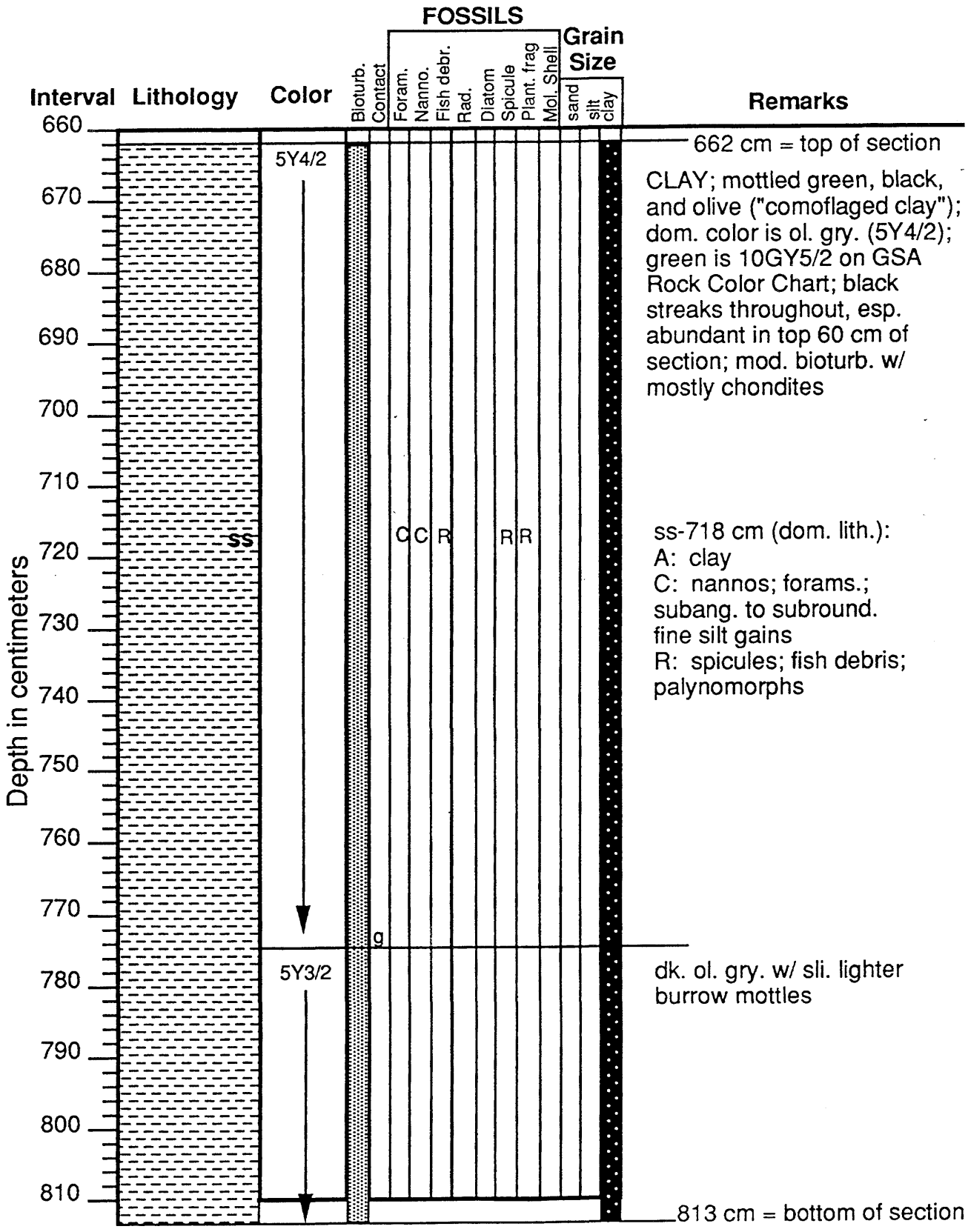
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 11PC Sect.: 1 (662-813 cm)
34 29.22 N, 122 9.1 W, 3861 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

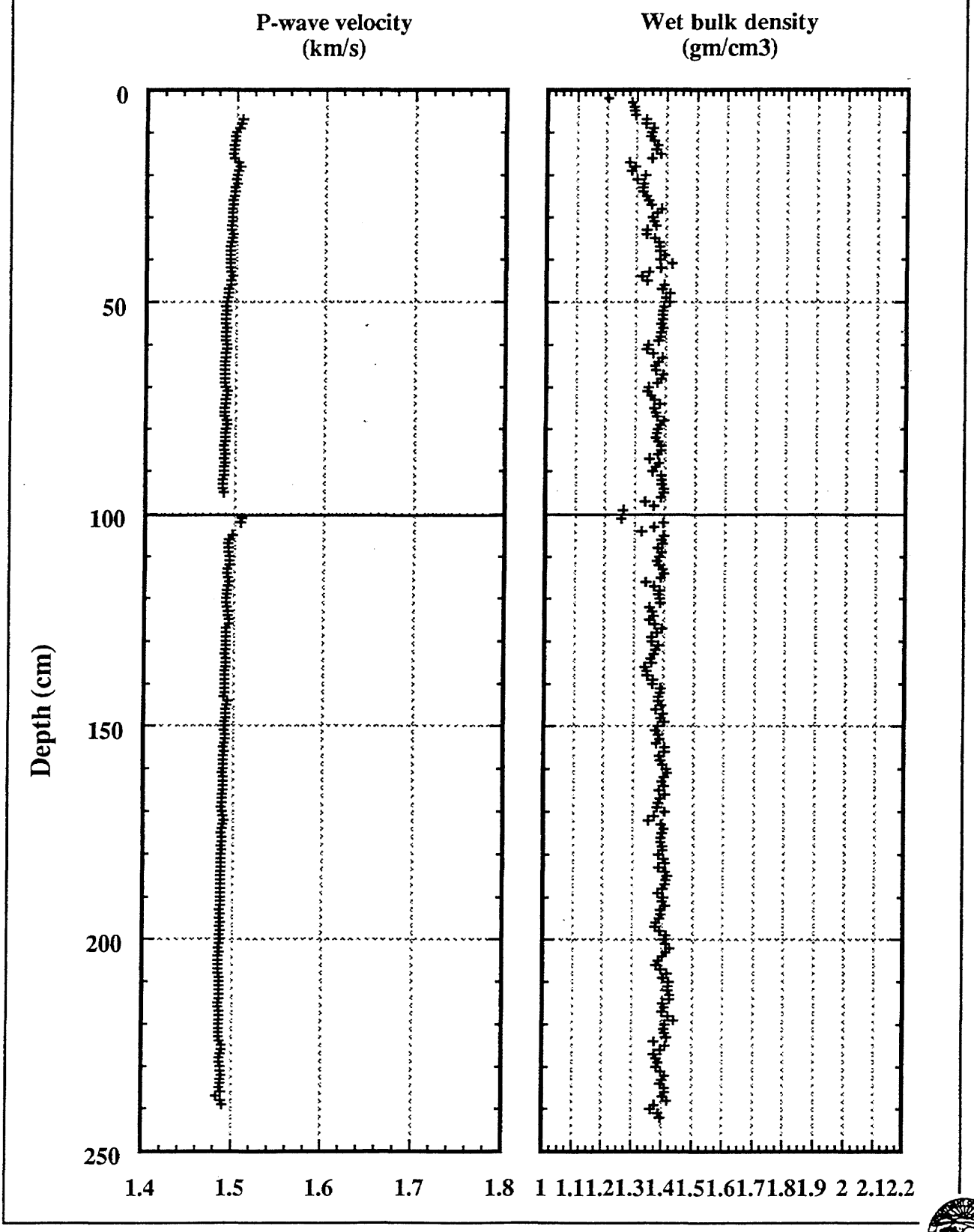
graded bed (turbidite)

ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 11TC
(0- 243 cm)



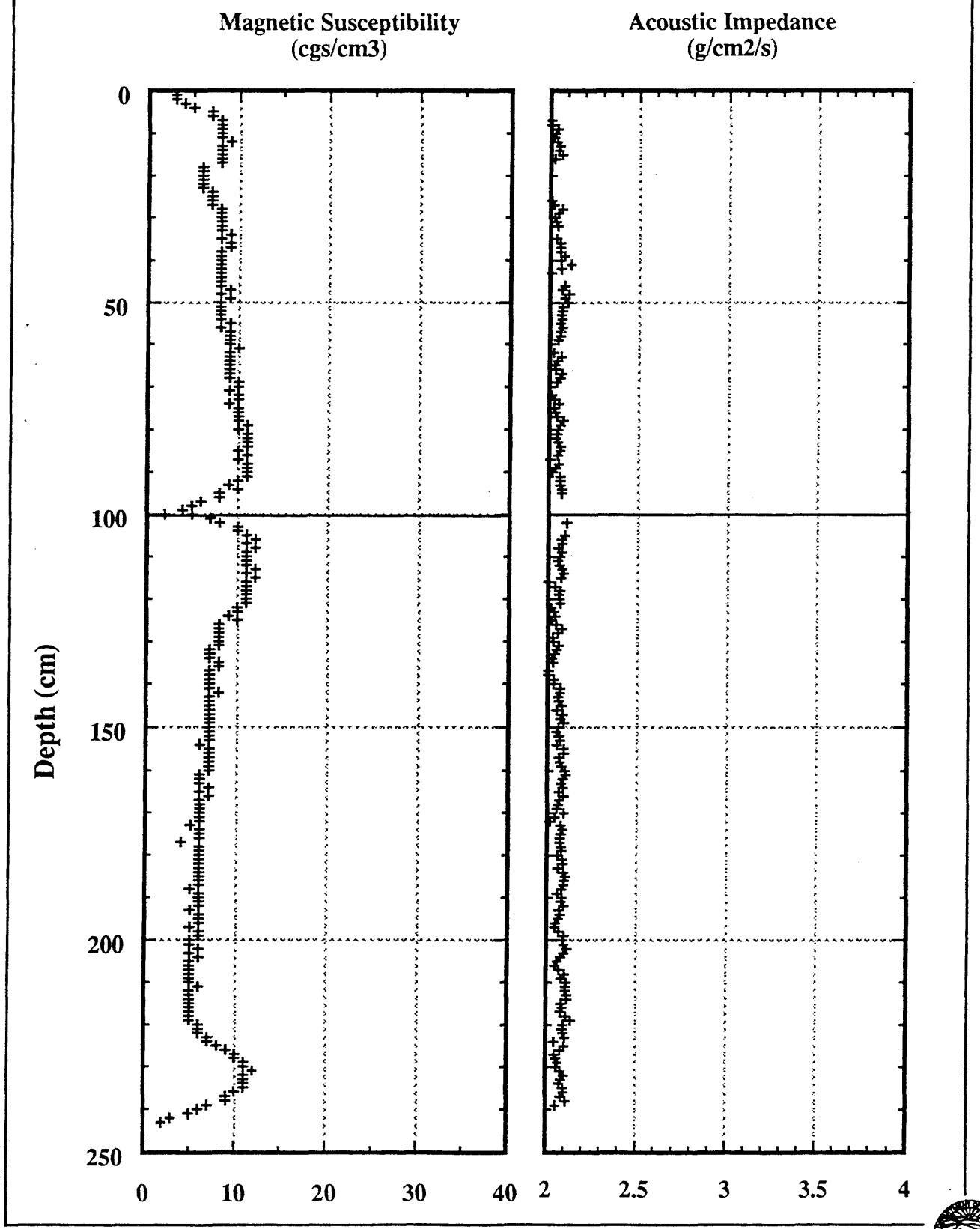
LAT: 34°29.22'N Depth: 3861 m
LON: 122°19.10'W Drill Site ID: CA-11A West of Pt. Conception

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 11TC
(0- 243 cm)



LAT: 34°29.22'N Depth: 3861 m
LON: 122°19.10'W Drill Site ID: CA-11A West of Pt. Conception

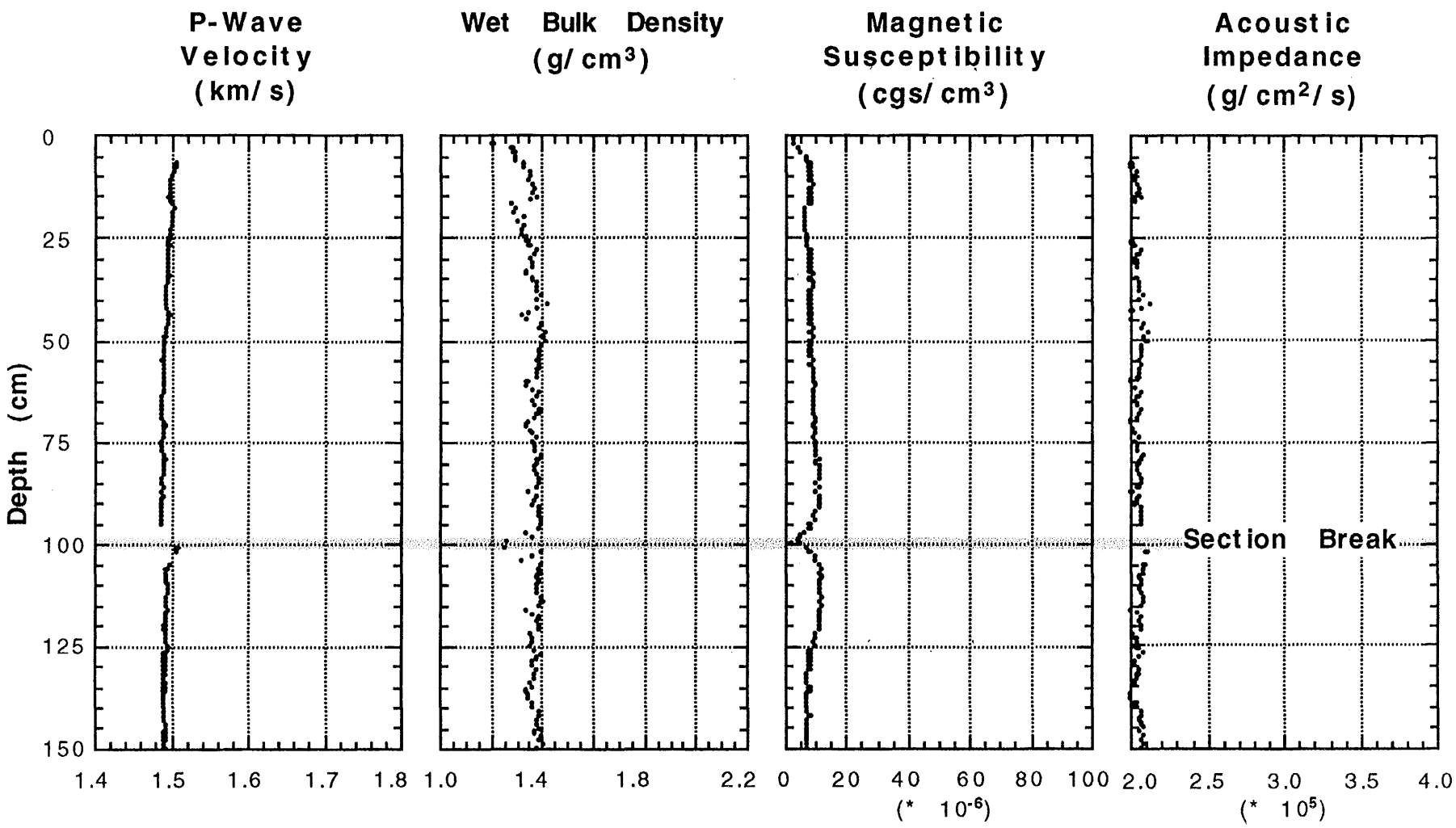
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 11TC

(0-150 cm)



LAT: 34°29.22' N
LON: 122°19.10' W

Depth: 3861 M
Drill Site ID: CA-11A West of Pt. Conception

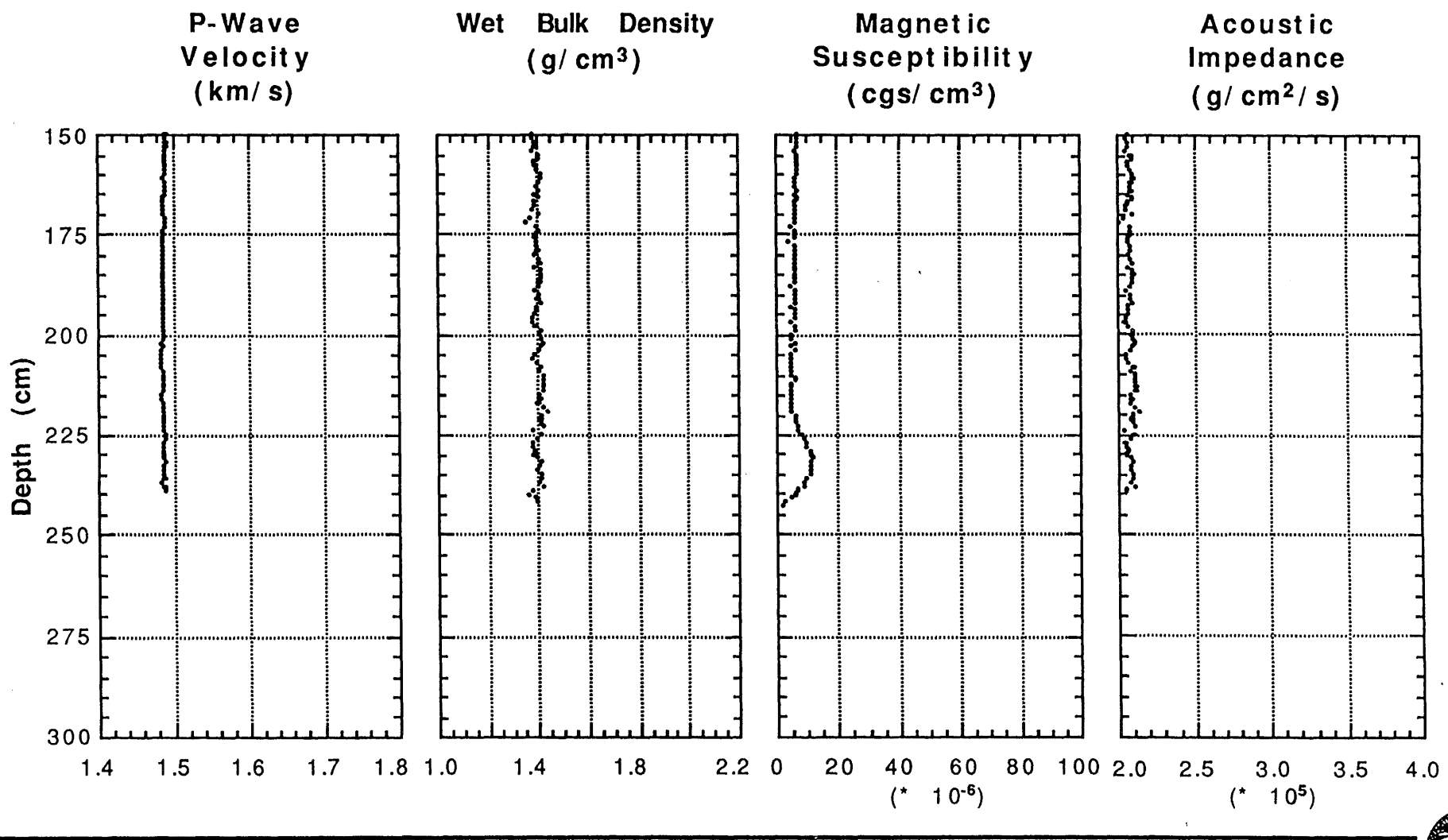
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 11TC

PHYSICAL PROPERTY LOGS

(150-243 cm)



LAT: 34°29.22' N
LON: 122°19.10' W

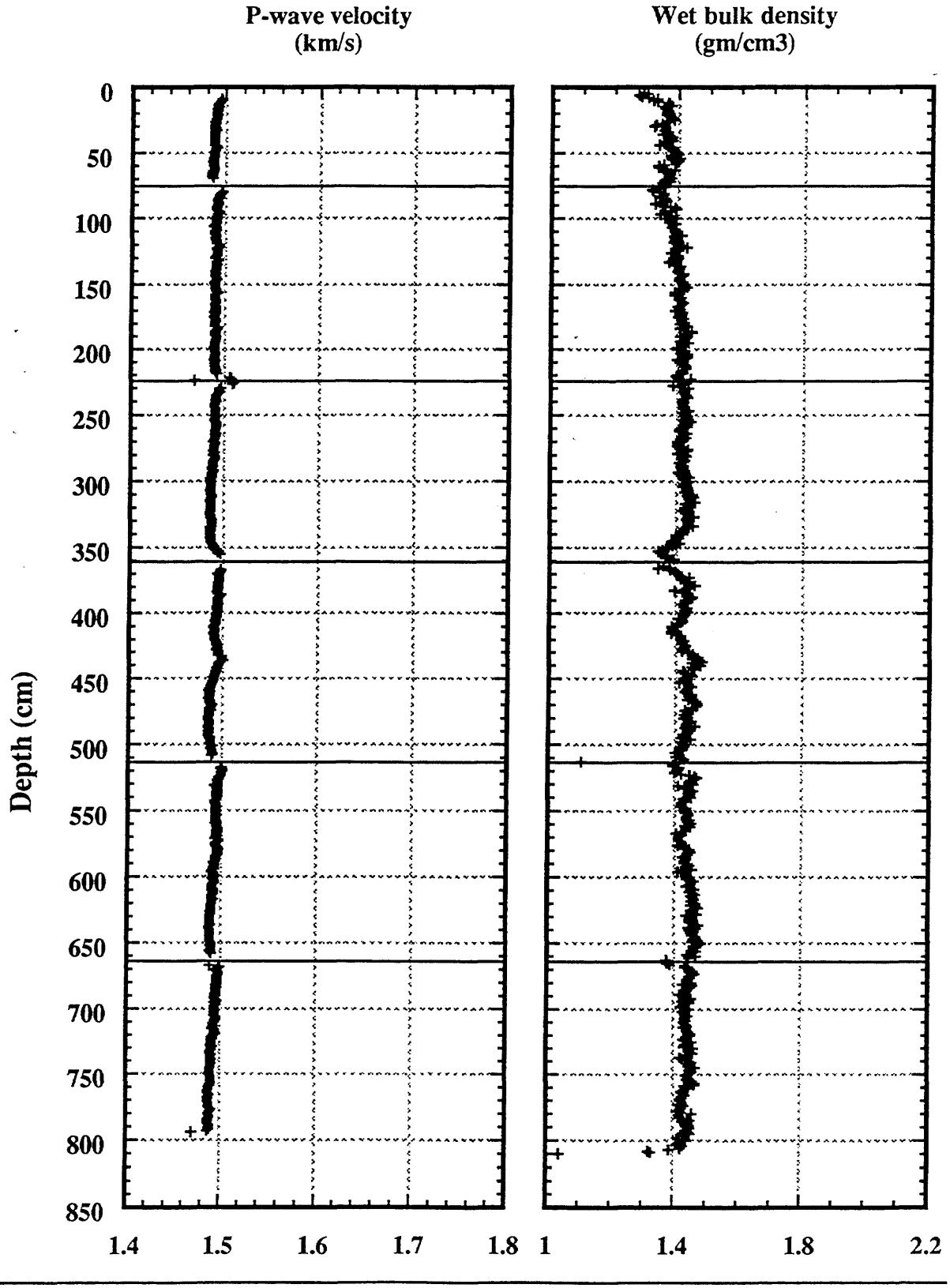
Depth: 3861 M
Drill Site ID: CA-11A West of Pt. Conception

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 11PC
(0- 813 cm)



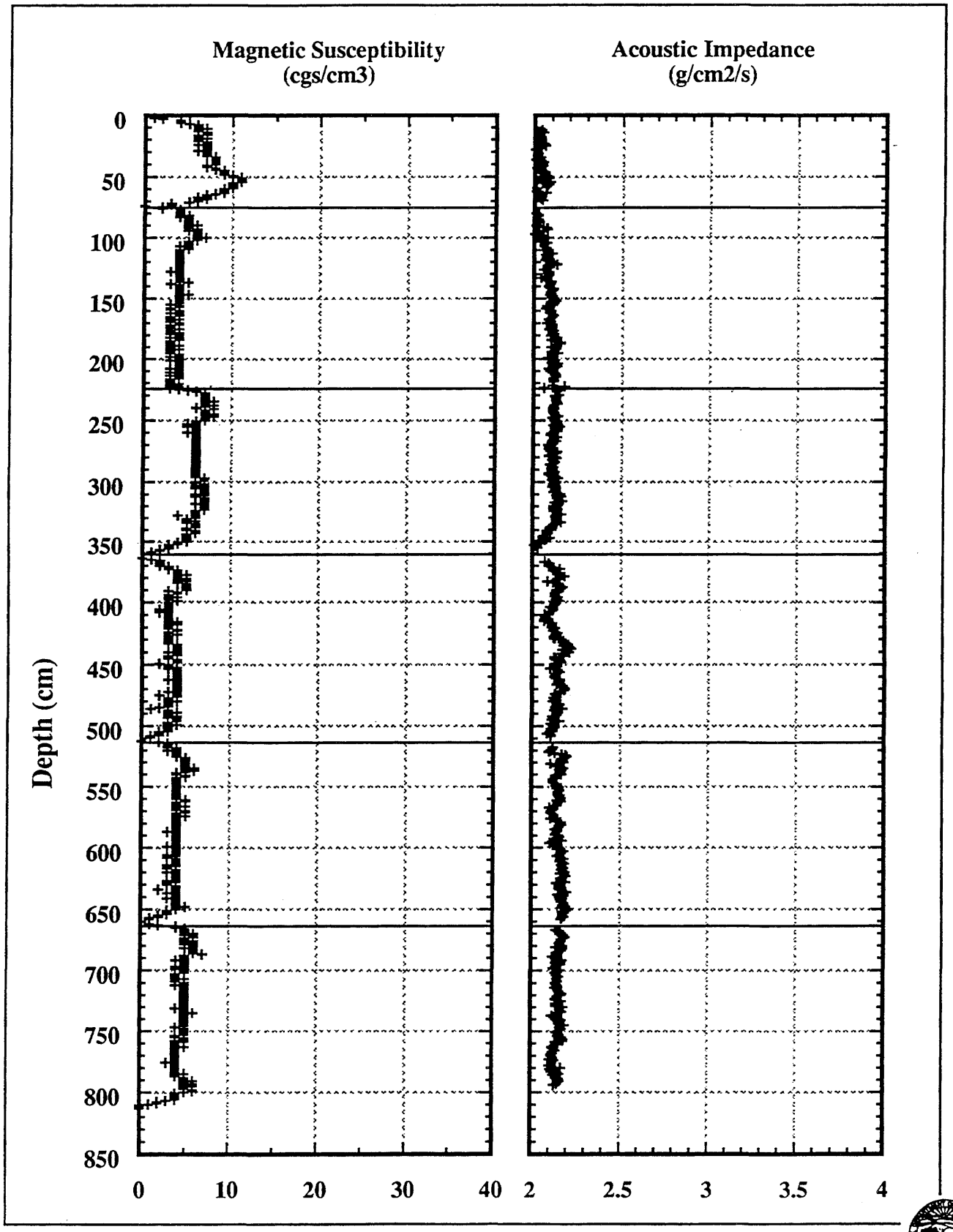
LAT: 34°29.22'N Depth: 3861 m
LON: 122°19.10'W Drill Site ID: CA-11A West of Pt. Conception

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 11PC
(0- 813 cm)



LAT: 34°29.22'N Depth: 3861 m
LON: 122°19.10'W Drill Site ID: CA-11A West of Pt. Conception

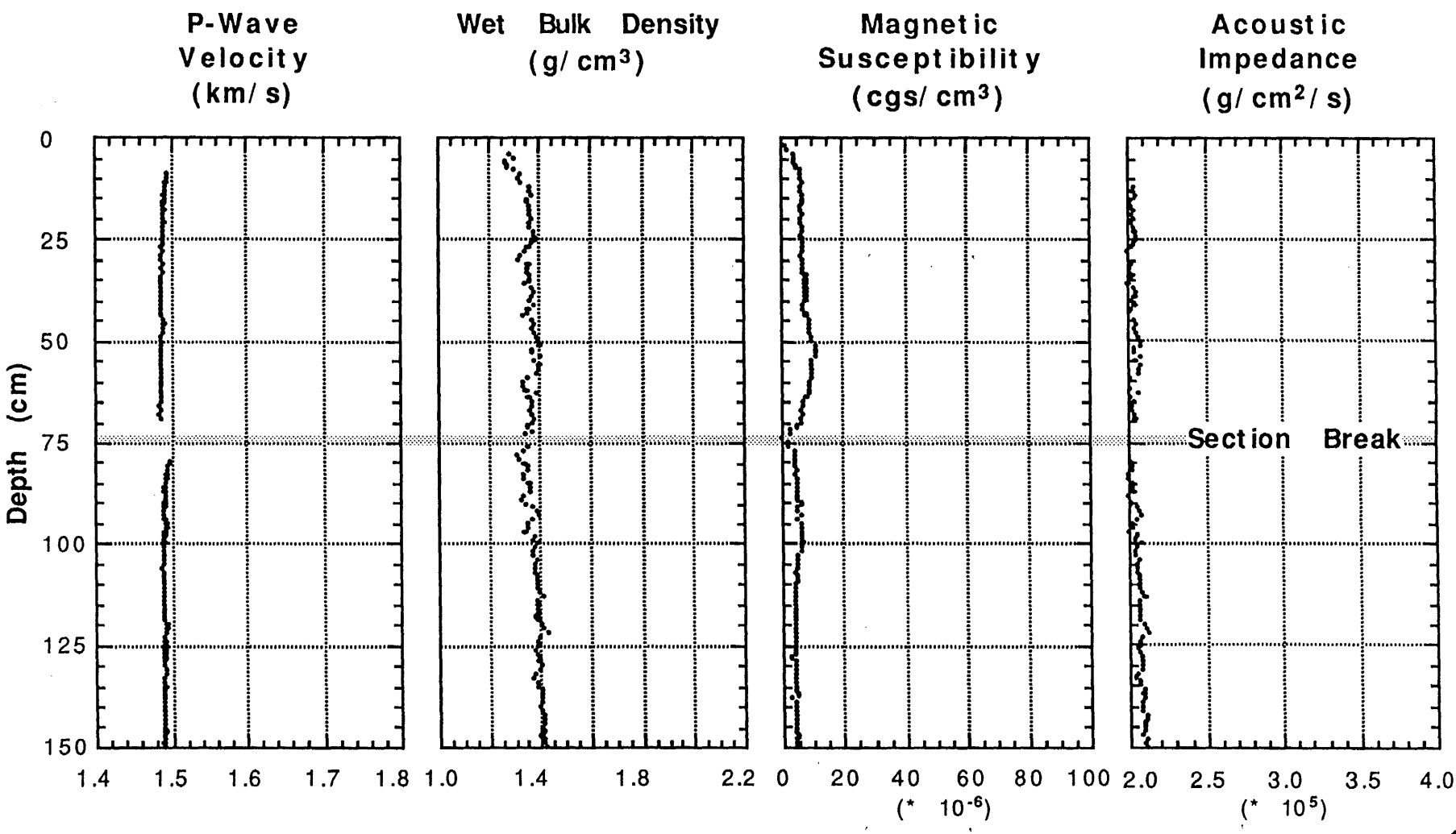
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 11PC

(0- 150 cm)



LAT: 34°29.22' N
LON: 122°19.10' W

Depth: 3861 M
Drill Site ID: CA-11A West of Pt. Conception

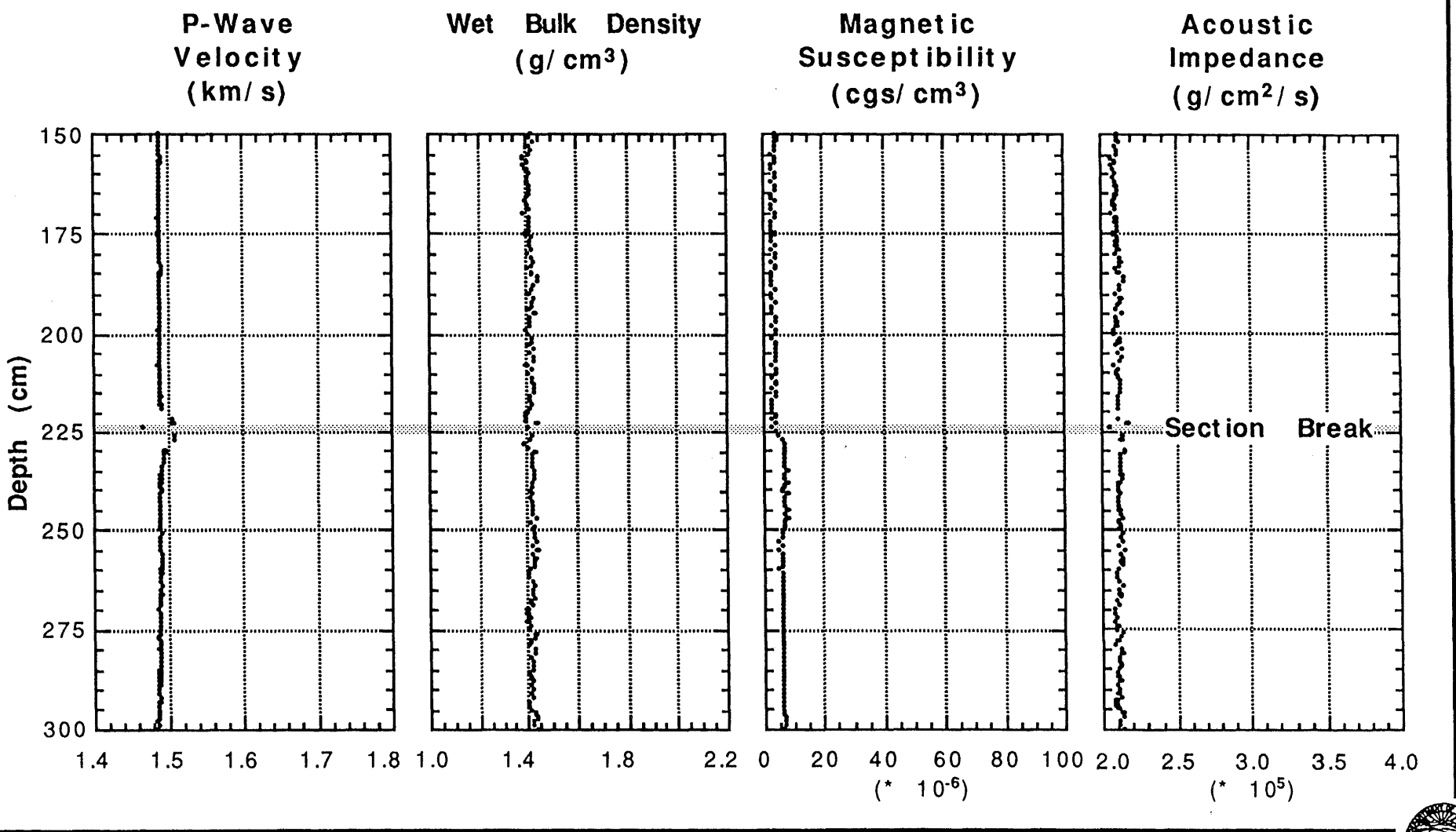
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 11PC

(150-300 cm)



LAT: 34°29.22' N
LON: 122°19.10' W

Depth: 3861 M
Drill Site ID: CA-11A West of Pt. Conception

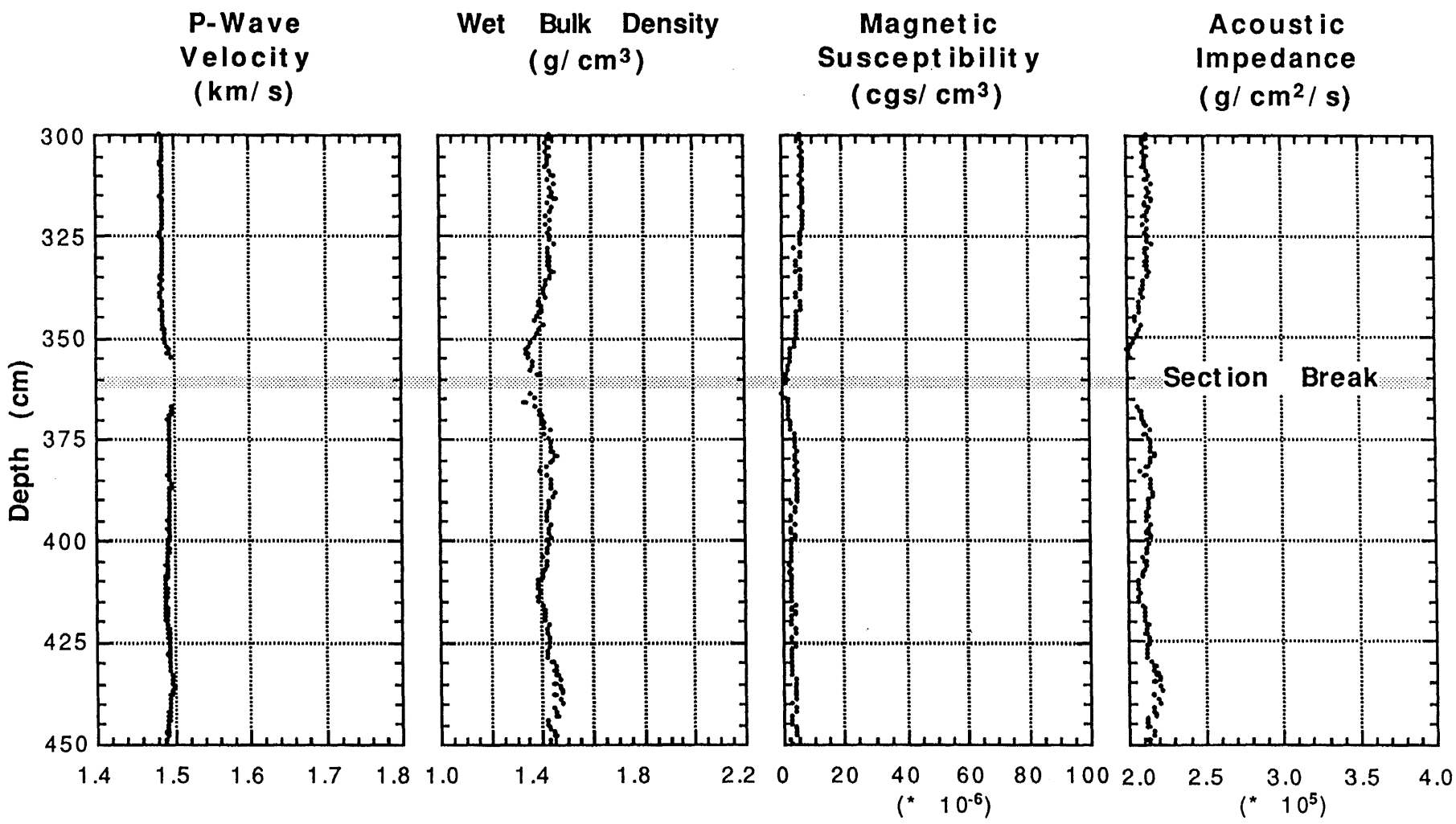
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 11PC

(300-450 cm)



LAT: 34°29.22' N
LON: 122°19.10' W

Depth: 3861 M
Drill Site ID: CA-11A West of Pt. Conception

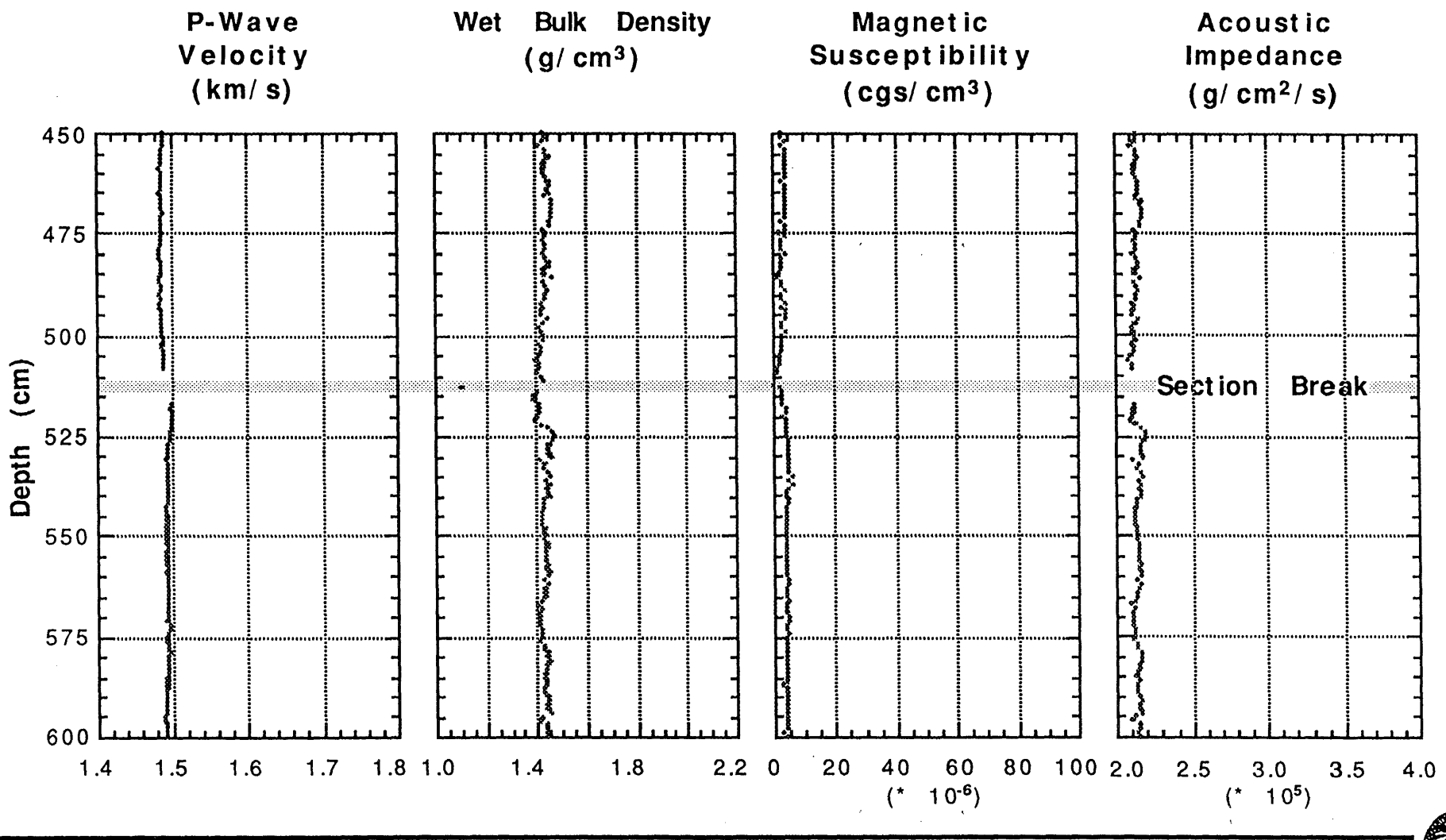
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 11PC

(450-600 cm)



LAT: 34°29.22' N
LON: 122°19.10' W

Depth: 3861 M
Drill Site ID: CA-11A West of Pt. Conception

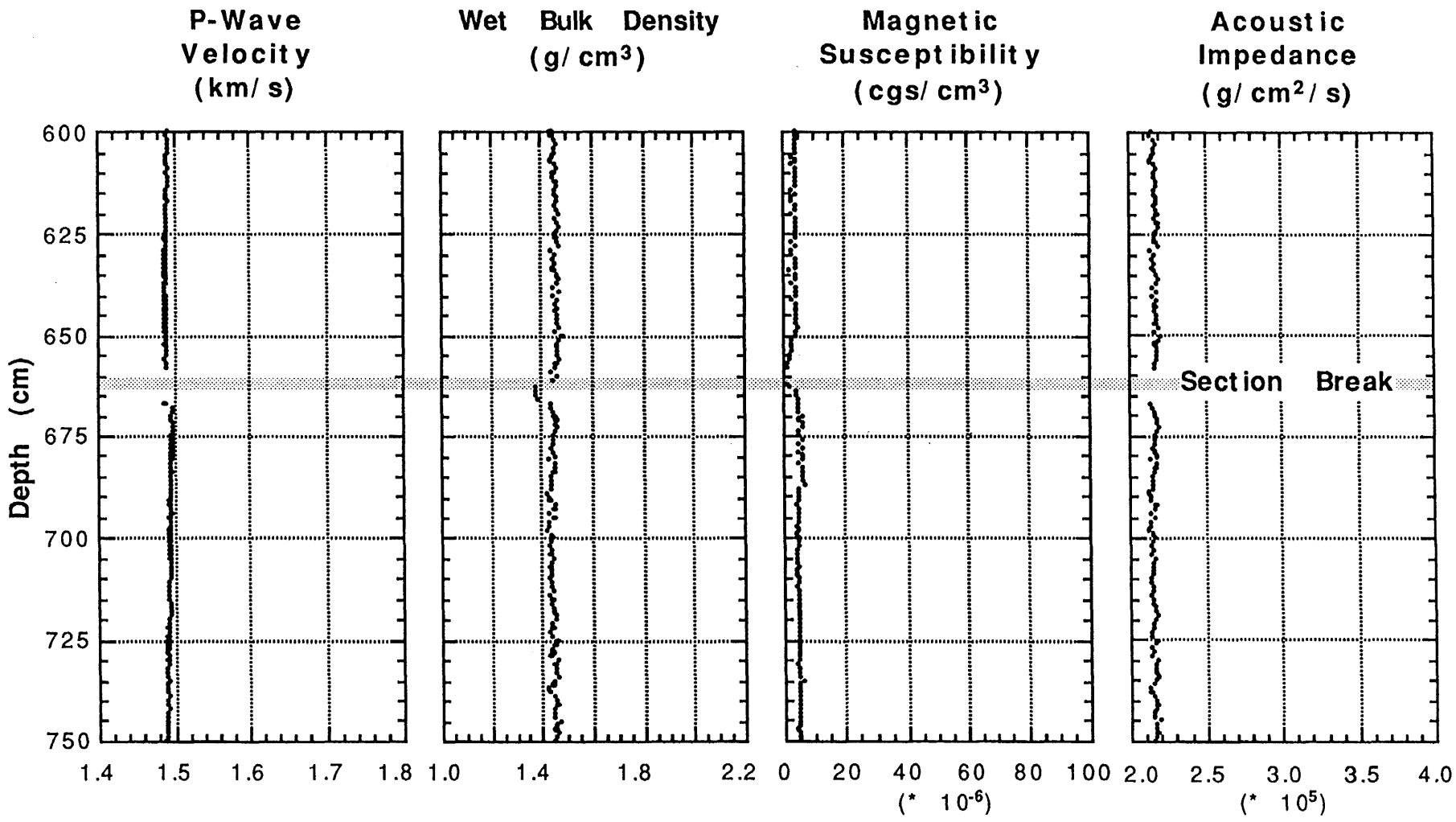
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 11PC

(600-750 cm)



LAT: 34°29.22' N
LON: 122°19.10' W

Depth: 3861 M
Drill Site ID: CA-11A West of Pt. Conception

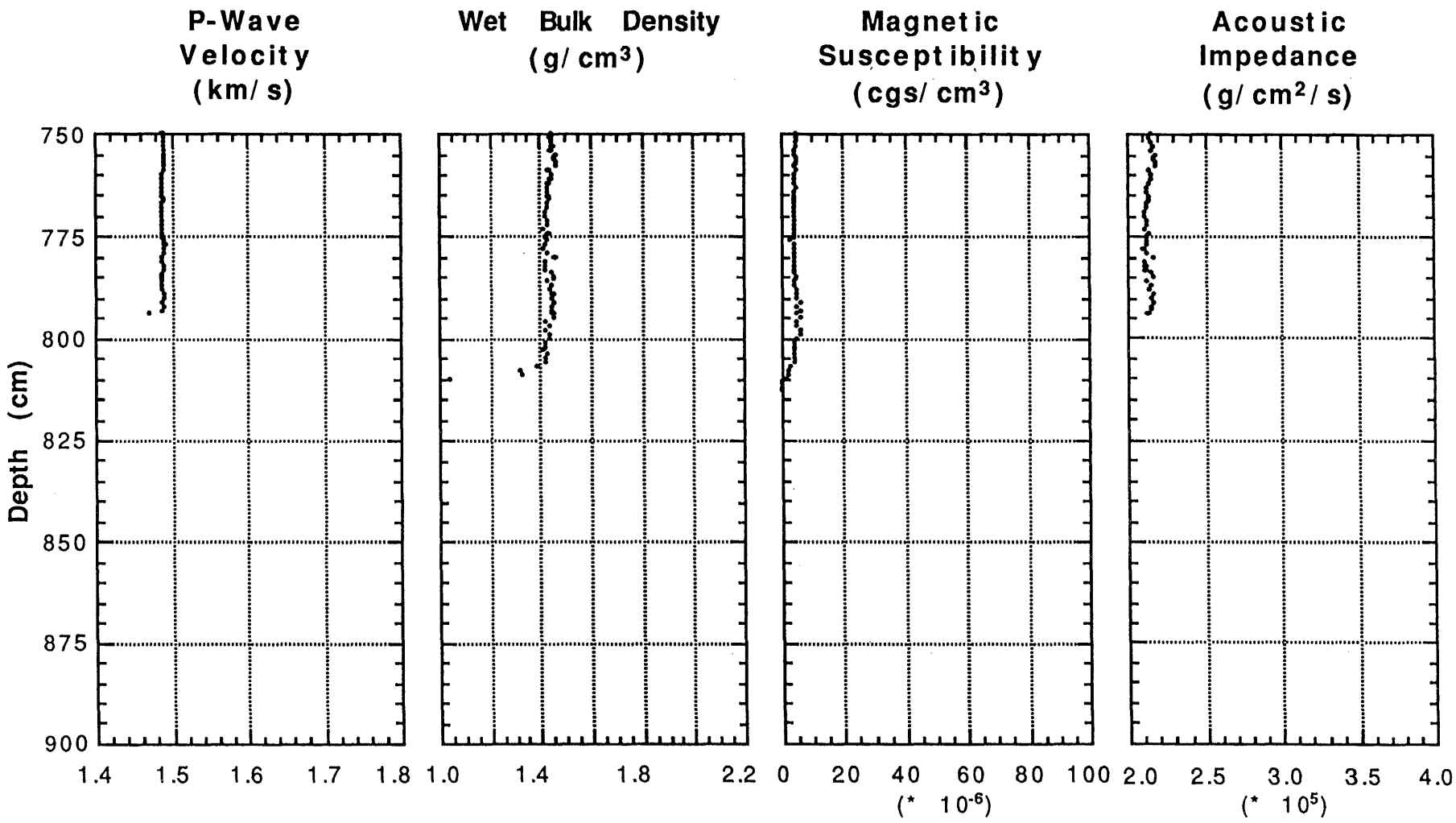
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 11PC

(750-813 cm)

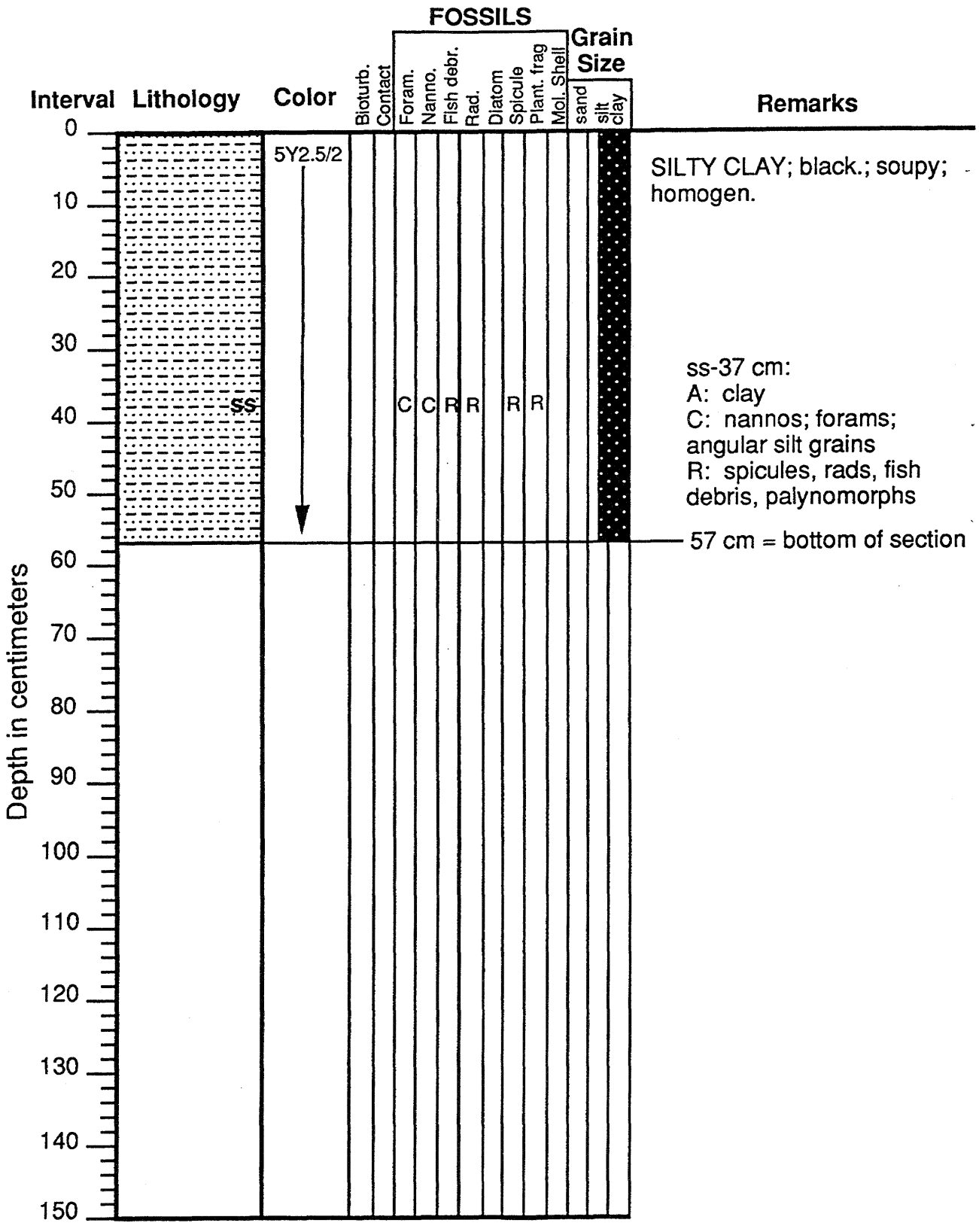


LAT: 34°29.22' N
LON: 122°19.10' W

Depth: 3861 M
Drill Site ID: CA-11A West of Pt. Conception

USGS

EW95-04 Core: 12TC Sect.: 2 (0-57 cm)
34 32.81 N, 121 00.46 W, 948 m



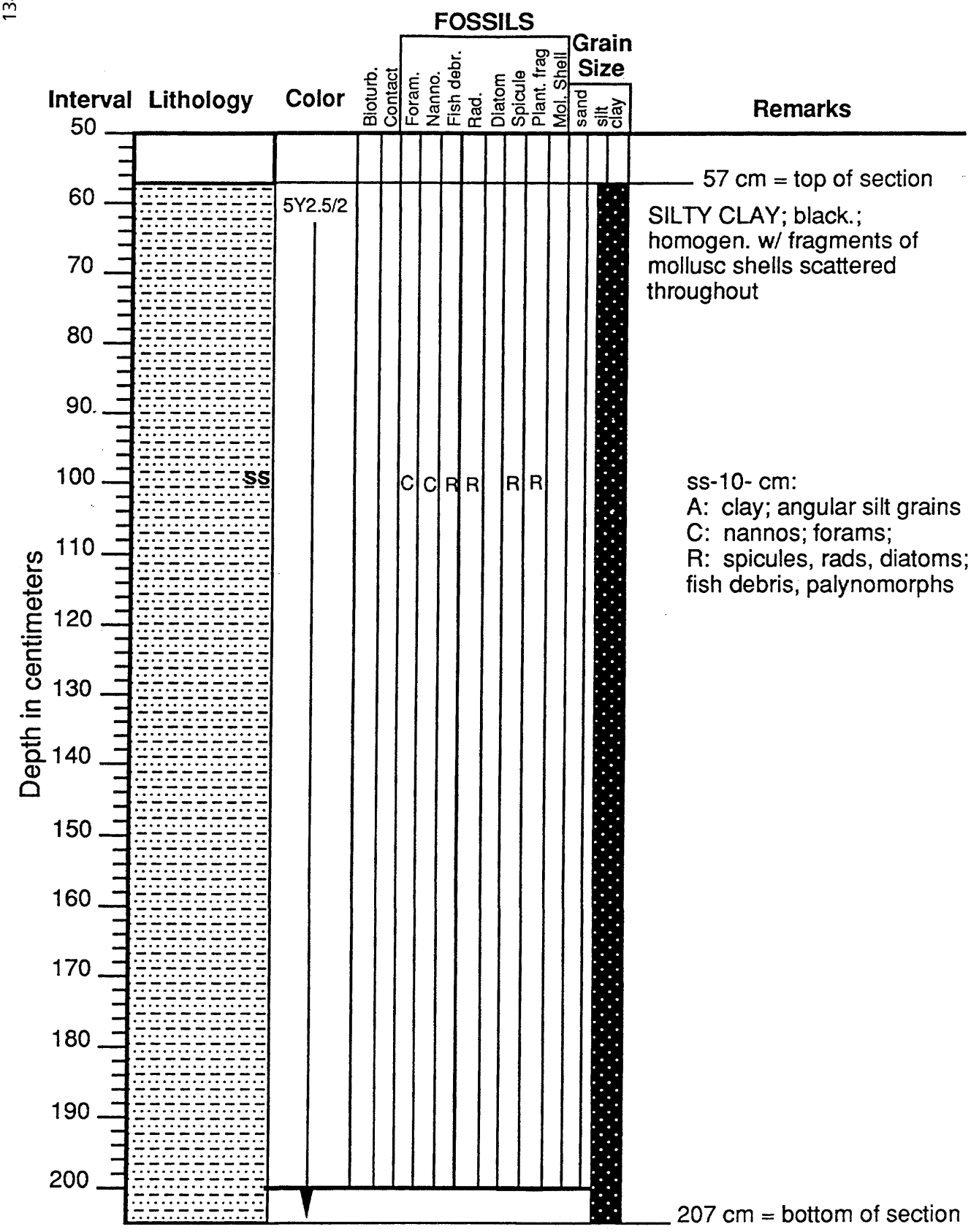
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

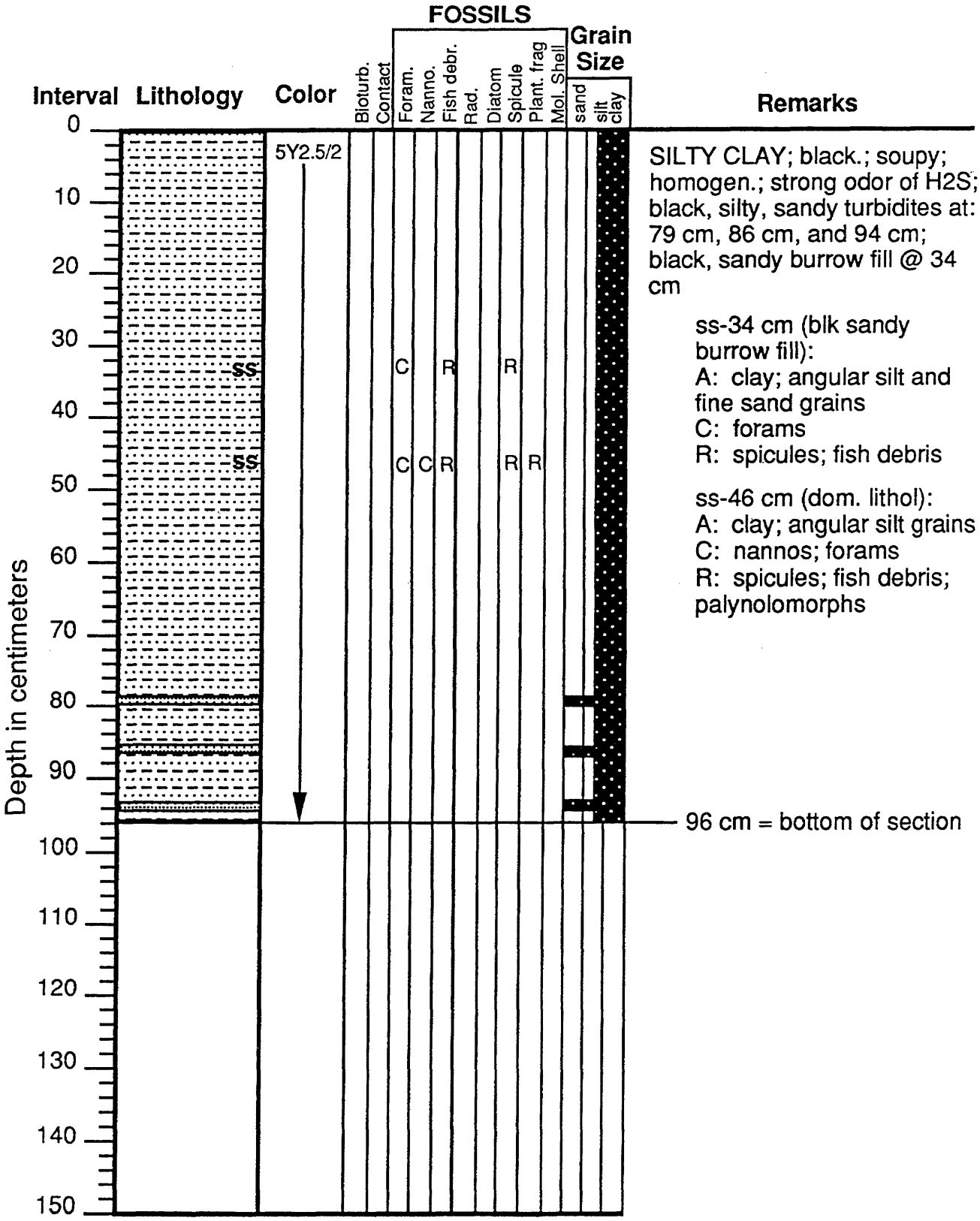
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 12TC Sect.: 1 (57-207 cm)
34 32.81 N, 121 00.46 W, 948 m



EW95-04 Core: 12PC Sect.: 7 (0-96 cm)
34 32.81 N, 121 00.46 W, 948 m



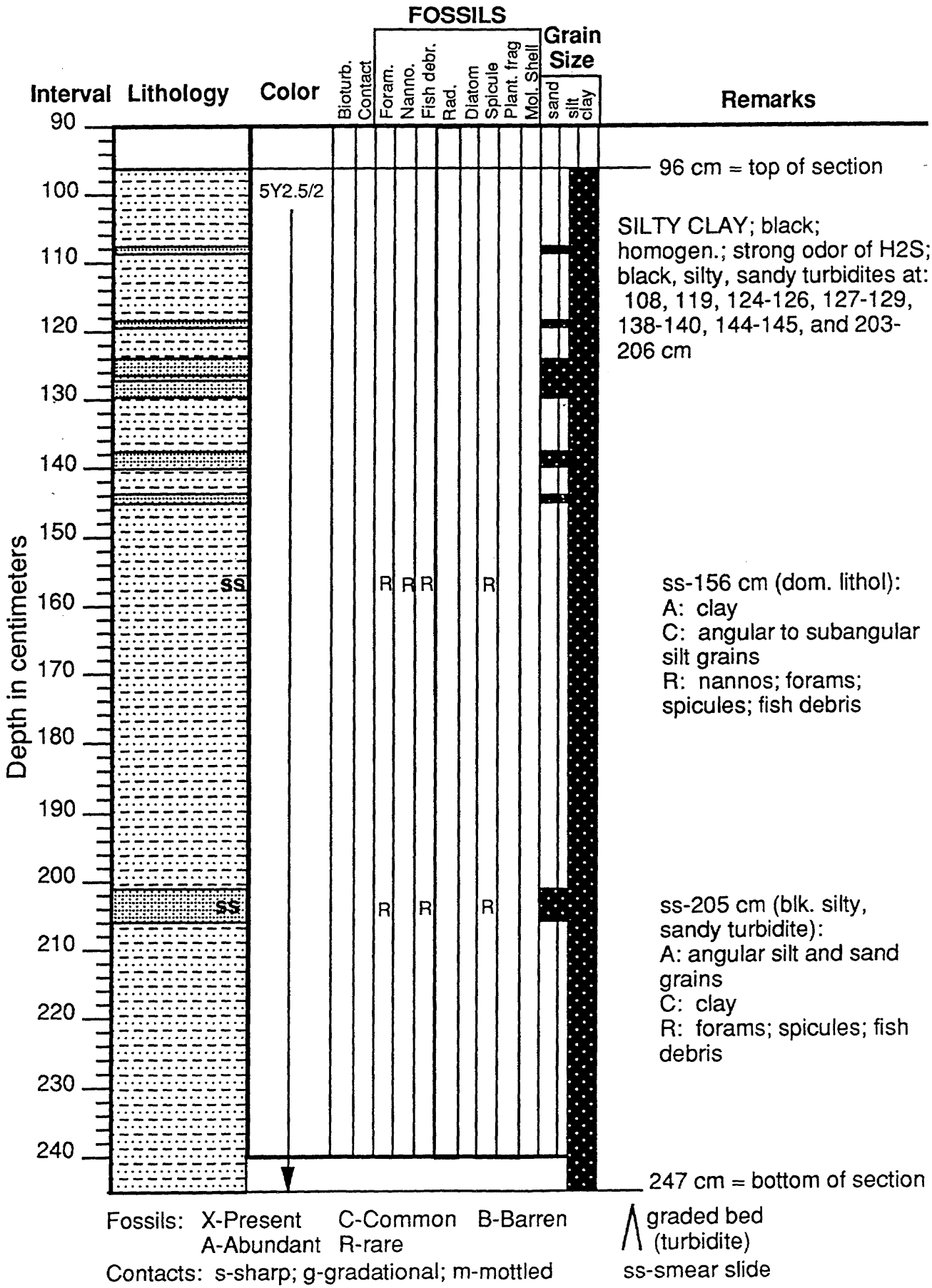
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

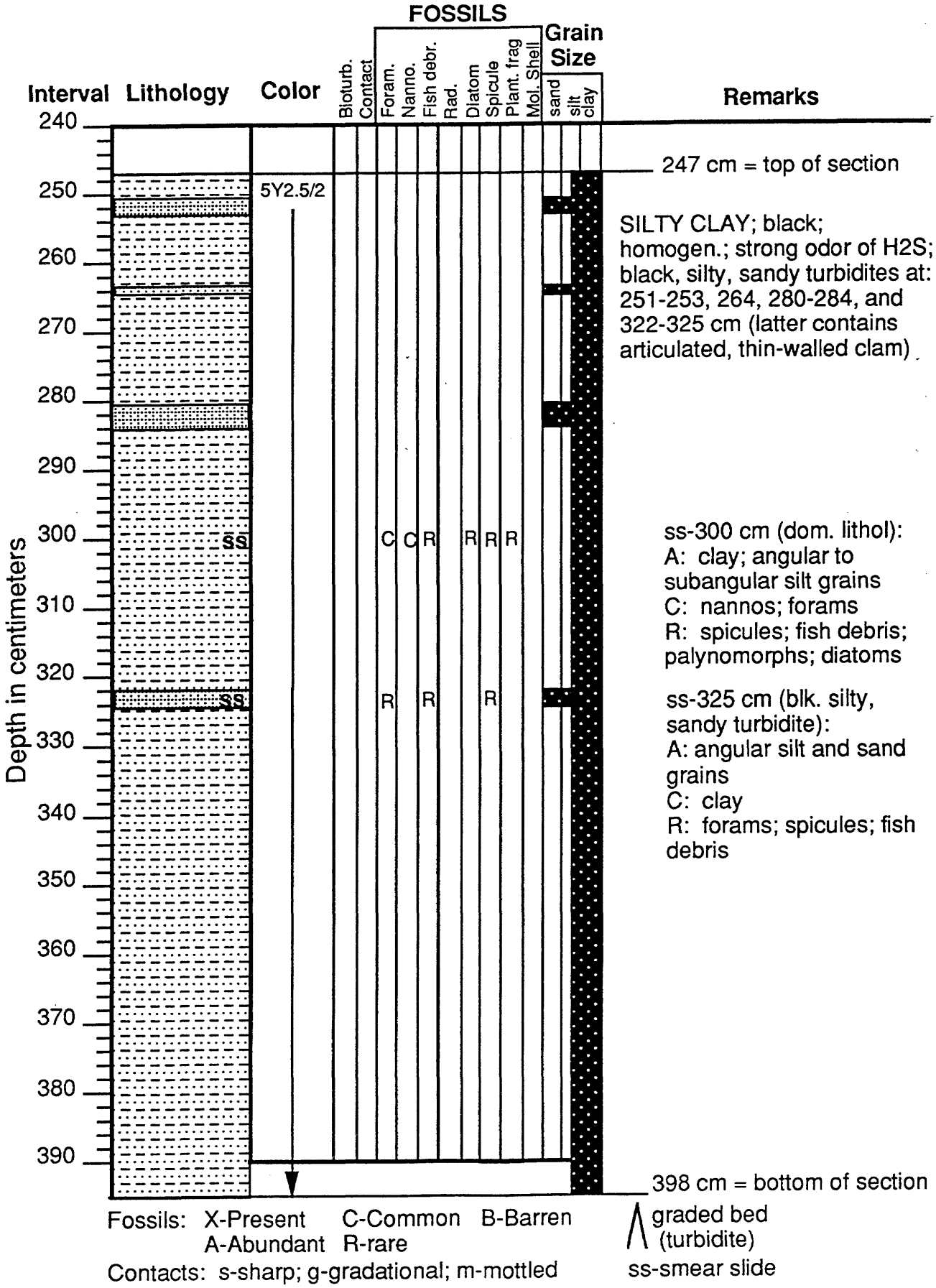
graded bed (turbidite)

ss-smear slide

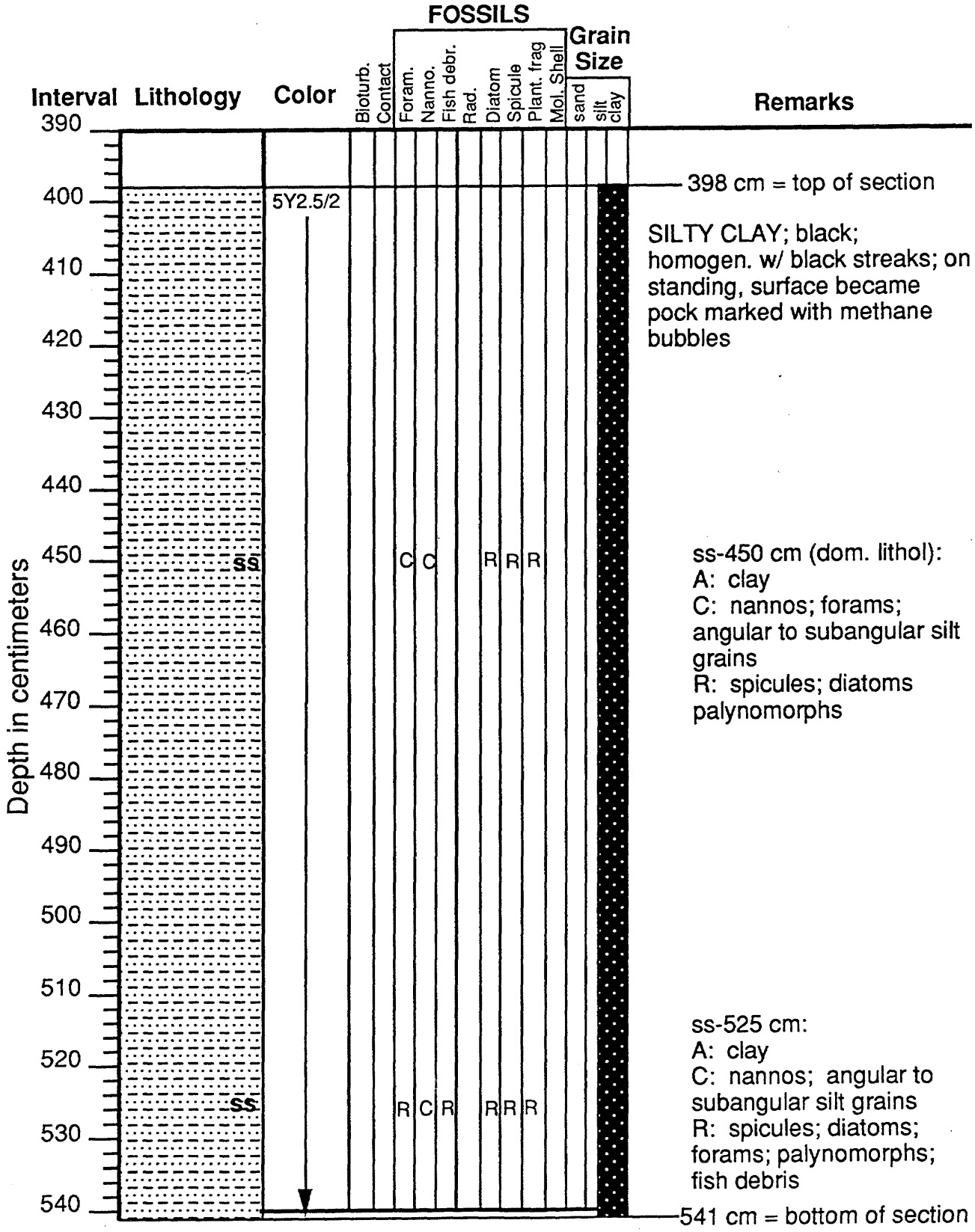
EW95-04 Core: 12PC Sect.: 6 (96-247 cm)
34 32.81 N, 121 00.46 W, 948 m



EW95-04 Core: 12PC Sect.: 5 (247-398 cm)
34 32.81 N, 121 00.46 W, 948 m



EW95-04 Core: 12PC Sect.: 4 (398-541 cm)
34 32.81 N, 121 00.46 W, 948 m



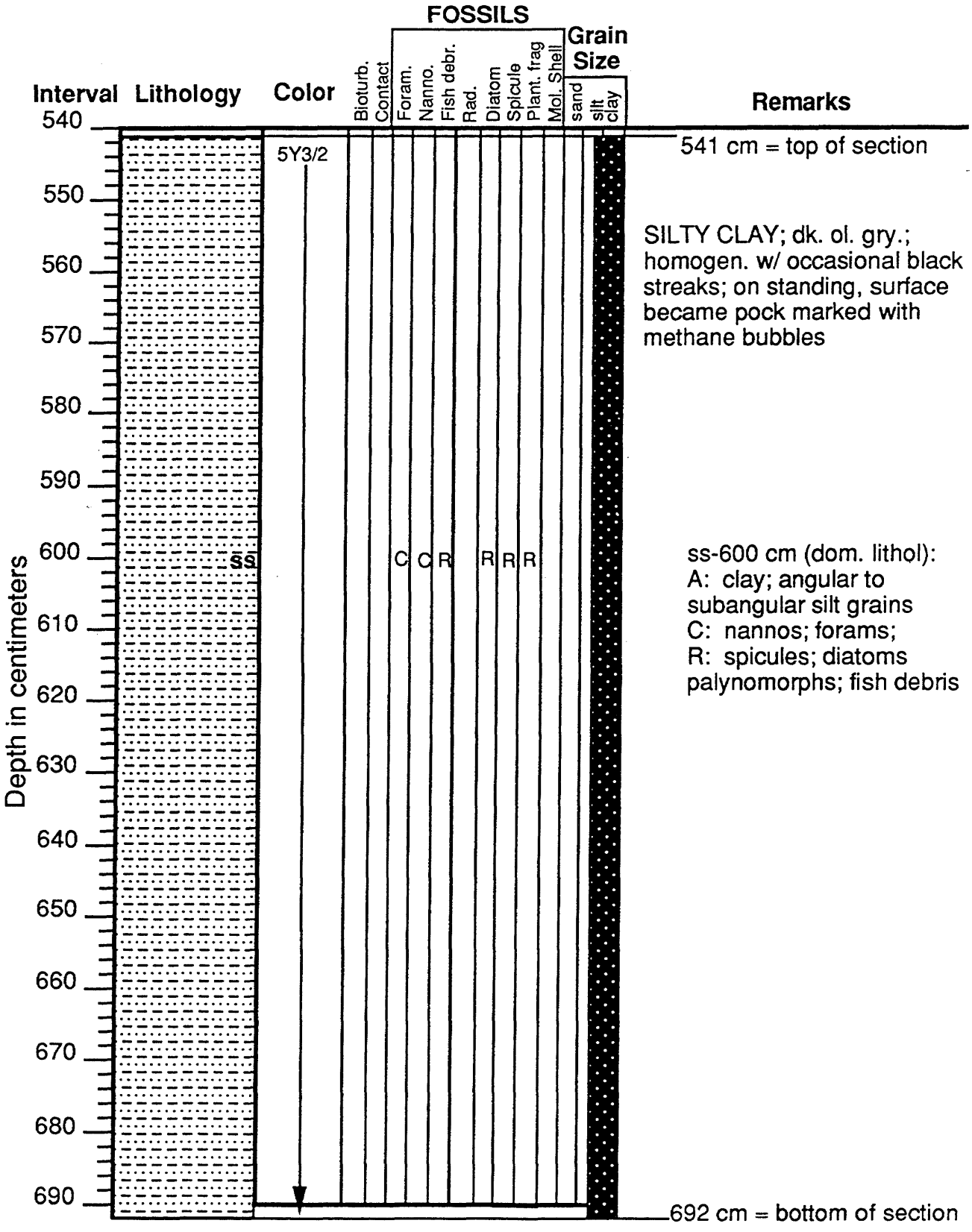
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 12PC Sect.: 3 (541-692 cm)
34 32.81 N, 121 00.46 W, 948 m



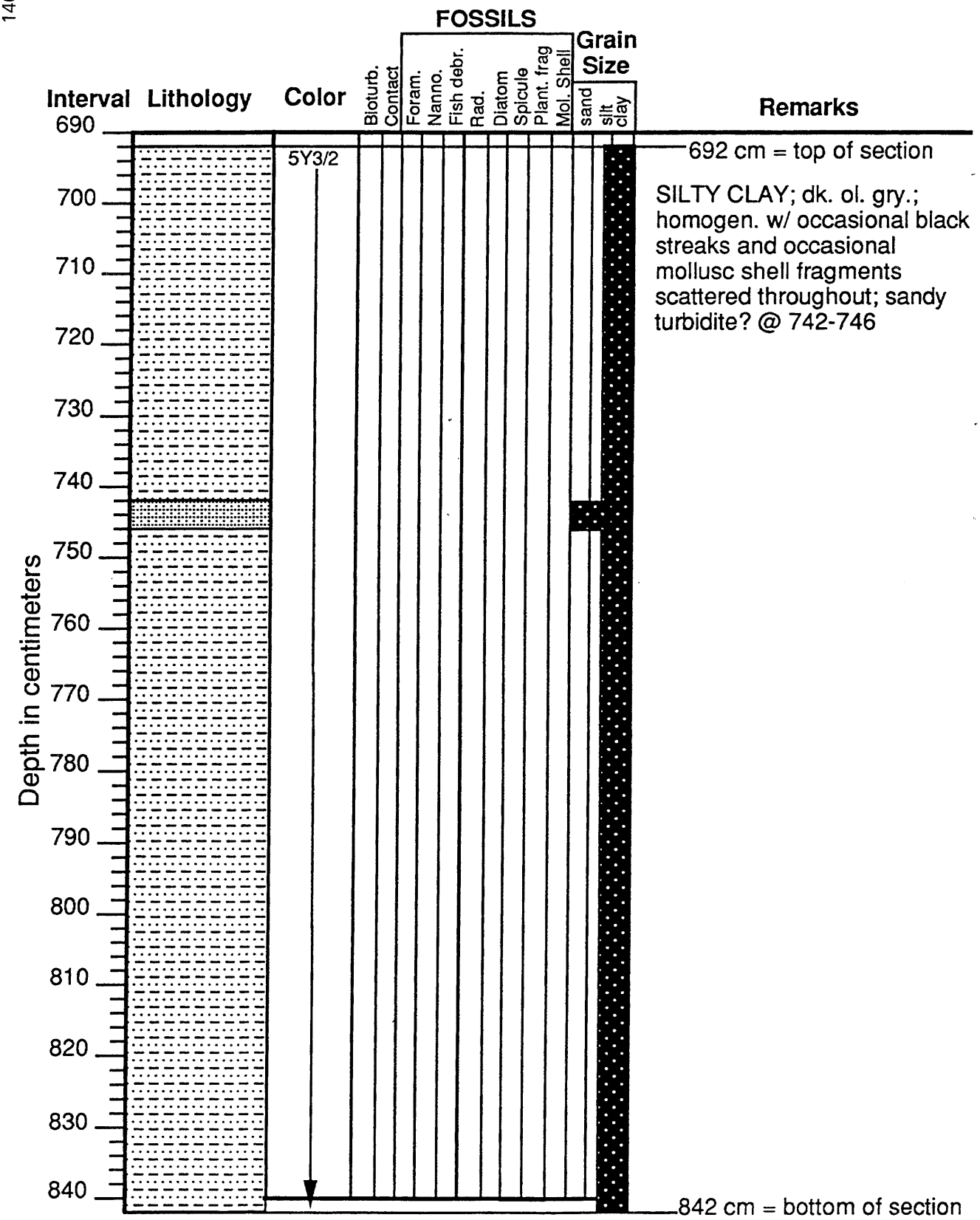
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 12PC Sect.: 2 (692-842 cm)
334 32.81 N, 121 00.46 W, 948 m



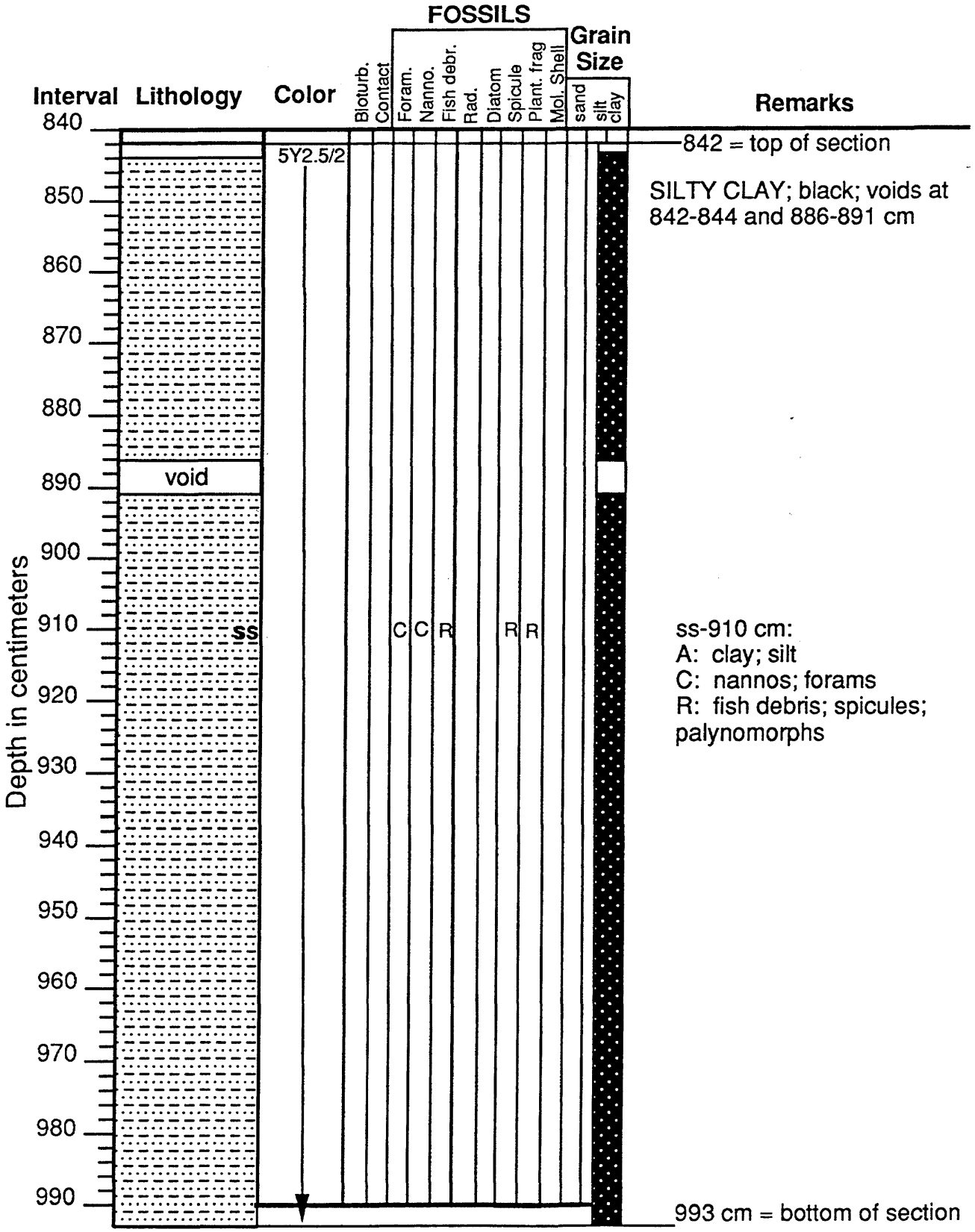
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 12PC Sect.: 1 (842-993 cm)
34 32.81 N, 121 00.46 W, 948 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

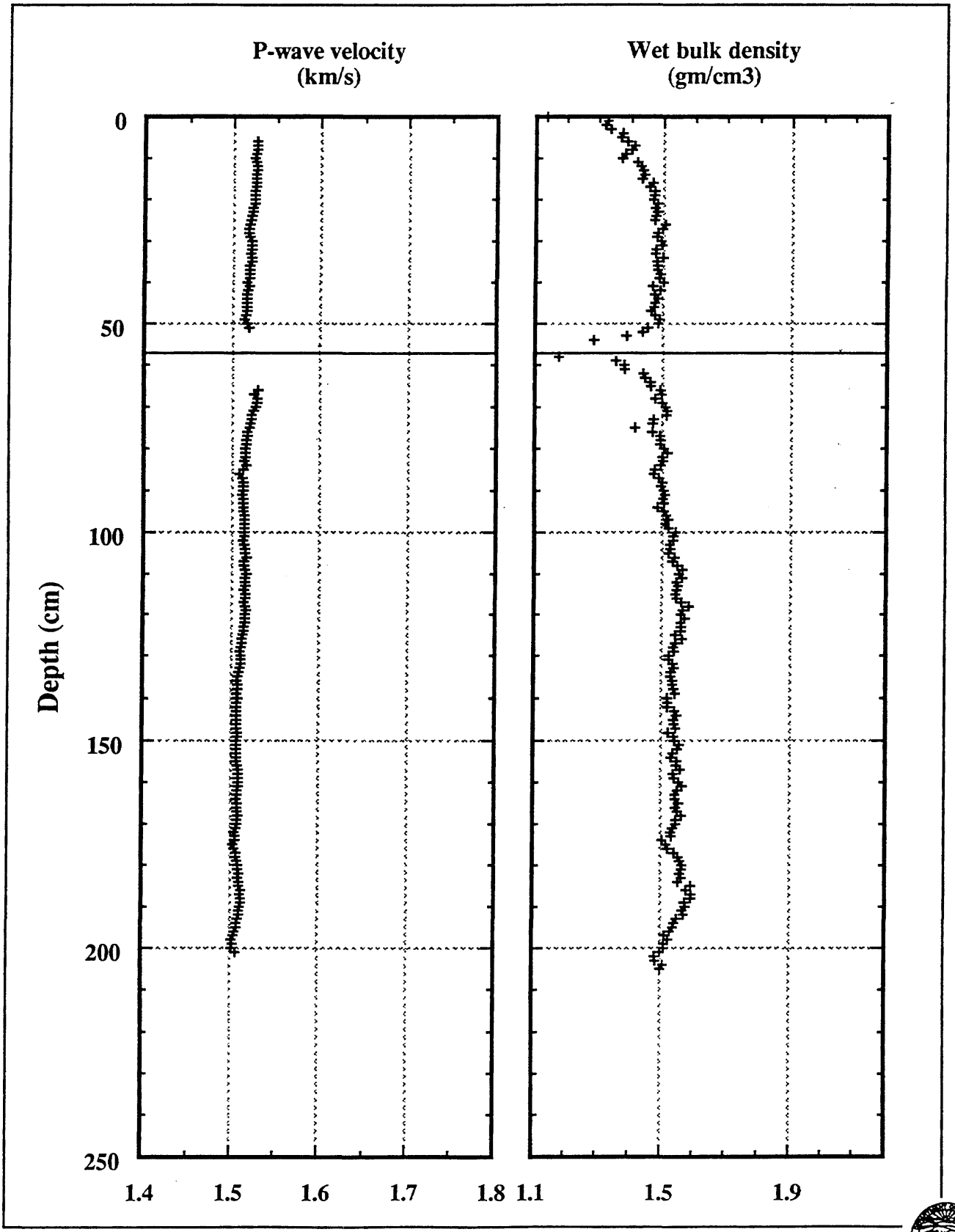
graded bed (turbidite)

ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 12TC
(0- 207 cm)



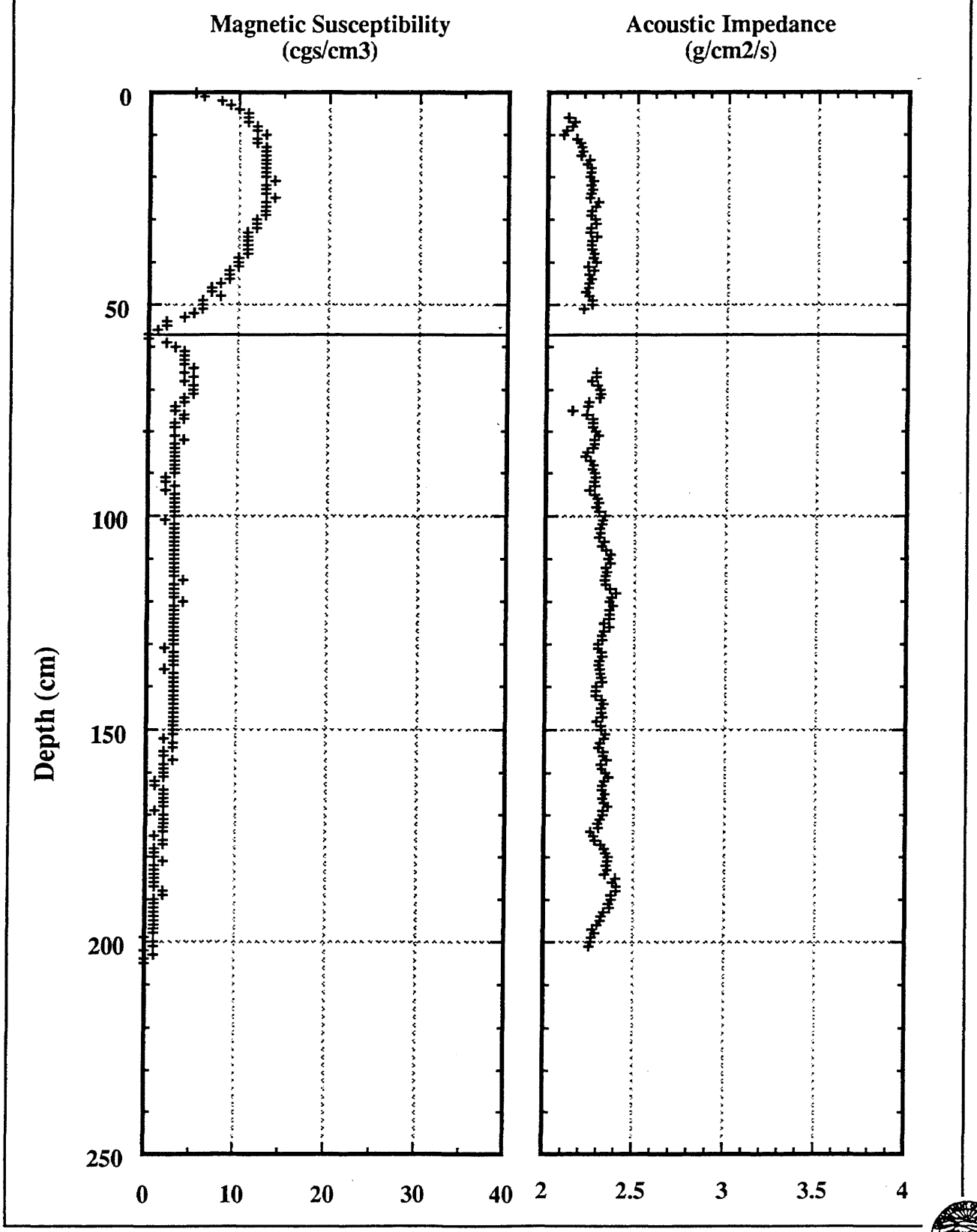
LAT: 34°32.81'N Depth: 940 m
LON: 121°06.46'W Drill Site ID: CA-9 Southern Santa Lucia Bank

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 12TC
(0- 207 cm)



LAT: 34°32.81'N Depth: 940 m
LON: 121°06.46'W Drill Site ID: CA-9 Southern Santa Lucia Bank

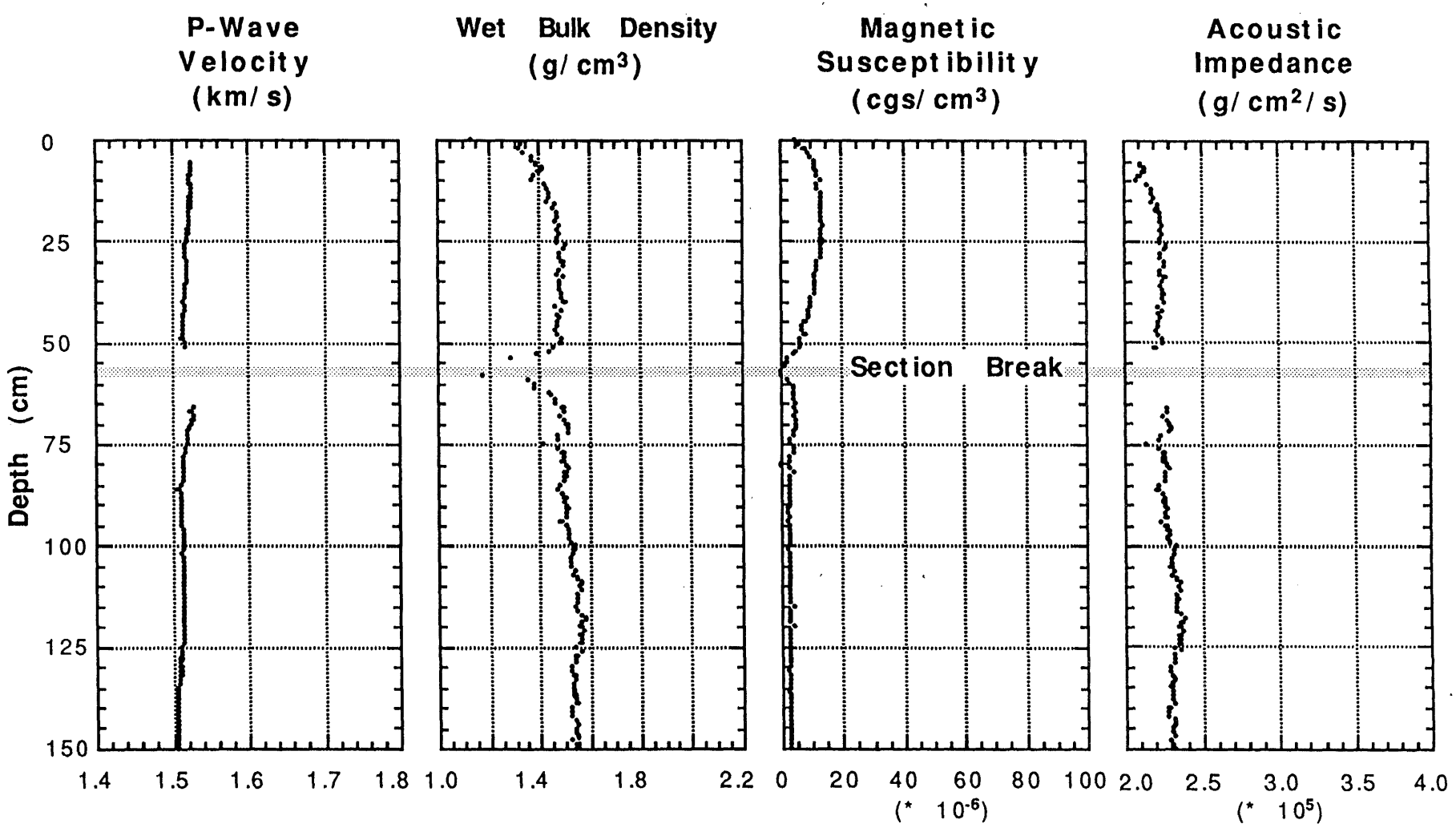
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 12TC

(0-150 cm)



LAT: 34°32.81' N
LON: 121°06.46' W

Depth: 940 M
Drill Site ID: CA-9 Southern Santa Lucia Bank

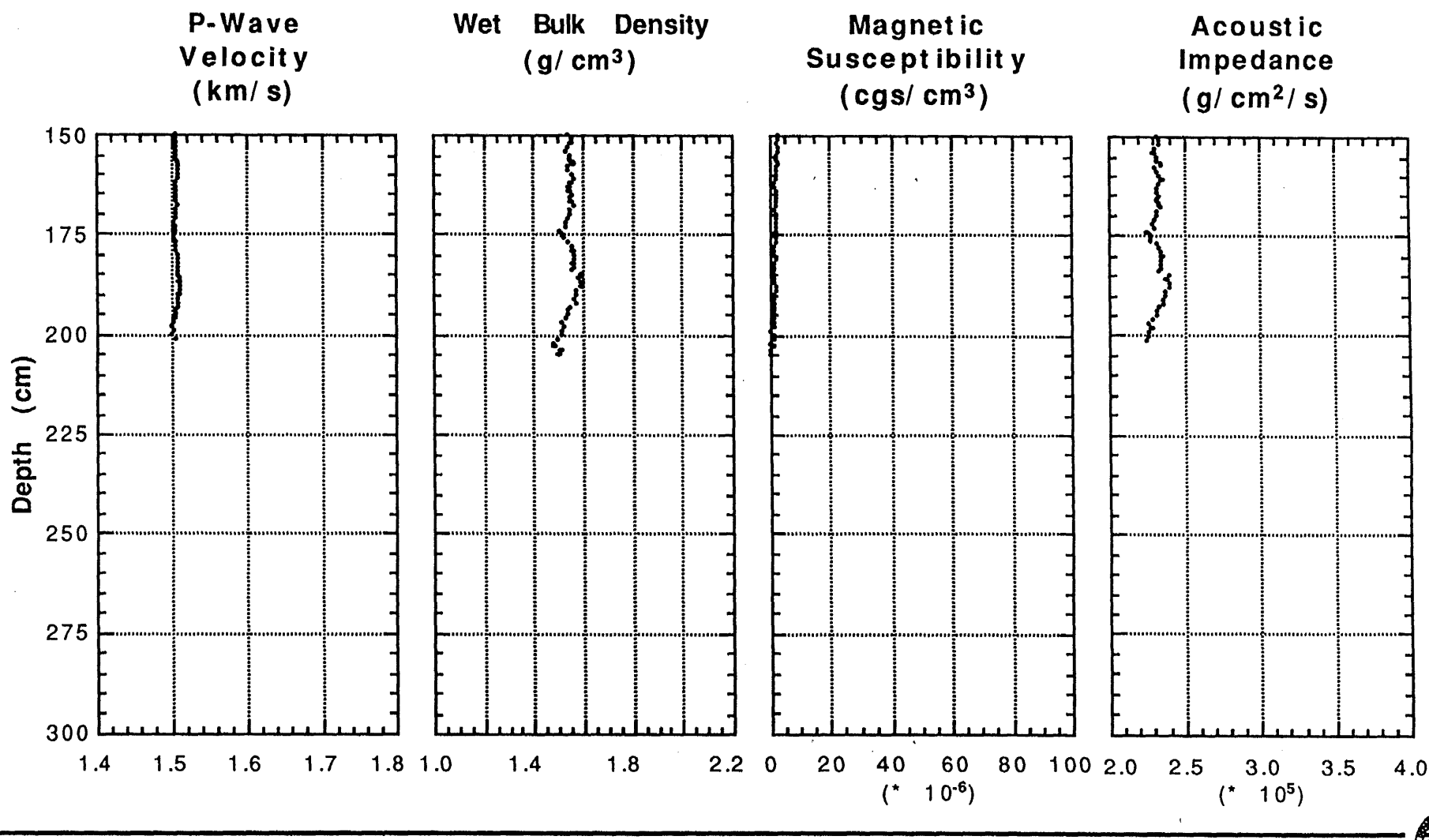
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 12TC

(150-207 cm)



LAT: 34°32.81' N
LON: 121°06.46' W

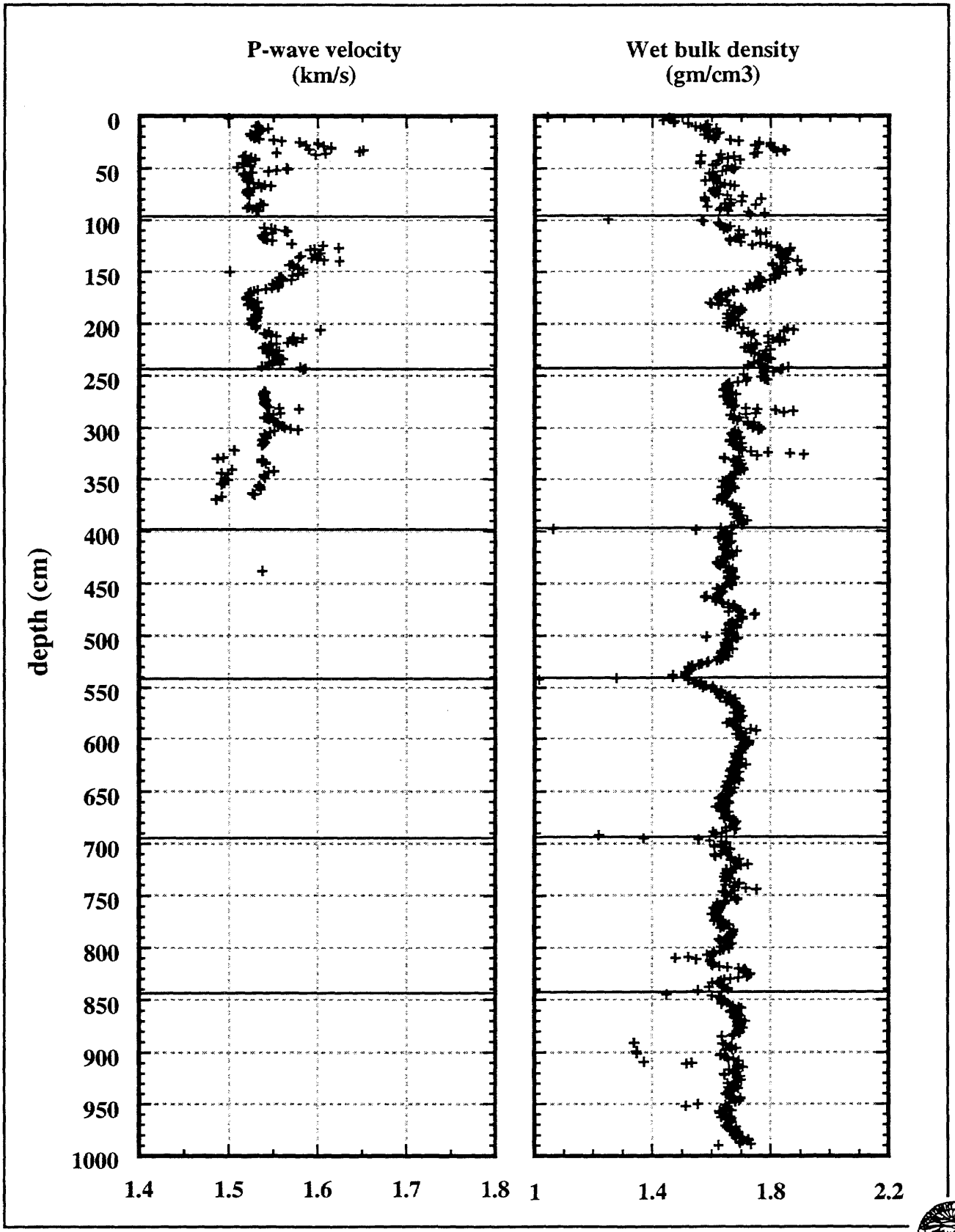
Depth: 940 M
Drill Site ID: CA-9 Southern Santa Lucia Bank

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 12PC
(0- 993 cm)



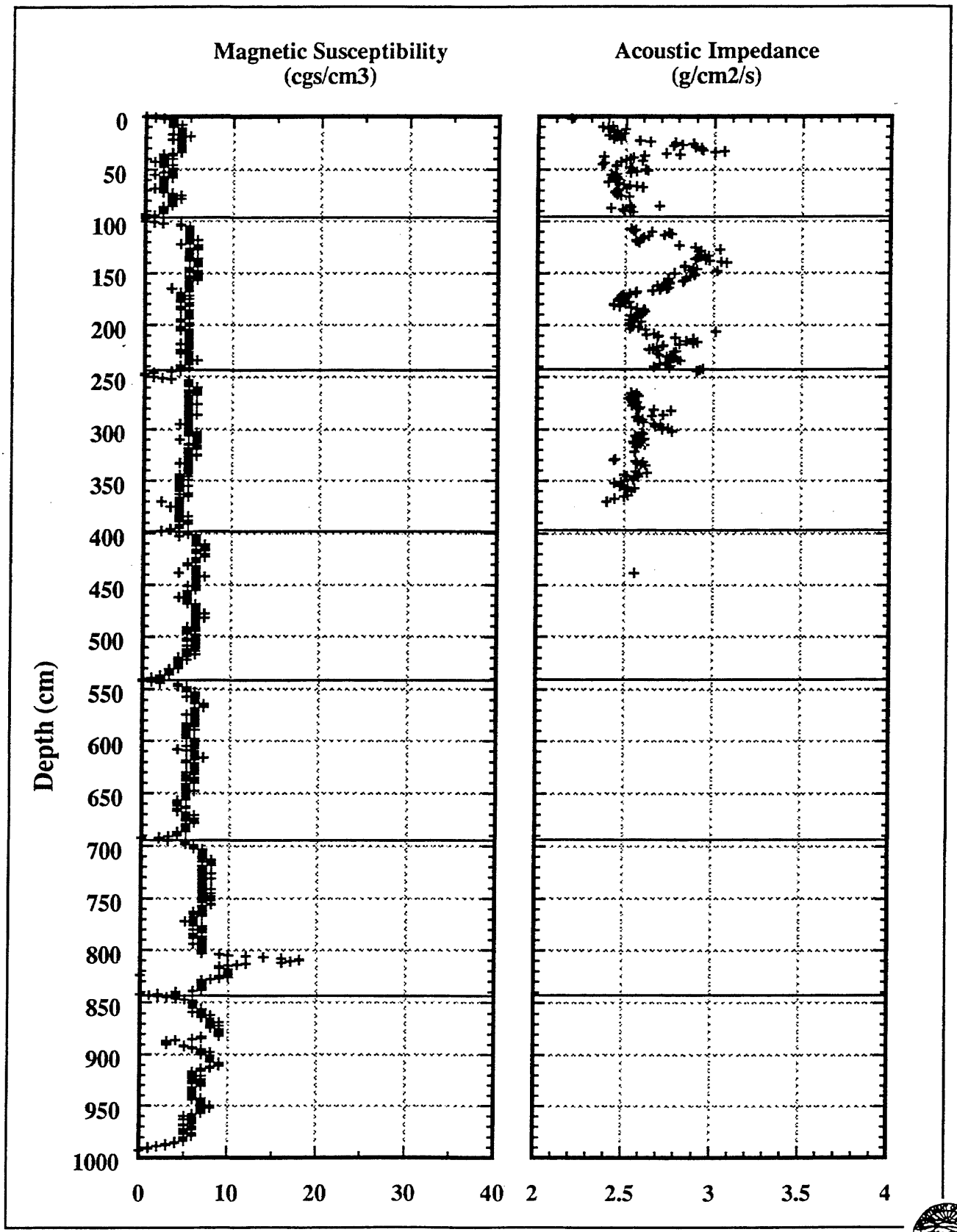
LAT: 34°32.81'N Depth: 940 m
LON: 121°06.46'W Drill Site ID: CA-9 Southern Santa Lucia Bank

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 12PC
(0- 993 cm)



LAT: 34°32.81'N Depth: 940 m
LON: 121°06.46'W Drill Site ID: CA-9 Southern Santa Lucia Bank

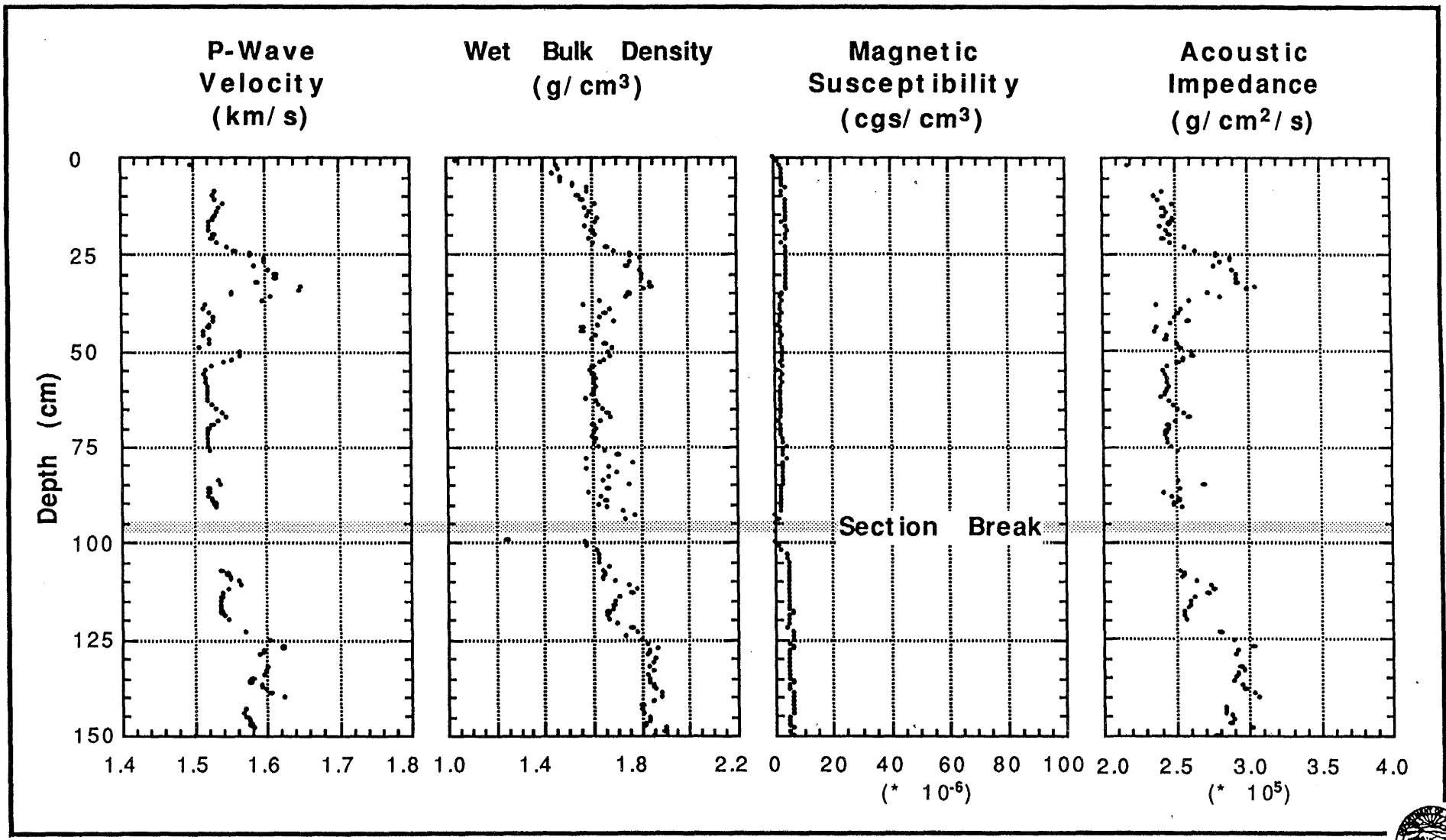
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 12PC

(0-150 cm)



LAT: 34°32.81' N
LON: 121°06.46' W

Depth: 940 M
Drill Site ID: CA-9 Southern Santa Lucia Bank

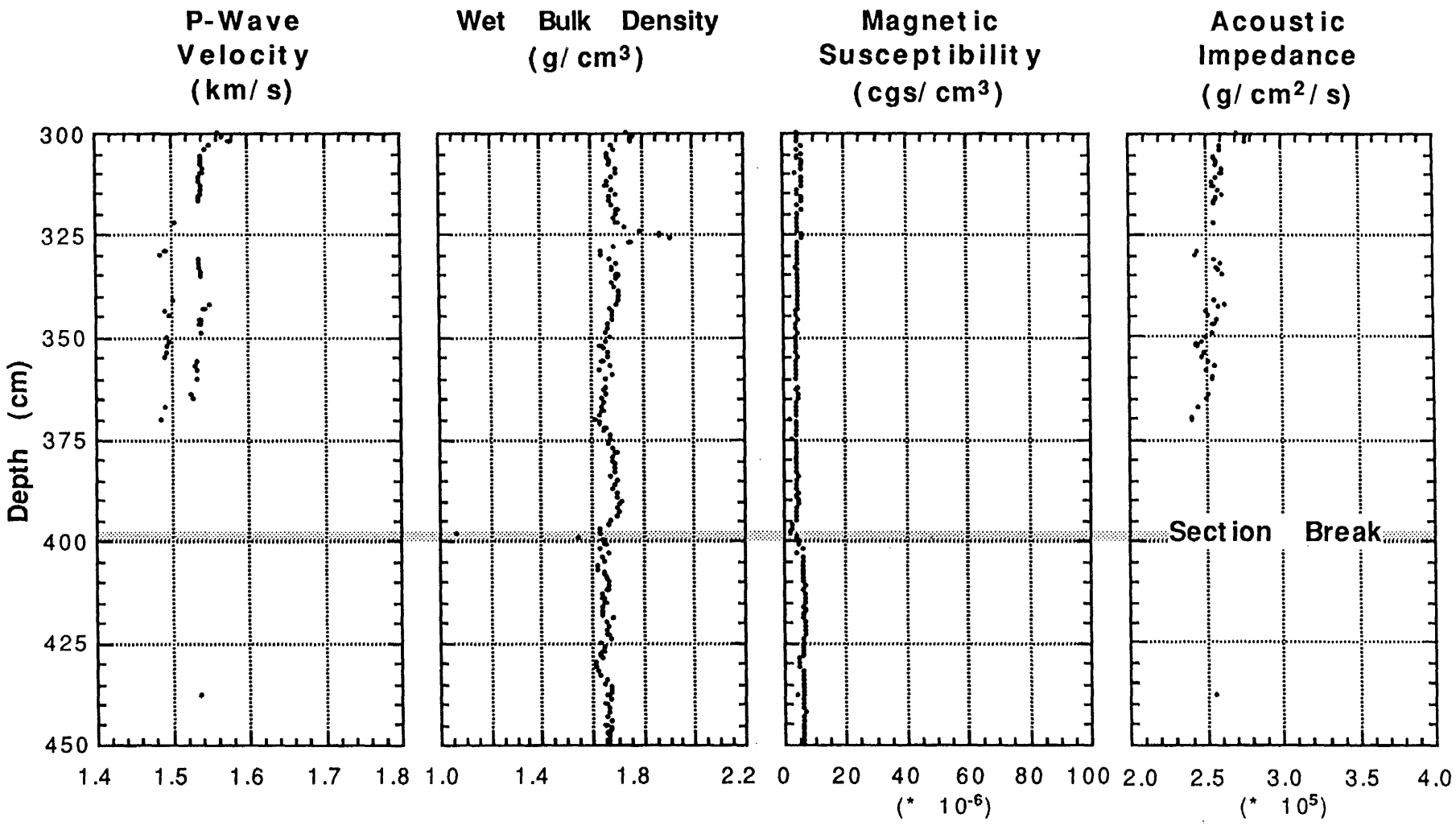
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 12PC

(300-450 cm)



LAT: 34°32.81' N
LON: 121°06.46' W

Depth: 940 M
Drill Site ID: CA-9 Southern Santa Lucia Bank

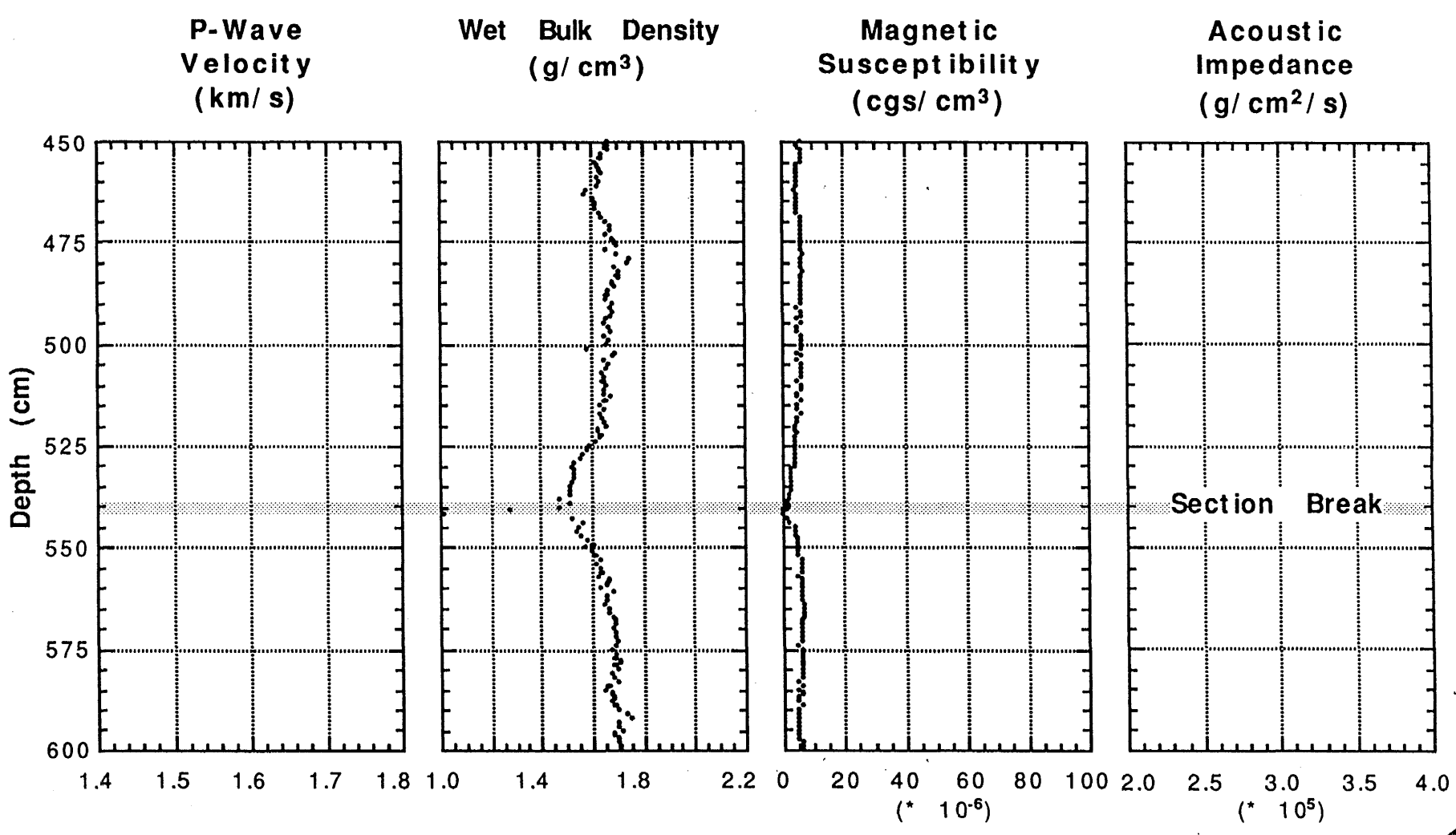
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 12PC

(450-600 cm)



LAT: 34°32.81' N
LON: 121°06.46' W

Depth: 940 M
Drill Site ID: CA-9 Southern Santa Lucia Bank

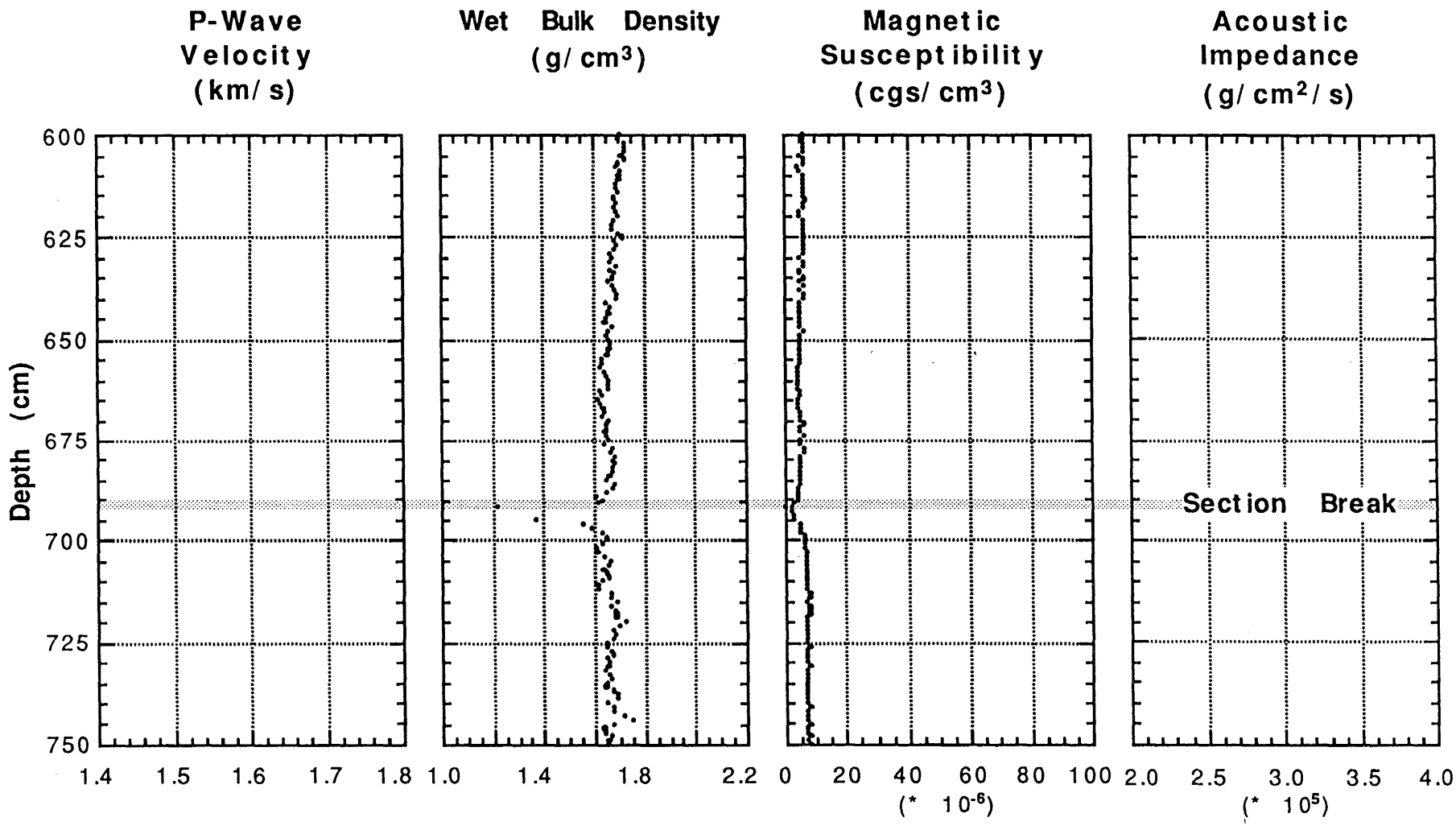
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 12PC

(600-750 cm)



LAT: 34°32.81' N
LON: 121°06.46' W

Depth: 940 M
Drill Site ID: CA-9 Southern Santa Lucia Bank

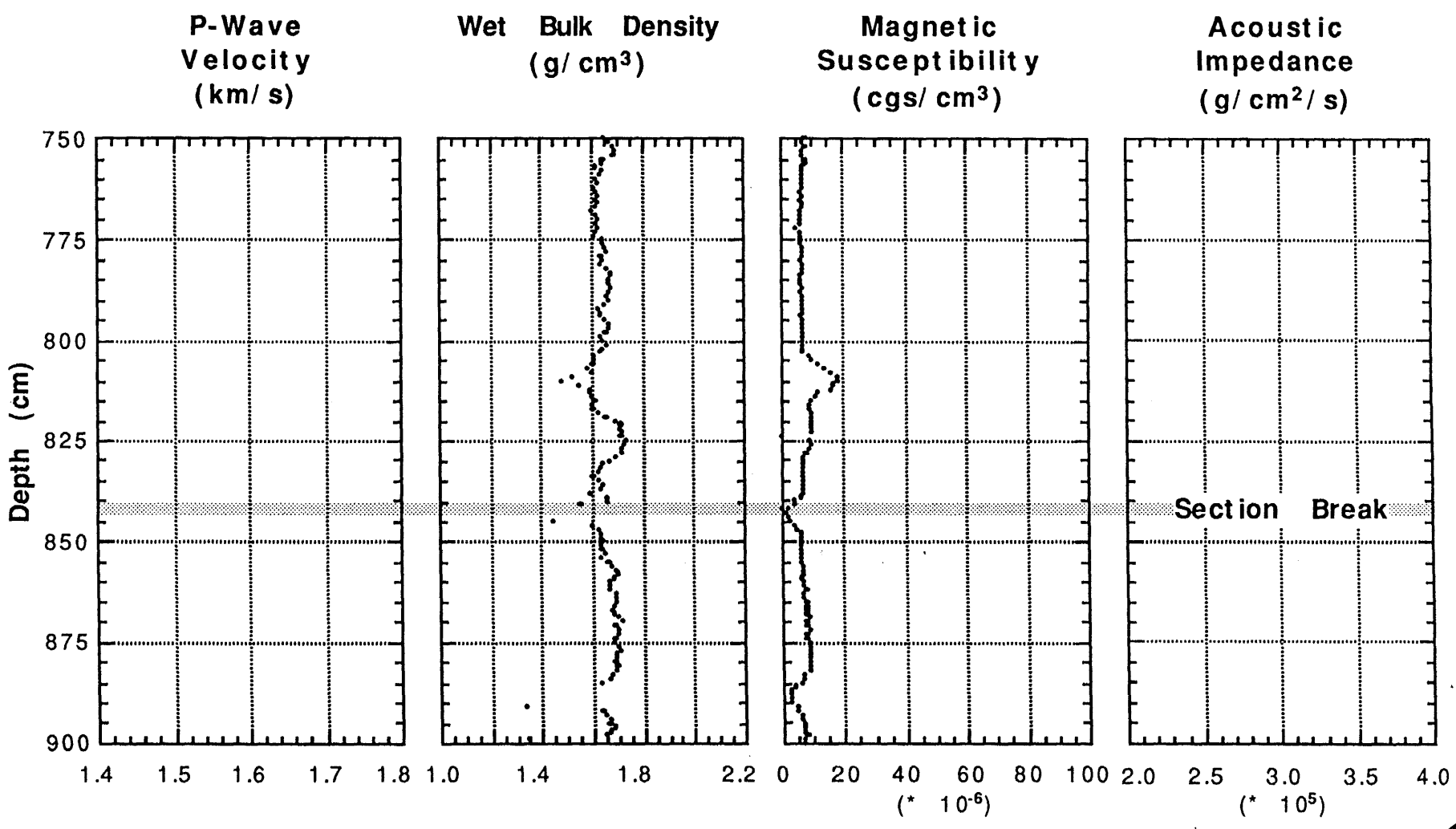
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 12PC

(750-900 cm)



LAT: 34°32.81' N
LON: 121°06.46' W

Depth: 940 M
Drill Site ID: CA-9 Southern Santa Lucia Bank

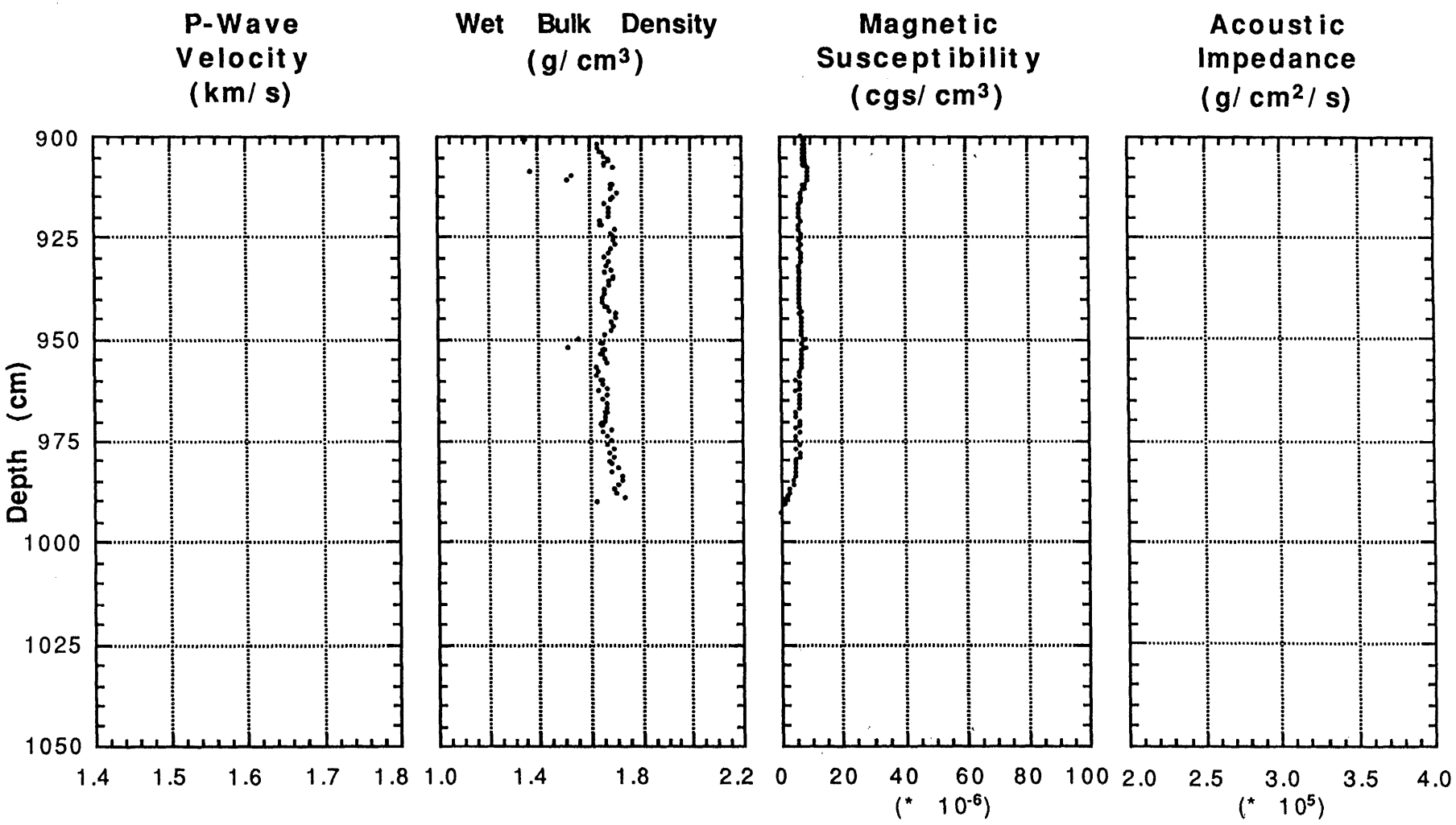
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 12PC

PHYSICAL PROPERTY LOGS

(900-993 cm)

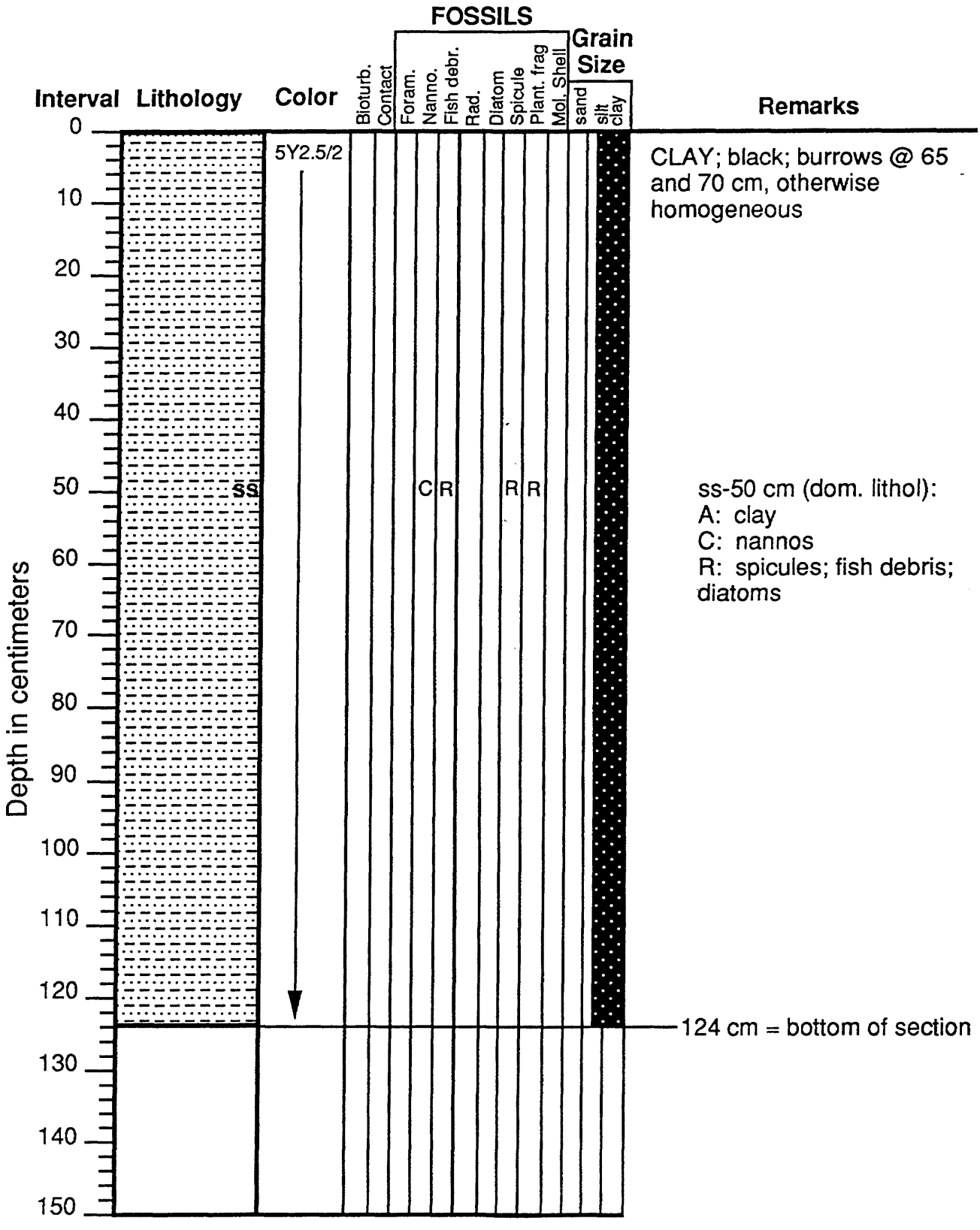


LAT: 34°32.81' N
LON: 121°06.46' W

Depth: 940 M
Drill Site ID: CA-9 Southern Santa Lucia Bank

USGS

EW95-04 Core: 13TC Sect.: 2 (0-124 cm)
36 59.42 N, 123 16.07 W, 2510 m



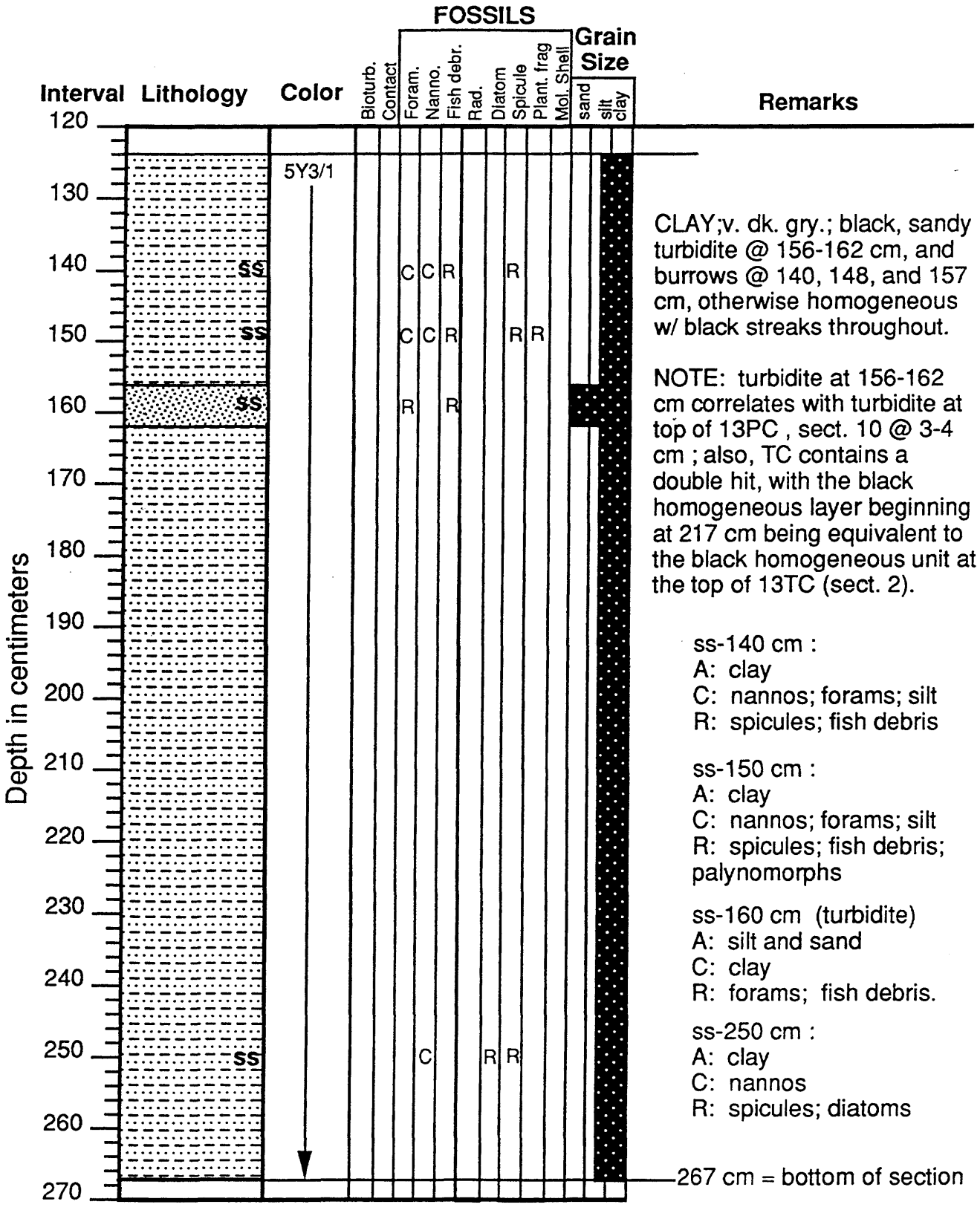
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 13TC Sect.: 1 (124-267 cm)
36 59.42 N, 123 16.07 W, 2510 m



CLAY;v. dk. gry.; black, sandy turbidite @ 156-162 cm, and burrows @ 140, 148, and 157 cm, otherwise homogeneous w/ black streaks throughout.

NOTE: turbidite at 156-162 cm correlates with turbidite at top of 13PC , sect. 10 @ 3-4 cm ; also, TC contains a double hit, with the black homogeneous layer beginning at 217 cm being equivalent to the black homogeneous unit at the top of 13TC (sect. 2).

ss-140 cm :
A: clay
C: nannos; forams; silt
R: spicules; fish debris

ss-150 cm :
A: clay
C: nannos; forams; silt
R: spicules; fish debris; palynomorphs

ss-160 cm (turbidite)
A: silt and sand
C: clay
R: forams; fish debris.

ss-250 cm :
A: clay
C: nannos
R: spicules; diatoms

267 cm = bottom of section

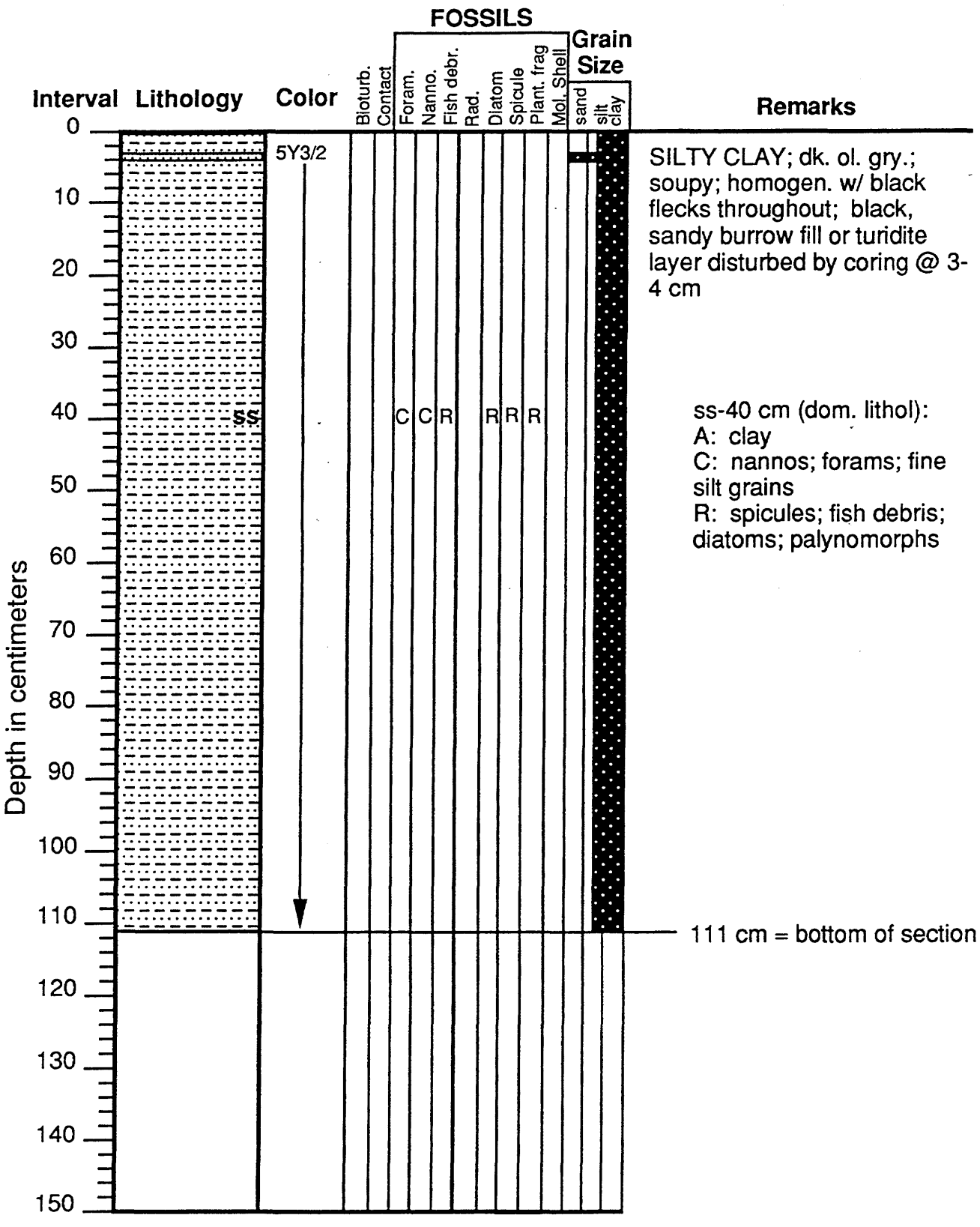
Fossils: X-Present A-Abundant C-Common R-rare B-Barren

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 13PC Sect.: 10 (0-111 cm)
36 59.42 N, 123 16.07 W, 2510 m



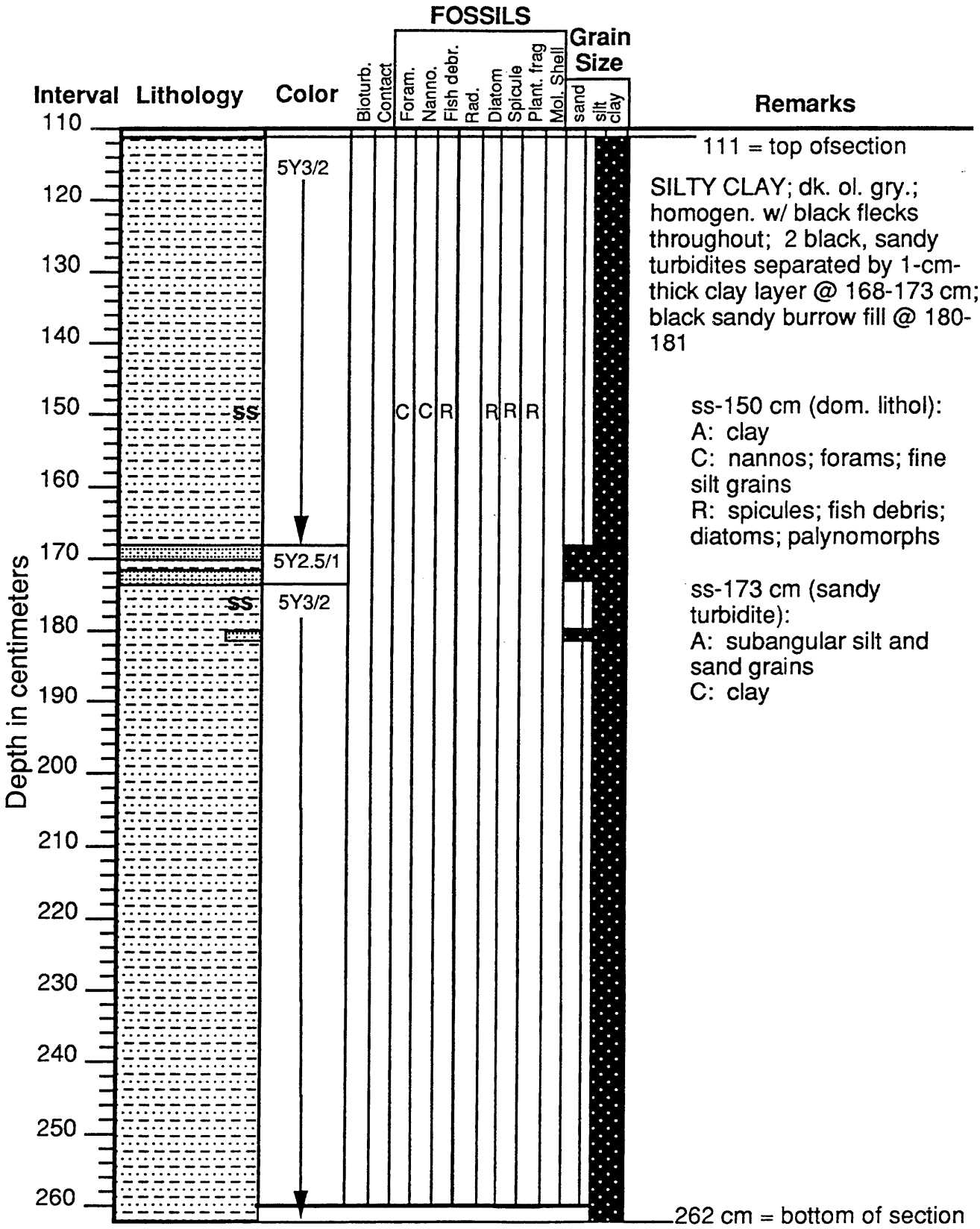
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 13PC Sect.: 9 (111-262 cm)
36 59.42 N, 123 16.07 W, 2510 m



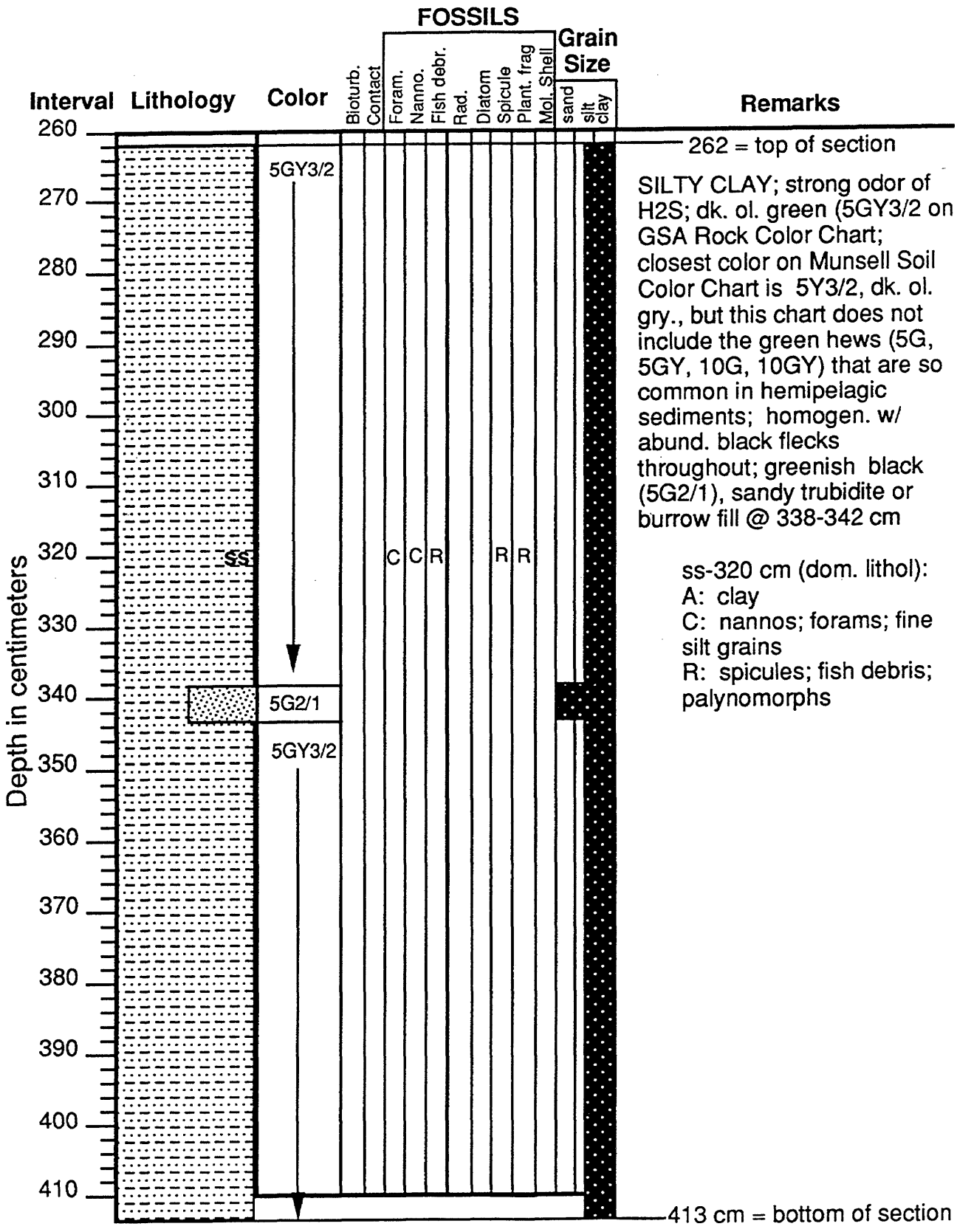
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

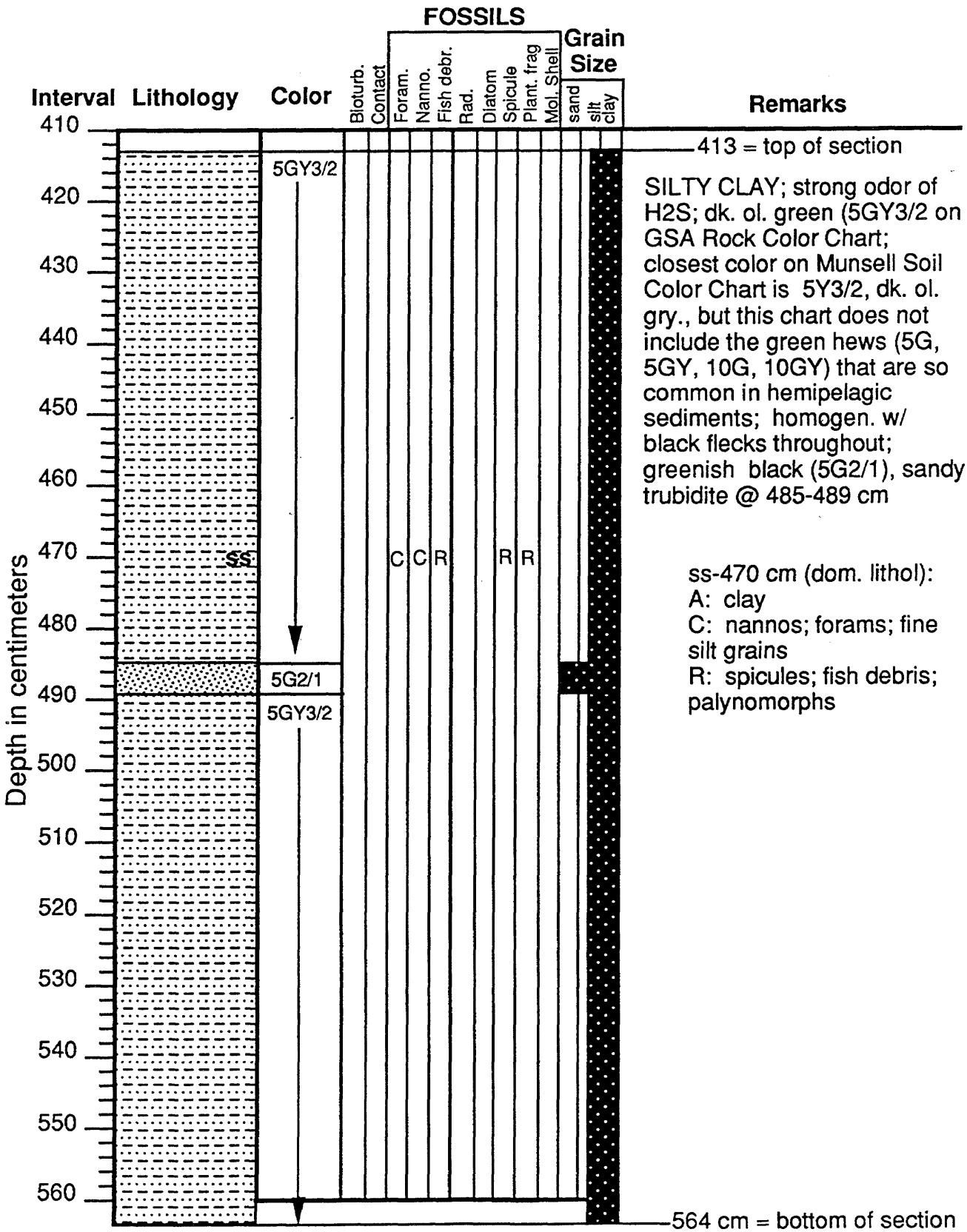
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 13PC Sect.: 8 (262-413 cm)
36 59.42 N, 123 16.07 W, 2510 m



EW95-04 Core: 13PC Sect.: 7 (413-564 cm)
36 59.42 N, 123 16.07 W, 2510 m



SILTY CLAY; strong odor of H2S; dk. ol. green (5GY3/2 on GSA Rock Color Chart; closest color on Munsell Soil Color Chart is 5Y3/2, dk. ol. gry., but this chart does not include the green hews (5G, 5GY, 10G, 10GY) that are so common in hemipelagic sediments; homogen. w/ black flecks throughout; greenish black (5G2/1), sandy trubidite @ 485-489 cm

ss-470 cm (dom. lithol):
A: clay
C: nannos; forams; fine silt grains
R: spicules; fish debris; palynomorphs

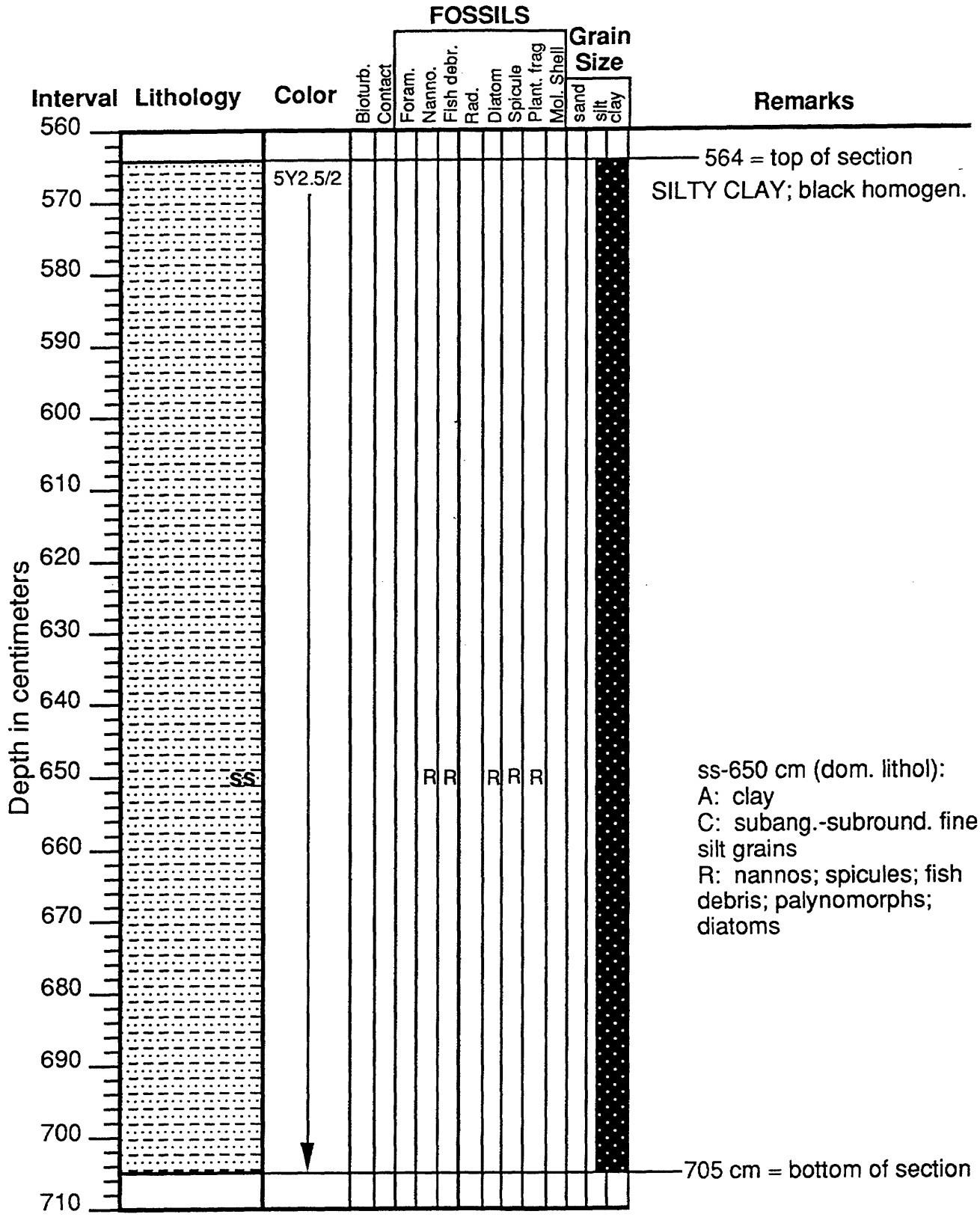
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 13PC Sect.: 6 (564-705 cm)
36 59.42 N, 123 16.07 W, 2510 m



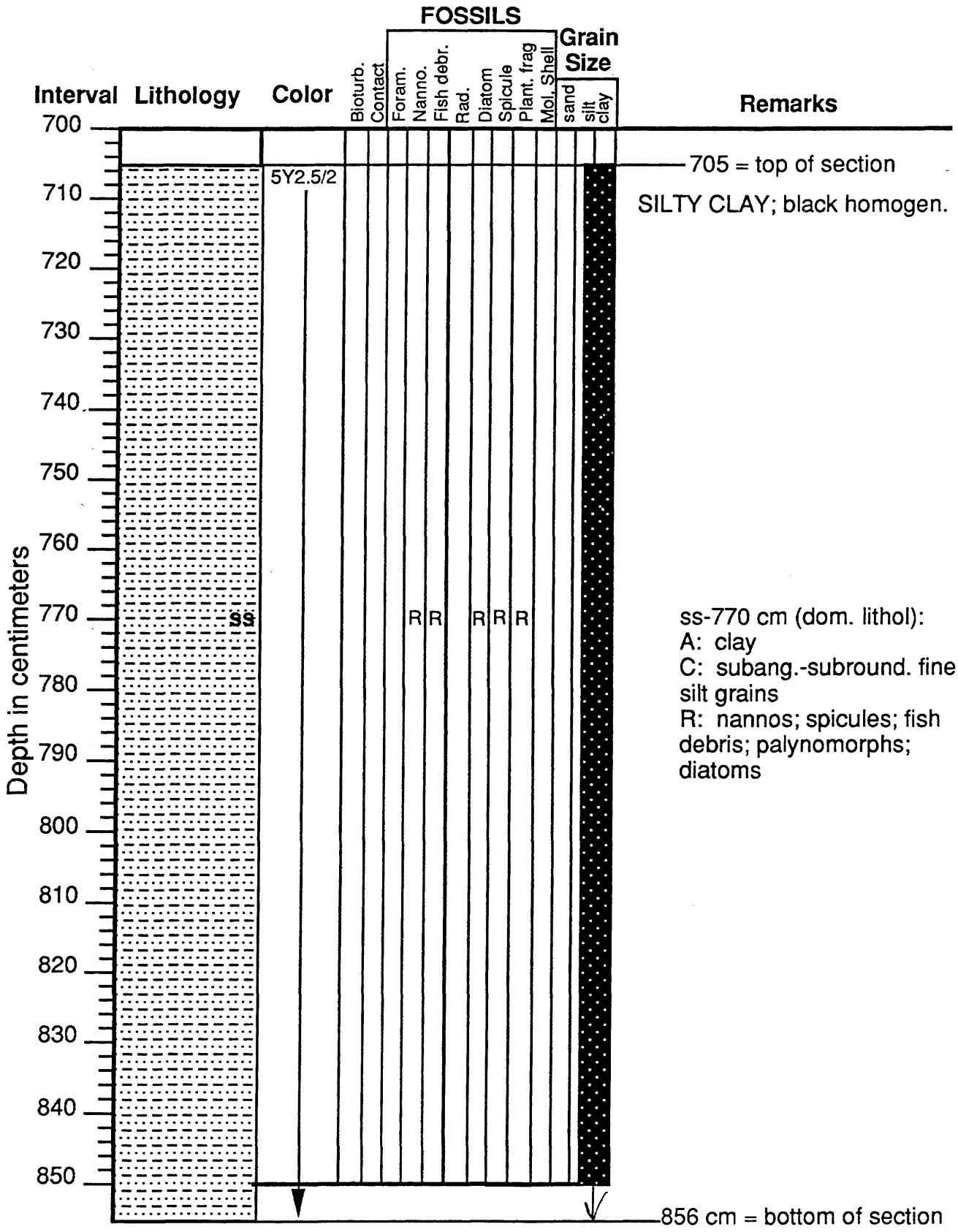
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

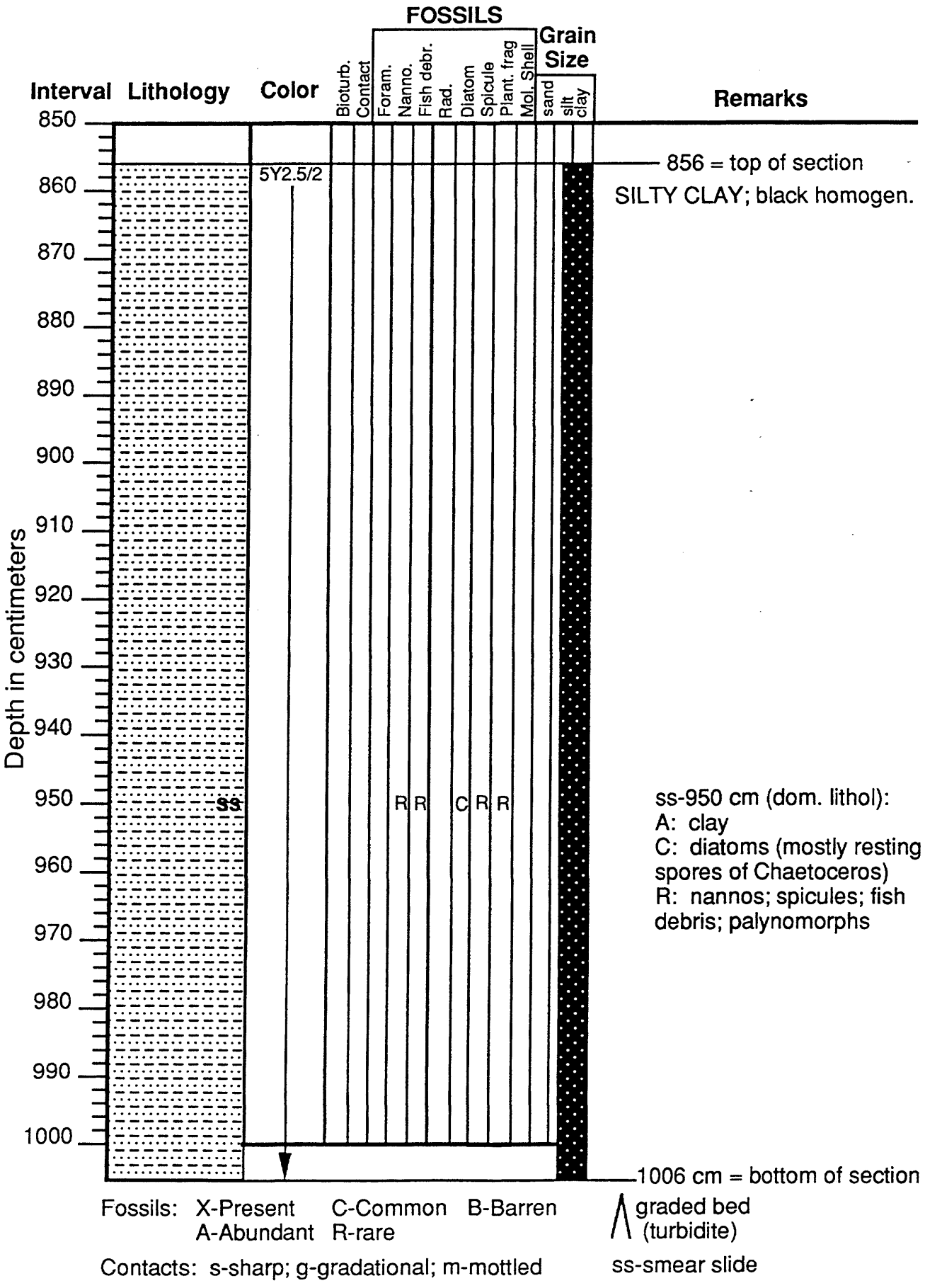
graded bed (turbidite)

ss-smear slide

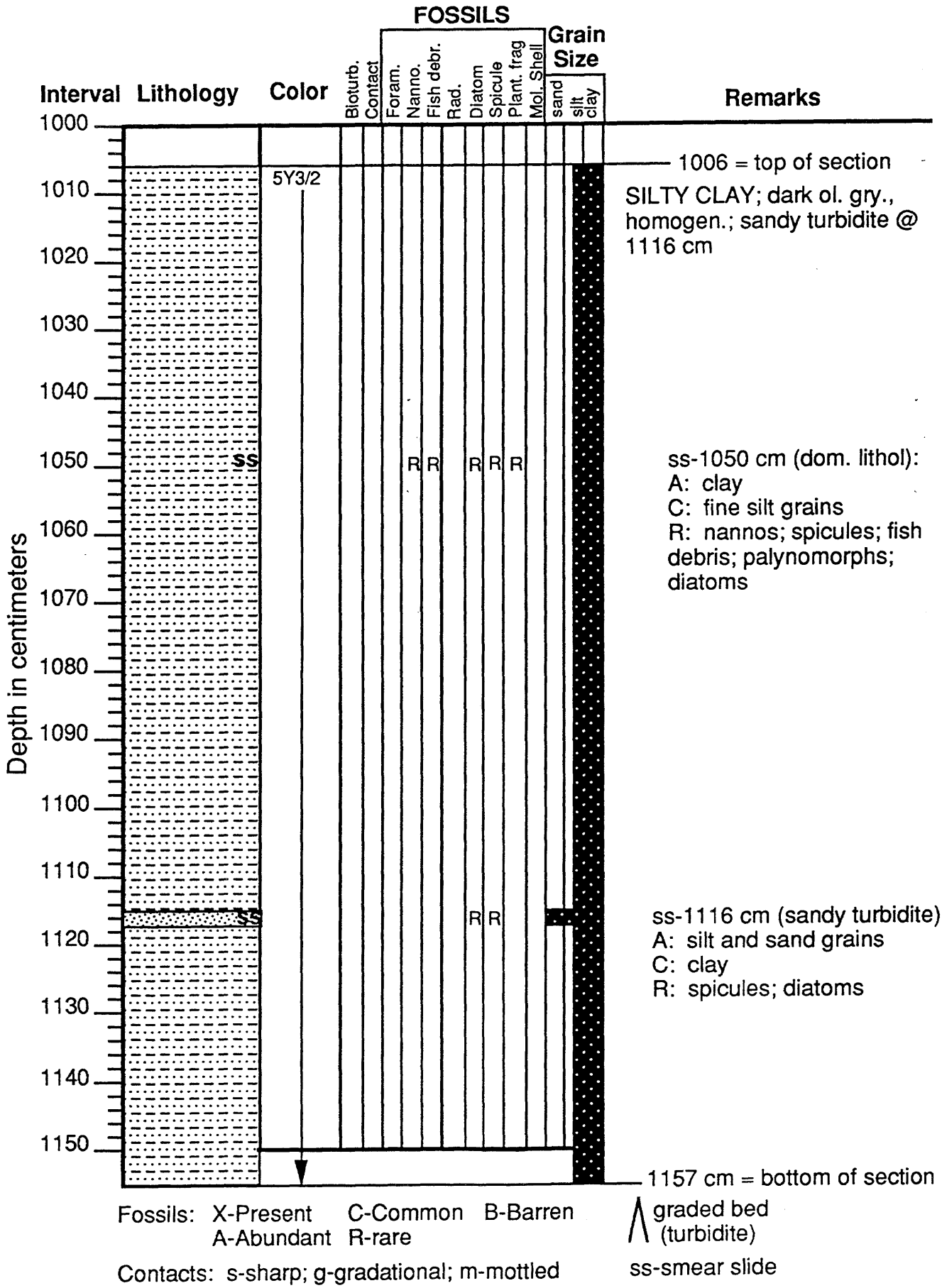
EW95-04 Core: 13PC Sect.: 5 (705-856 cm)
36 59.42 N, 123 16.07 W, 2510 m



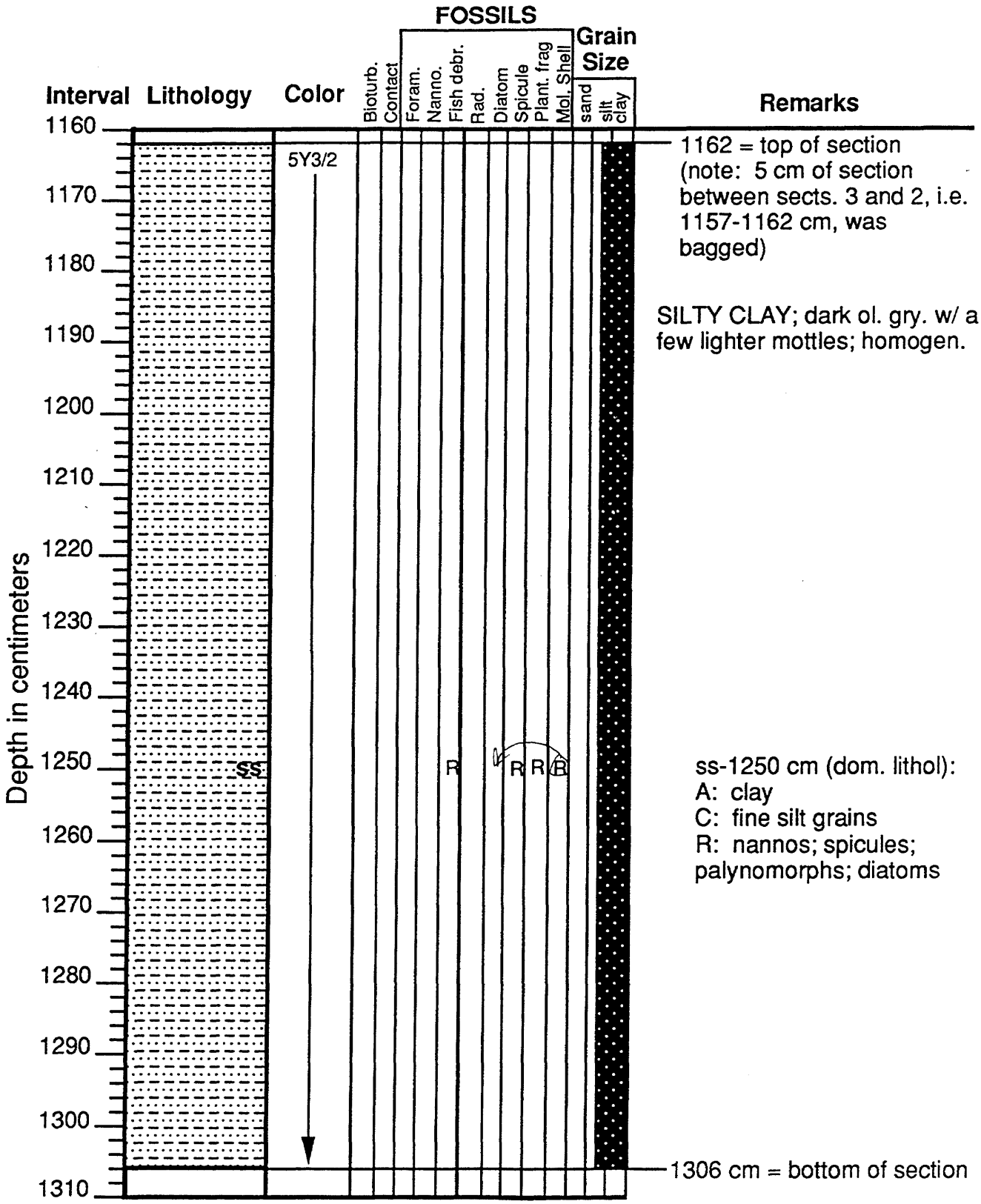
EW95-04 Core: 13PC Sect.: 4 (856-1006 cm)
36 59.42 N, 123 16.07 W, 2510 m



EW95-04 Core: 13PC Sect.: 3 (1006-1157 cm)
36 59.42 N, 123 16.07 W, 2510 m



EW95-04 Core: 13PC Sect.: 2 (1162-1306 cm)
36 59.42 N, 123 16.07 W, 2510 m



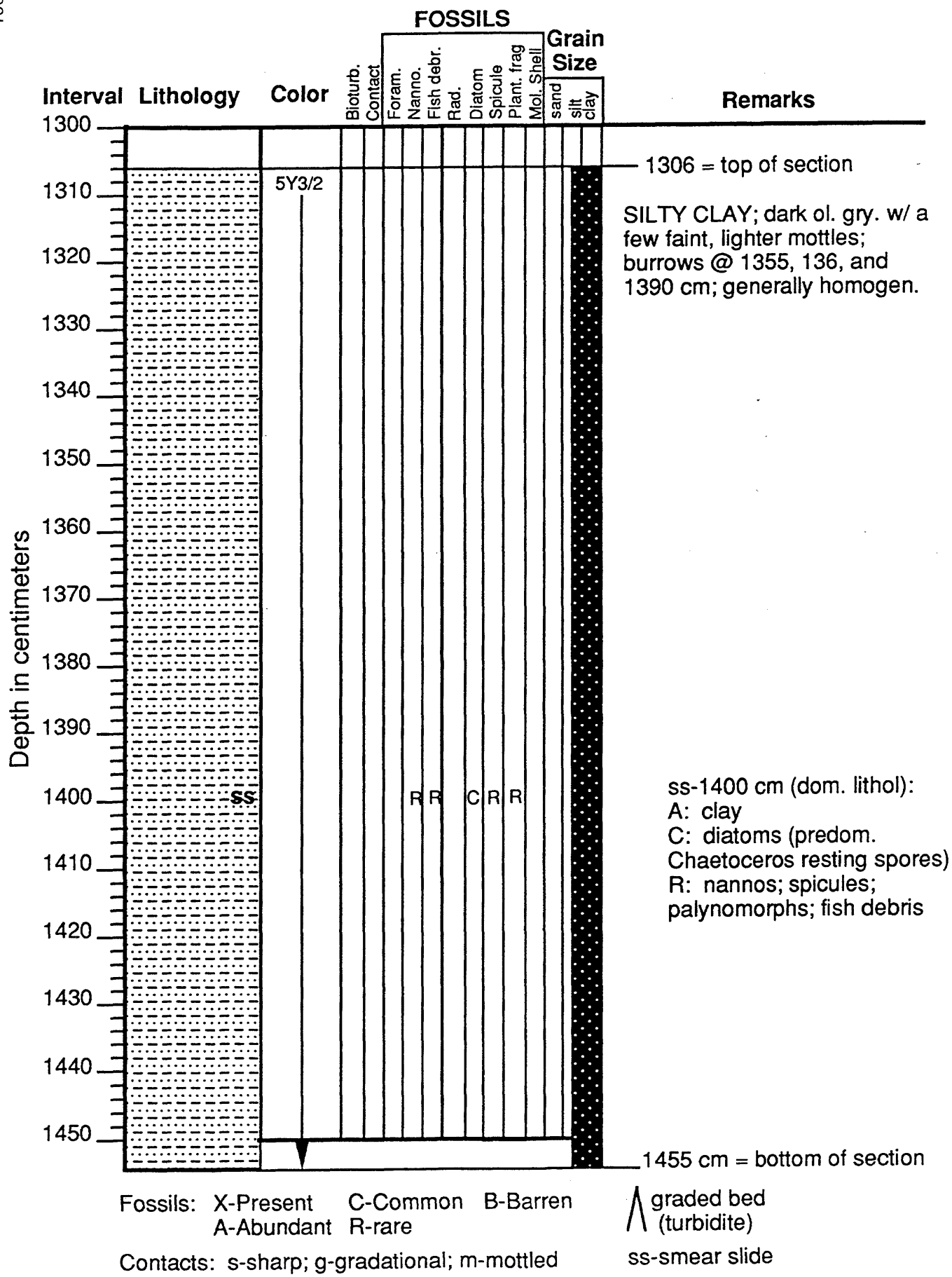
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

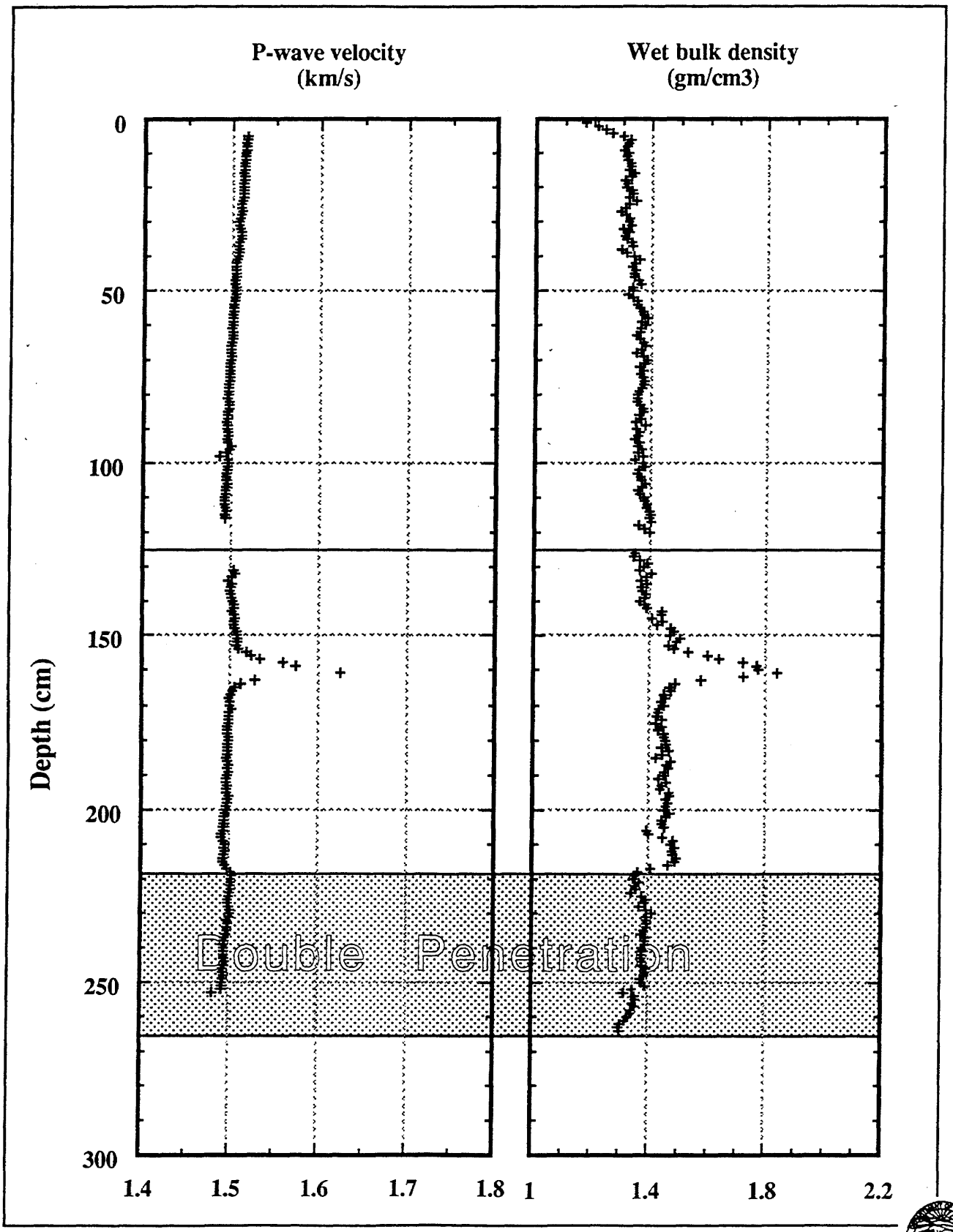
EW95-04 Core: 13PC Sect.: 1 (1306-1455 cm)
36 59.42 N, 123 16.07 W, 2510 m



CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 13TC
(0- 267 cm)



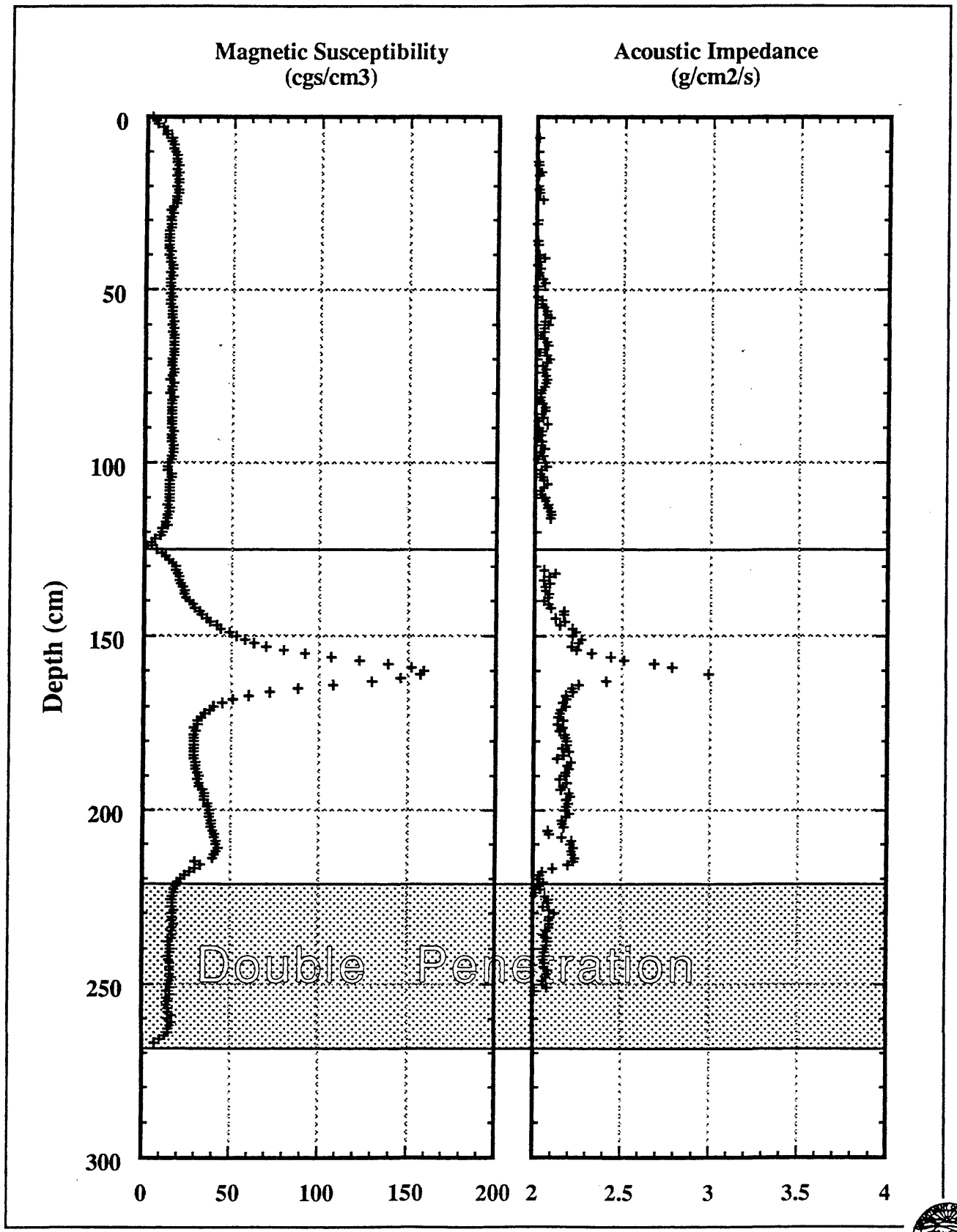
LAT: 36°59.42'N Depth: 2510 m
LON: 123°16.07'W Drill Site ID: CA-8 South of Guide Seamount

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 13TC
(0- 267 cm)



LAT: 36°59.42'N Depth: 2510 m
LON: 123°16.07'W Drill Site ID: CA-8 South of Guide Seamount

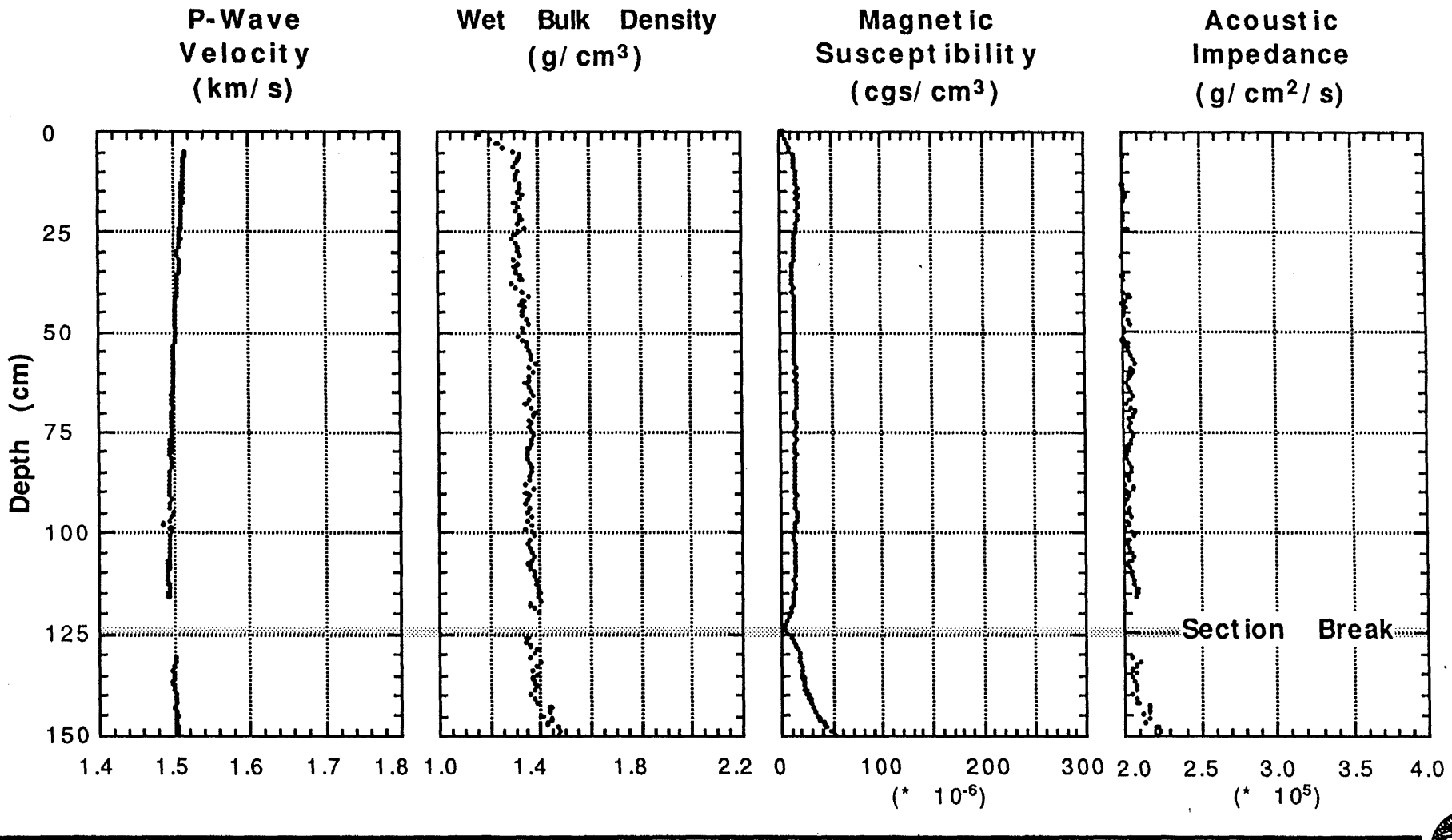
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13TC

(0-150 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

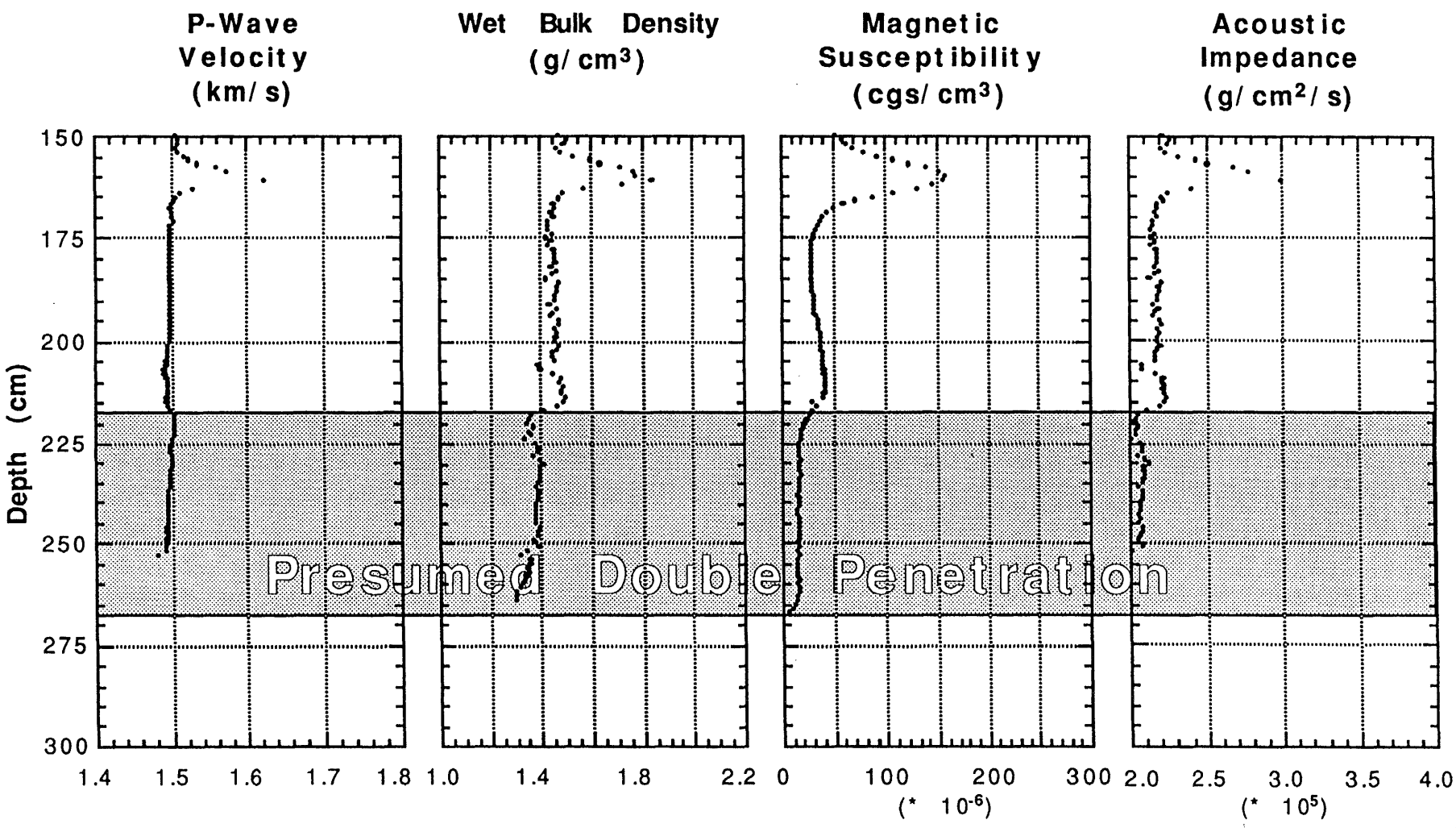
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13TC

(150-267 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

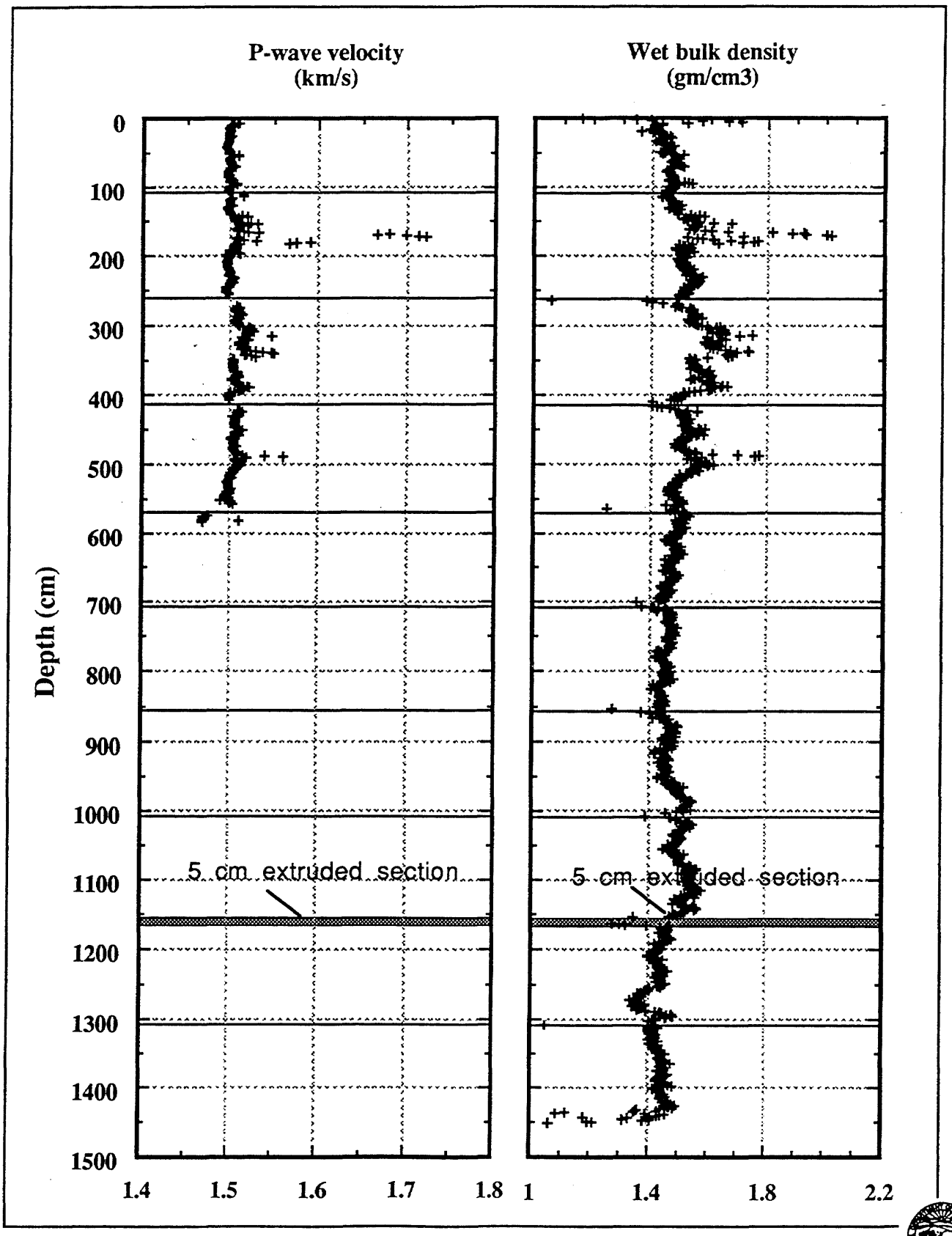
Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 13PC
(0- 1455 cm)



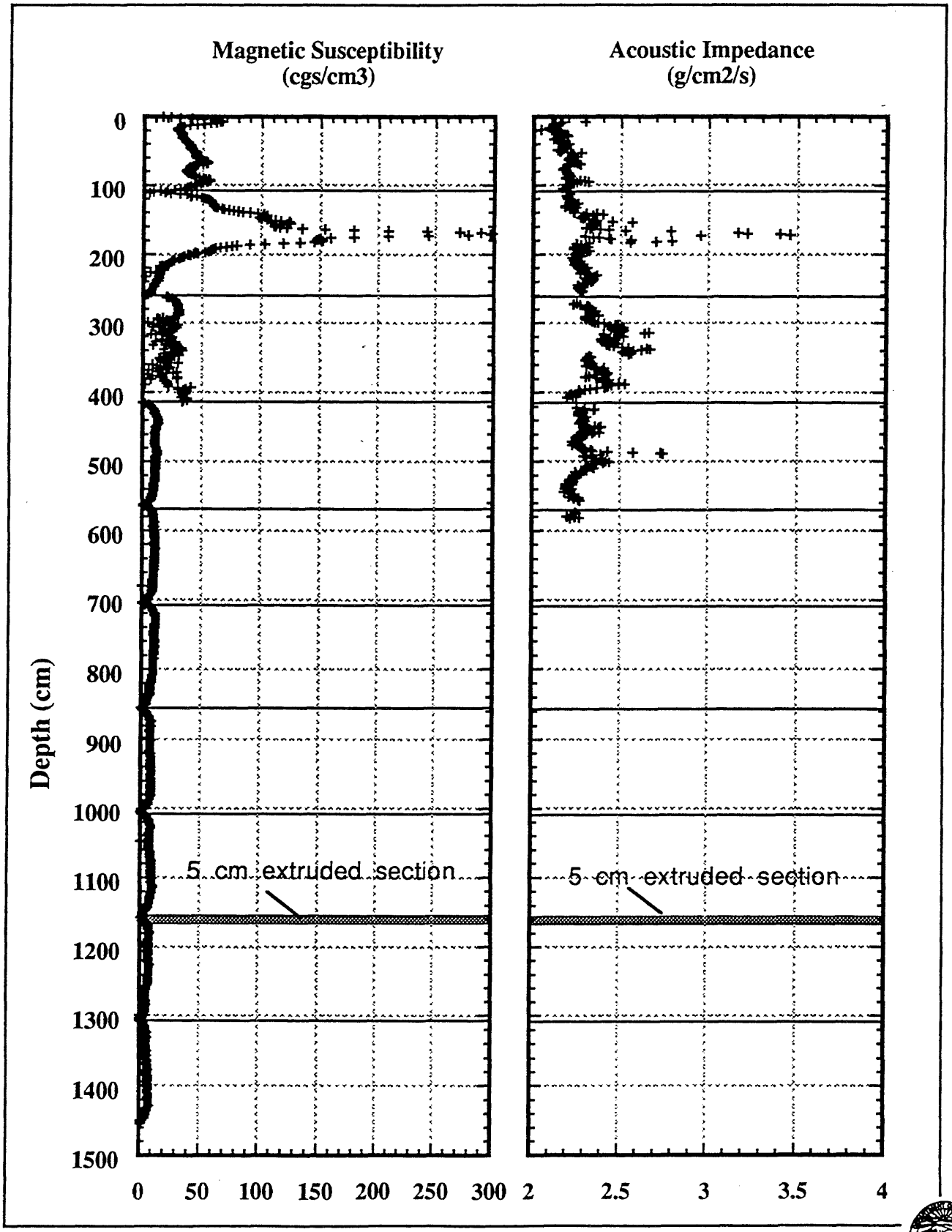
LAT: 36°59.42'N Depth: 2510 m
LON: 123°16.07'W Drill Site ID: CA8 South of Guide Seamount

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 13PC
(0- 1455 cm)



LAT: 36°59.42'N Depth: 2510 m
LON: 123°16.07'W Drill Site ID: CA8 South of Guide Seamount

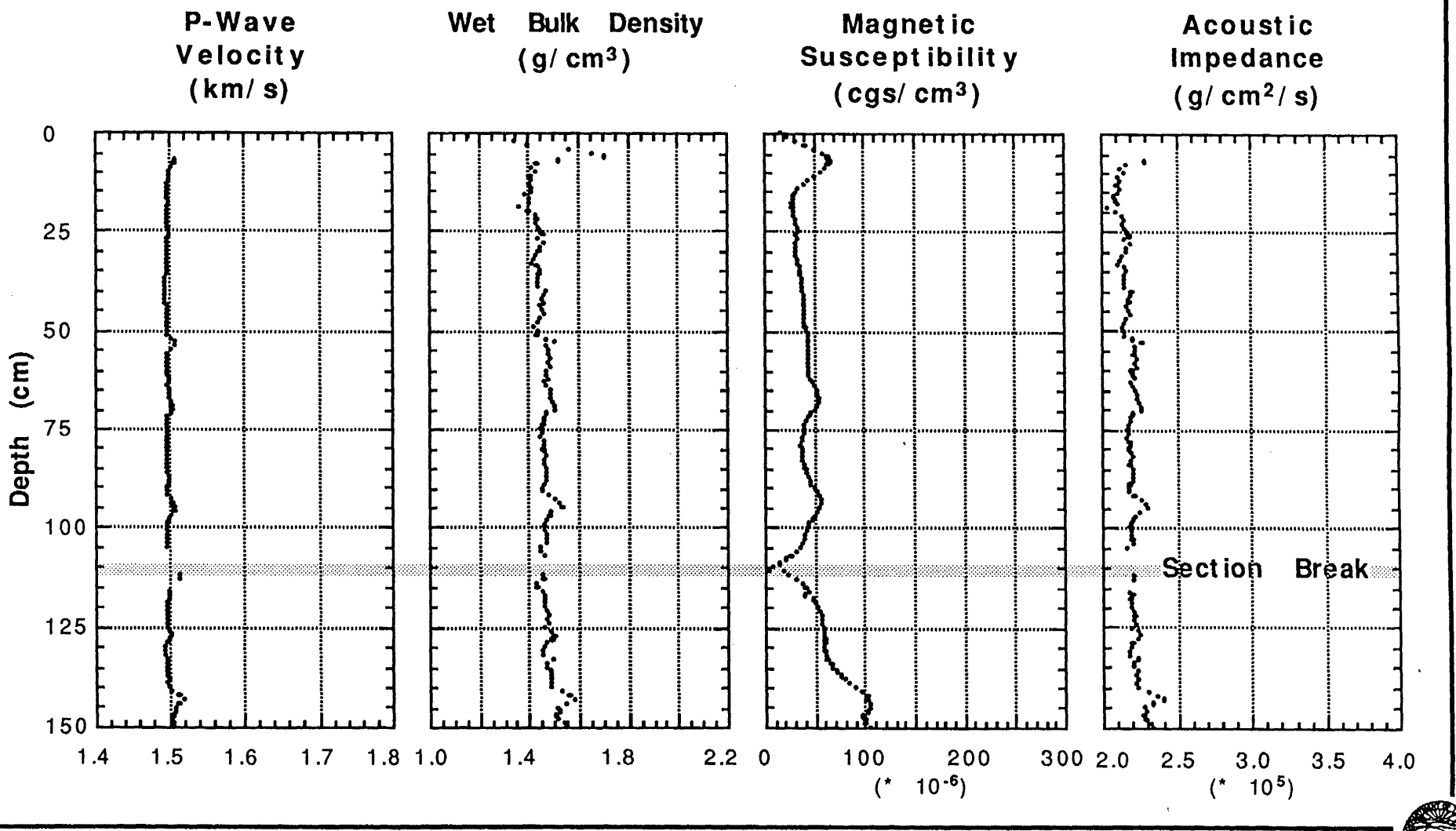
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(0- 150 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

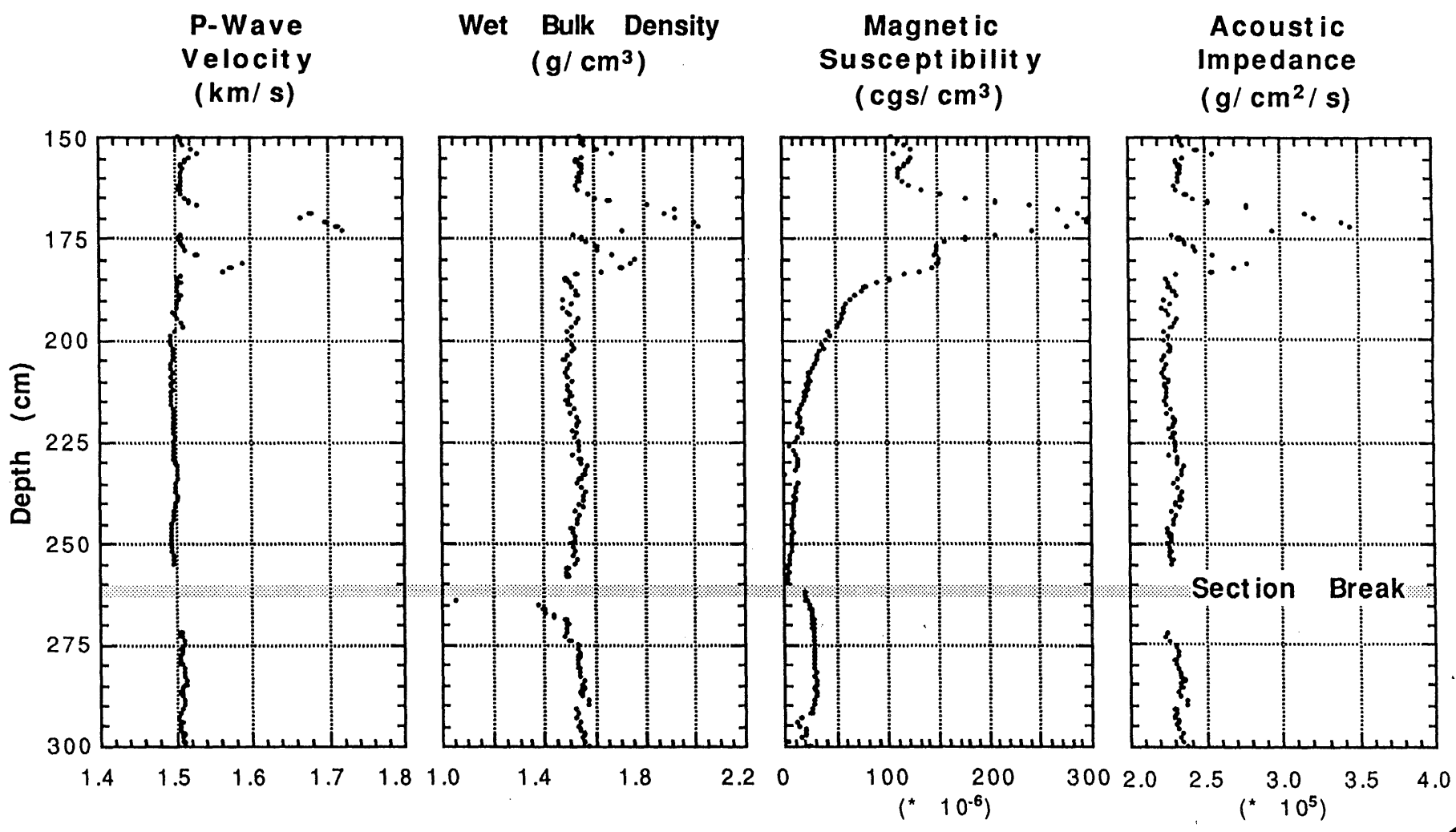
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(150-300 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

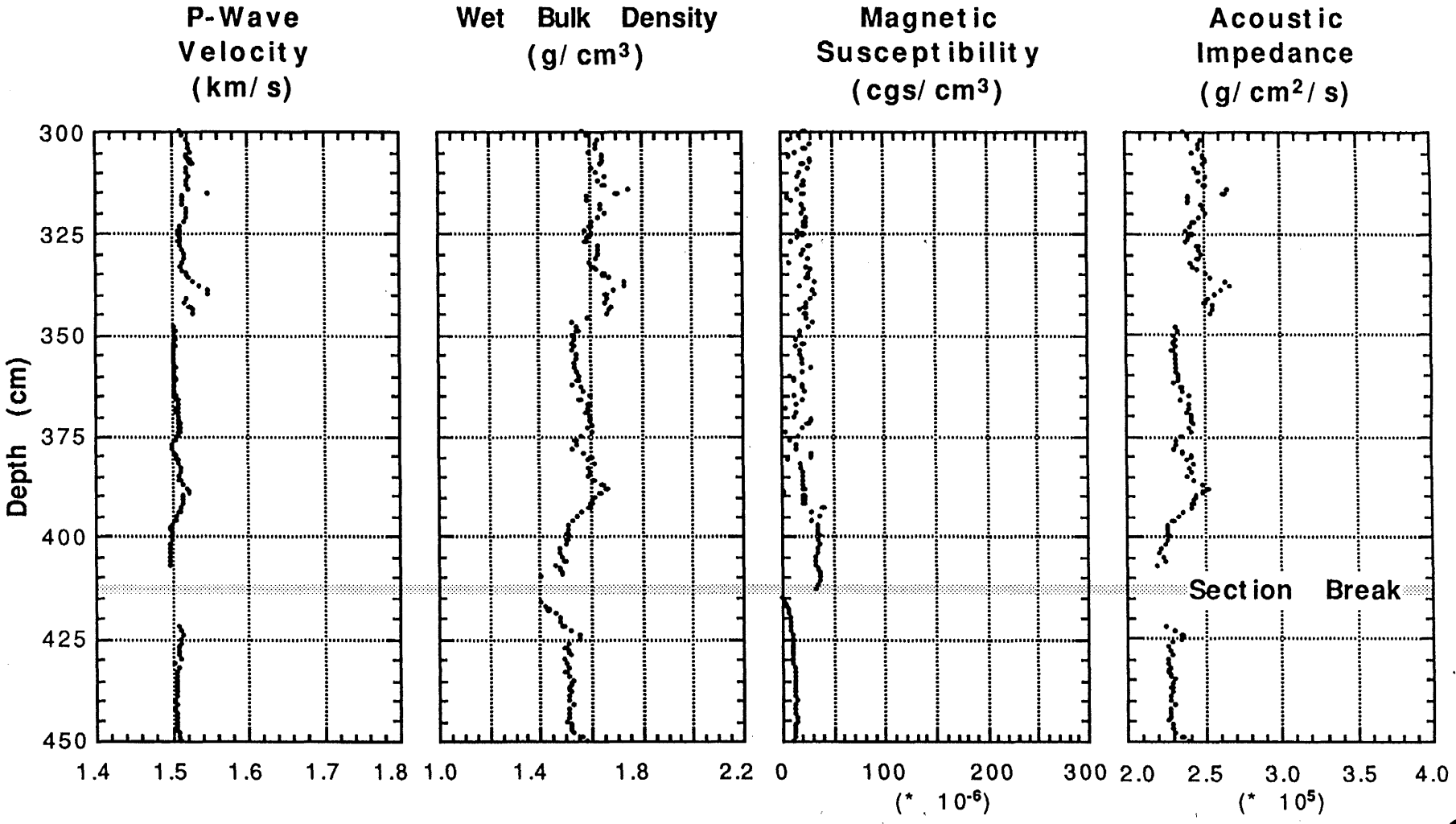
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(300-450 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

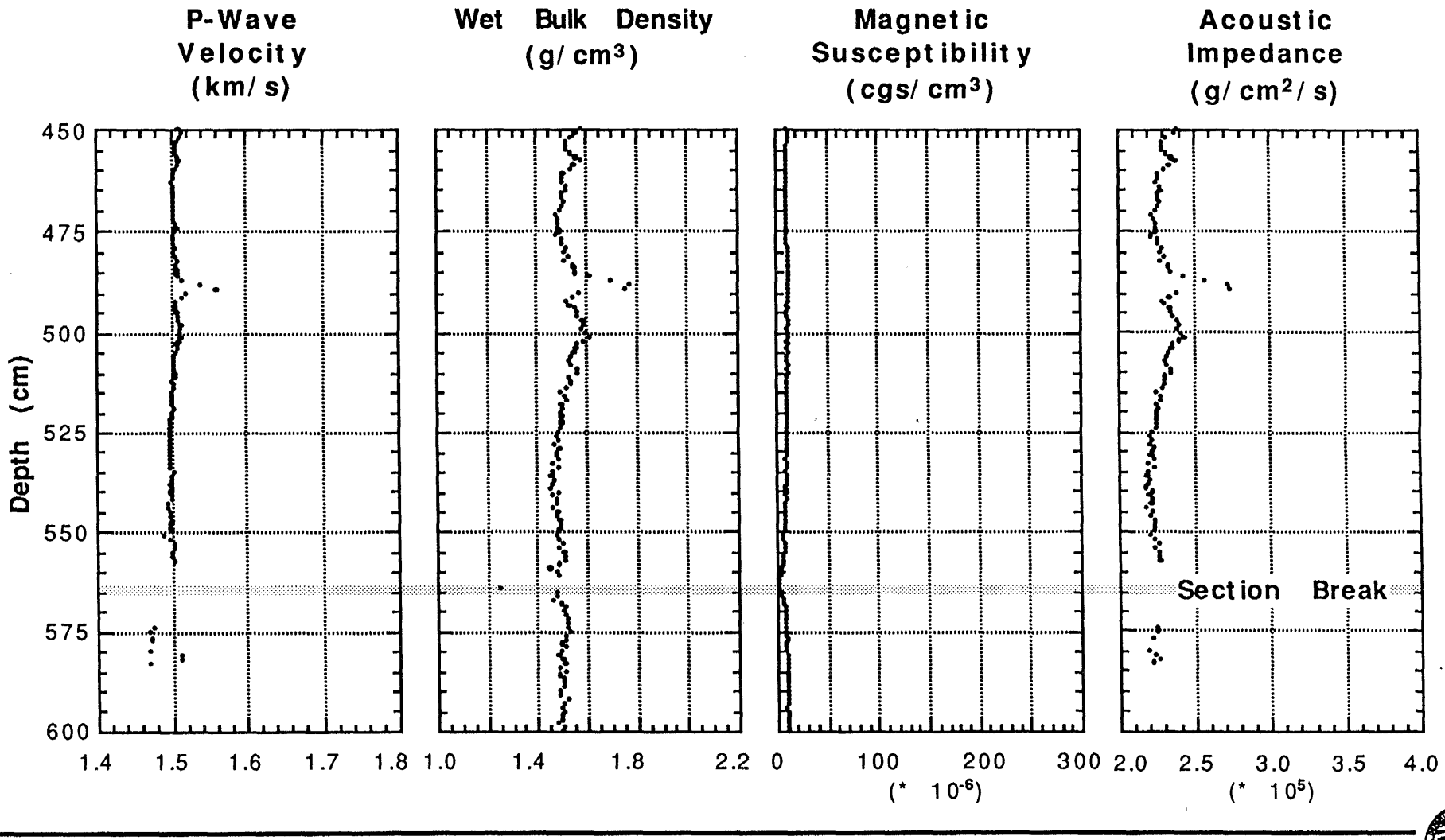
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(450-600 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

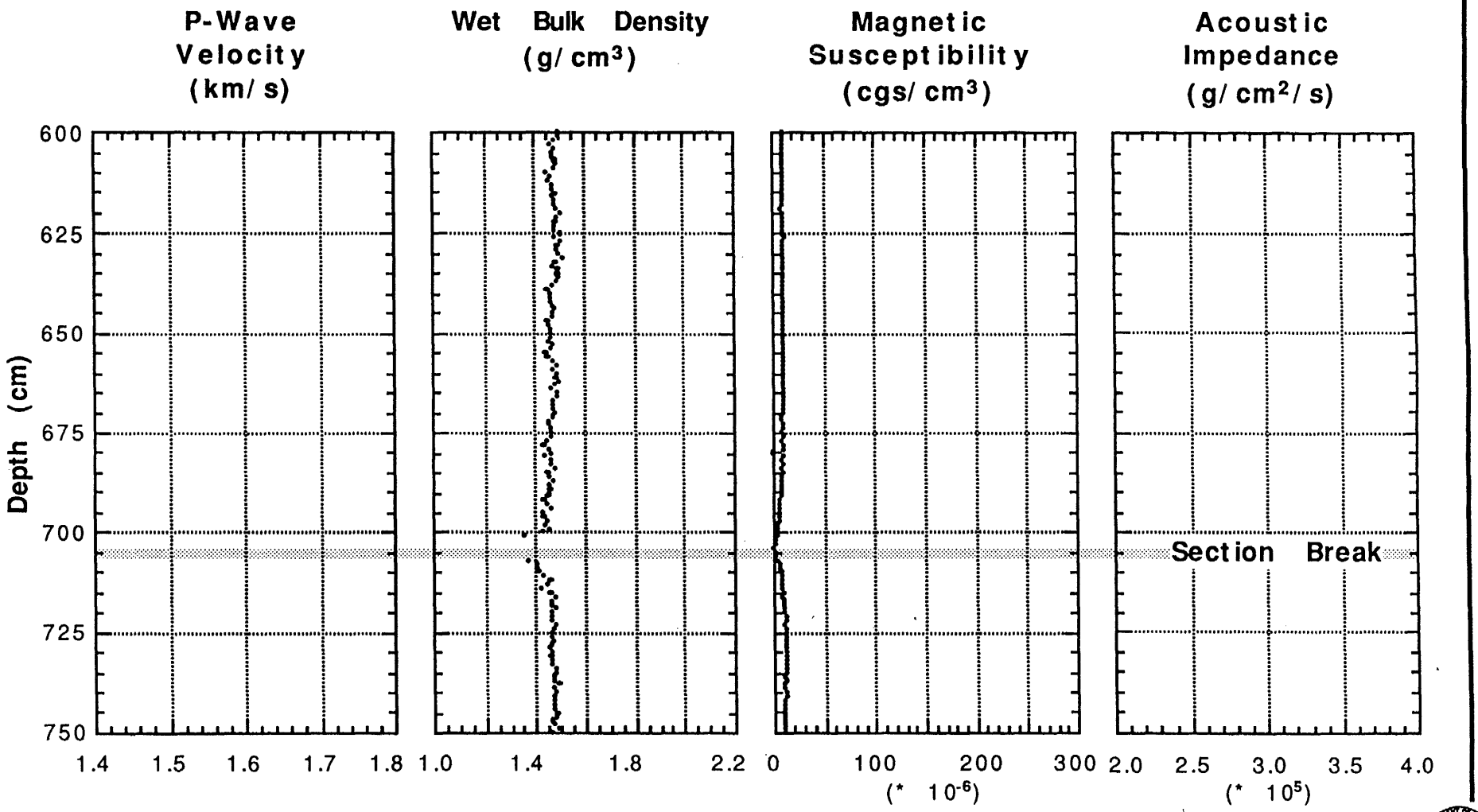
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(600-750 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

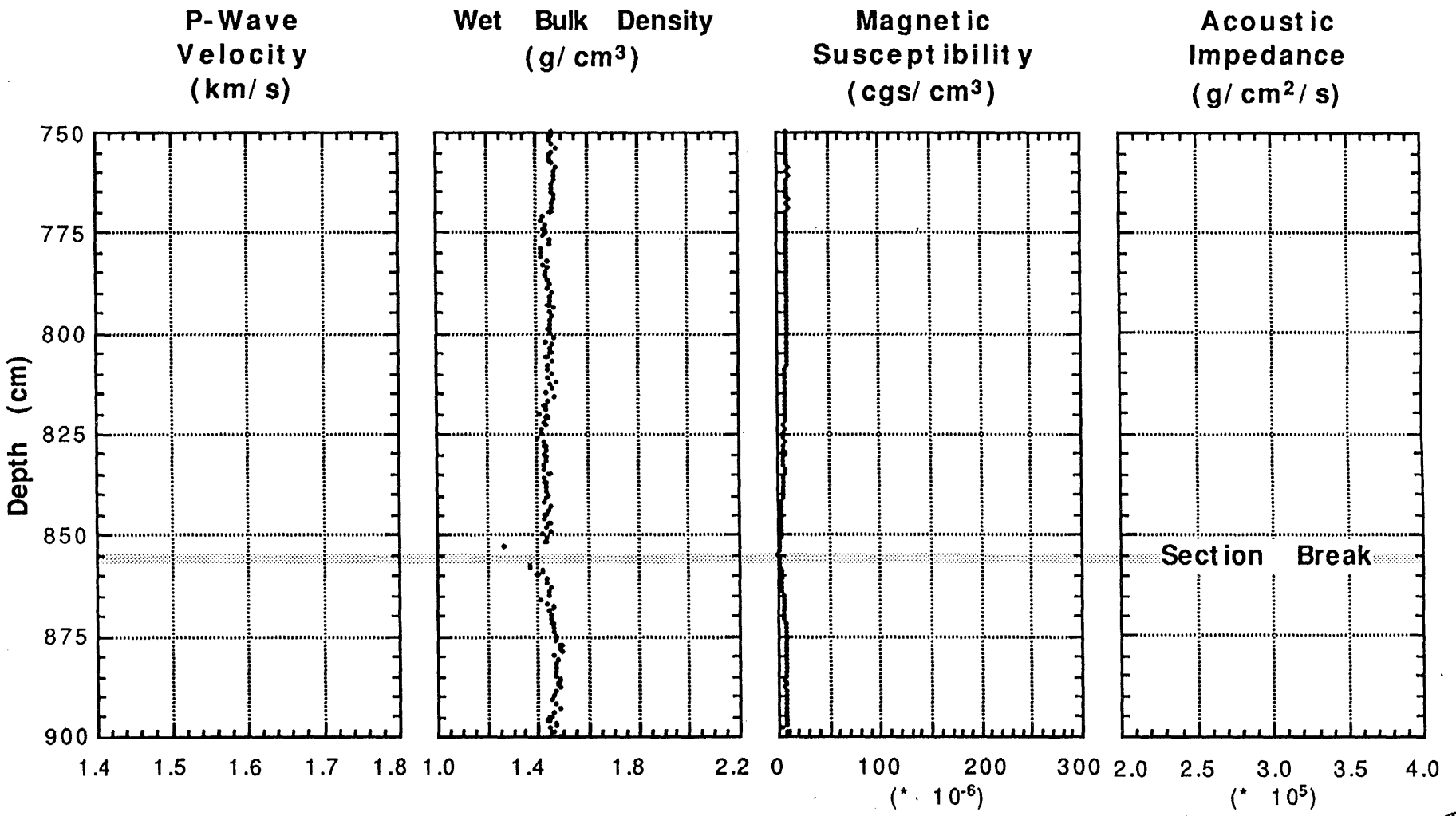
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(750-900 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

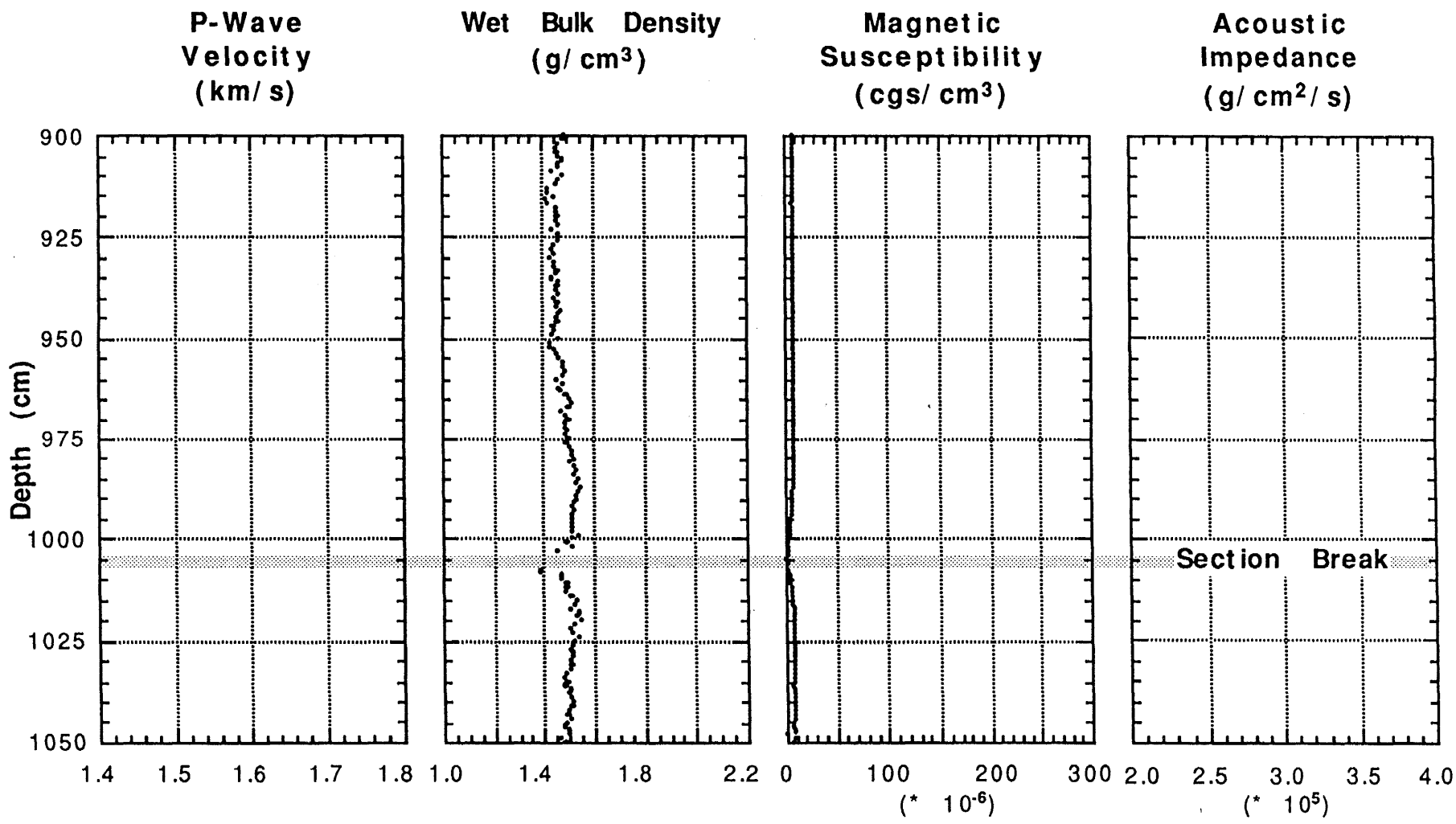
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(900-1050 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

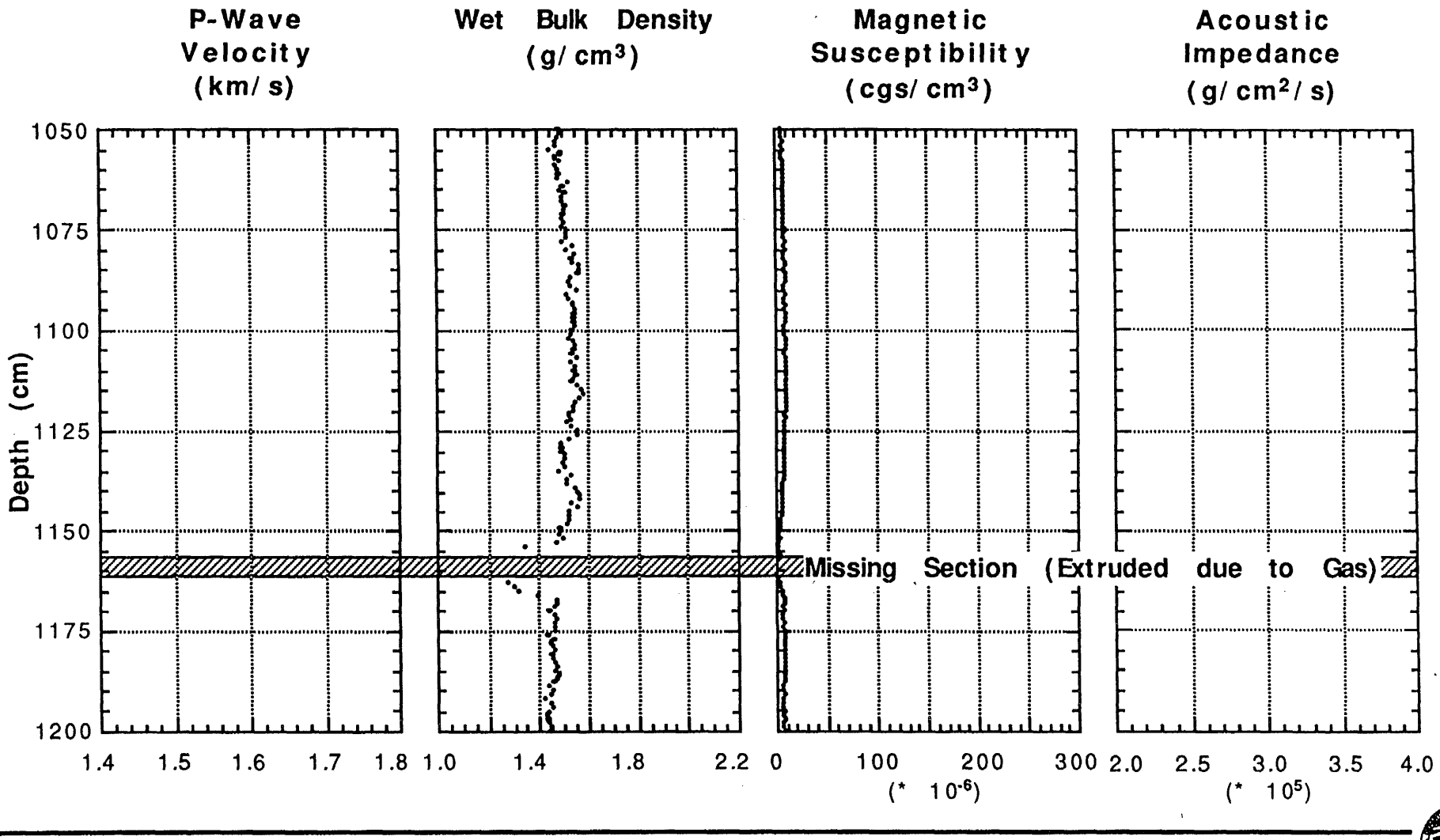
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(1050-1200 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

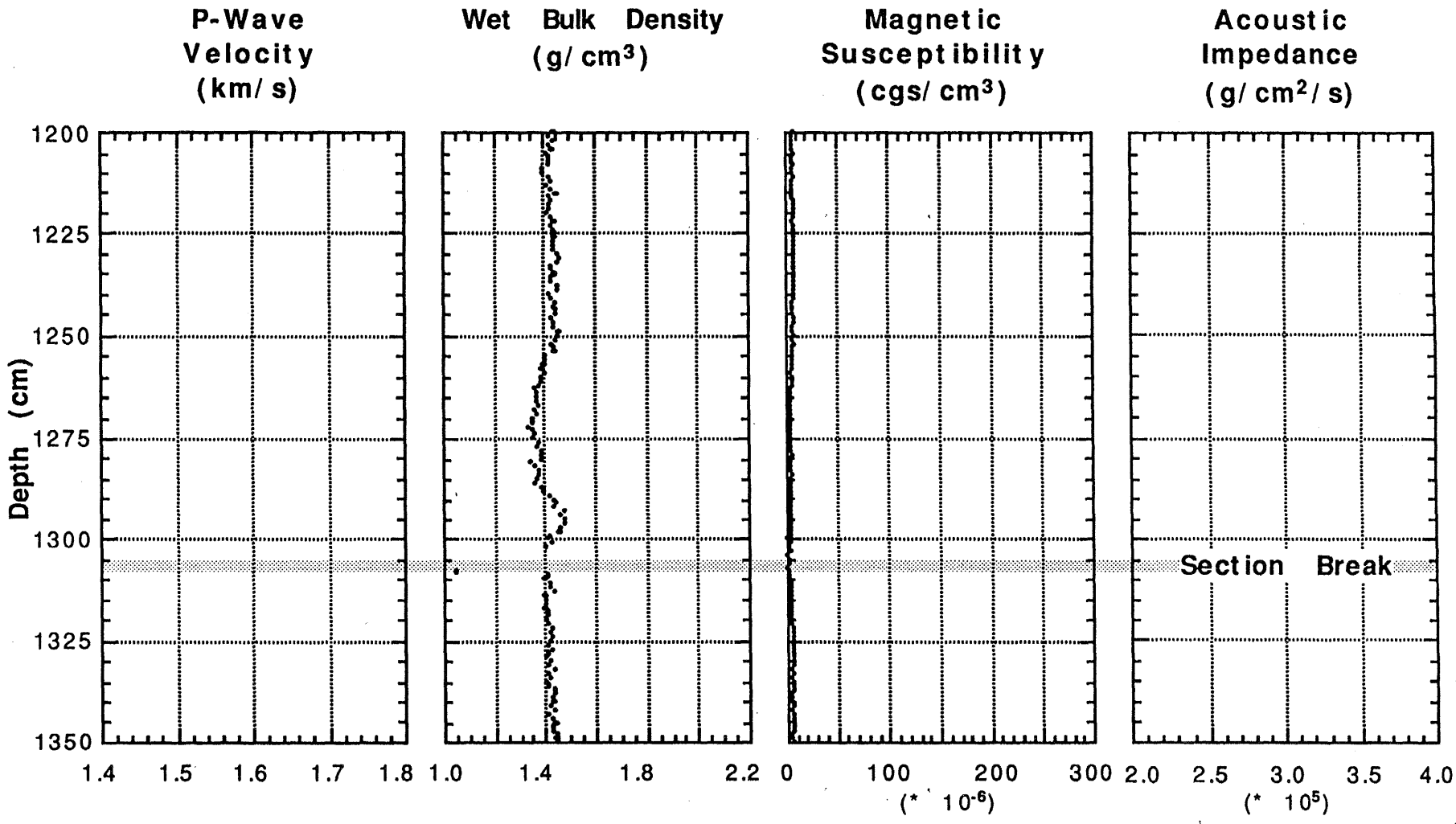
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(1200-1350 cm)



LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

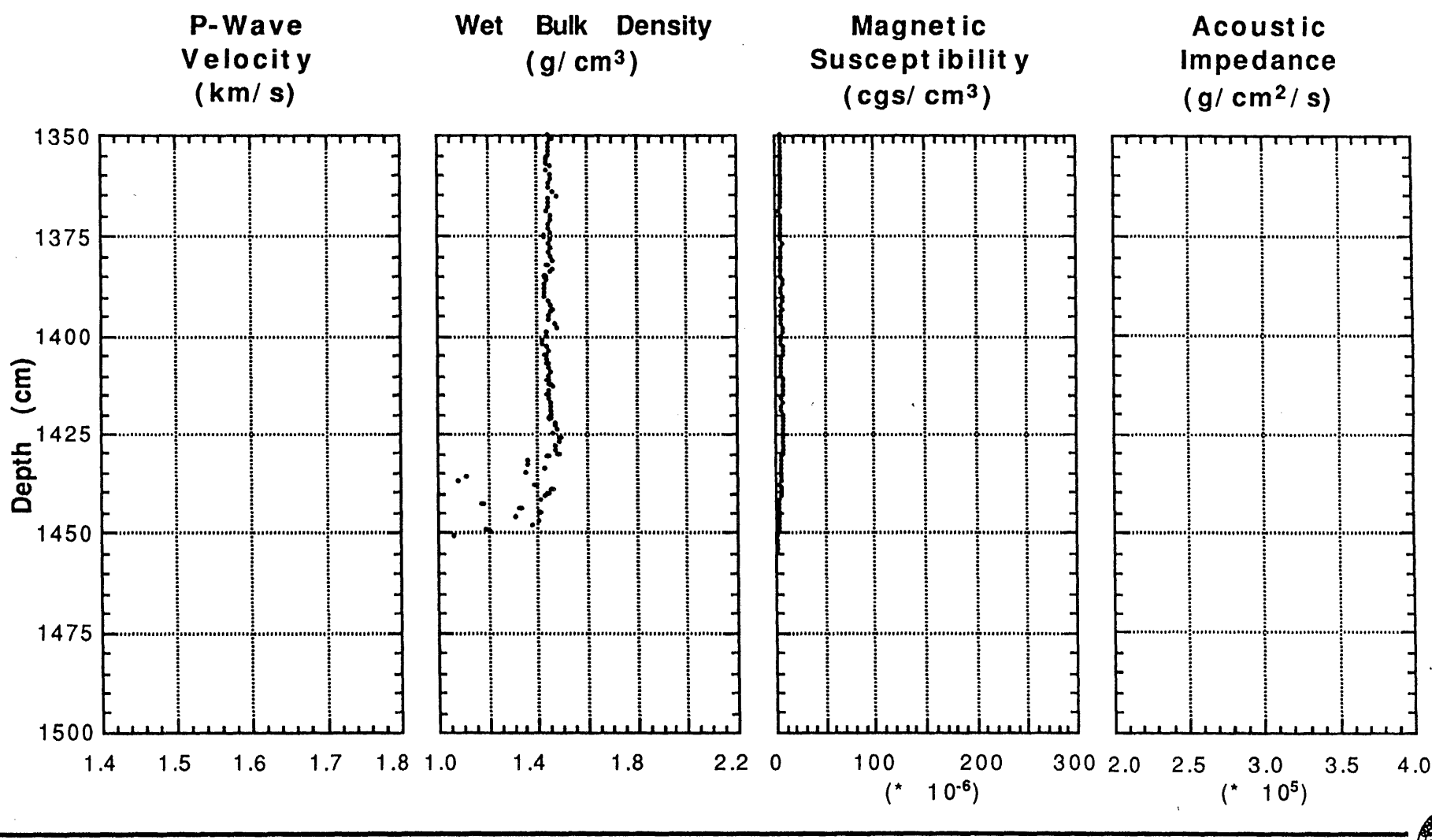
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 13PC

(1350-1455 cm)

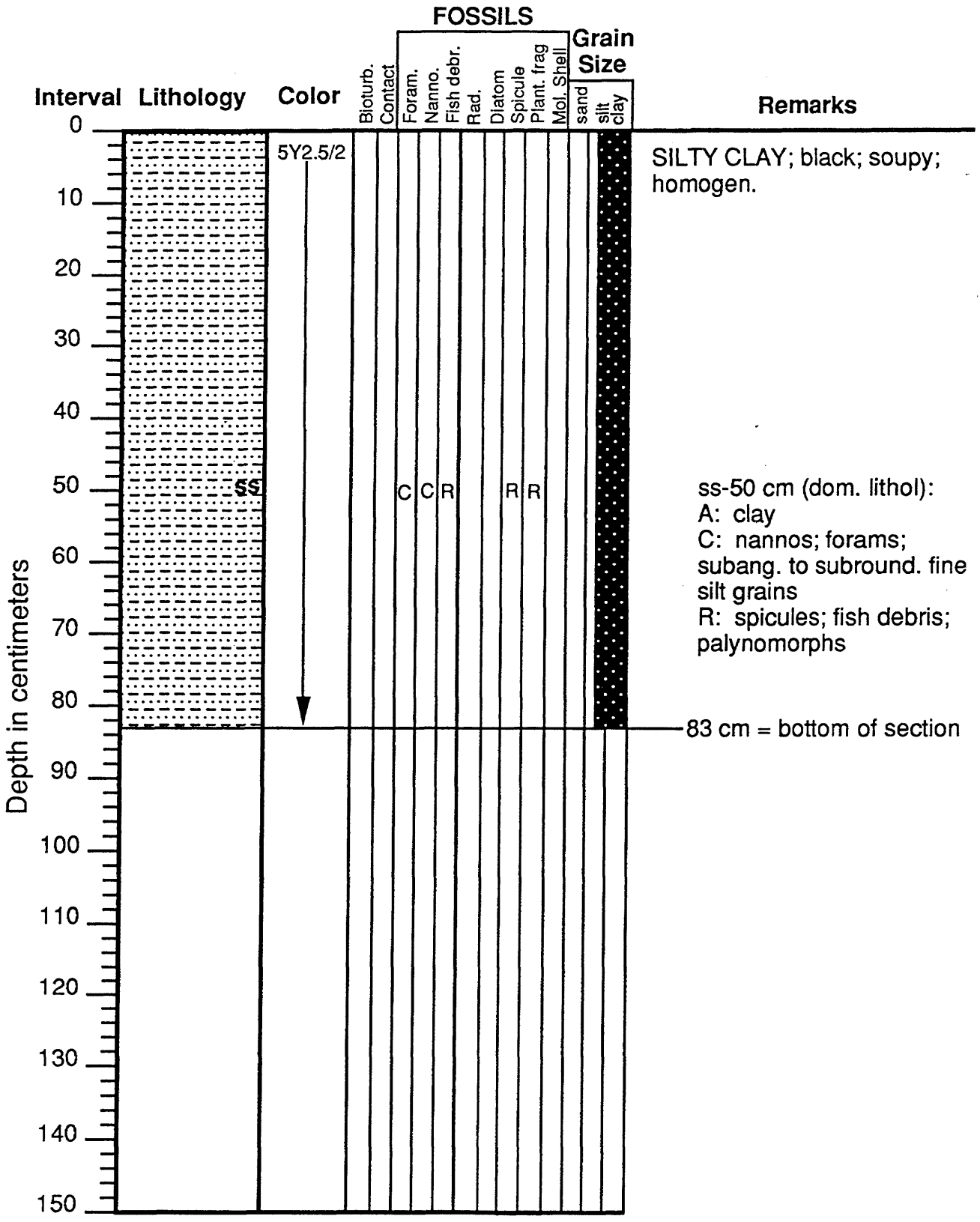


LAT: 36°59.42' N
LON: 123°16.07' W

Depth: 2510 M
Drill Site ID: CA-8 South of Guide Seamount

USGS

EW95-04 Core: 14PC Sect.: 8 (0-83 cm)
39 23.44 N, 124 09.07 W, 889 m



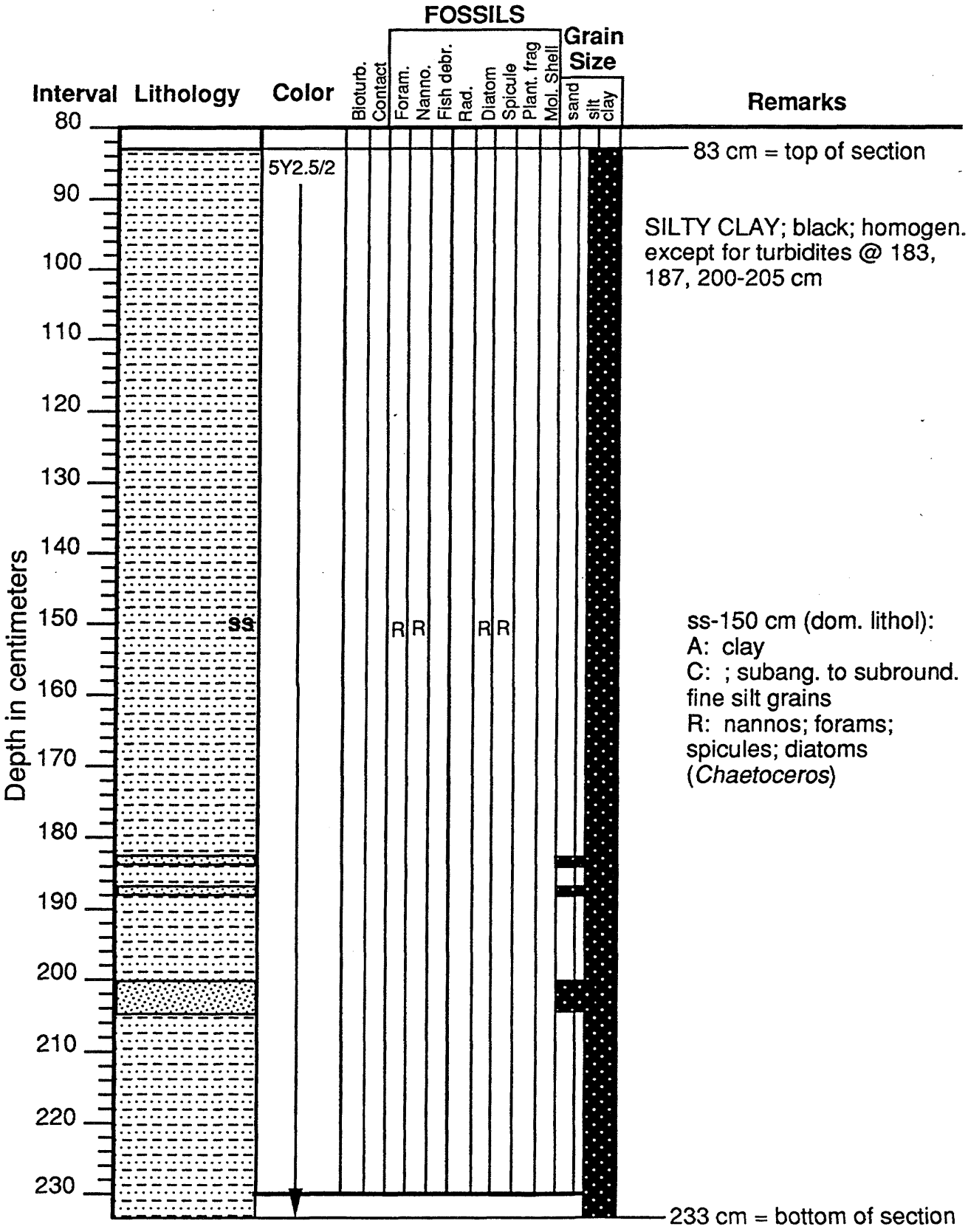
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

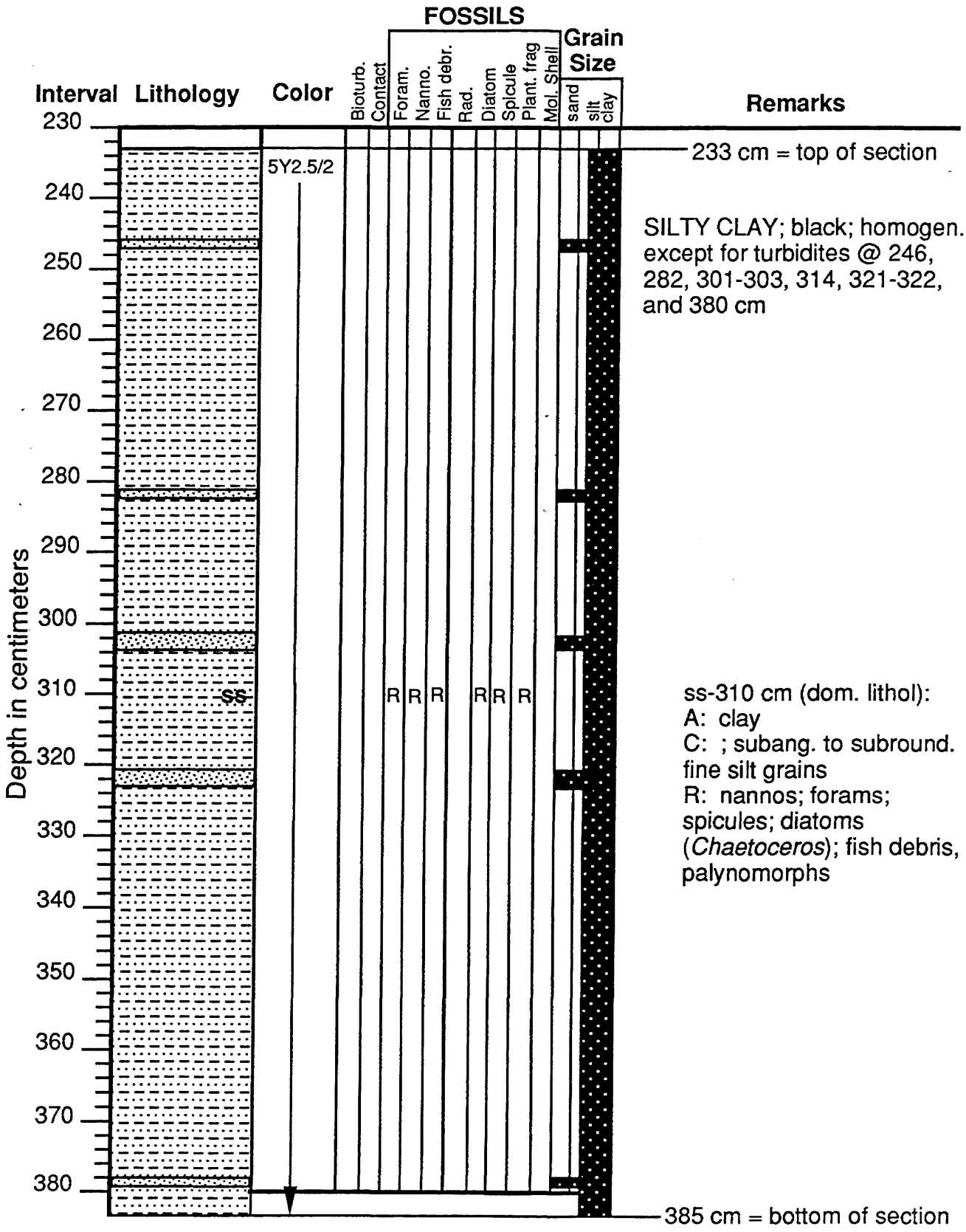
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 14PC Sect.: 7 (83-233 cm)
39 23.44 N, 124 09.07 W, 889 m



EW95-04 Core: 14PC Sect.: 6 (233-385 cm)
39 23.44 N, 124 09.07 W, 889 m



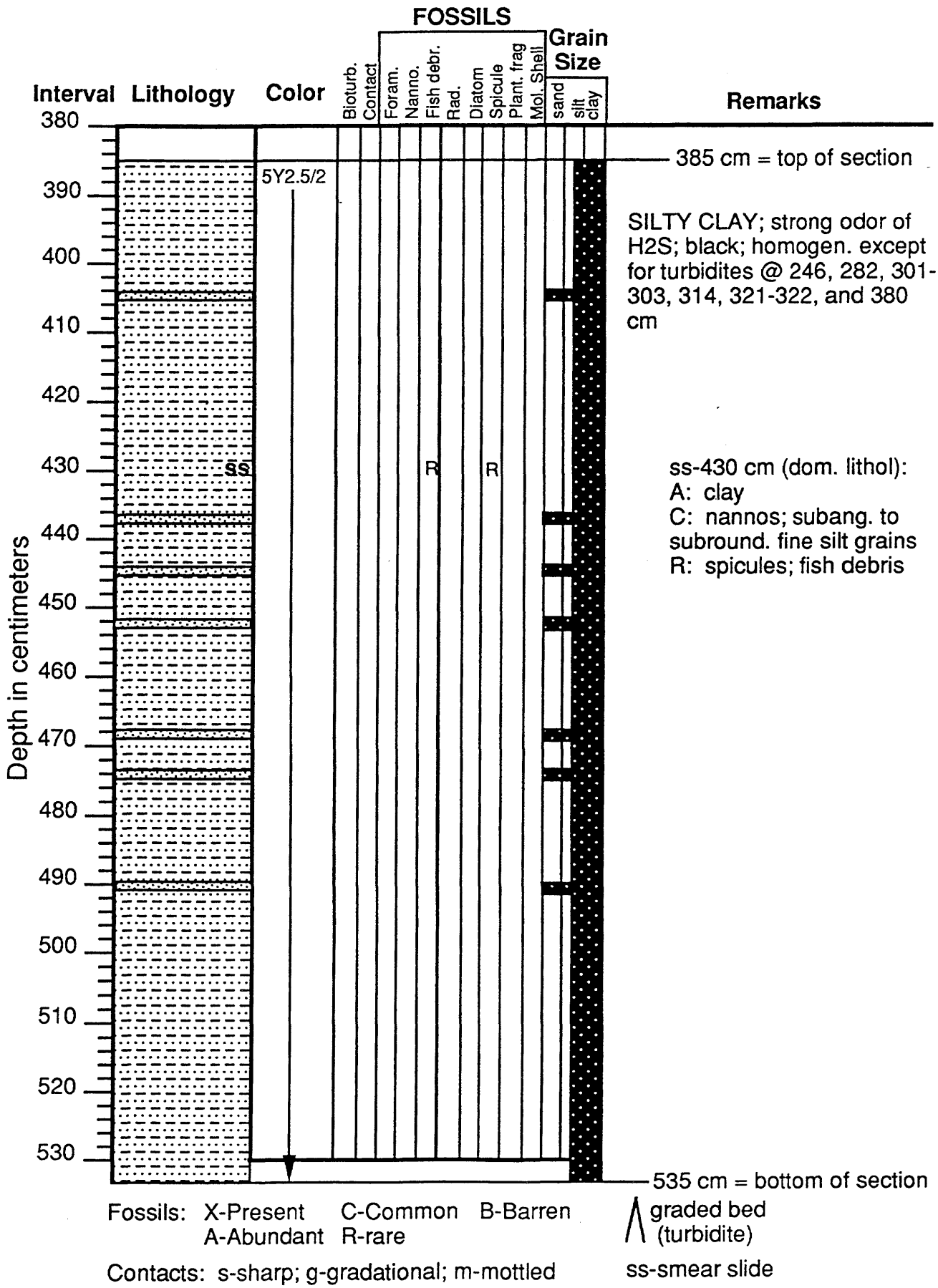
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

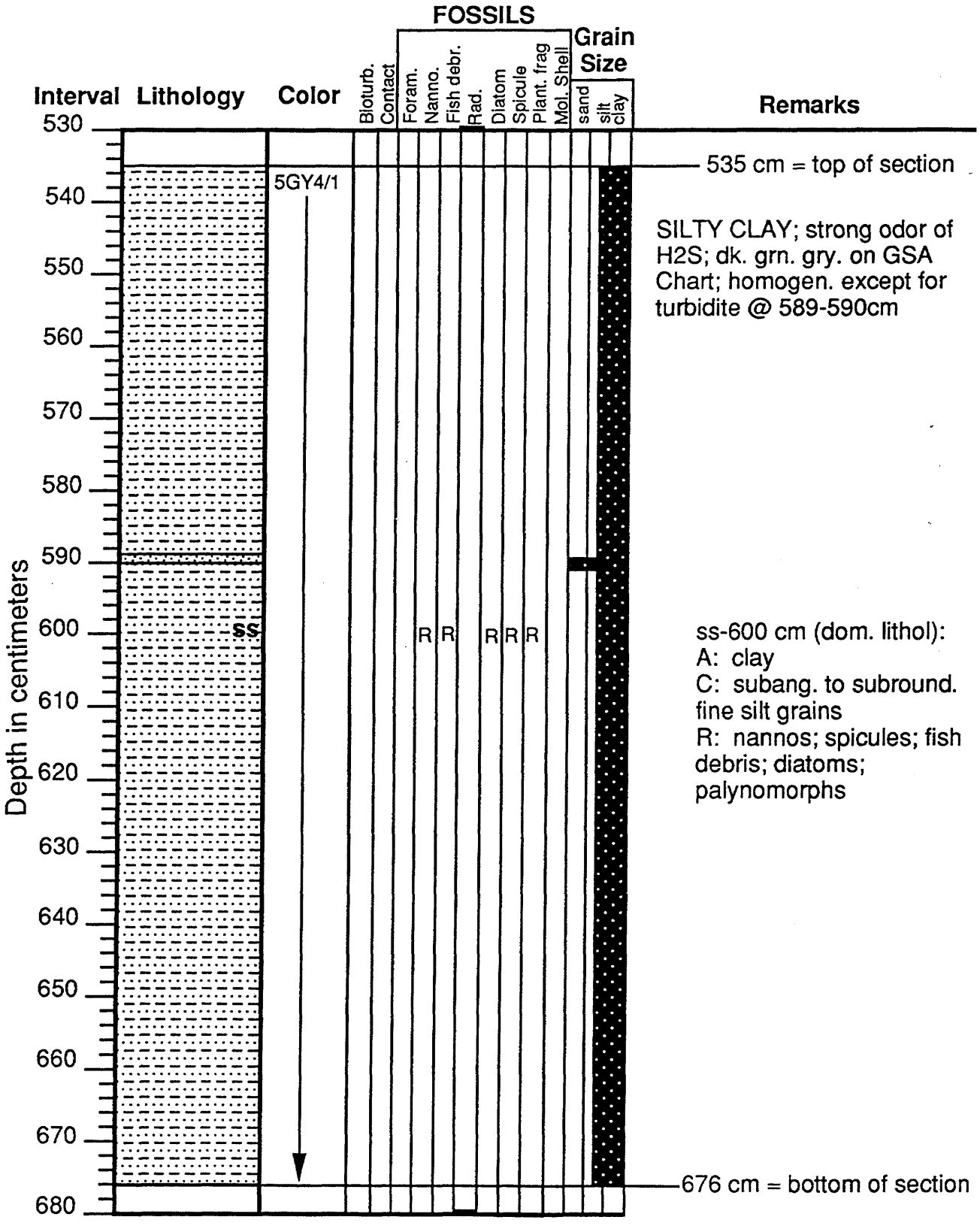
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 14PC Sect.: 5 (385-535 cm)
39 23.44 N, 124 09.07 W, 889 m



EW95-04 Core: 14PC Sect.: 4 (535-676 cm)
39 23.44 N, 124 09.07 W, 889 m



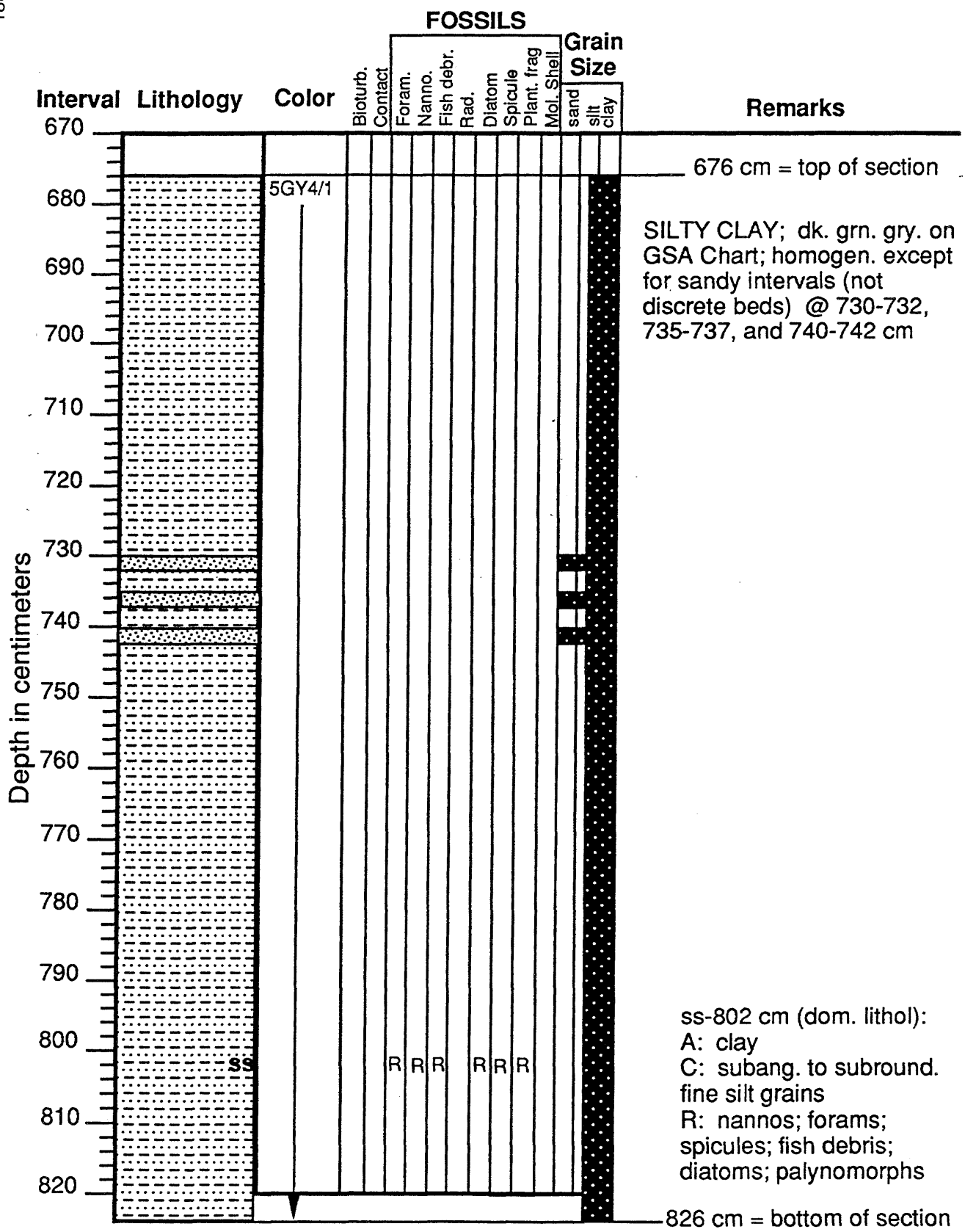
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

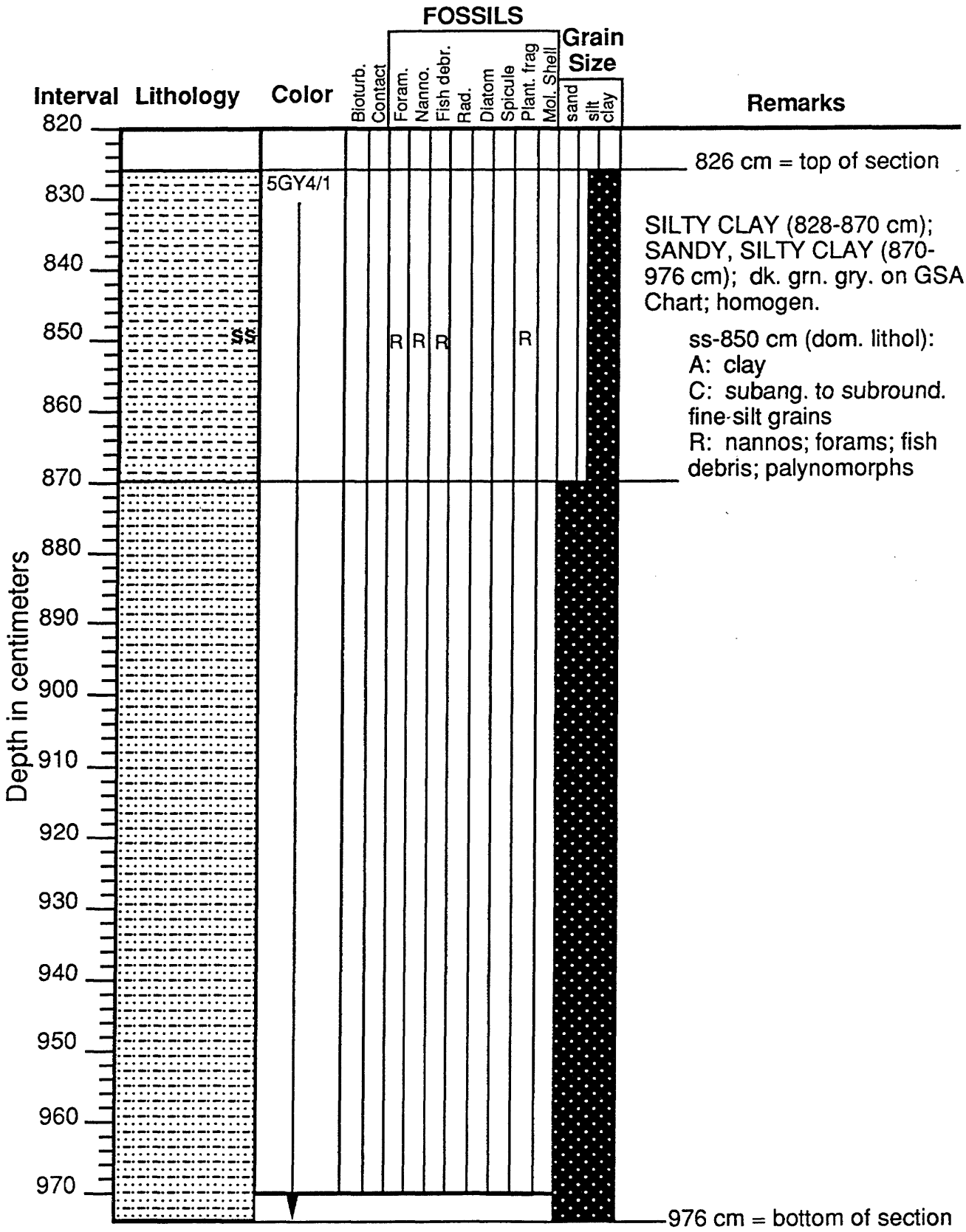
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 14PC Sect.: 3 (676-826 cm)
39 23.44 N, 124 09.07 W, 889 m



EW95-04 Core: 14PC Sect.: 2 (826-976 cm)
39 23.44 N, 124 09.07 W, 889 m



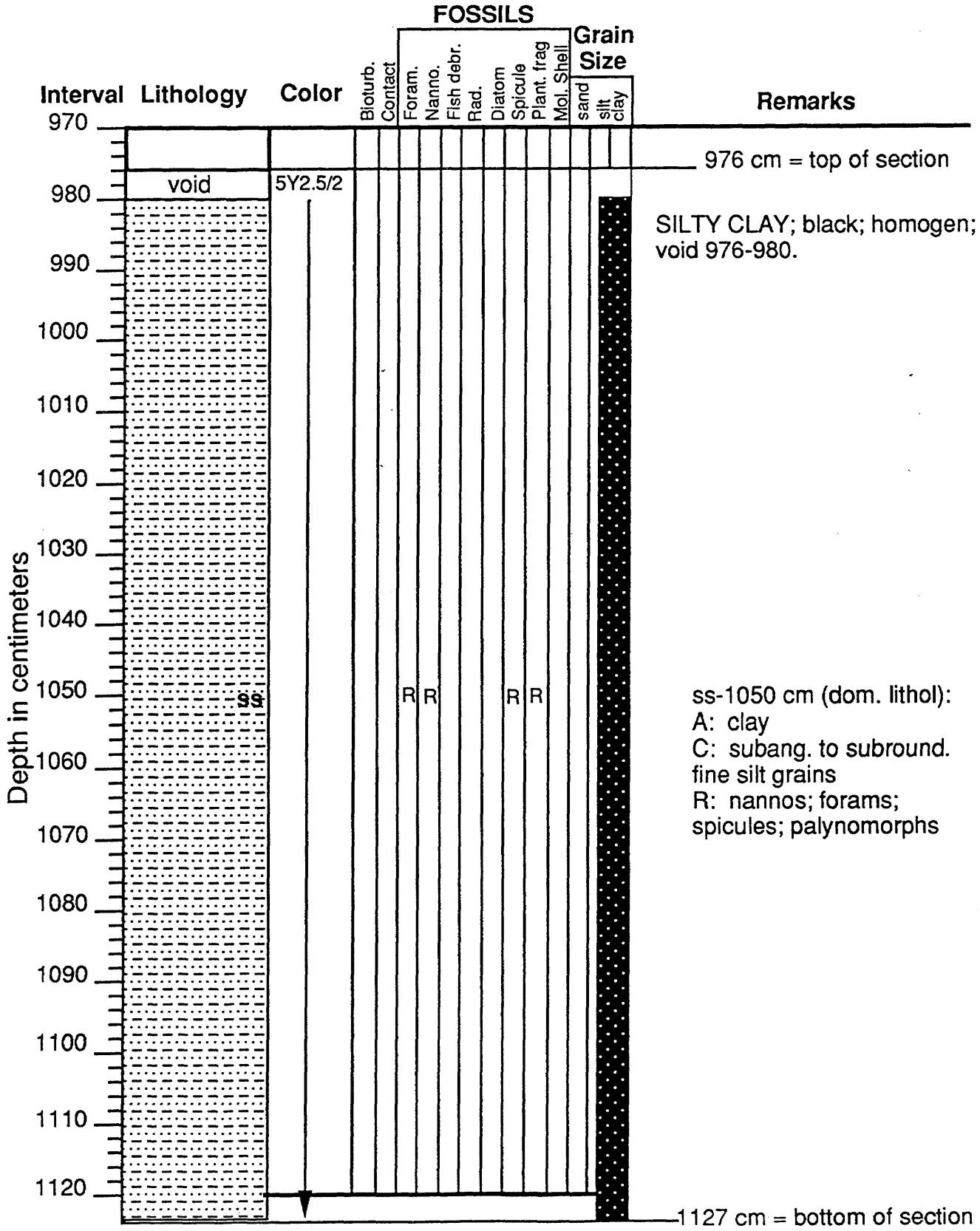
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 14PC Sect.: 1 (976-1127 cm)
39 23.44 N, 124 09.07 W, 889 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

graded bed (turbidite)

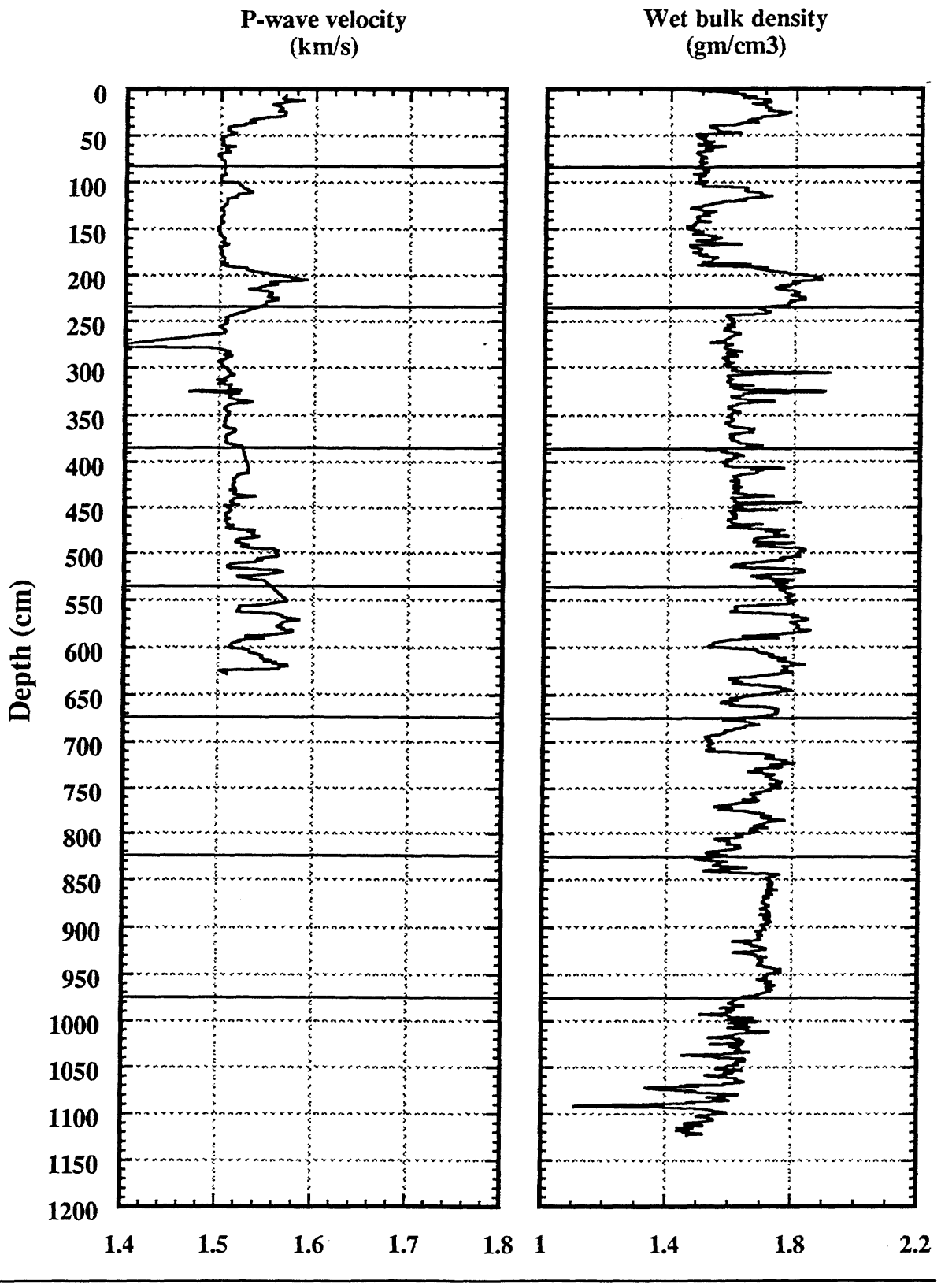
Contacts: s-sharp; g-gradational; m-mottled

ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 14PC
(0 - 1127 cm)



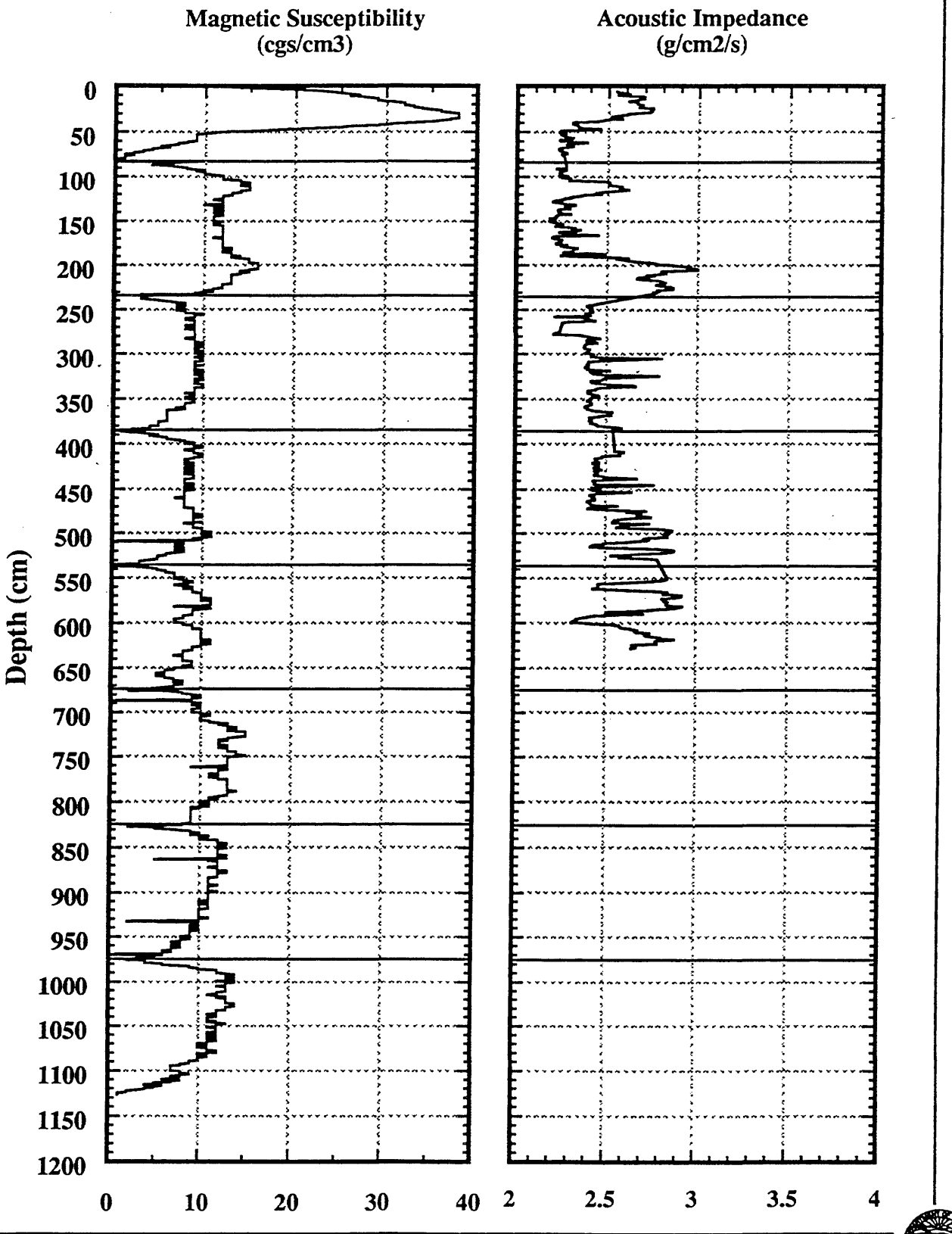
LAT: 39°23.44'N Depth: 889 m
LON: 124°09.07'W Drill Site ID: CA-7 Pt Arena Slope

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 14PC
(0 - 1127 cm)



LAT: 39°23.44'N Depth: 889 m
LON: 124°09.07'W Drill Site ID: CA-7 Pt Arena Slope

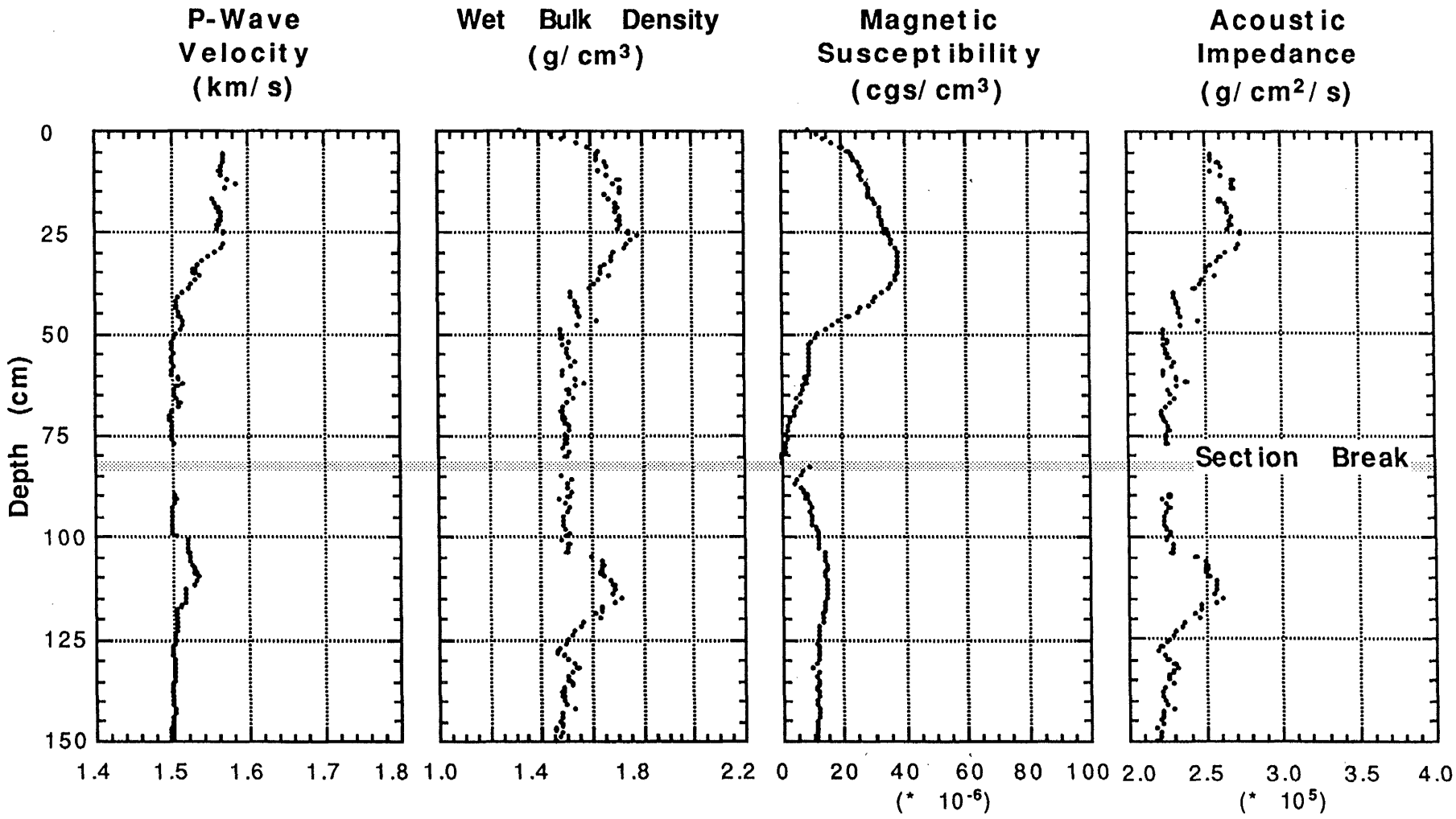
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 14PC

(0- 150 cm)



LAT: 39°23.44' N
LON: 124°09.07' W

Depth: 889 M
Drill Site ID: CA-7 Pt Arena Slope

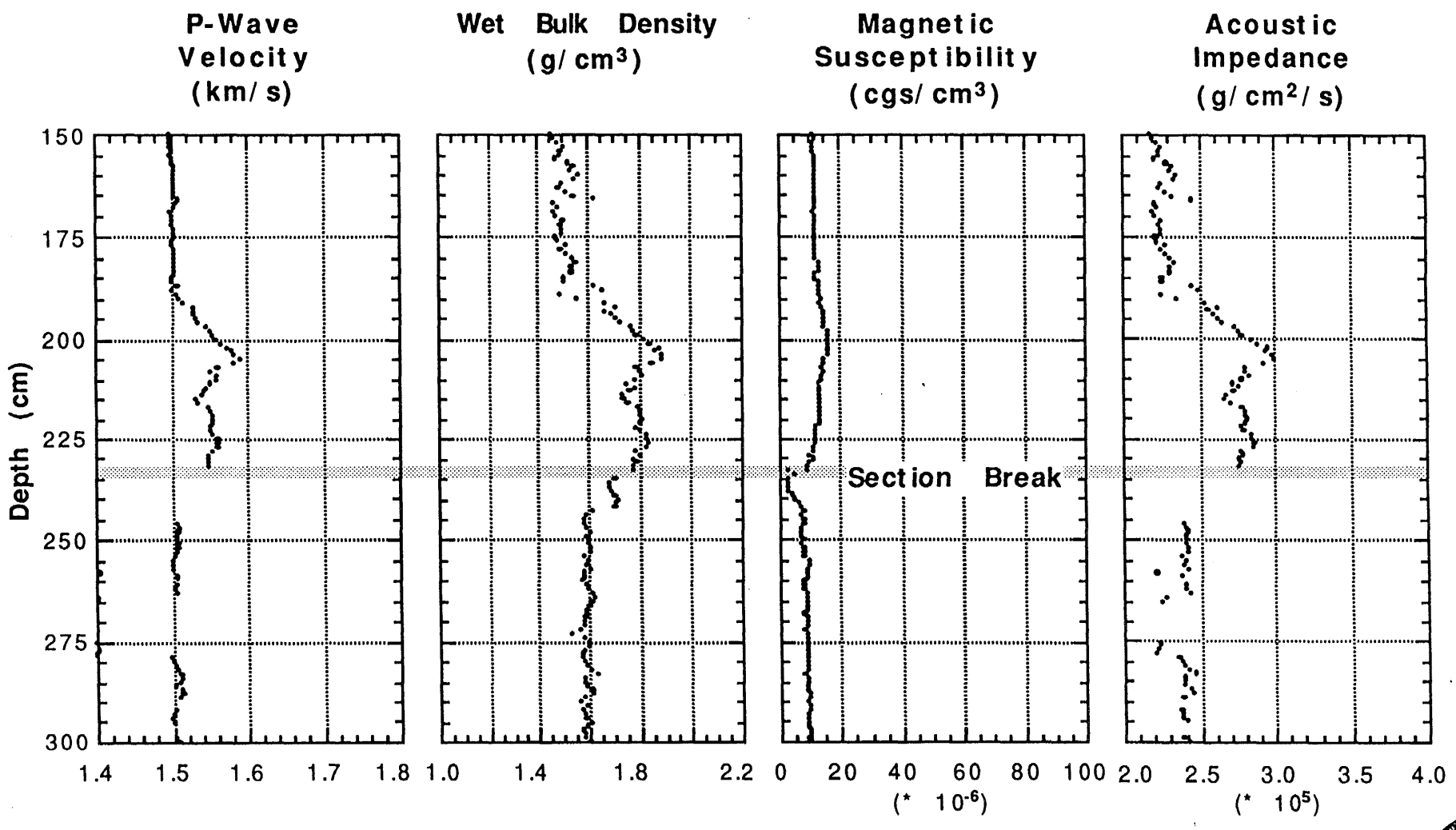
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 14PC

(150-300 cm)



LAT: 39°23.44' N
LON: 124°09.07' W

Depth: 889 M
Drill Site ID: CA-7 Pt Arena Slope

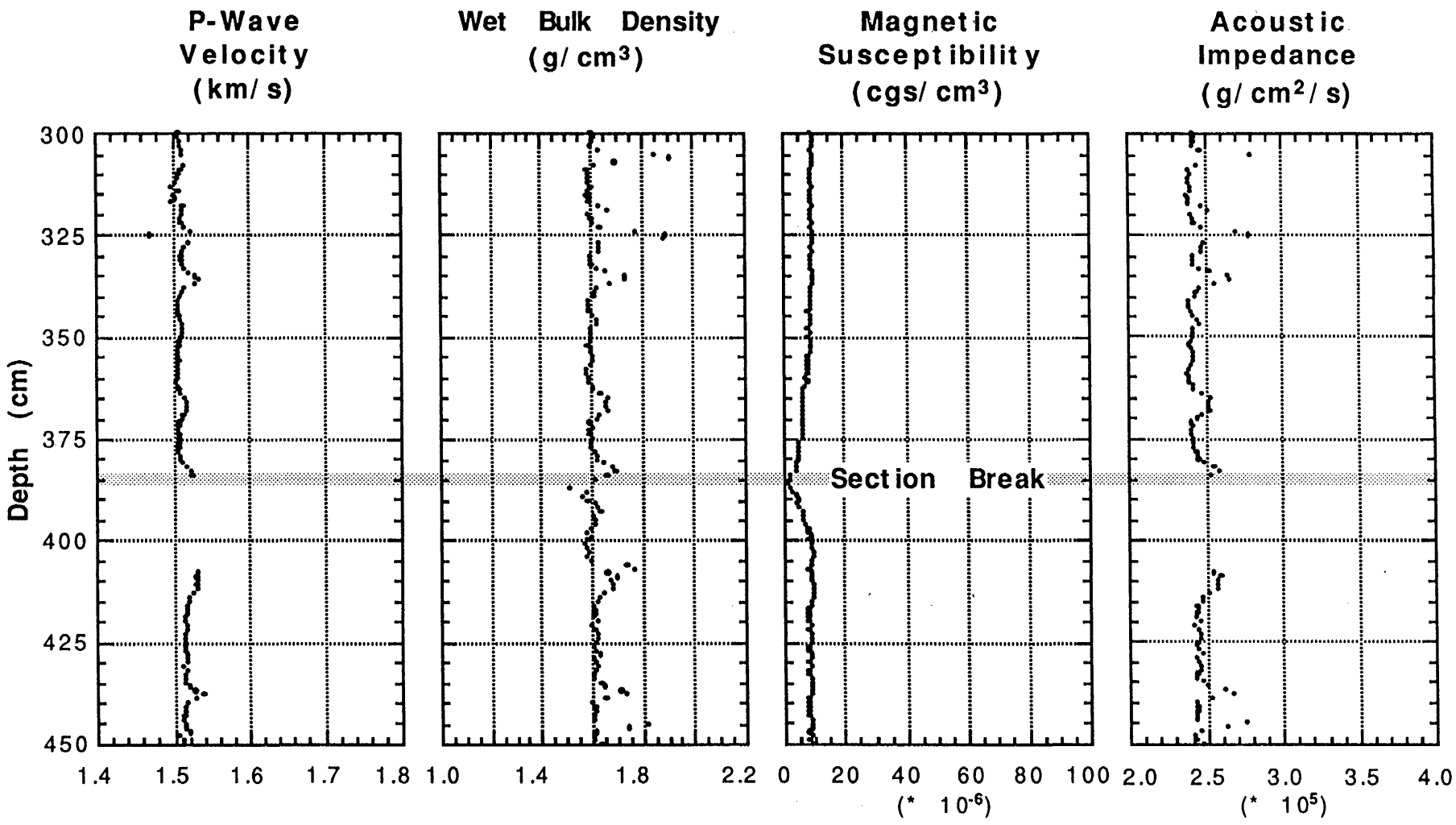
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 14PC

(300-450 cm)



LAT: 39°23.44' N
LON: 124°09.07' W

Depth: 889 M
Drill Site ID: CA-7 Pt Arena Slope

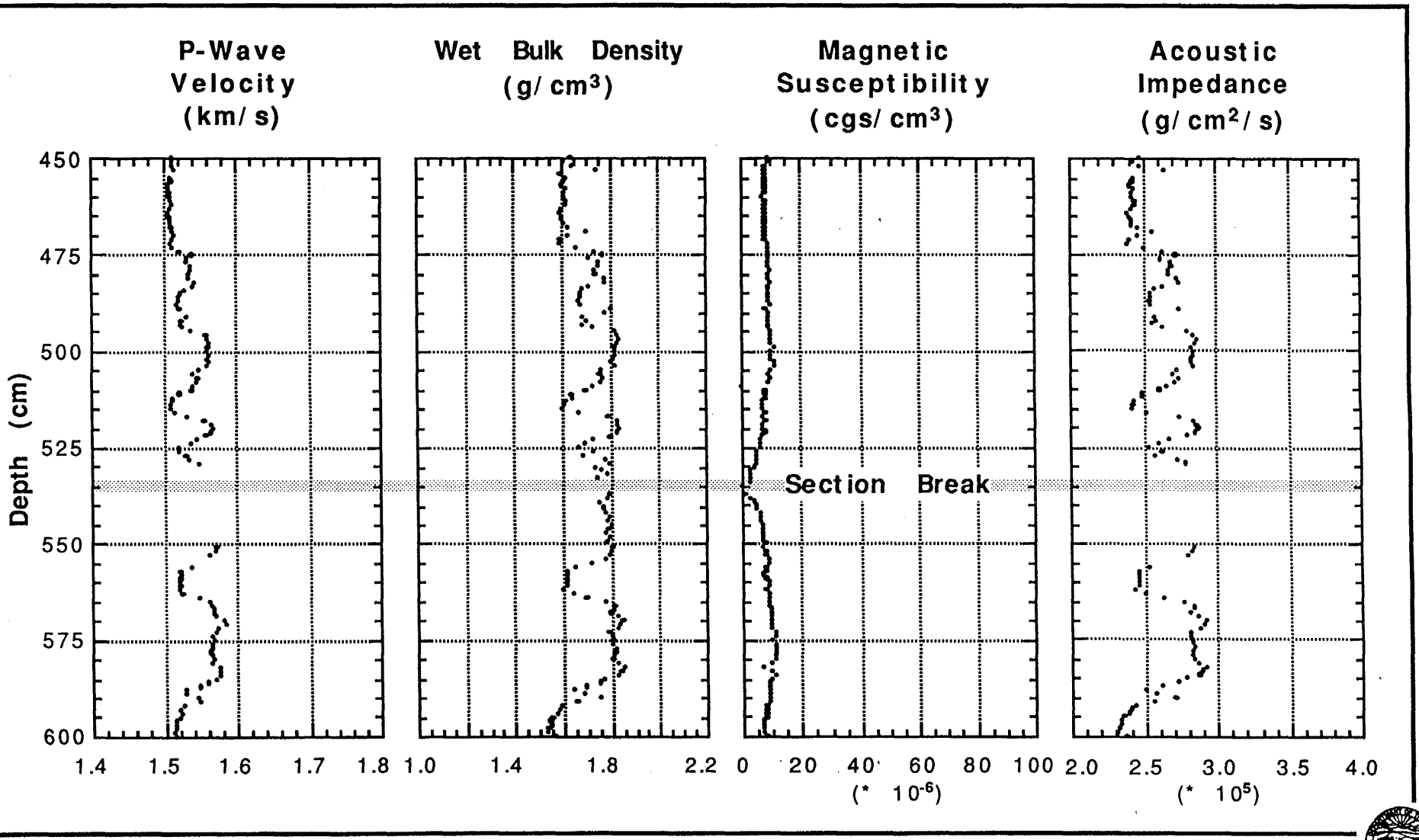
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 14PC

(450-600 cm)



LAT: 39°23.44' N
LON: 124°09.07' W

Depth: 889 M
Drill Site ID: CA-7 Pt Arena Slope

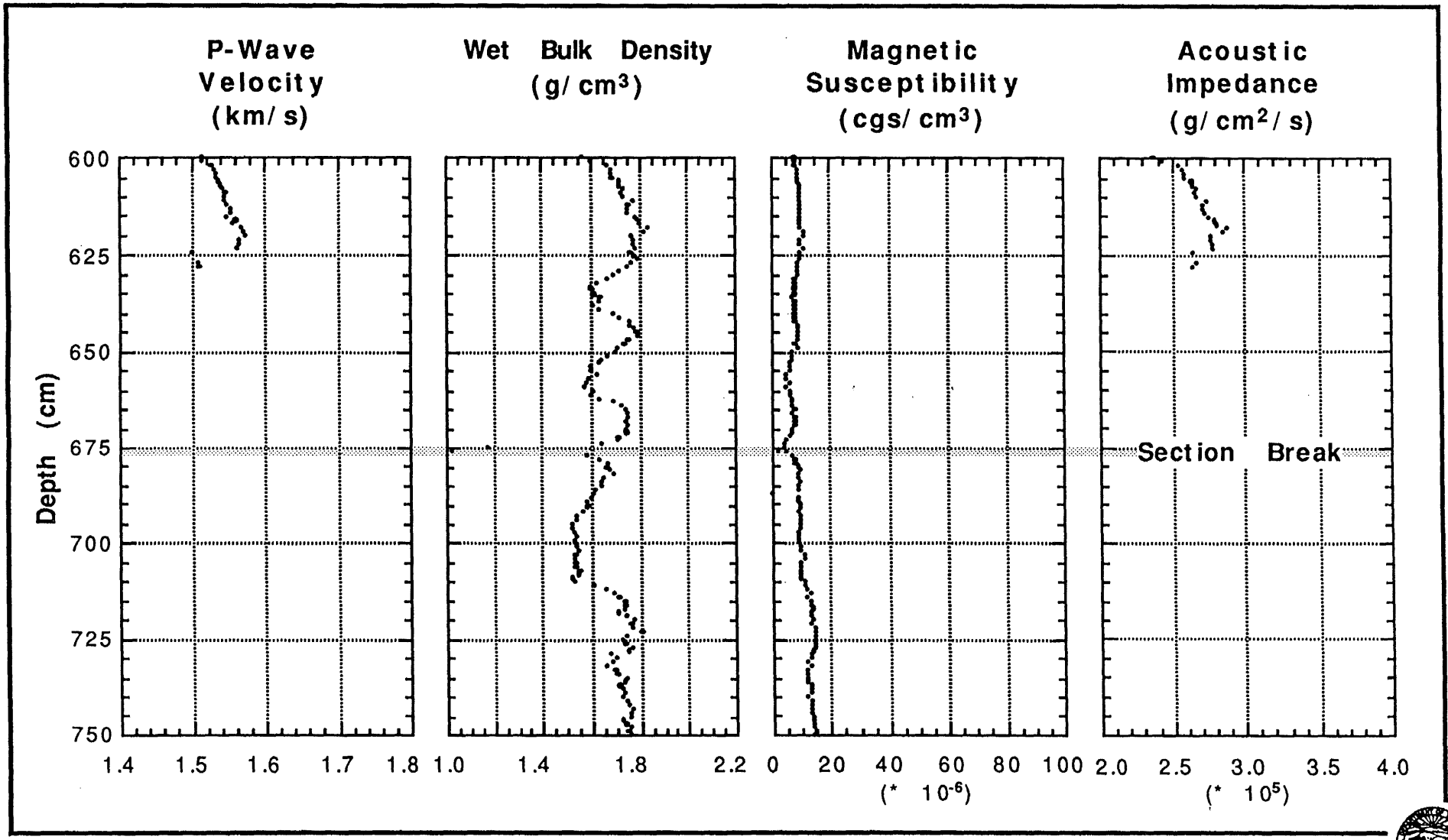
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 14PC

(600-750 cm)



LAT: 39°23.44' N
LON: 124°09.07' W

Depth: 889 M
Drill Site ID: CA-7 Pt Arena Slope

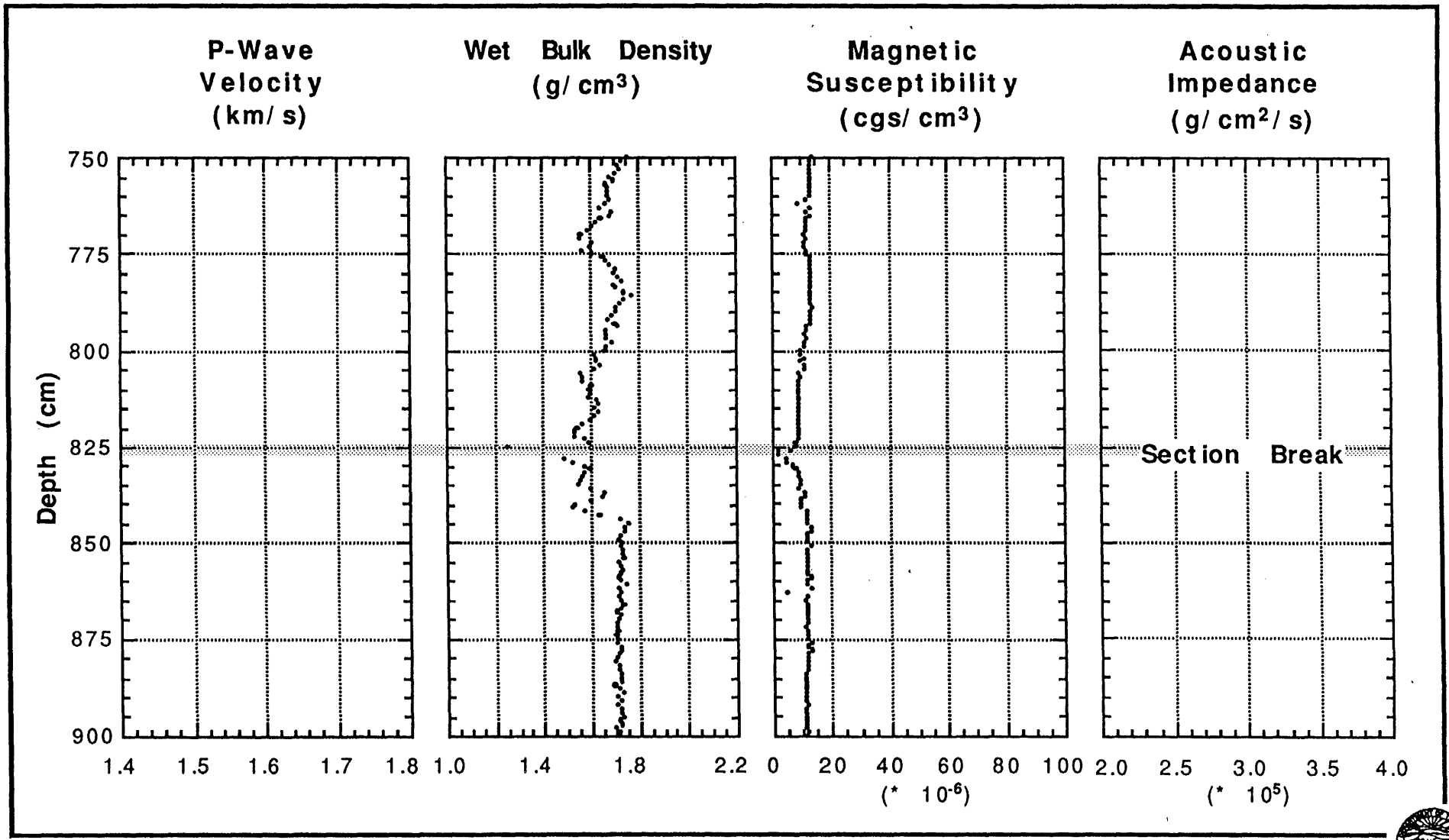
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 14PC

(750-900 cm)



LAT: 39°23.44' N
LON: 124°09.07' W

Depth: 889 M
Drill Site ID: CA-7 Pt Arena Slope

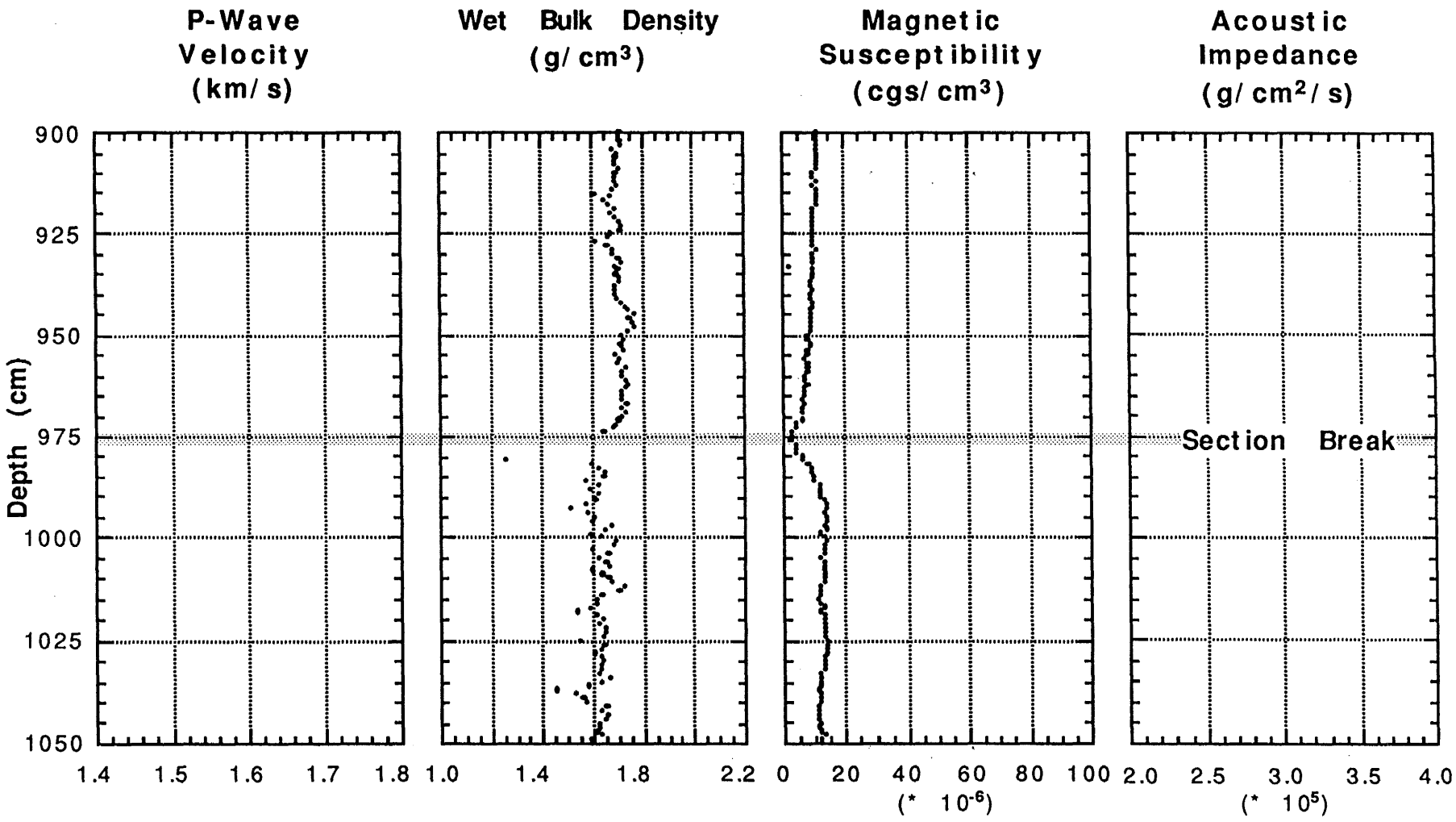
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 14PC

(900-1050 cm)



LAT: 39°23.44' N
LON: 124°09.07' W

Depth: 889 M
Drill Site ID: CA-7 Pt Arena Slope

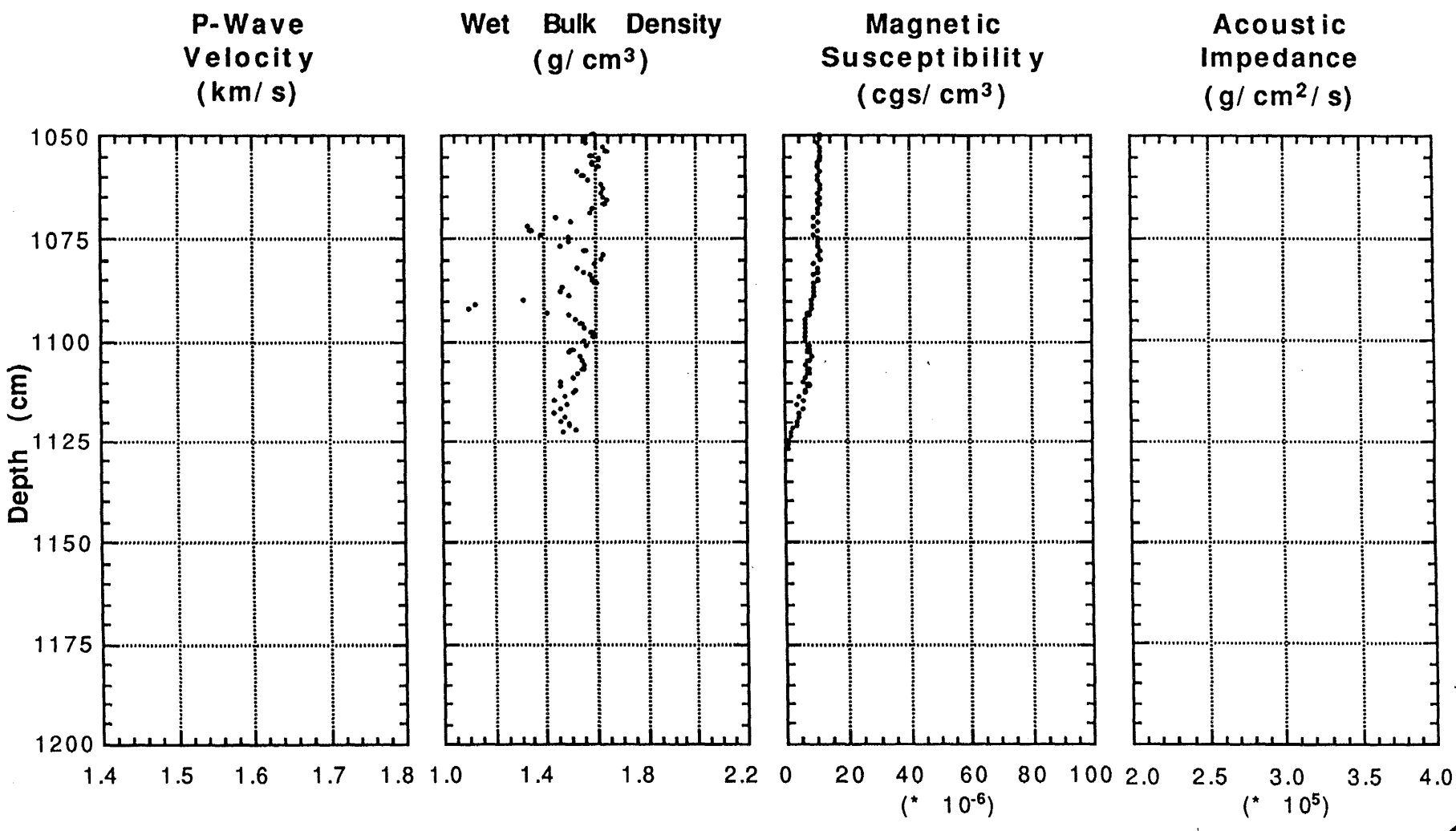
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 14PC

(1050-1127 cm)

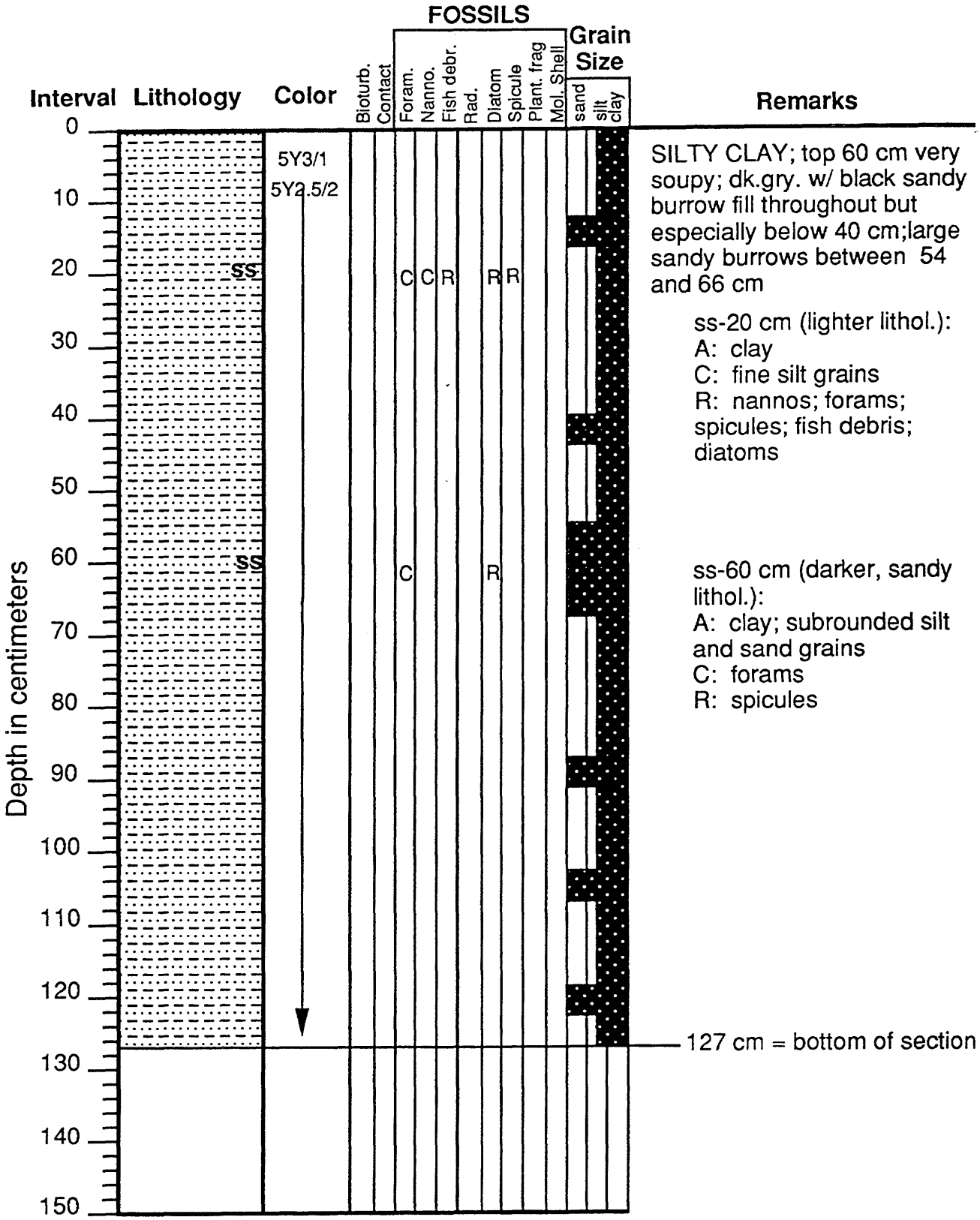


LAT: 39°23.44' N
LON: 124°09.07' W

Depth: 889 M
Drill Site ID: CA-7 Pt Arena Slope

USGS

EW95-04 Core: 15TC Sect.: 1 (0-127 cm)
40 05.75 N, 125 21.6 W, 2241 m



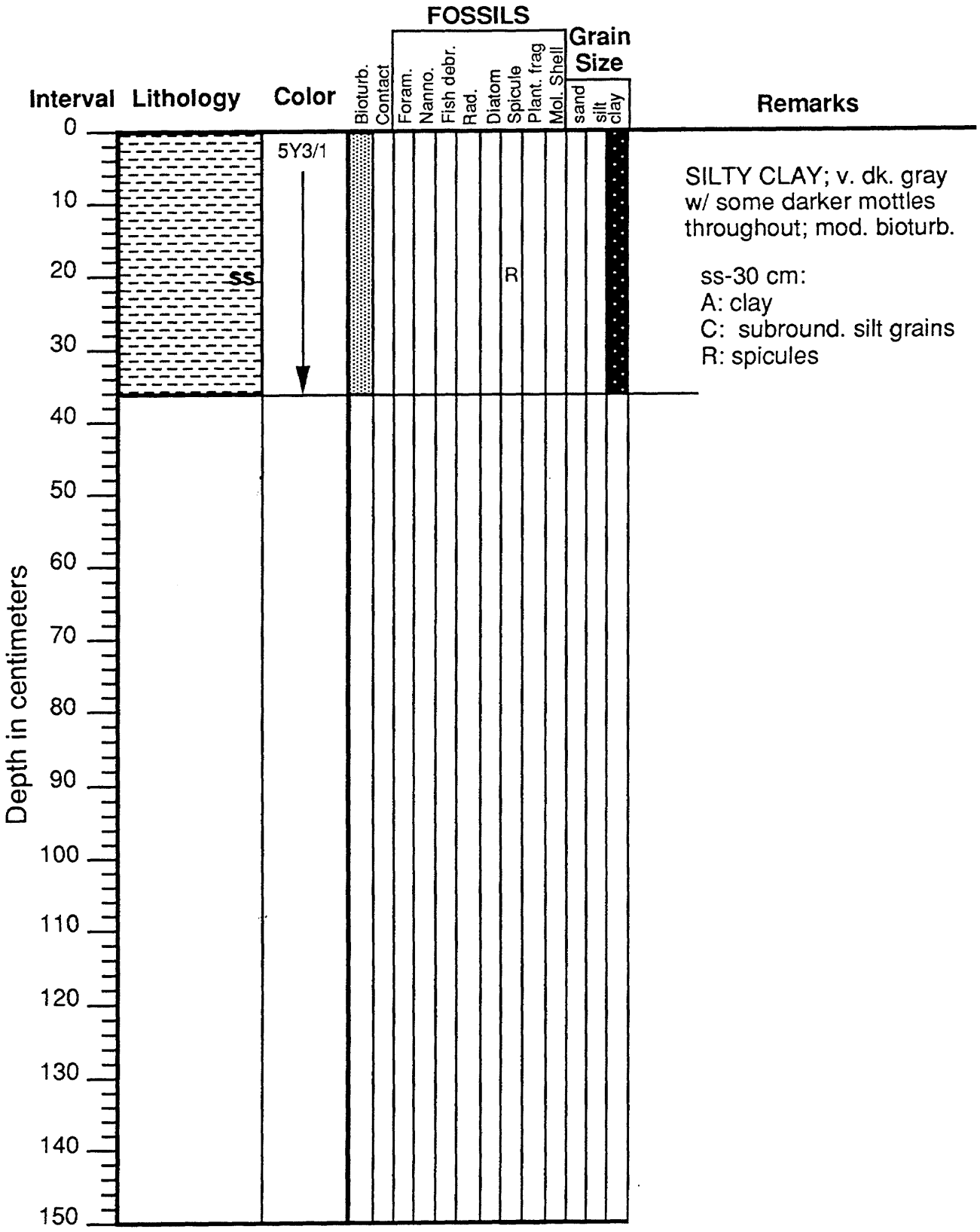
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 15PC Sect. 8: (0-36 cm)
32 51.64 N, 119 57.15 W, 1190 m



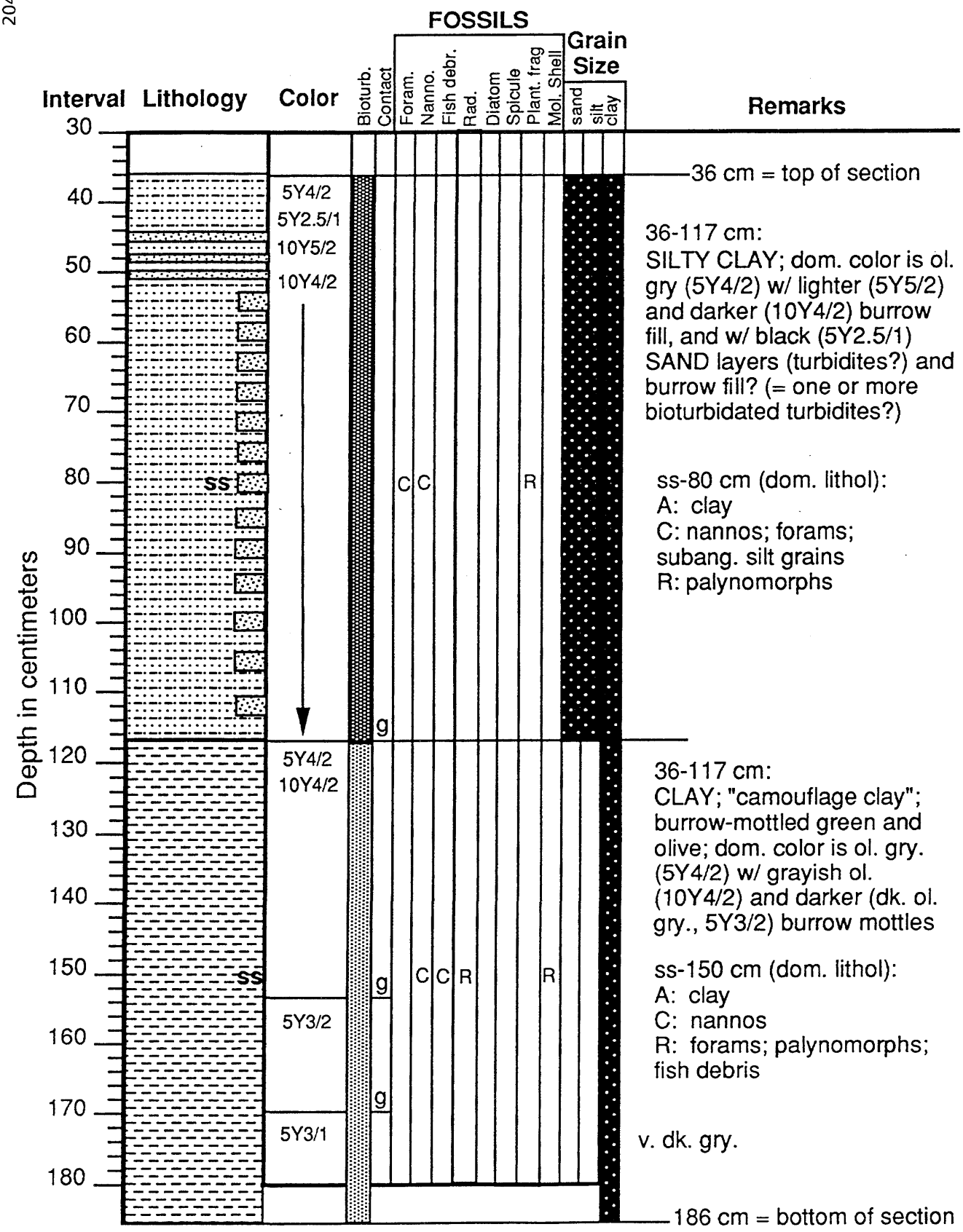
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 15PC Sect.: 7 (36-186 cm)
40 05.75 N, 125 21.6 W, 2241 m



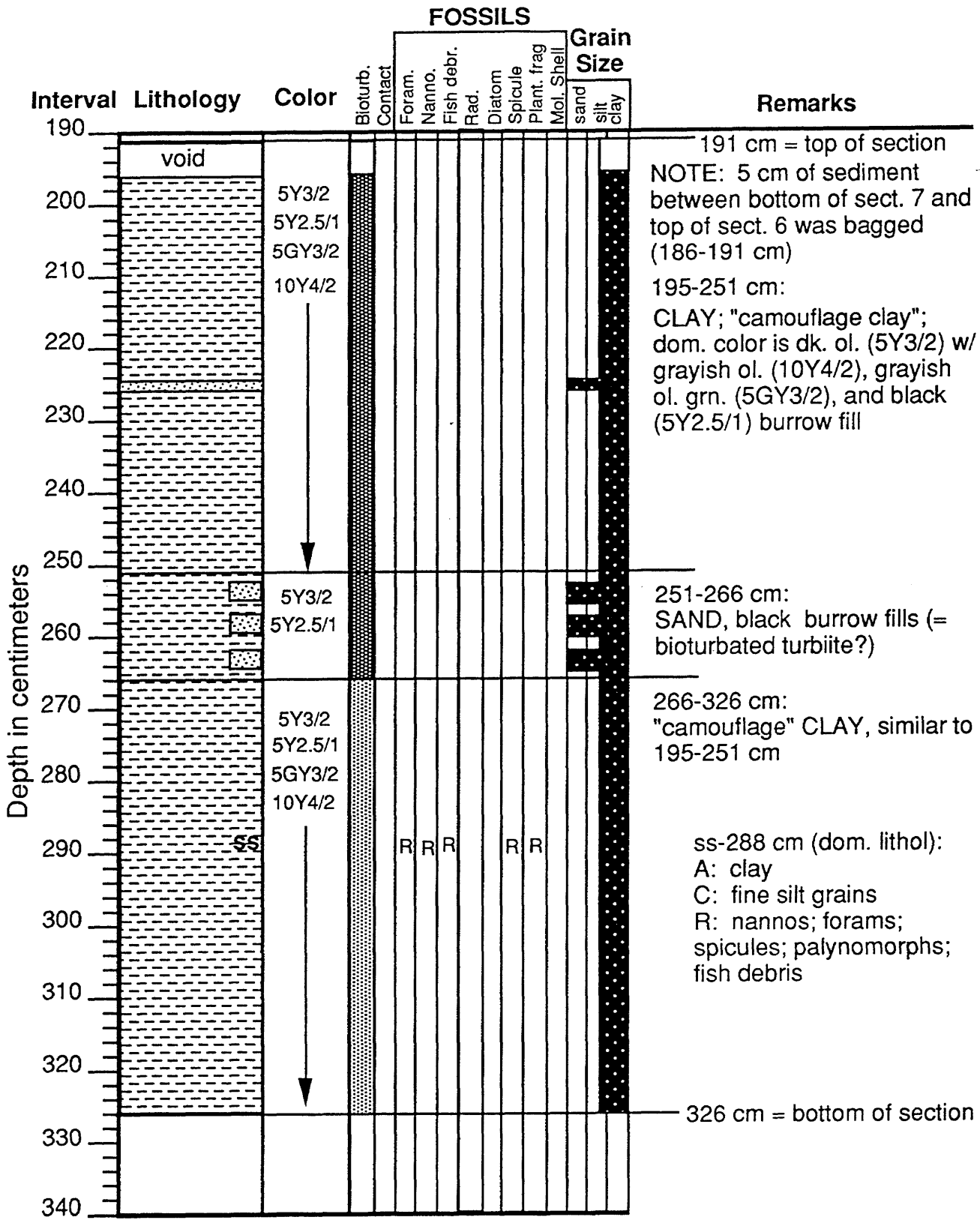
Fossils: X-Present A-Abundant C-Common R-rare B-Barren

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 15PC Sect.: 6 (191-326 cm)
40 05.75 N, 125 21.6 W, 2241 m



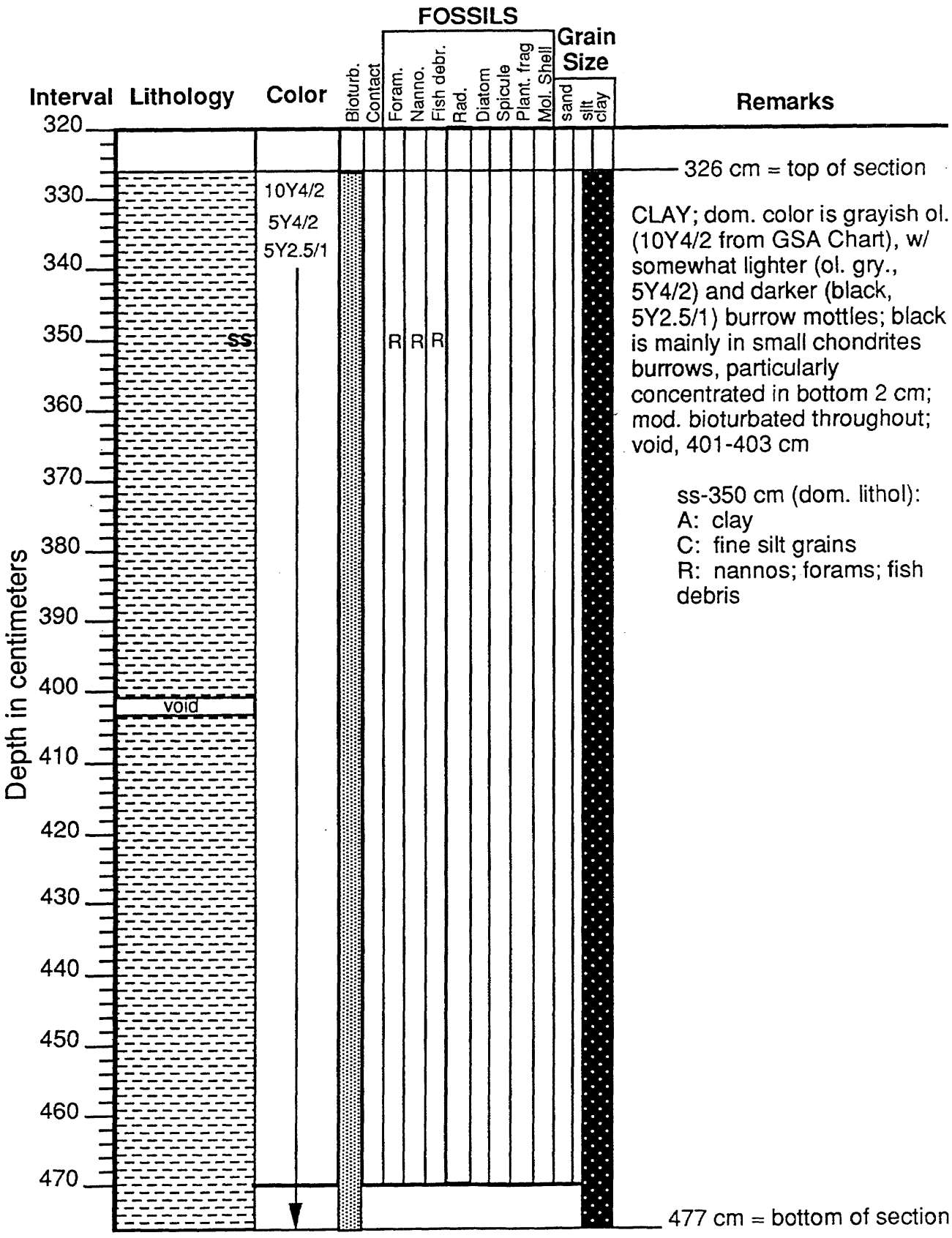
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

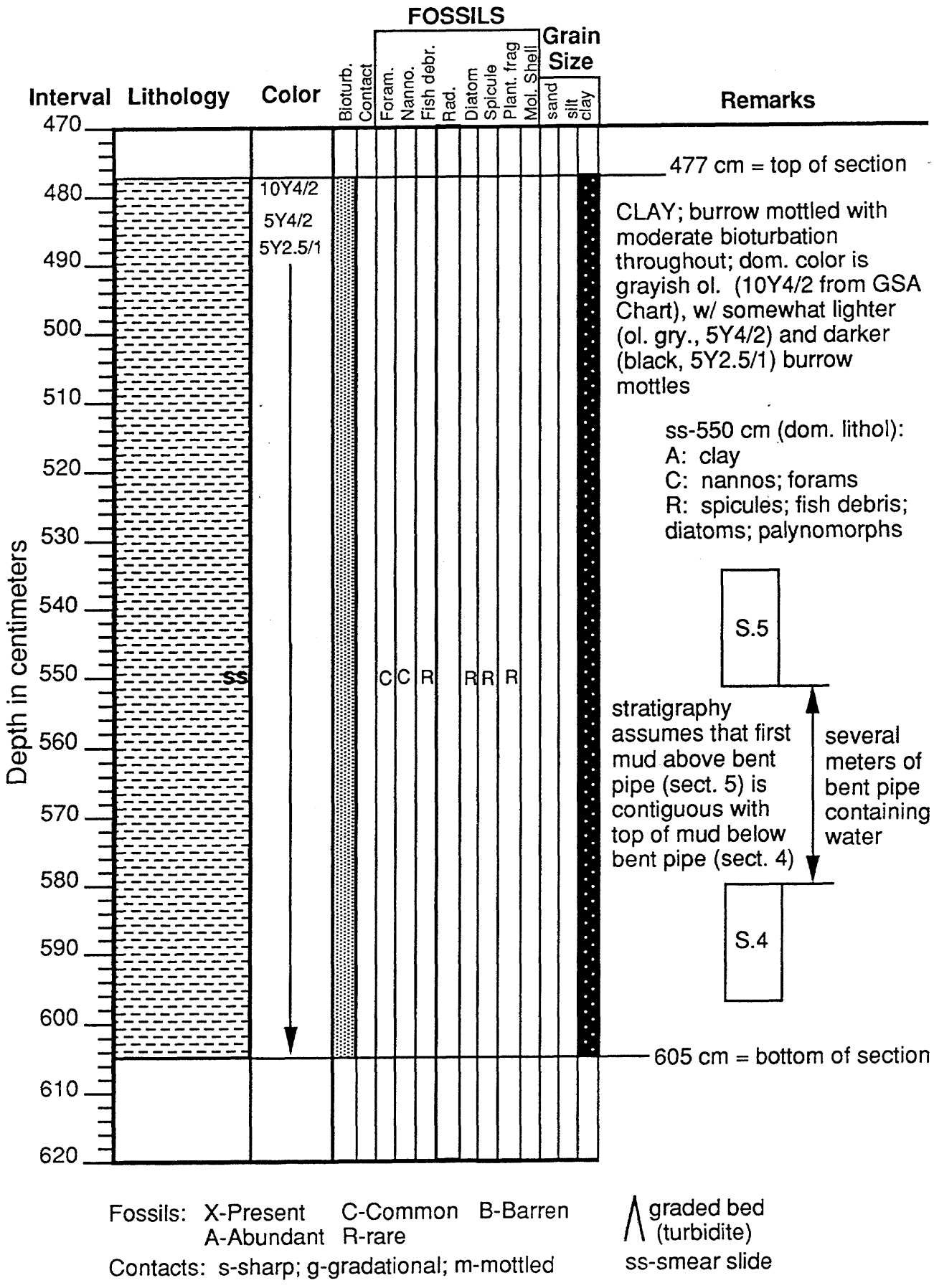
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 15PC Sect.: 5 (326-477 cm)
40 05.75 N, 125 21.6 W, 2241 m



EW95-04 Core: 15PC Sect.: 4 (477-605 cm)
40 05.75 N, 125 21.6 W, 2241 m



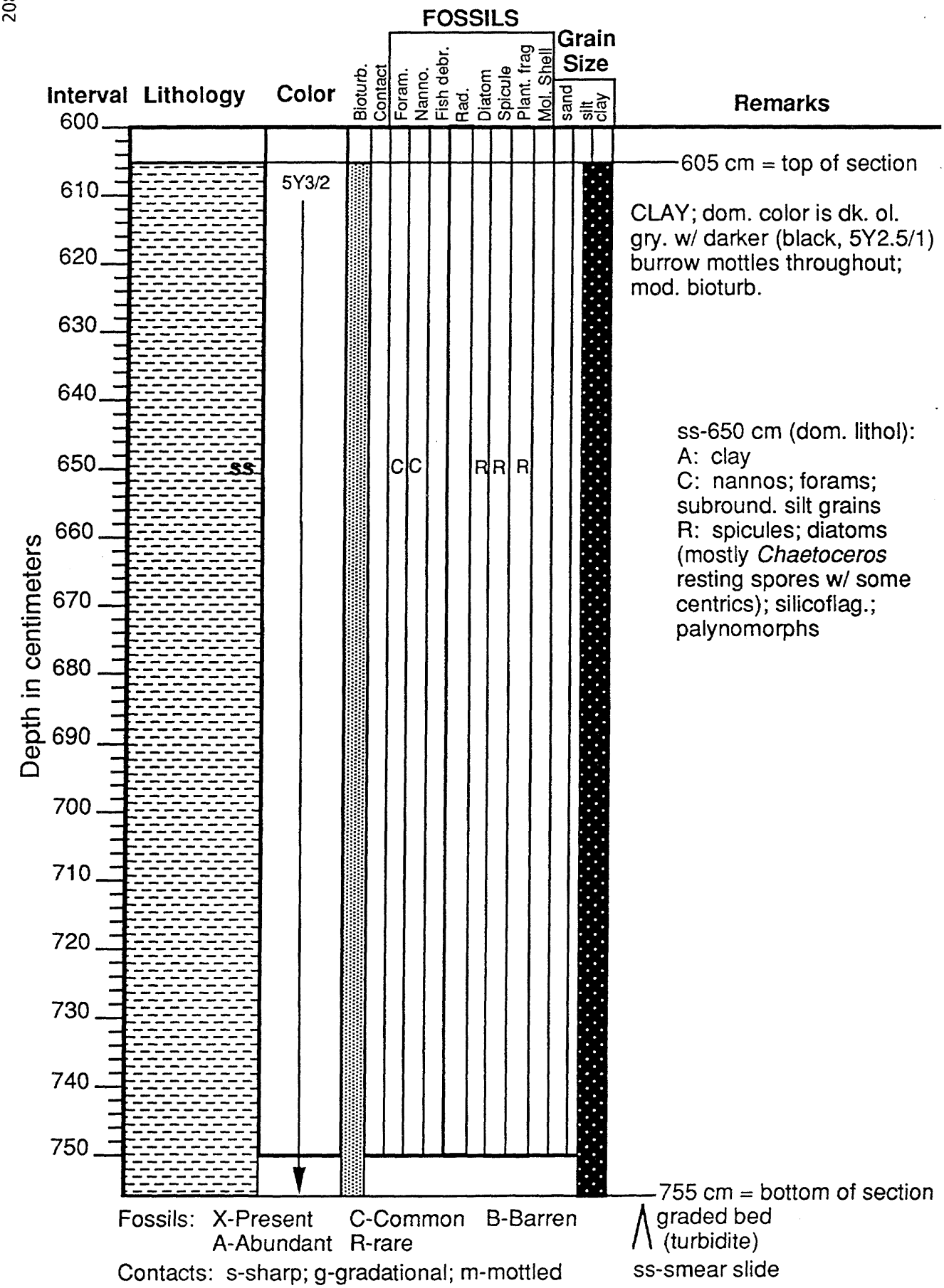
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

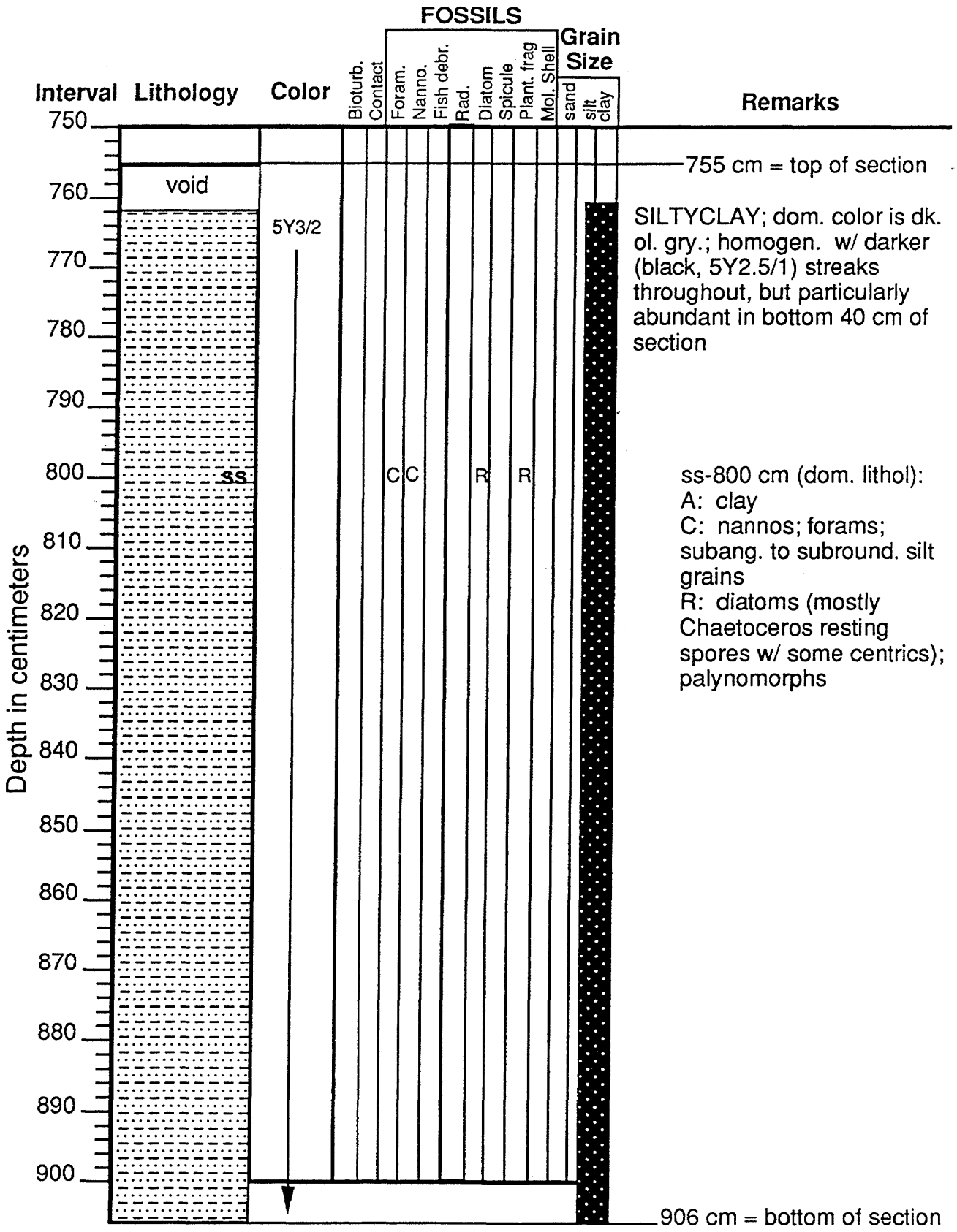
graded bed (turbidite)

ss-smear slide

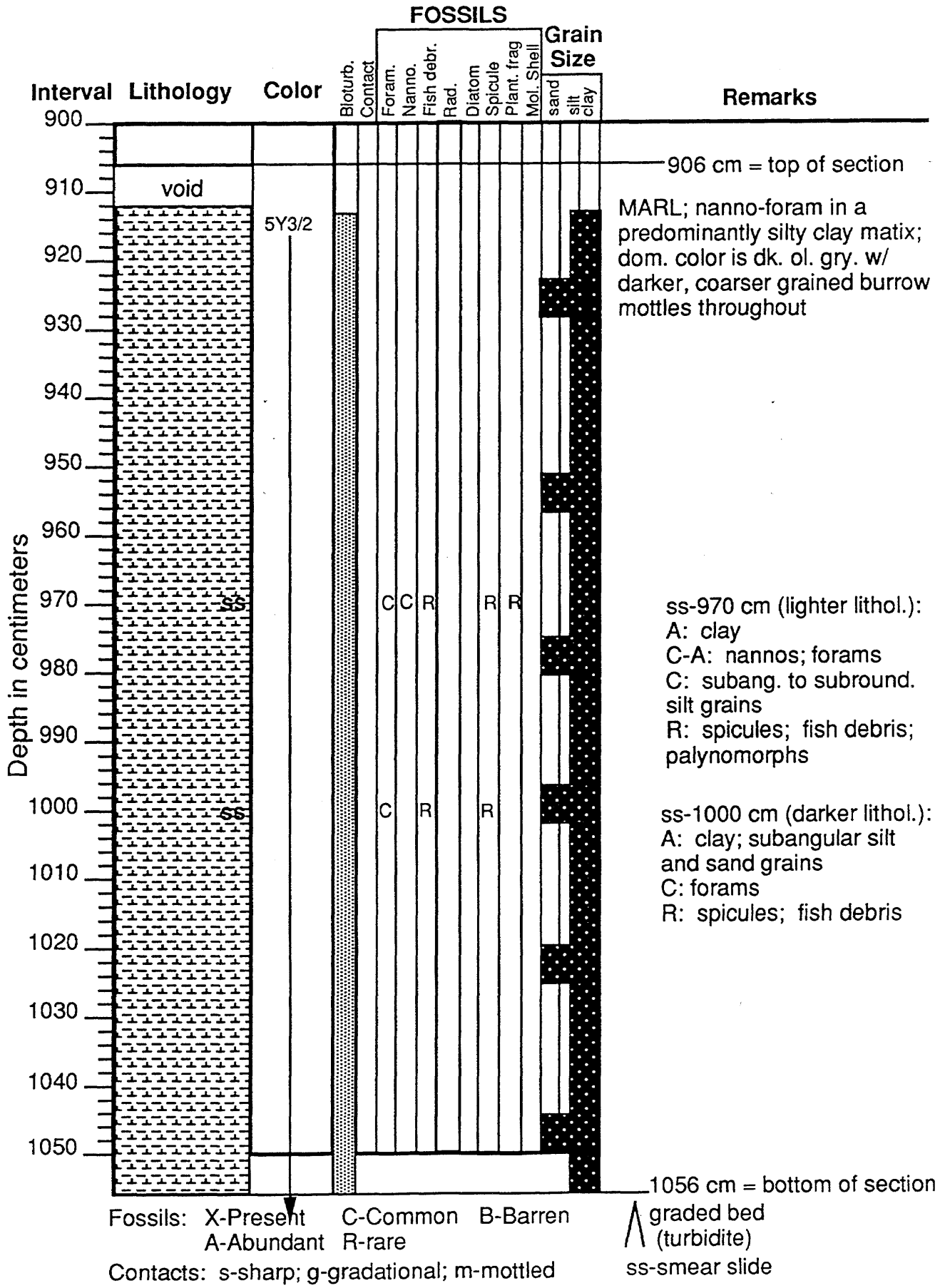
EW95-04 Core: 15PC Sect.: 3 (605-755 cm)
40 05.75 N, 125 21.6 W, 2241 m



EW95-04 Core: 15PC Sect.: 2 (755-906 cm)
40 05.75 N, 125 21.6 W, 2241 m



EW95-04 Core: 15PC Sect.: 1 (906-1056 cm)
40 05.75 N, 125 21.6 W, 2241 m

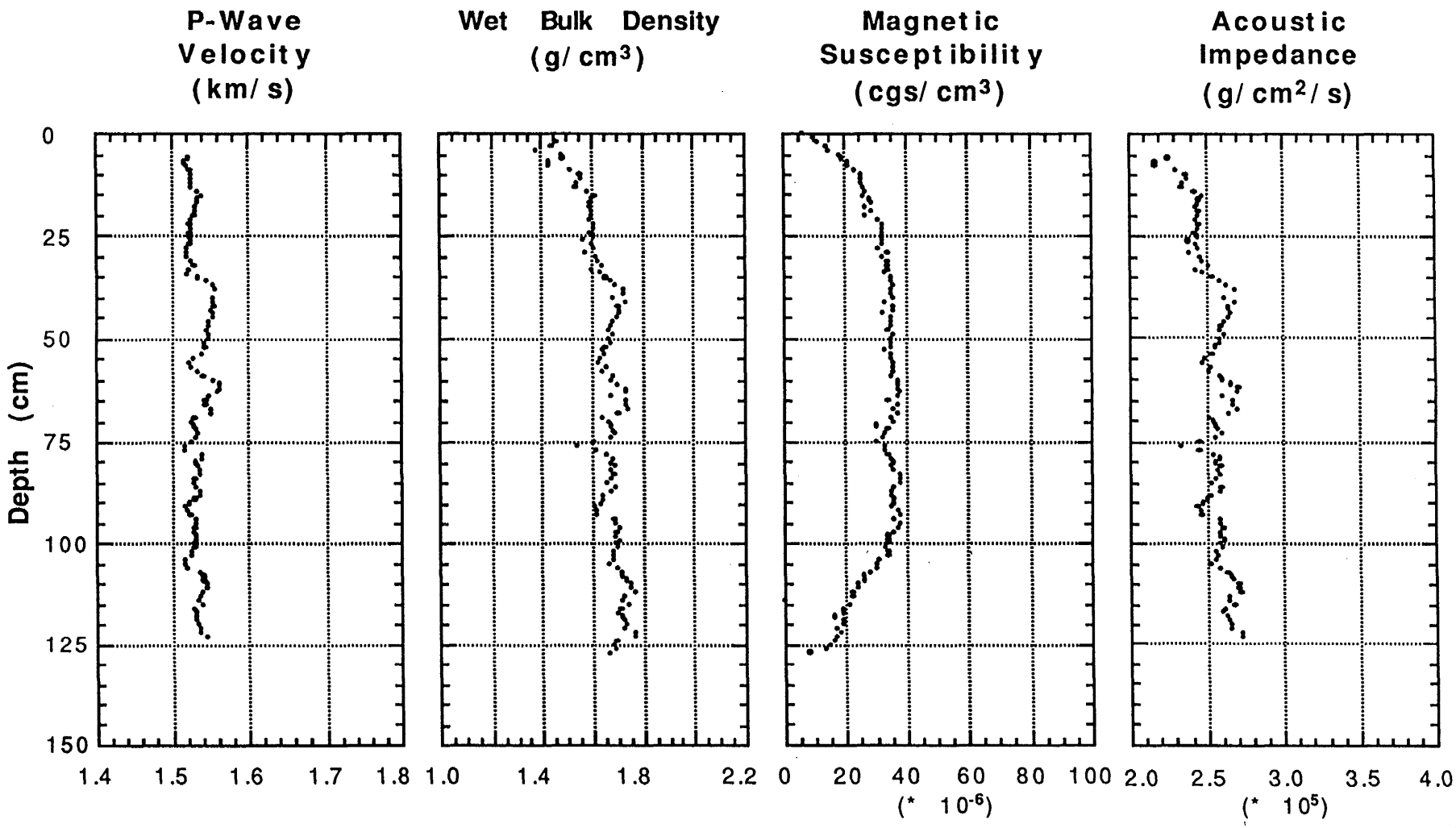


CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 15TC

(0-150 cm)



LAT: 40°05.75' N
LON: 125°21.60' W

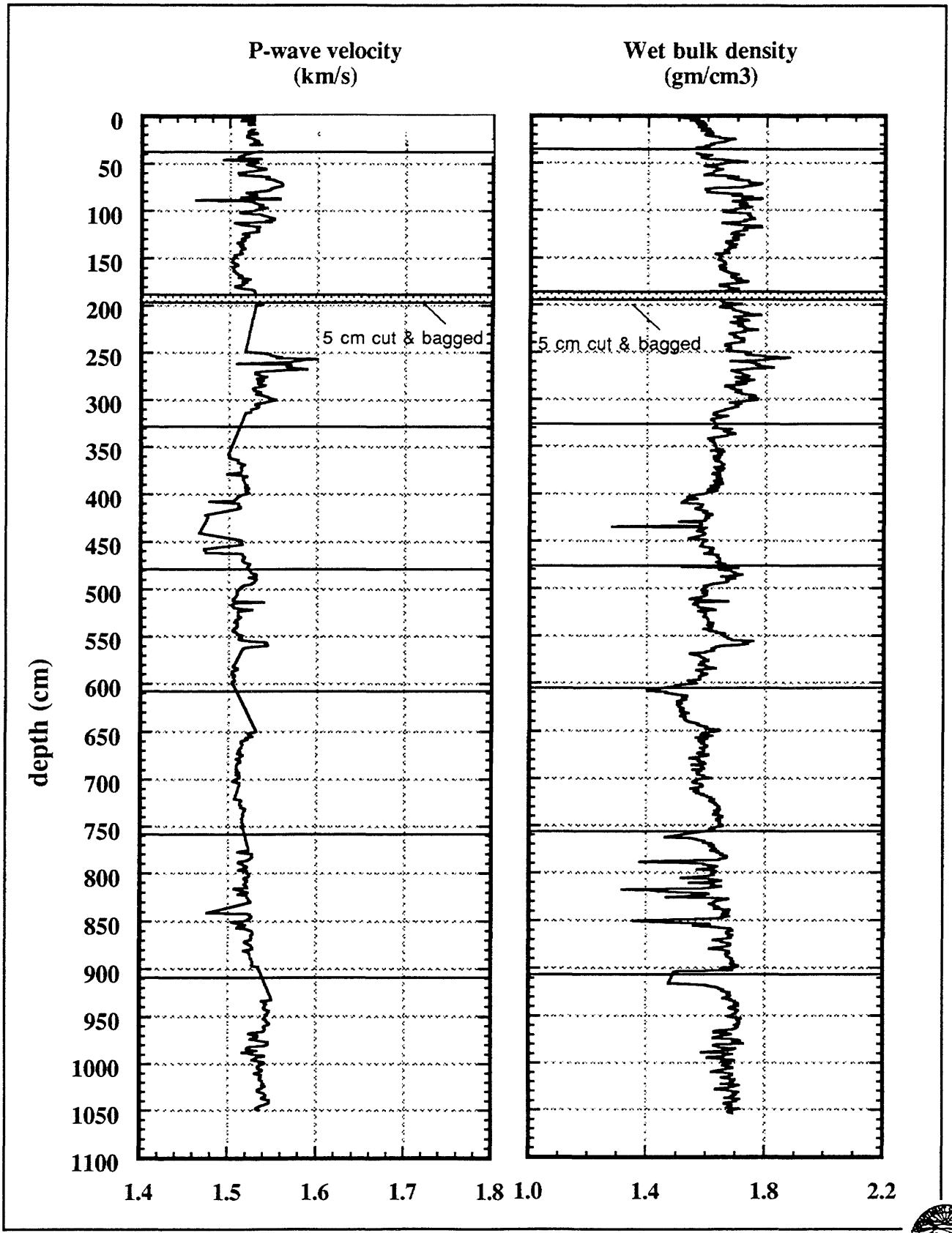
Depth: 2241 M
Drill Site ID: CA-2 Delgada Slope

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-15PC
(0-1056 cm)



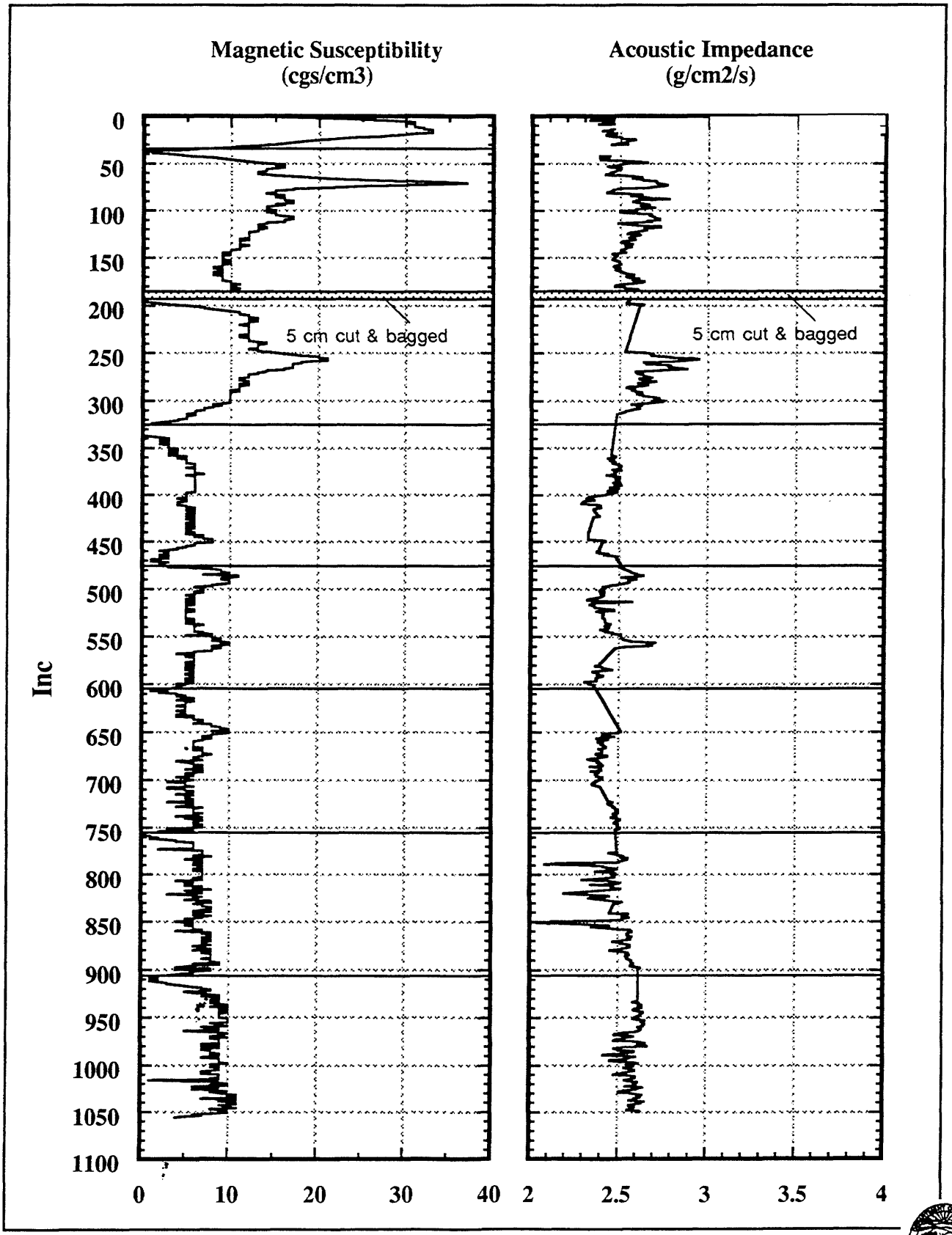
LAT: 40° 05.75'N Depth: 2241 m
LON: 125° 21.60'W Drill Site ID: CA-2 Delgada Slope

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 15PC
(0 - 1056 cm)



LAT: 40°05.75'N Depth: 2241 m
LON: 125°21.60'W Drill Site ID: CA-2 Delgada Slope

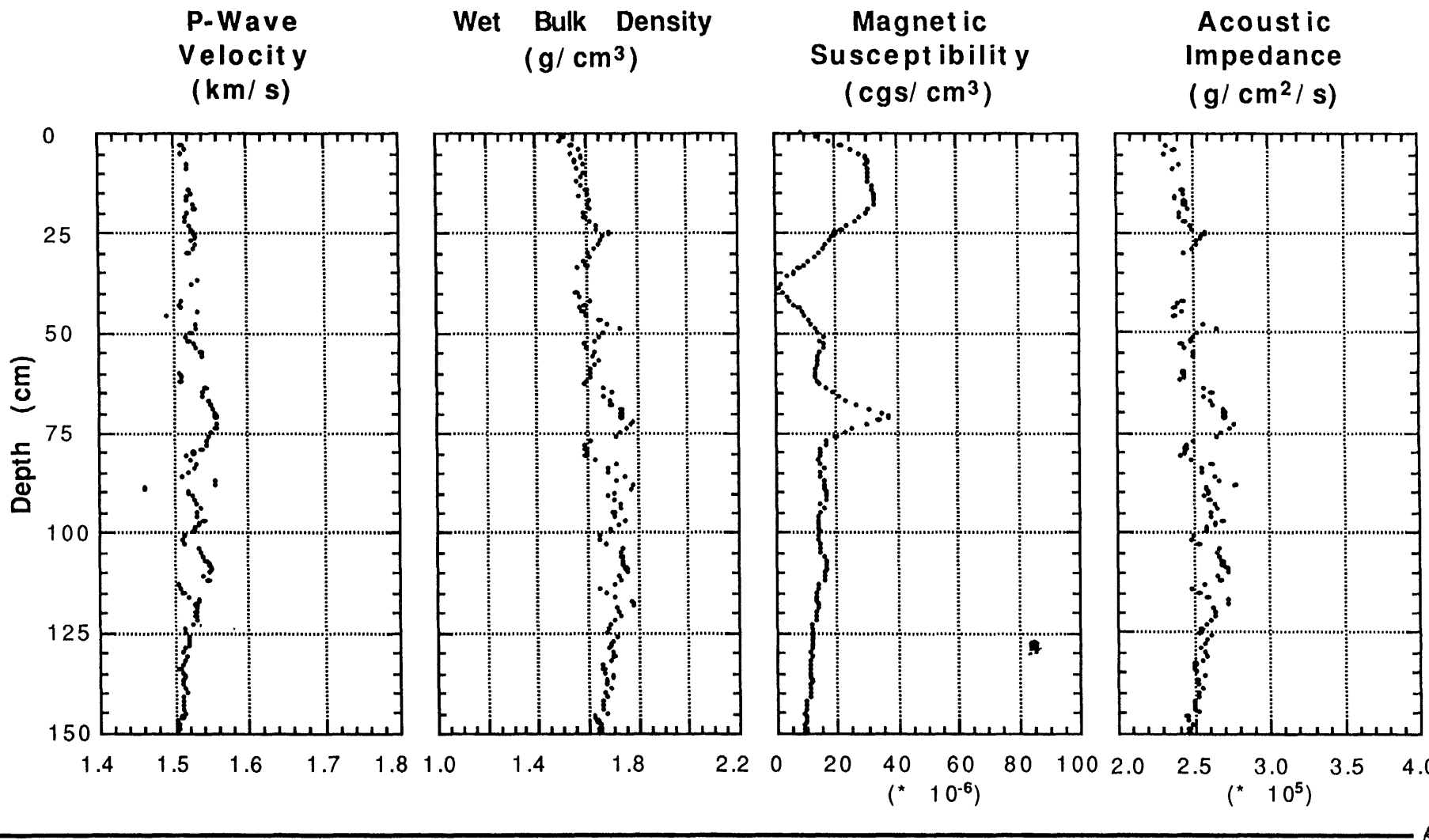
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 15PC

PHYSICAL PROPERTY LOGS

(0-150 cm)



LAT: 40° 05.75' N
LON: 125° 21.60' W

Depth: 2241 M
Drill Site ID: CA-2 Delgada Slope

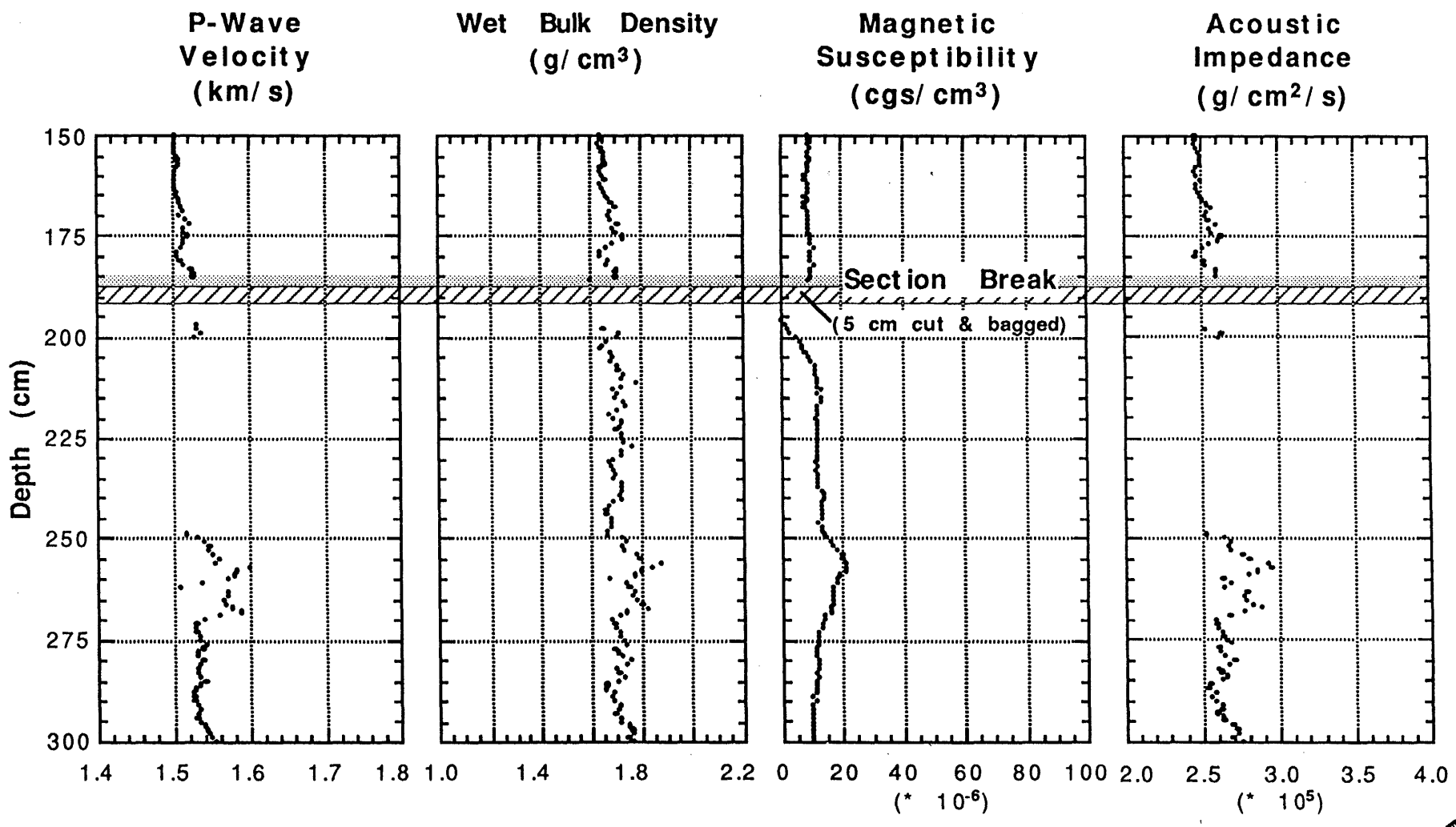
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 15PC

(150-300 cm)



LAT: 40°05.75' N
LON: 125°21.60' W

Depth: 2241 M
Drill Site ID: CA-2 Delgada Slope

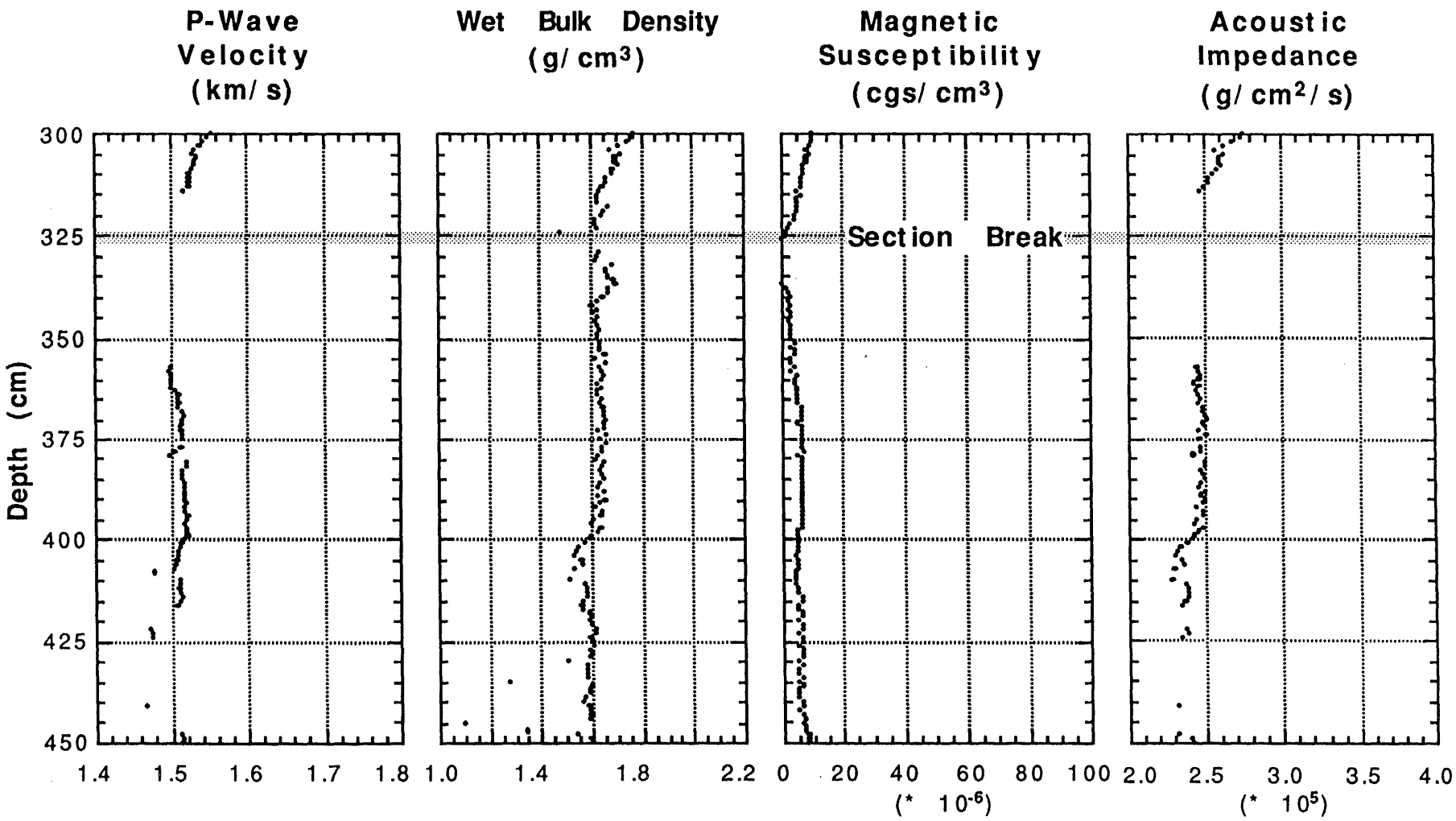
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 15PC

(300-450 cm)



LAT: 40°05.75' N
LON: 125°21.60' W

Depth: 2241 M
Drill Site ID: CA-2 Delgada Slope

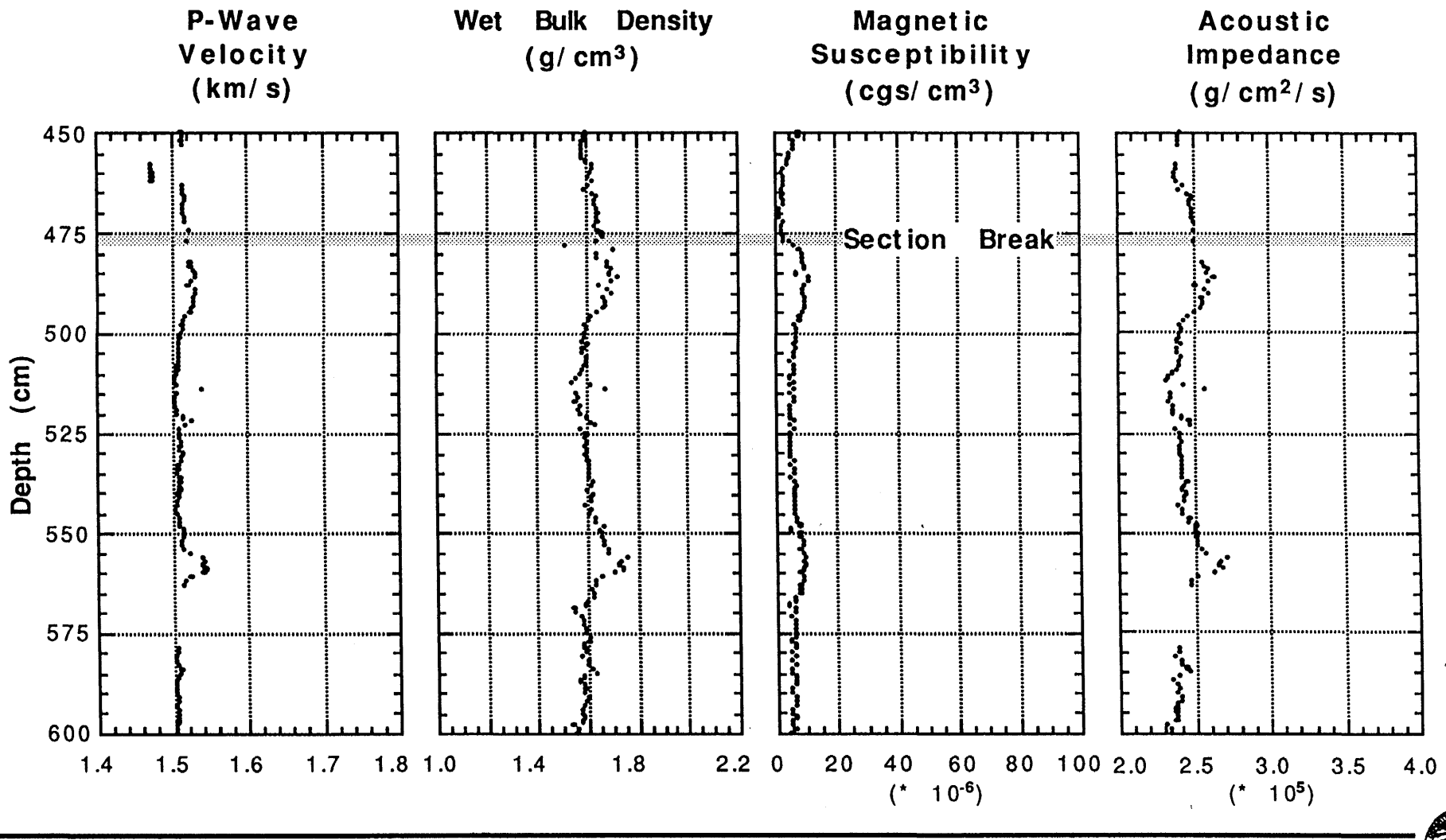
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 15PC

(450-600 cm)



LAT: 40°05.75' N
LON: 125°21.60' W

Depth: 2241 M
Drill Site ID: CA-2 Delgada Slope

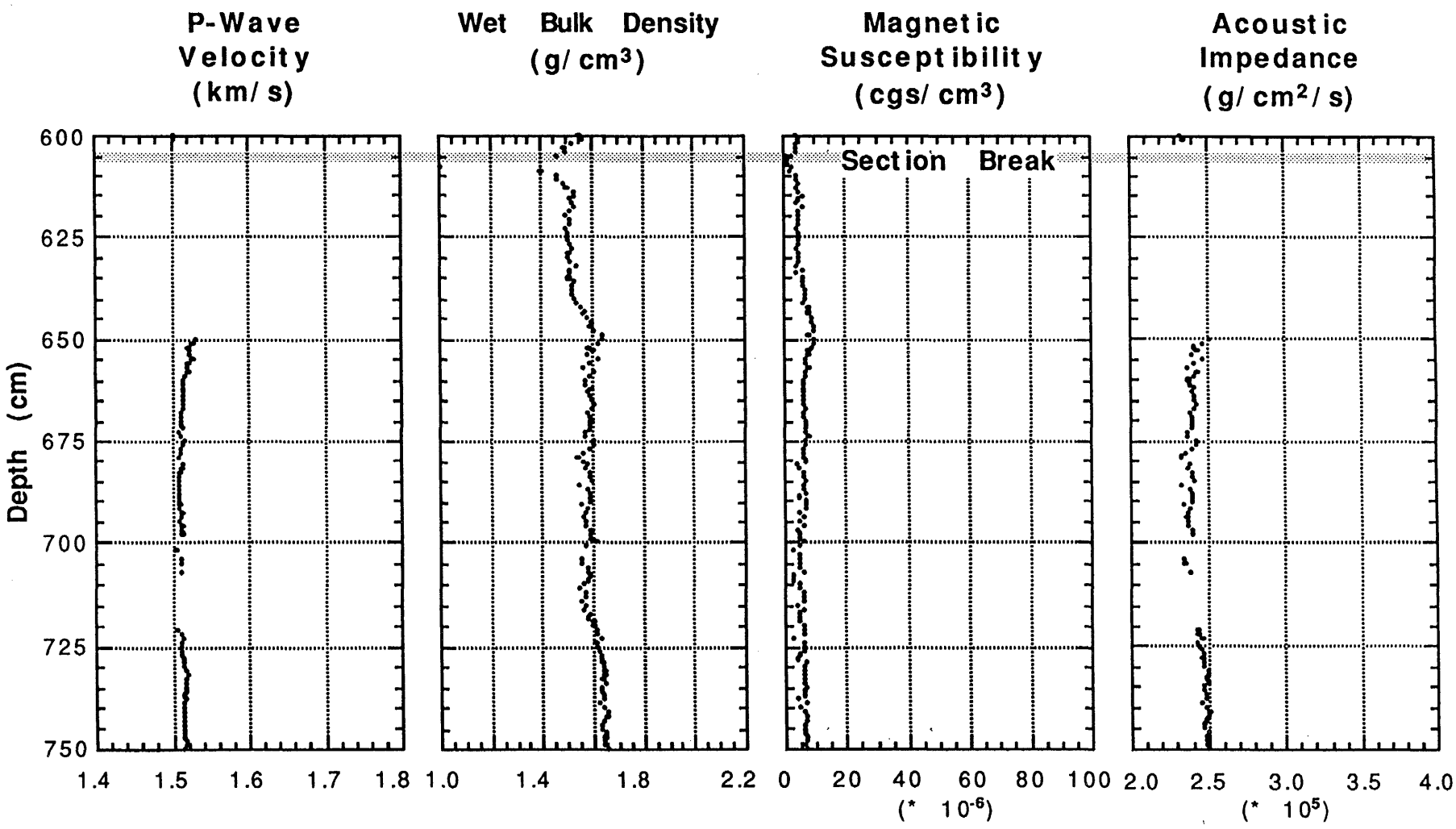
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 15PC

(600-750 cm)



LAT: 40°05.75' N
LON: 125°21.60' W

Depth: 2241 M
Drill Site ID: CA-2 Delgada Slope

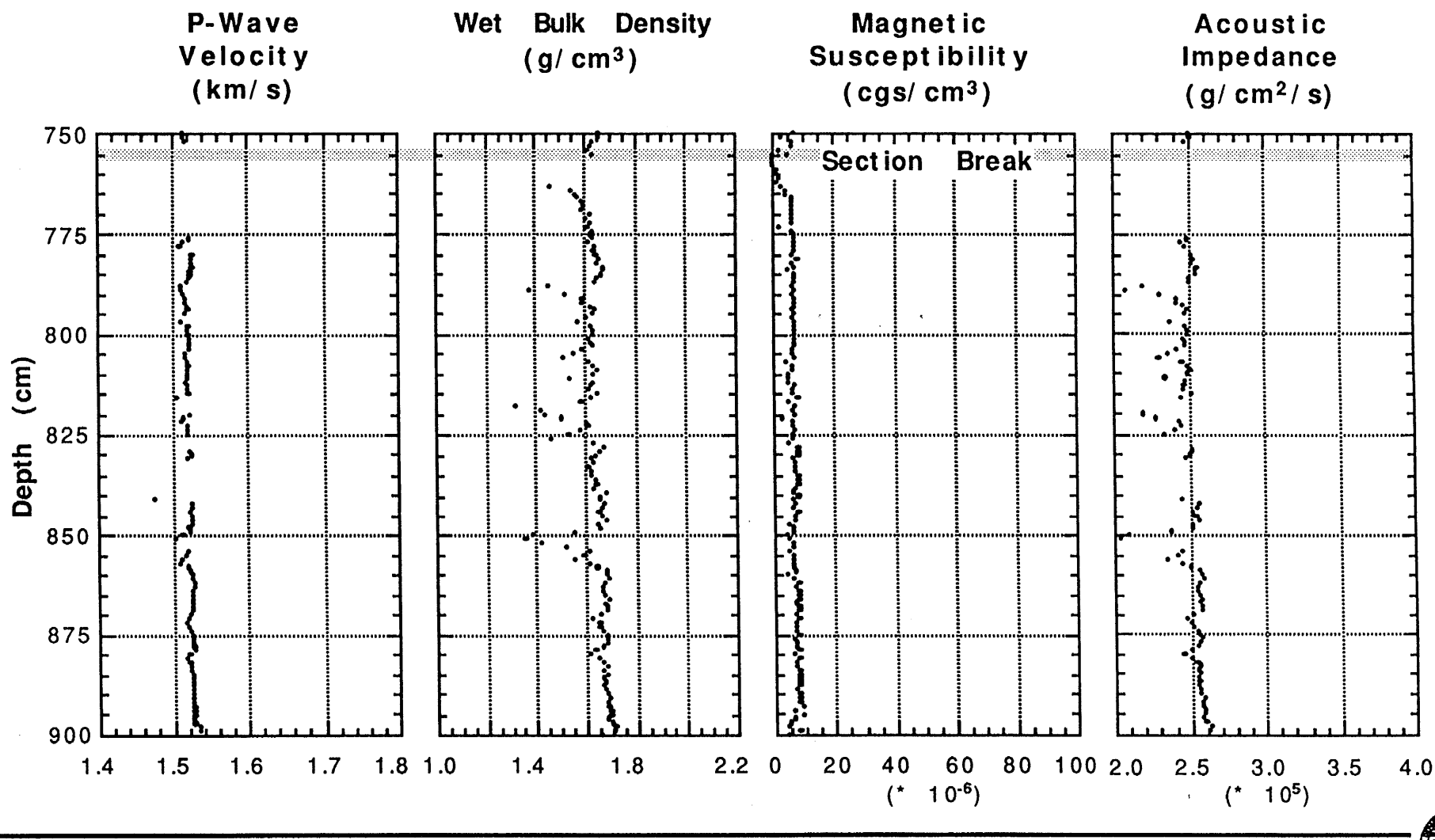
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 15PC

(750-900 cm)



LAT: 40°05.75' N
LON: 125°21.60' W

Depth: 2241 M
Drill Site ID: CA-2 Delgada Slope

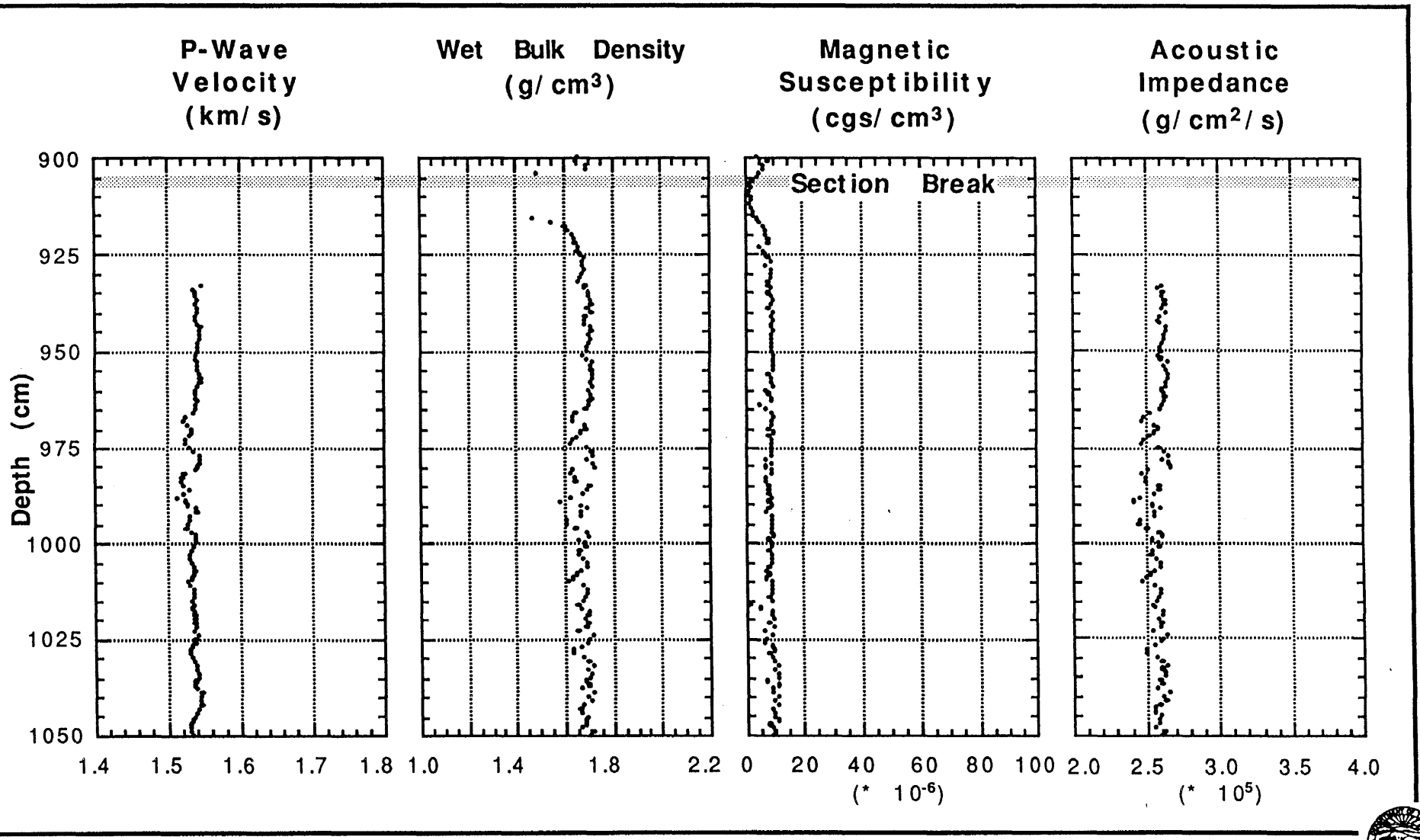
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 15PC

(900-1050 cm)



LAT: 40°05.75' N
LON: 125°21.60' W

Depth: 2241 M
Drill Site ID: CA-2 Delgada Slope

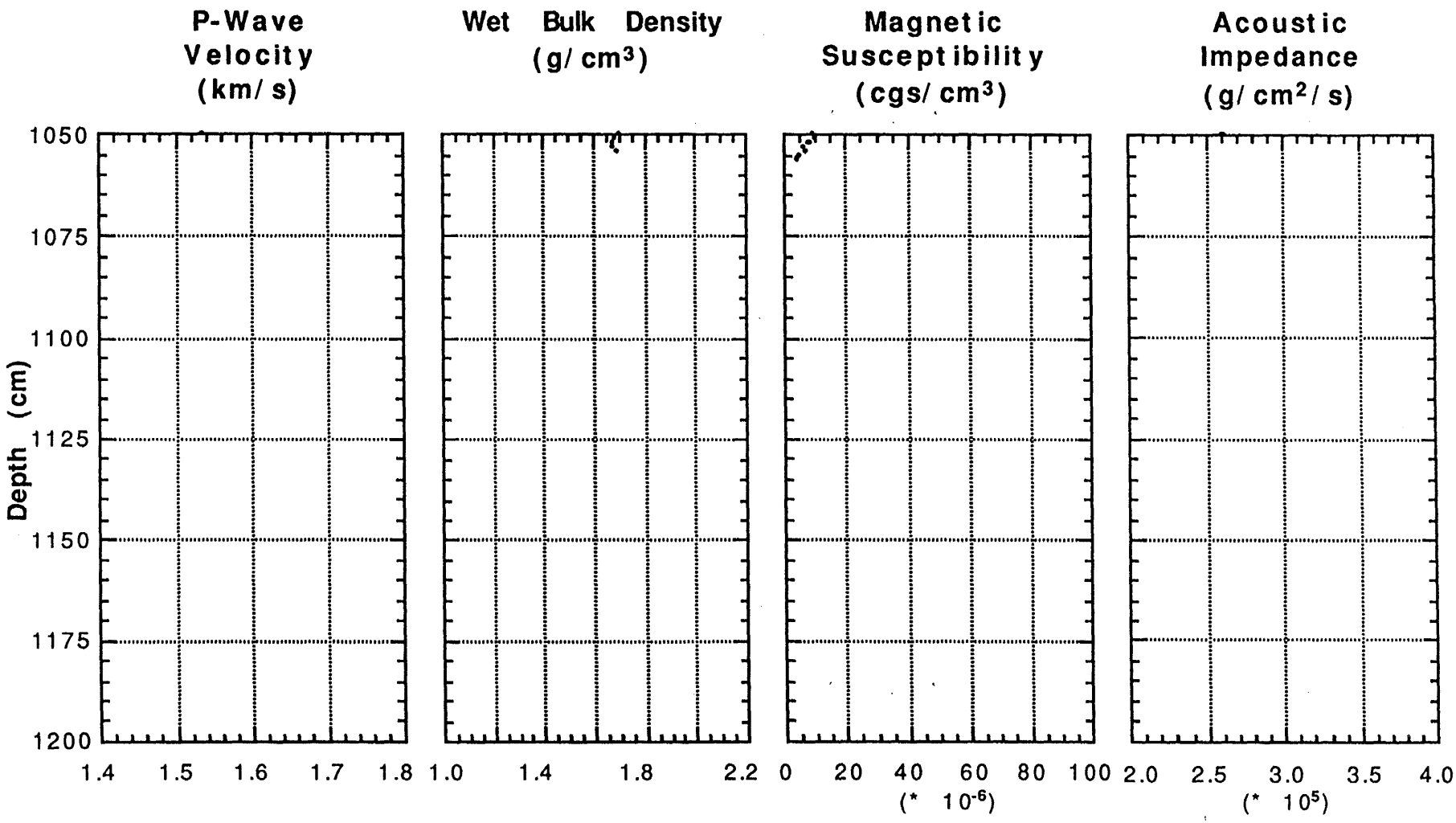
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 15PC

(1050-1056 cm)

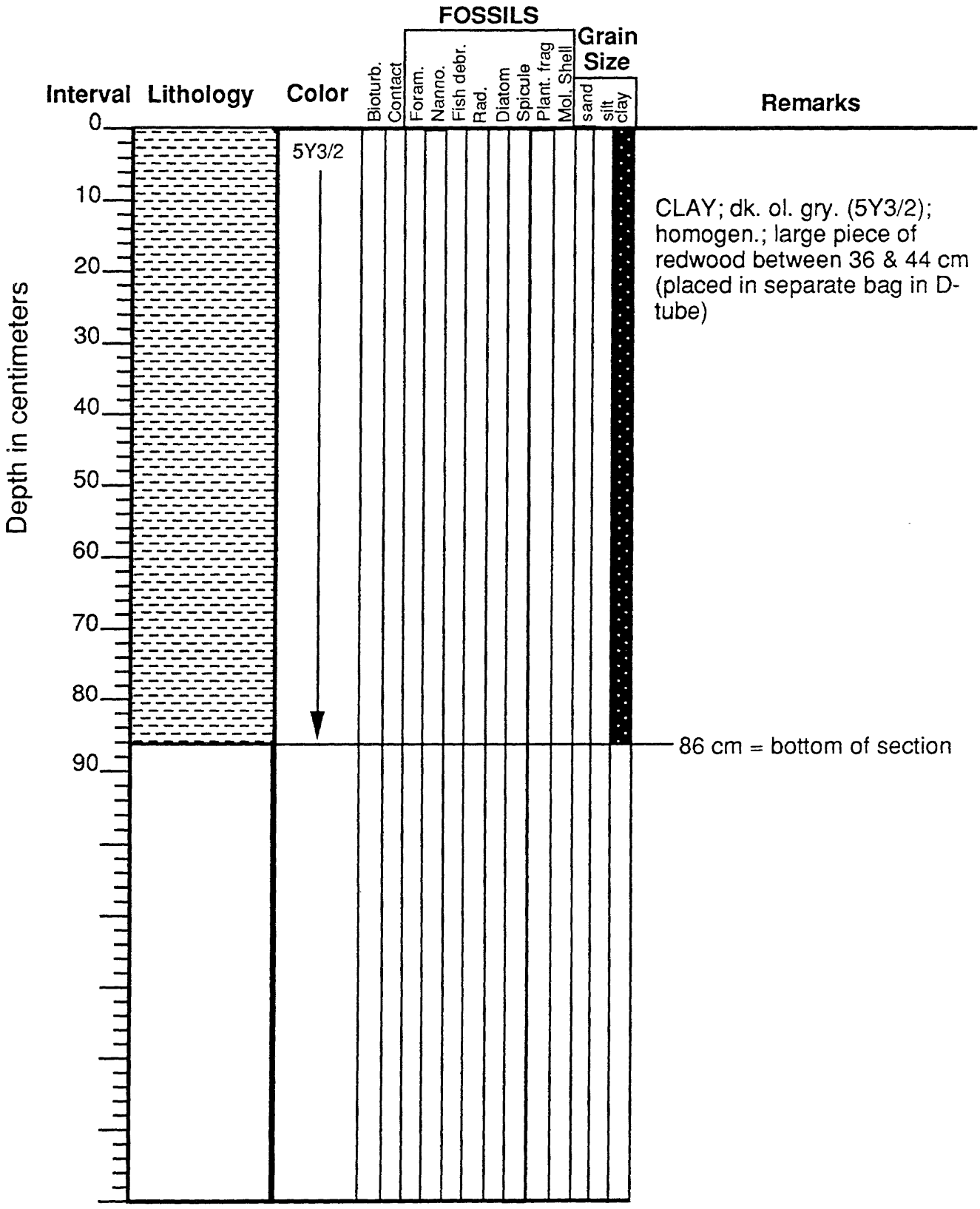


LAT: 40°05.75' N
LON: 125°21.60' W

Depth: 2241 M
Drill Site ID: CA-2 Delgada Slope

USGS

EW95-04 Core: 16TC Sect.: 2 (0-86 cm)
41 40.08 N, 124 49.82 W, 901 m



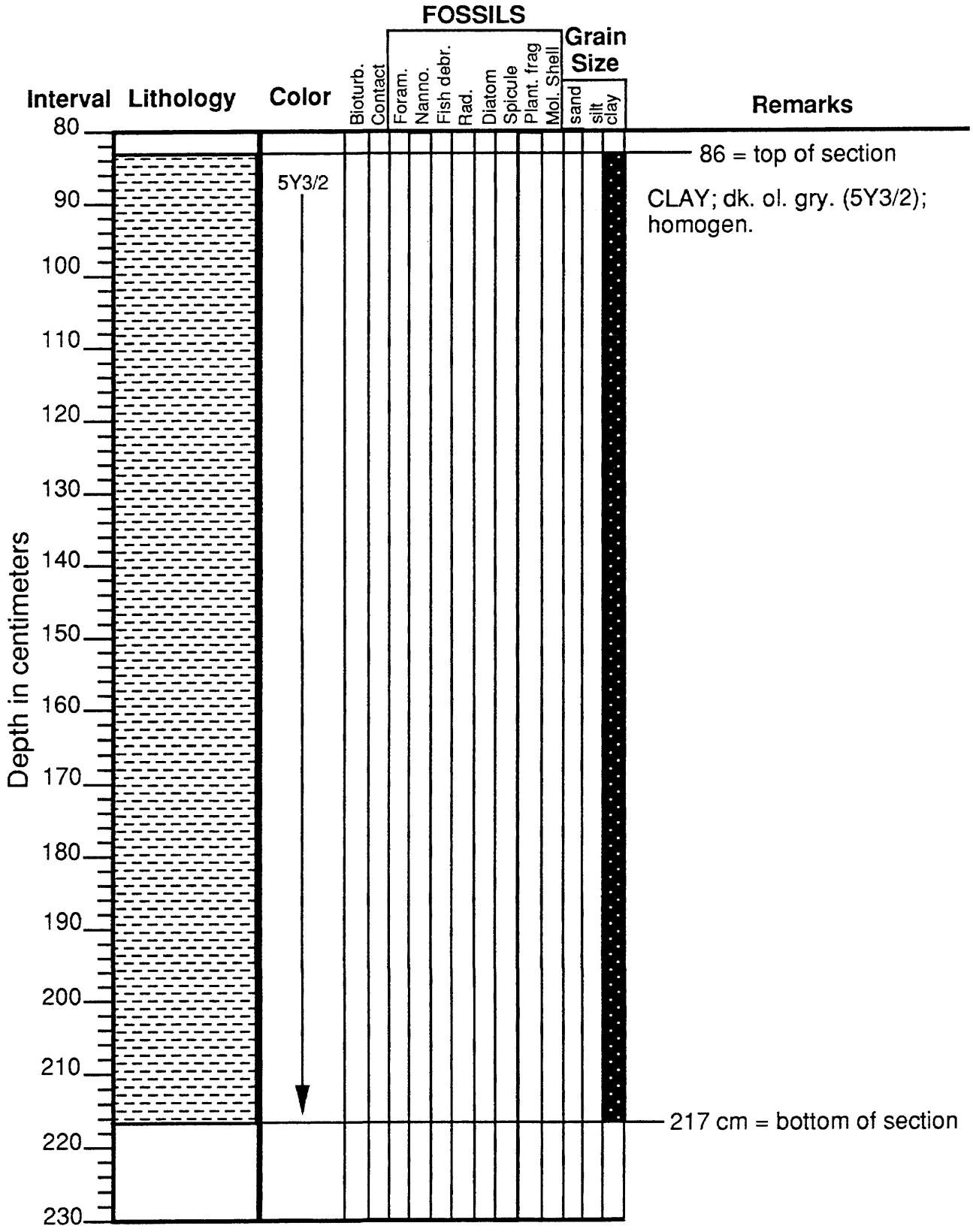
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16TC Sect.: 1 (86-217 cm)
41 40.08 N, 124 49.82 W, 901 m



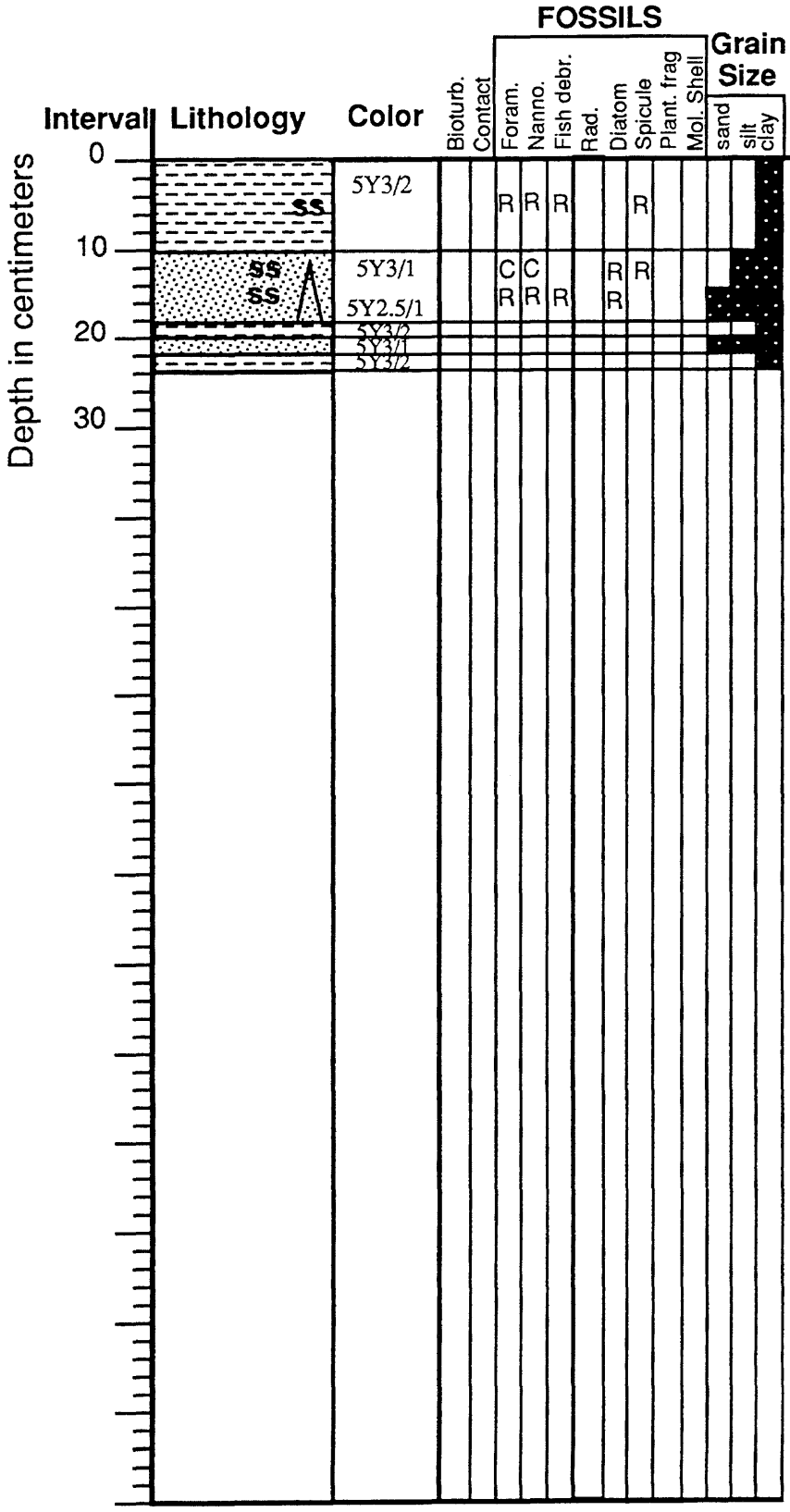
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16PC Sect.: 10 (0-24 cm)
41 40.08 N, 124 49.82 W, 901 m



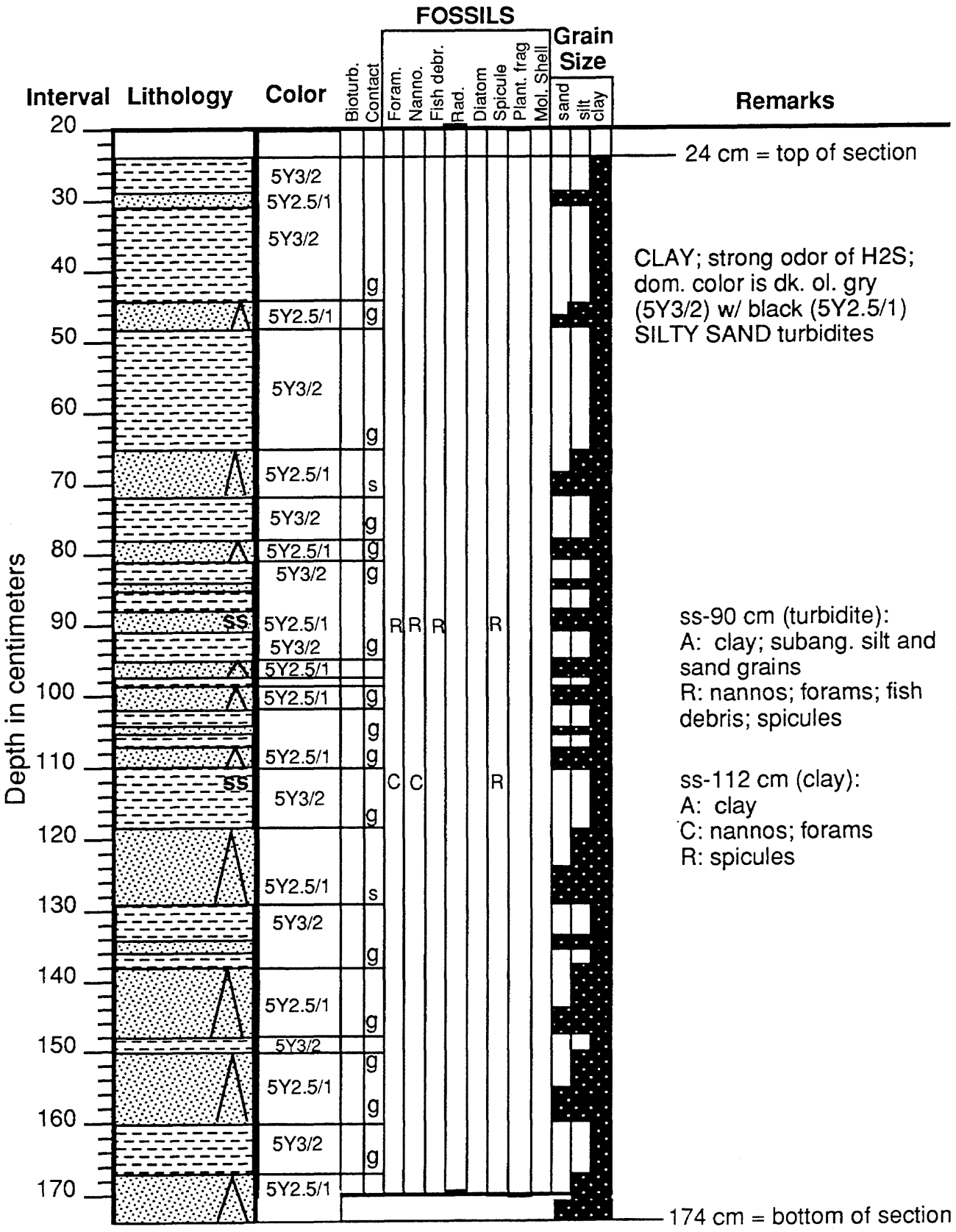
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16PC Sect.: 9 (24-174 cm)
41 40.08 N, 124 49.82 W, 901 m



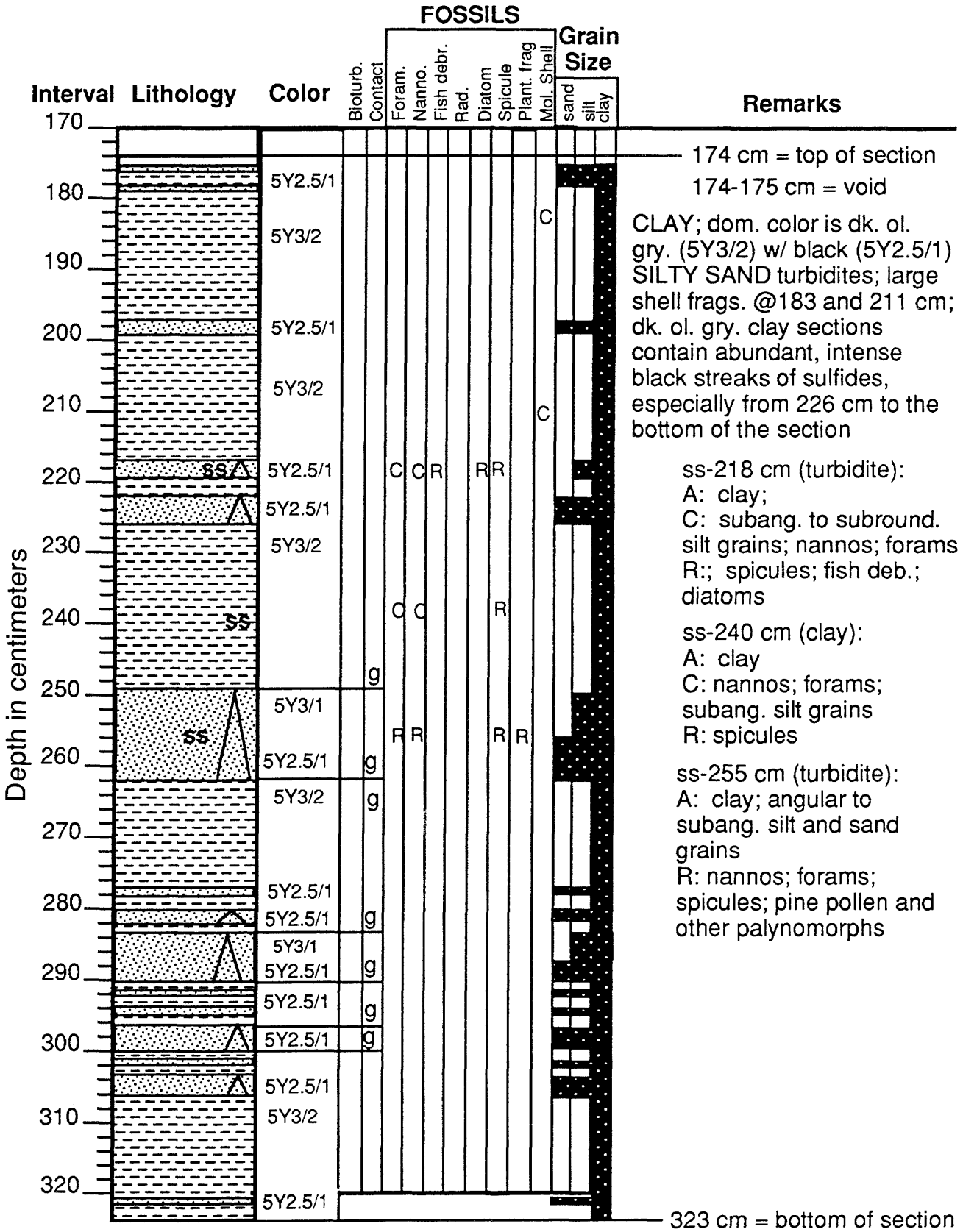
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16PC Sect.: 8 (174-323 cm)
41 40.08 N, 124 49.82 W, 901 m



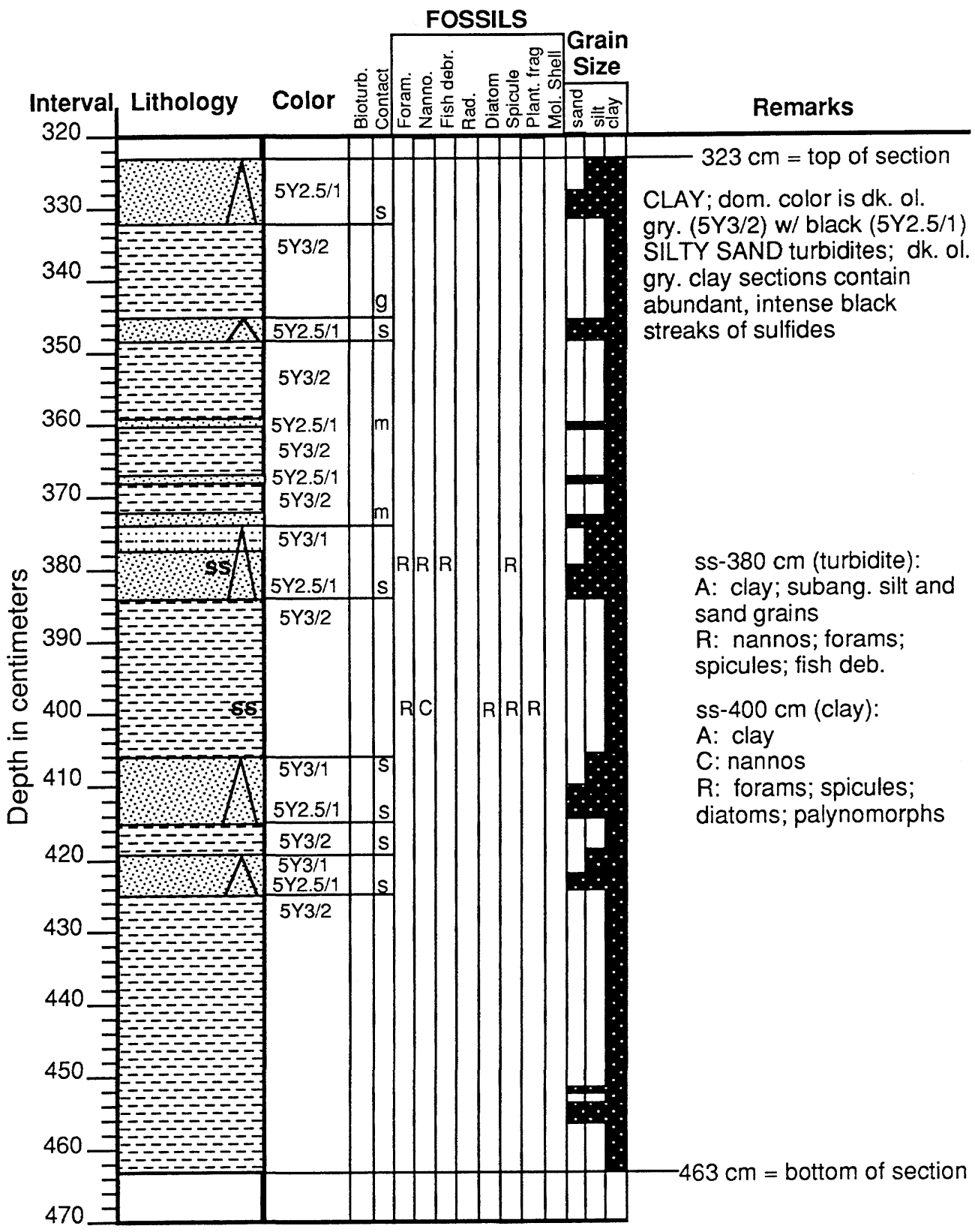
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16PC Sect.: 7 (323-463 cm)
41 40.08 N, 124 49.82 W, 901 m



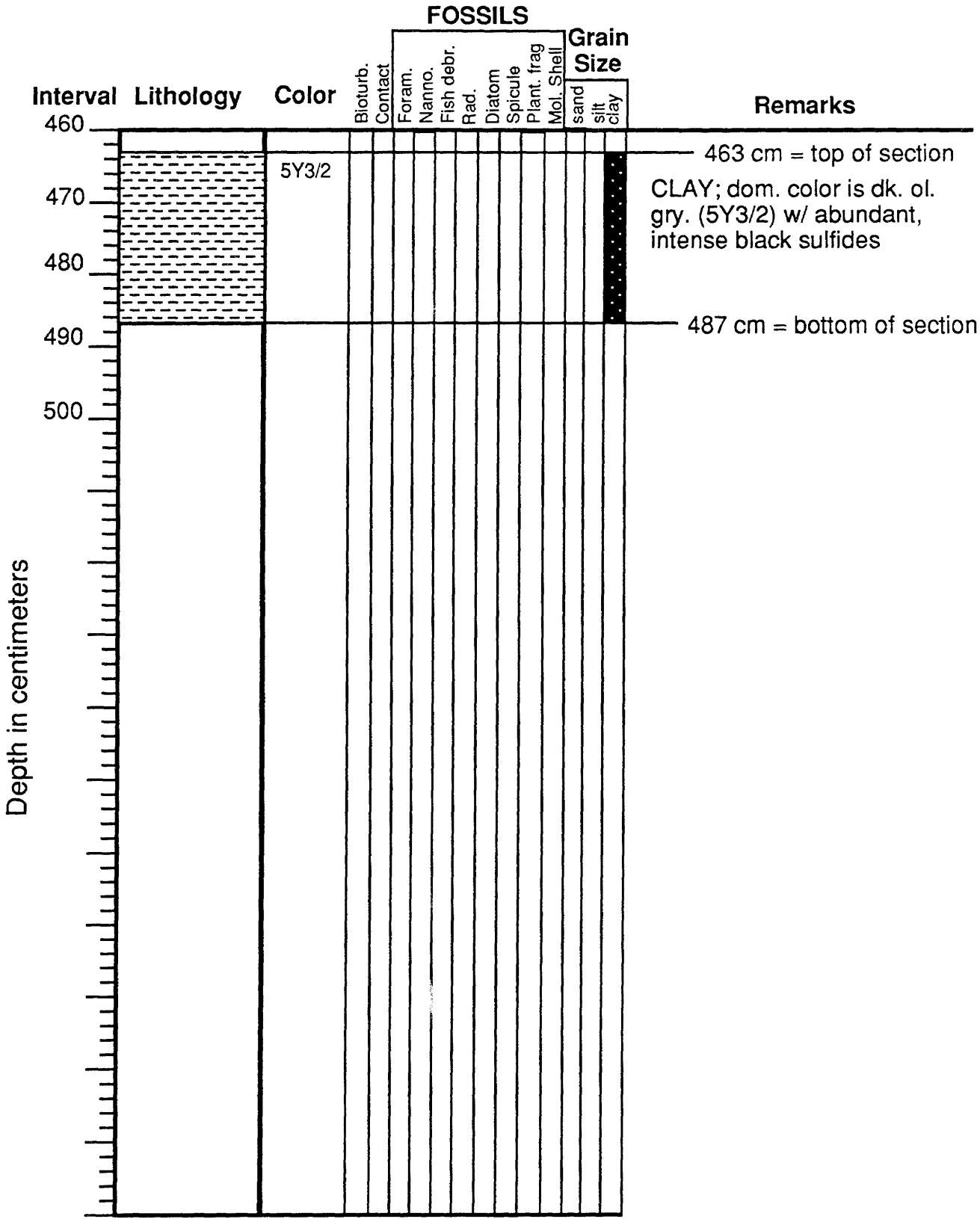
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16PC Sect.: 6 (463-487 cm)
41 40.08 N, 124 49.82 W, 901 m



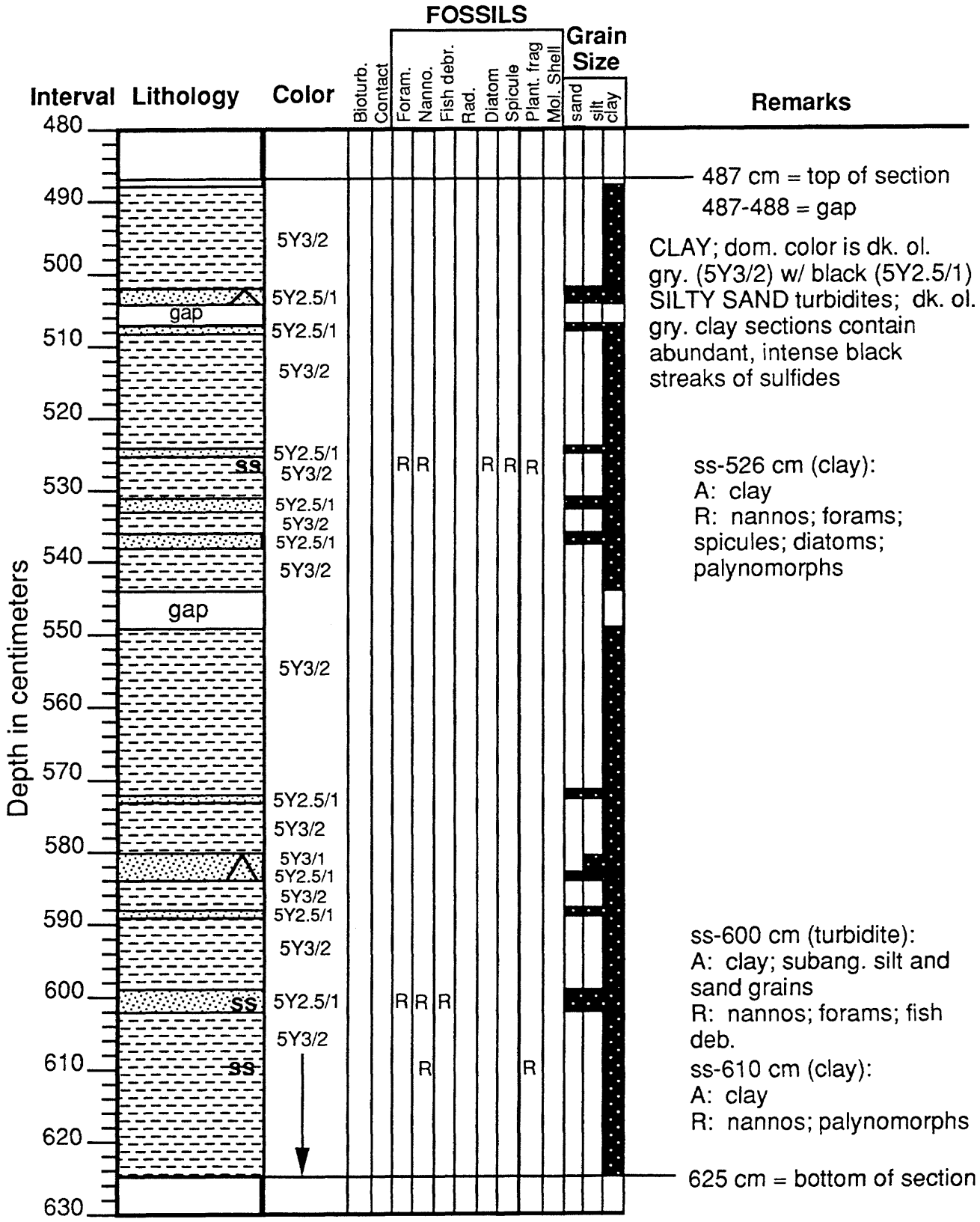
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16PC Sect.: 5 (487-625 cm)
41 40.08 N, 124 49.82 W, 901 m



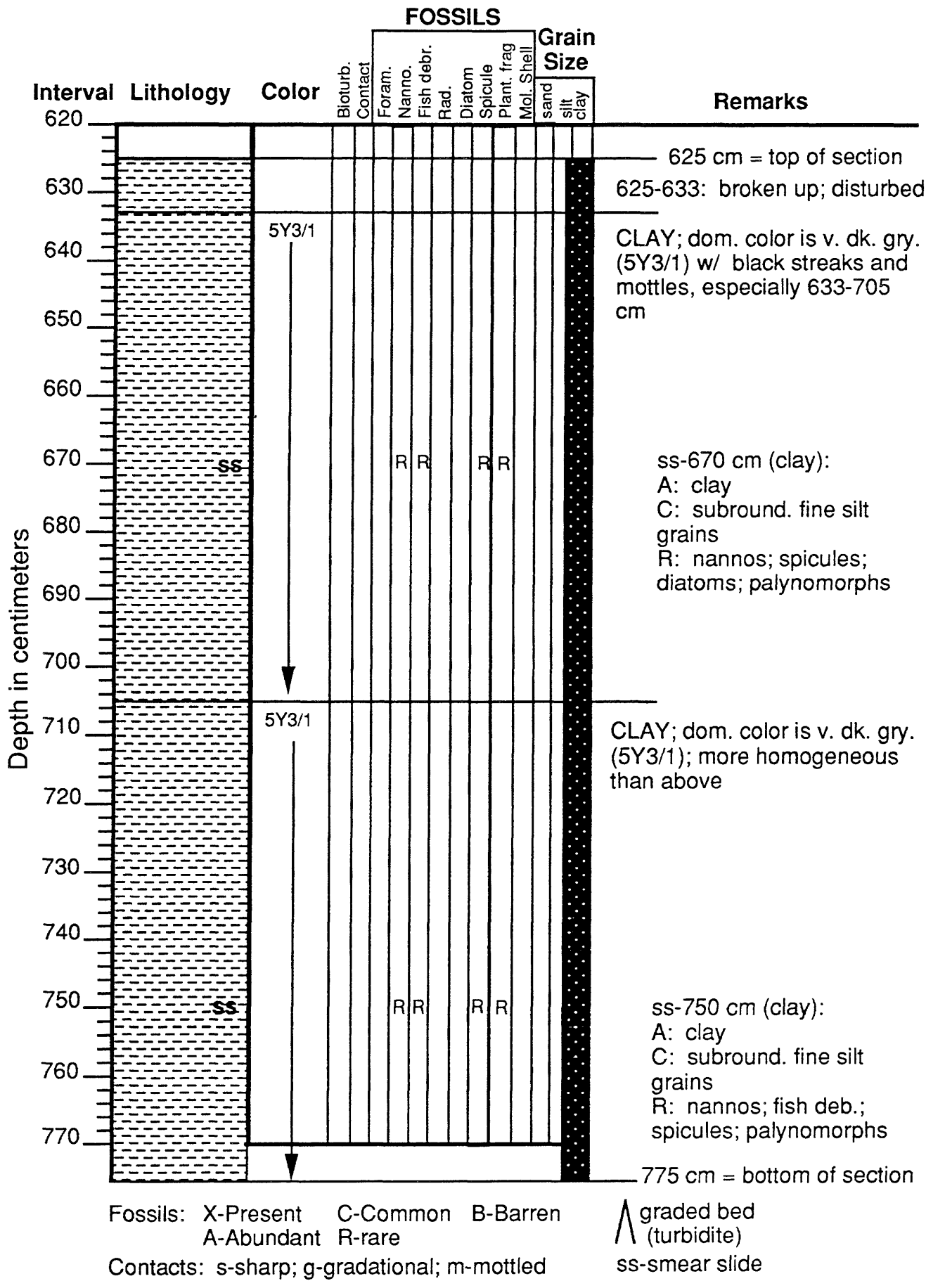
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

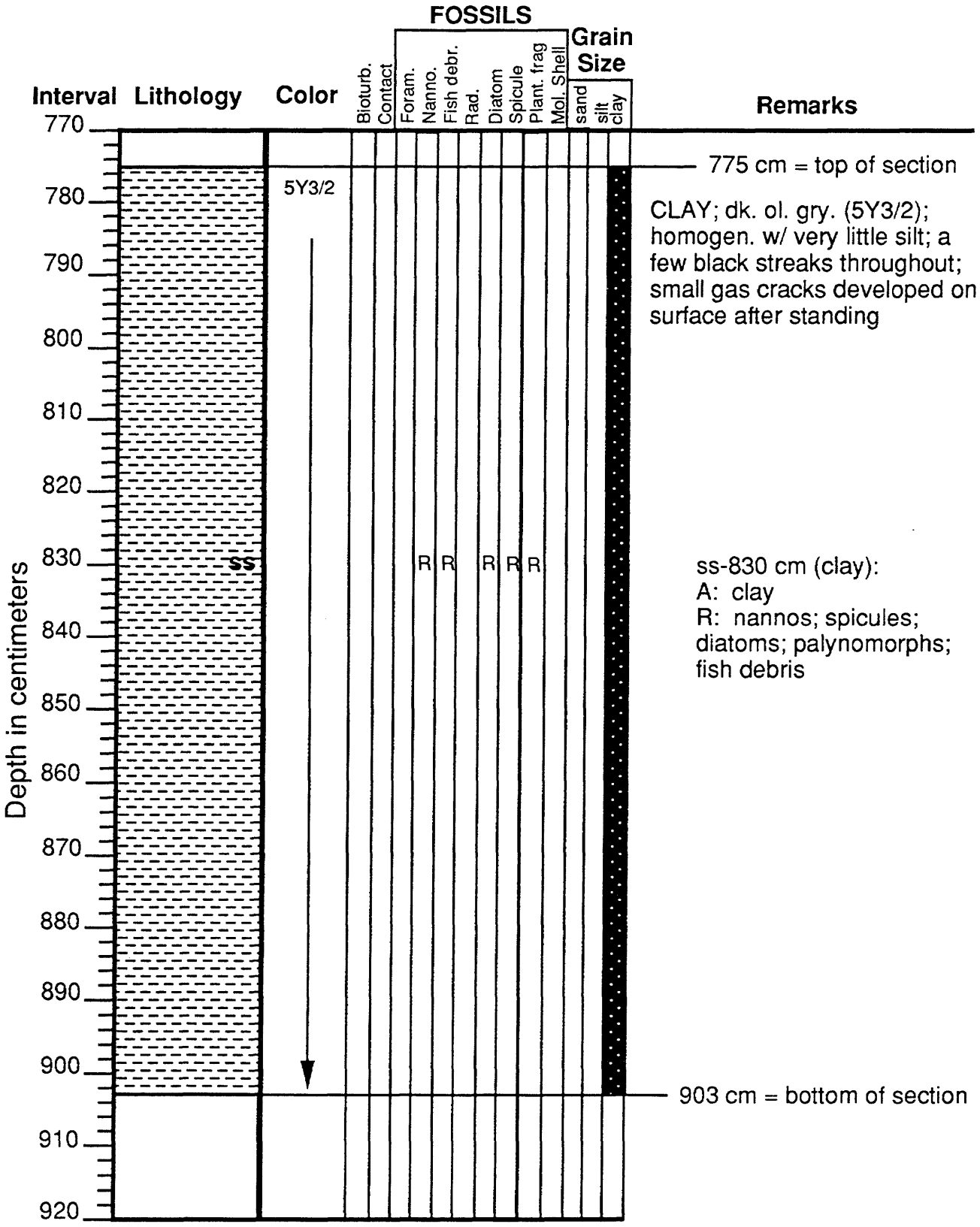
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16PC Sect.: 4 (625-775 cm)
41 40.08 N, 124 49.82 W, 901 m



EW95-04 Core: 16PC Sect.: 3 (775-903 cm)
41 40.08 N, 124 49.82 W, 901 m



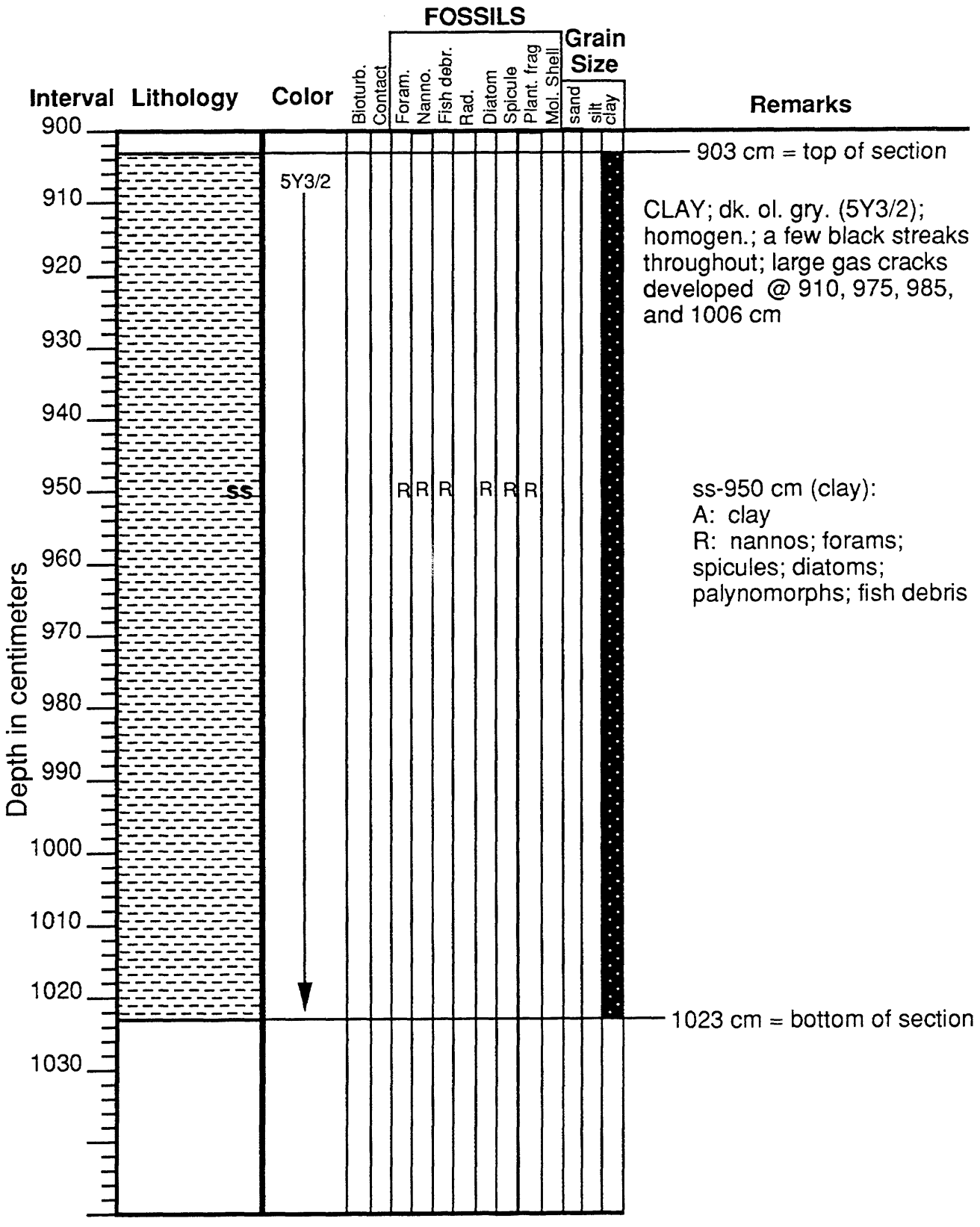
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16PC Sect.: 2 (903-1023 cm)
41 40.08 N, 124 49.82 W, 901 m



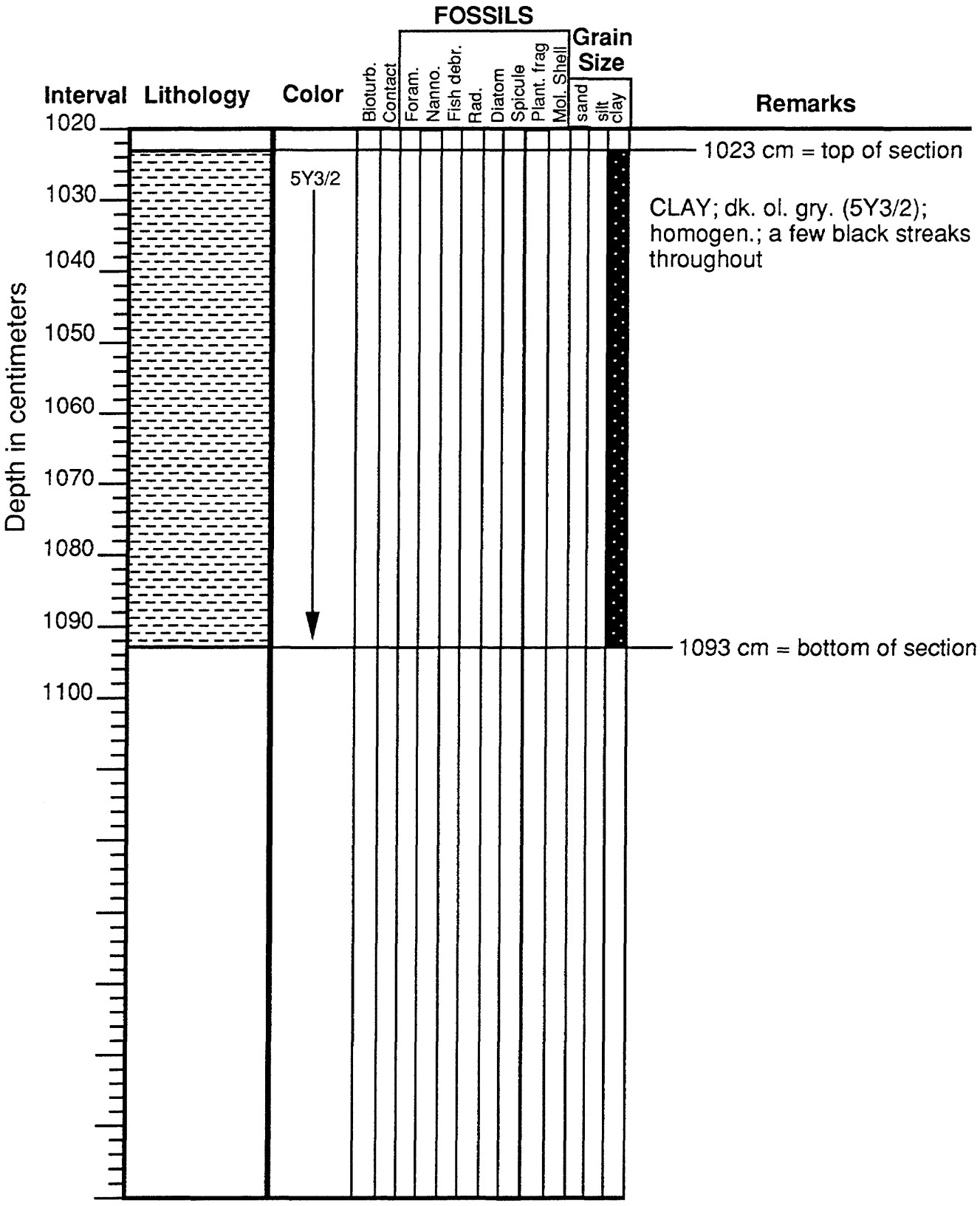
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 16PC Sect.: 1 (1023-1093 cm)
41 40.08 N, 124 49.82 W, 901 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

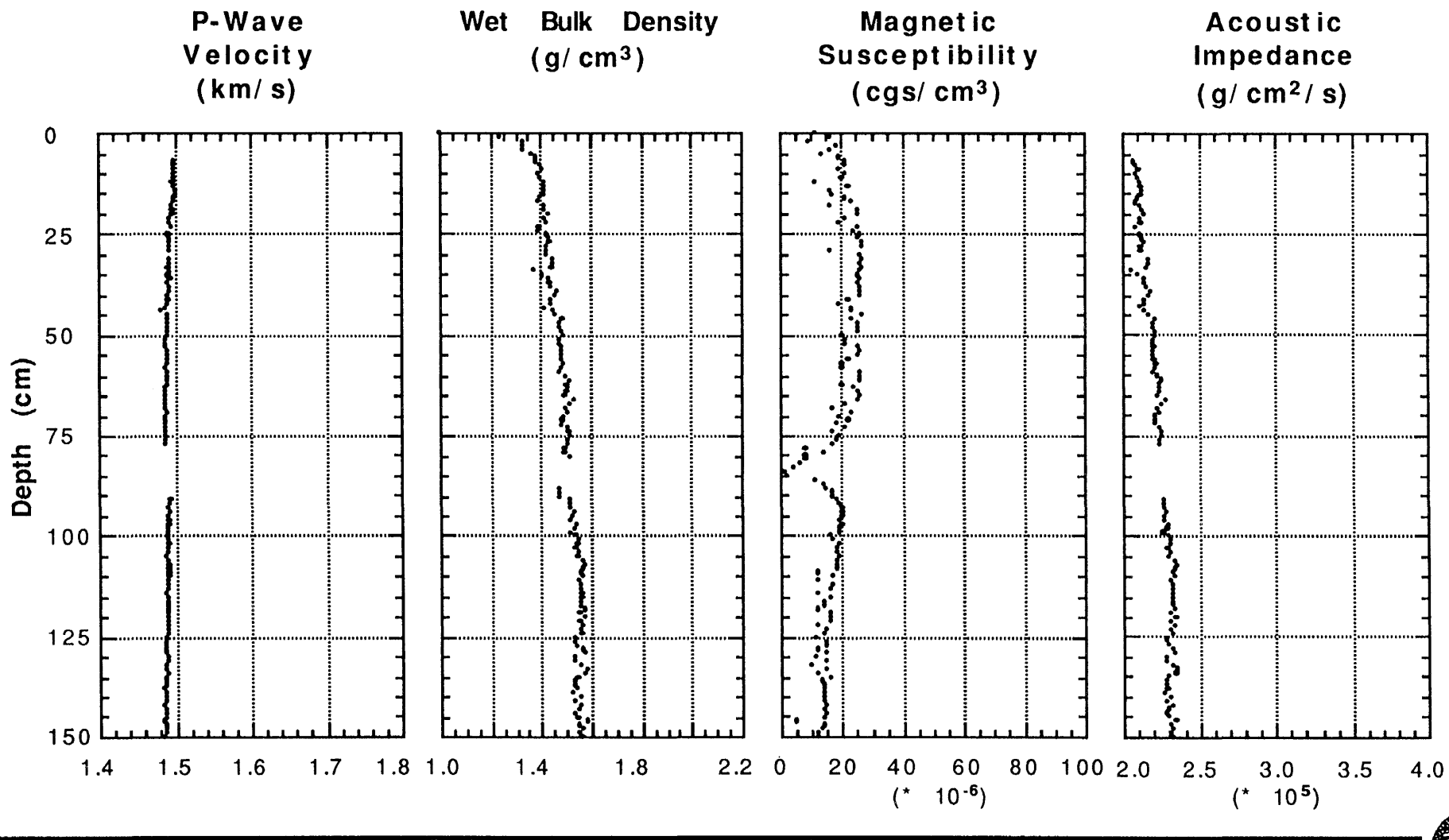
ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 16TC

(0- 150 cm)



LAT: 41° 40.08' N
LON: 124°049.82' W

Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

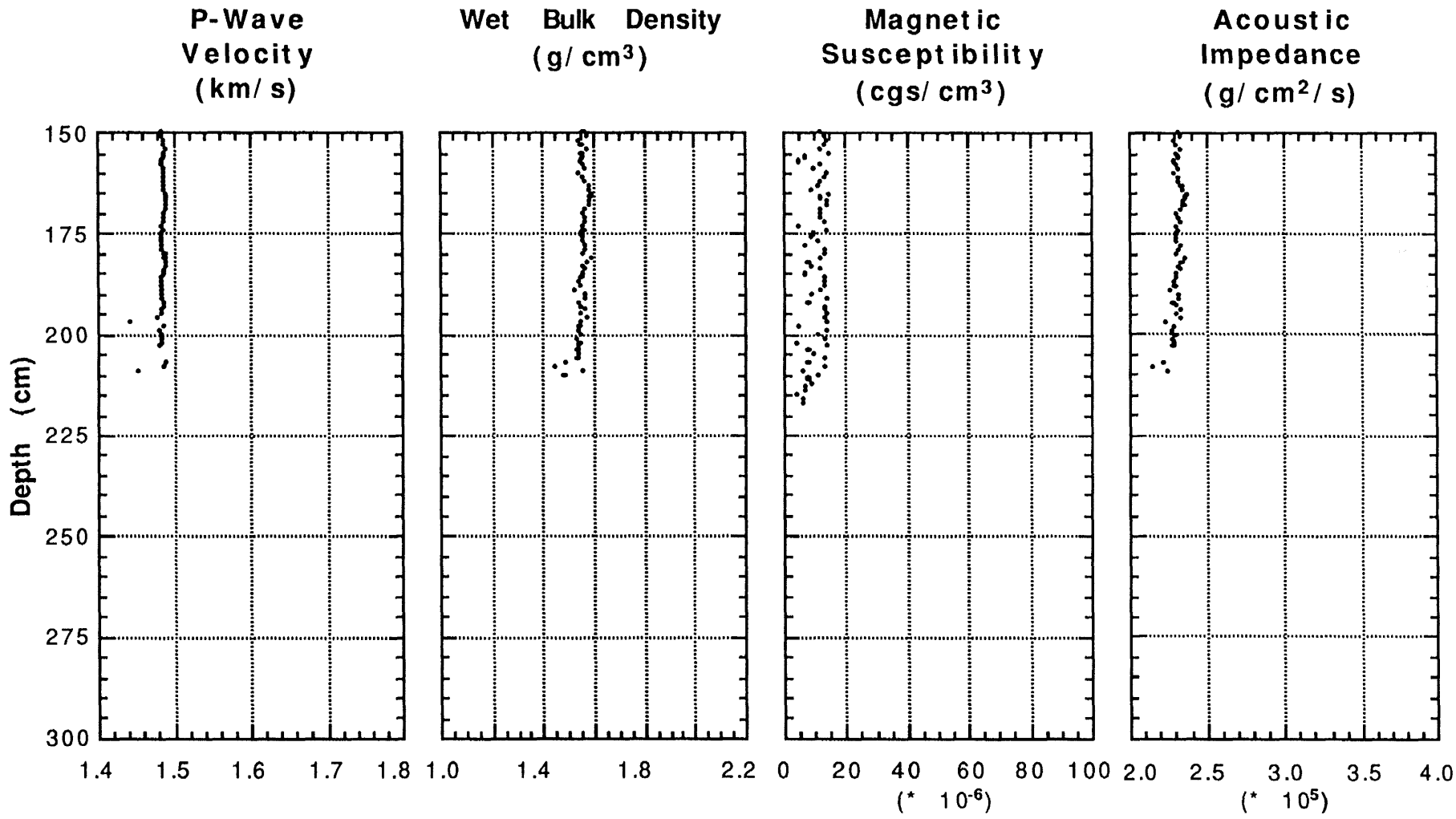
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 16TC

(150-217 cm)



LAT: 41° 40.08' N
LON: 124° 49.82' W

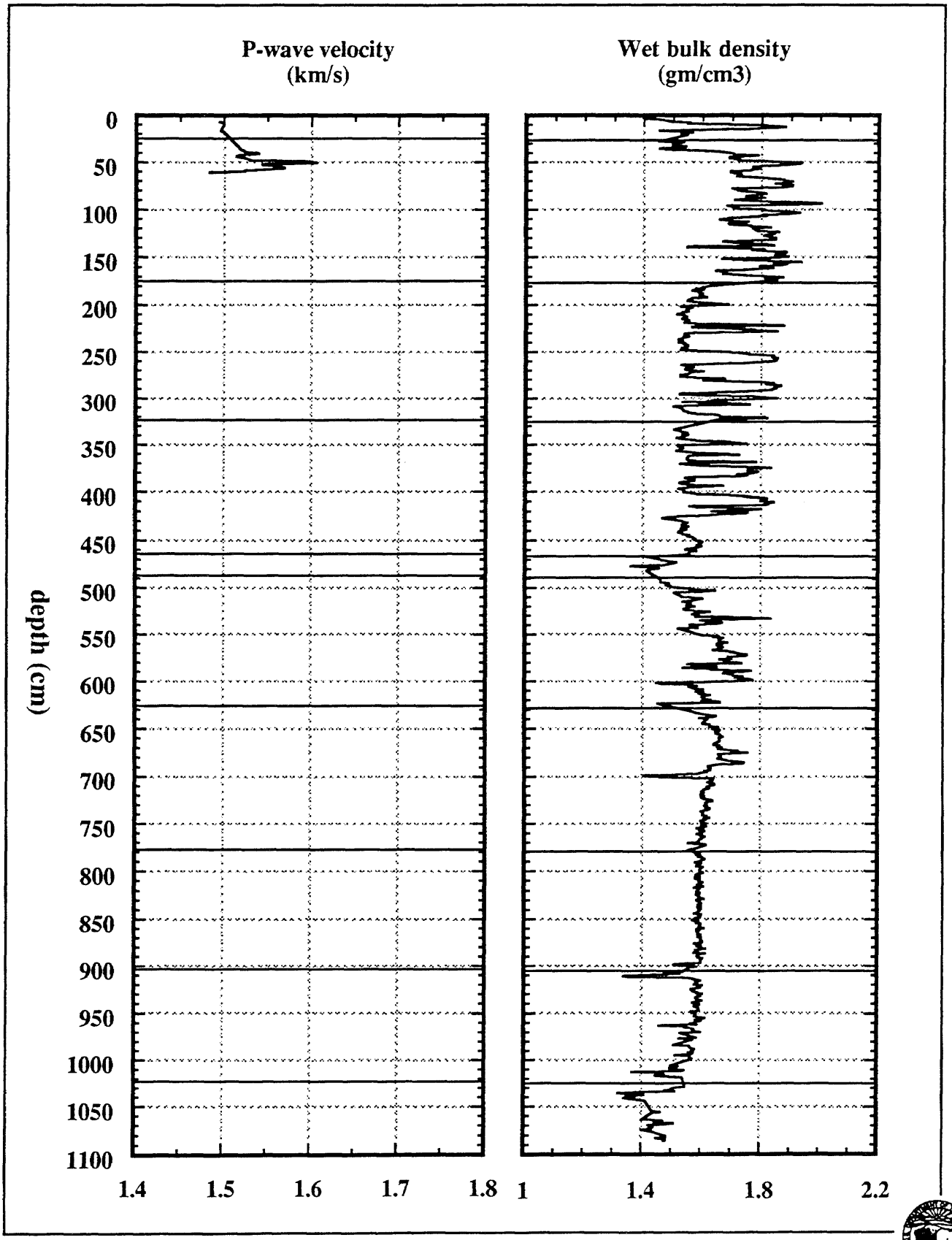
Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-16PC
(0-1093 cm)



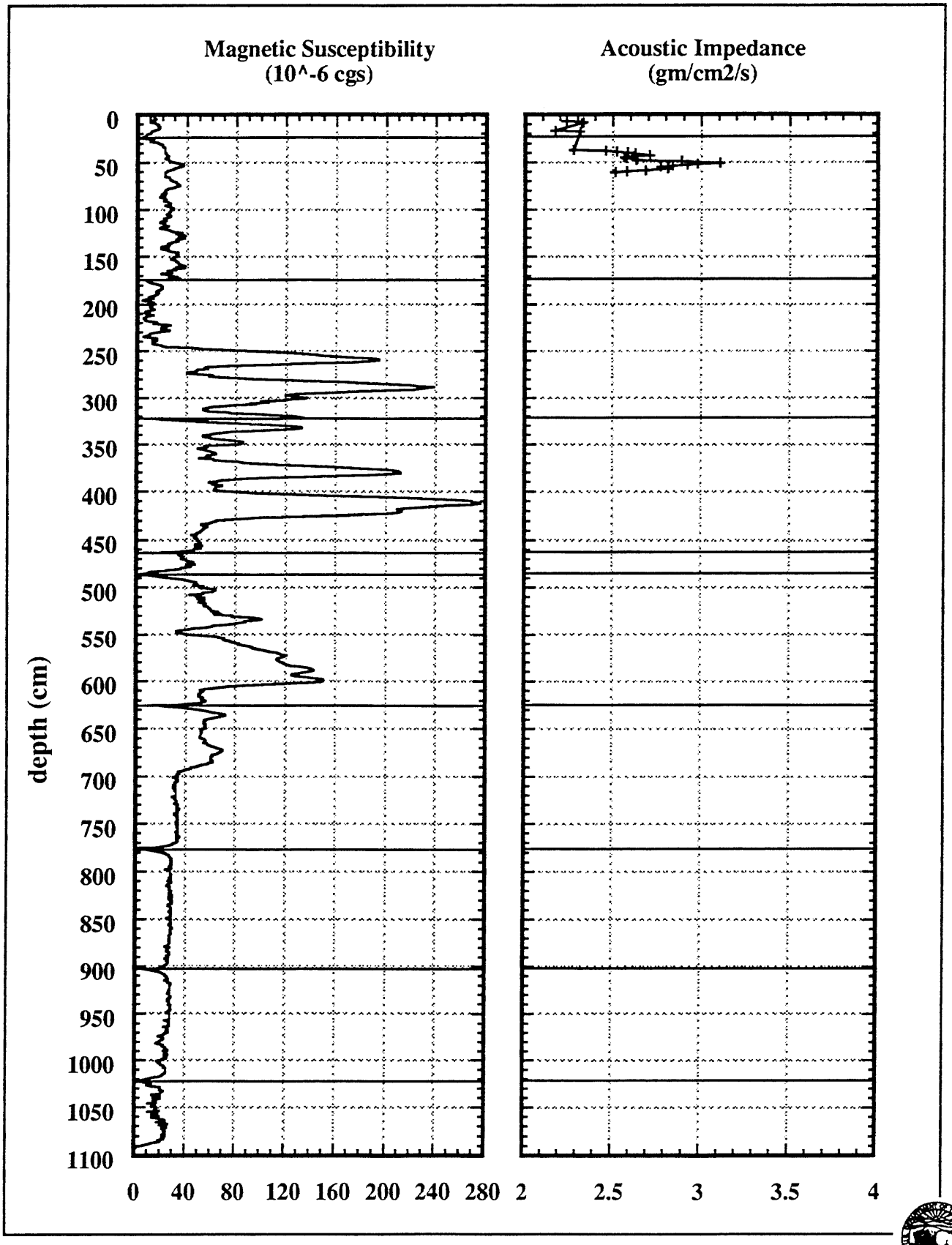
LAT: 41° 40.08'N Depth: 901 m
LON: 124° 49.82'W Drill Site ID: CA-1 Eel River Basin

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-16PC
(0-1093 cm)



LAT: 41° 40.08'N Depth: 901 m
LON: 124° 49.82'W Drill Site ID: CA-1 Eel River Basin

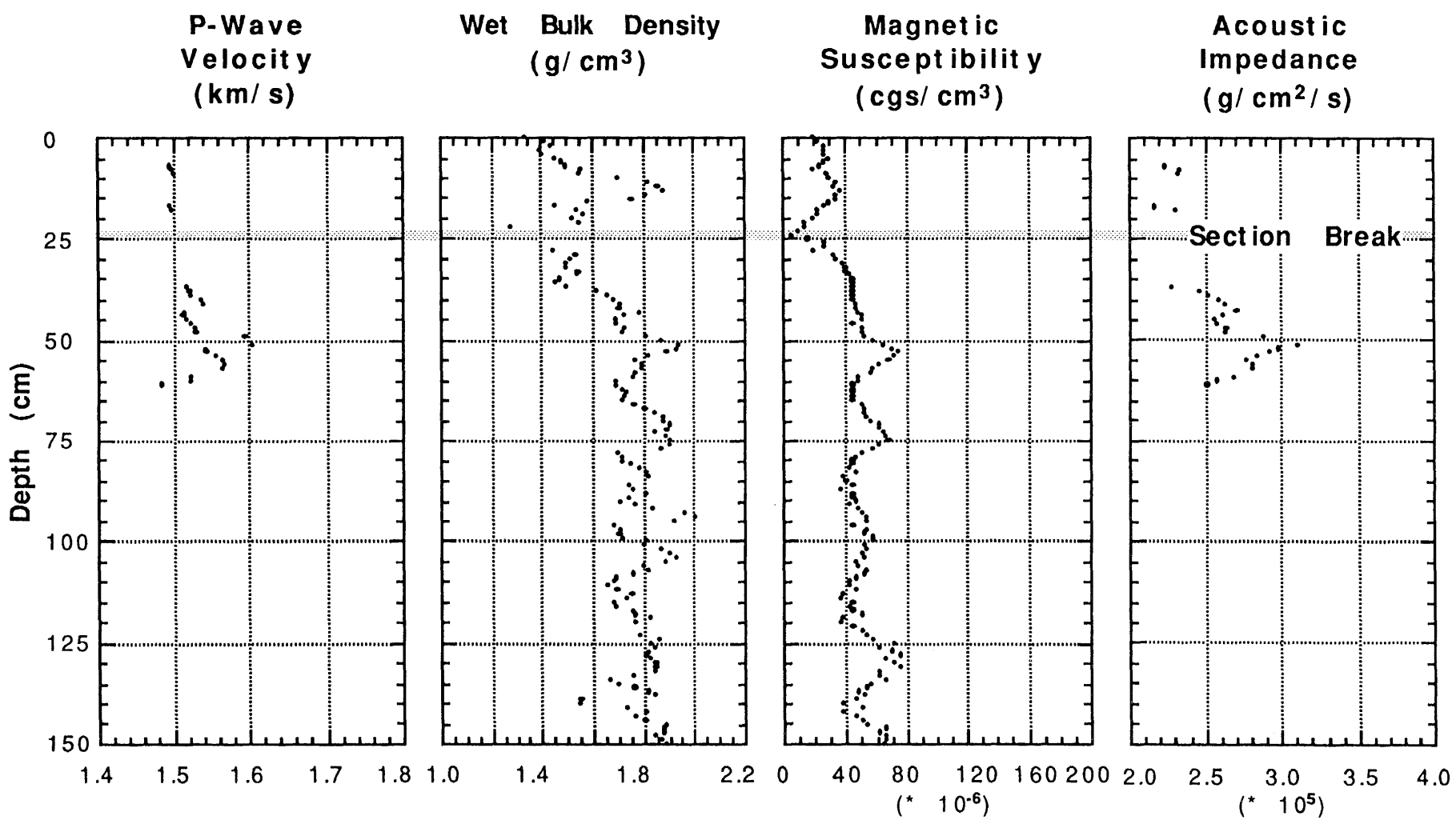
USGS

CALIFORNIA MARGIN SITE SURVEY

EW9504 - 16PC

PHYSICAL PROPERTY LOGS

(0-150 cm)



LAT: 41° 40.08' N
LON: 124° 49.82' W

Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

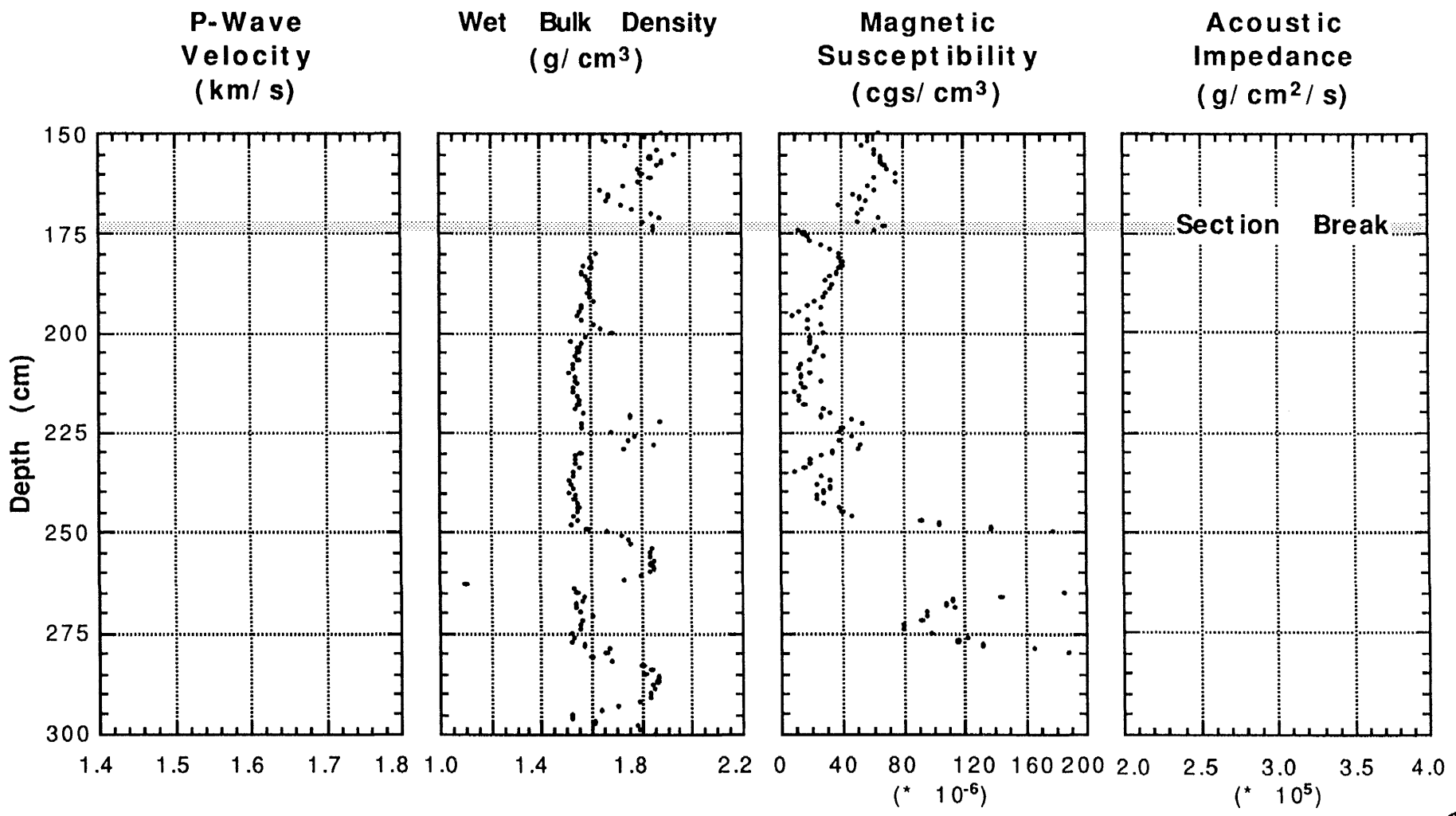
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 16PC

(150-300 cm)



LAT: 41° 40.08' N
LON: 124° 49.82' W

Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

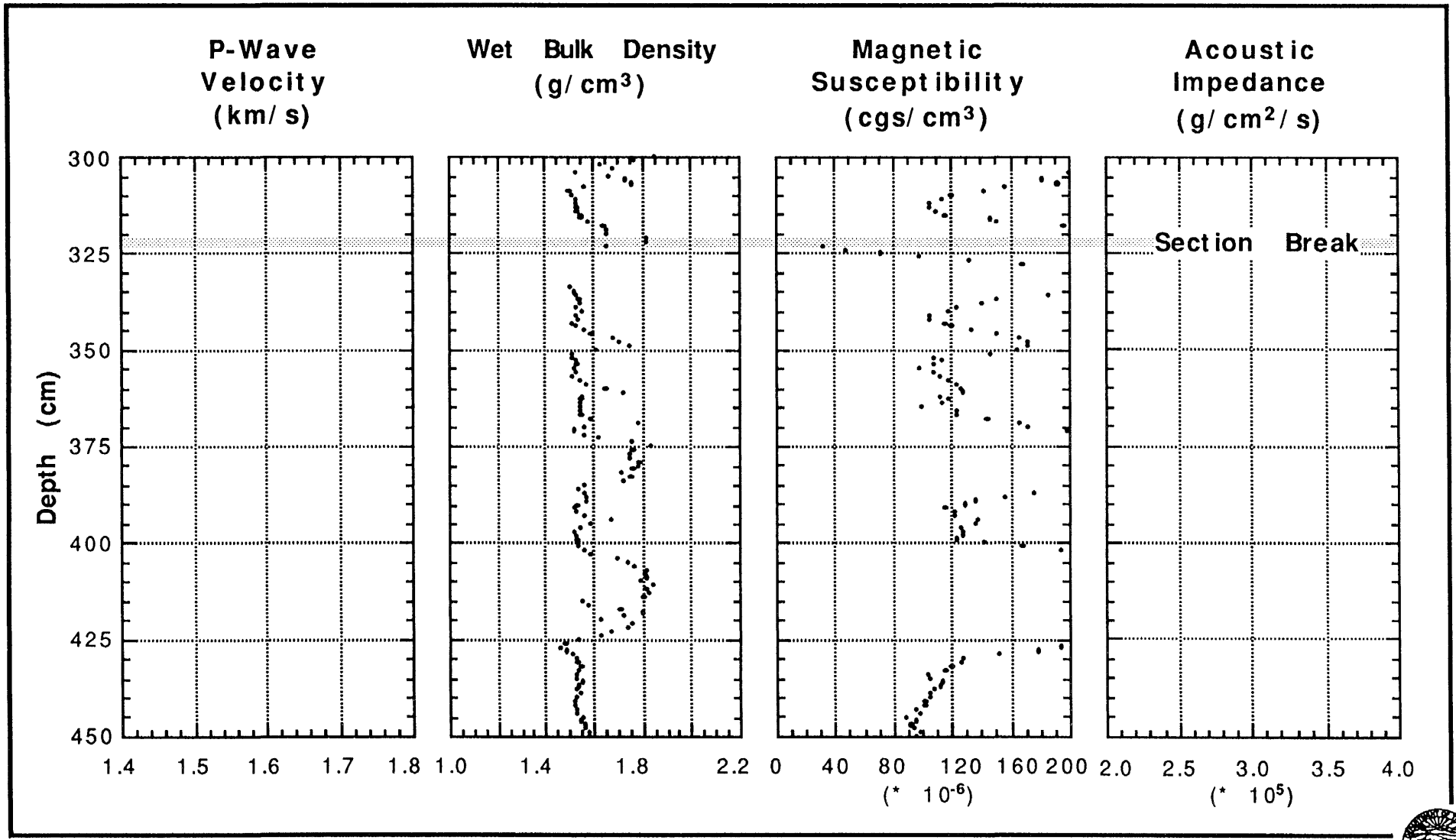
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 16PC

(300-450 cm)



LAT: 41°40.08' N
LON: 124°49.82' W

Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

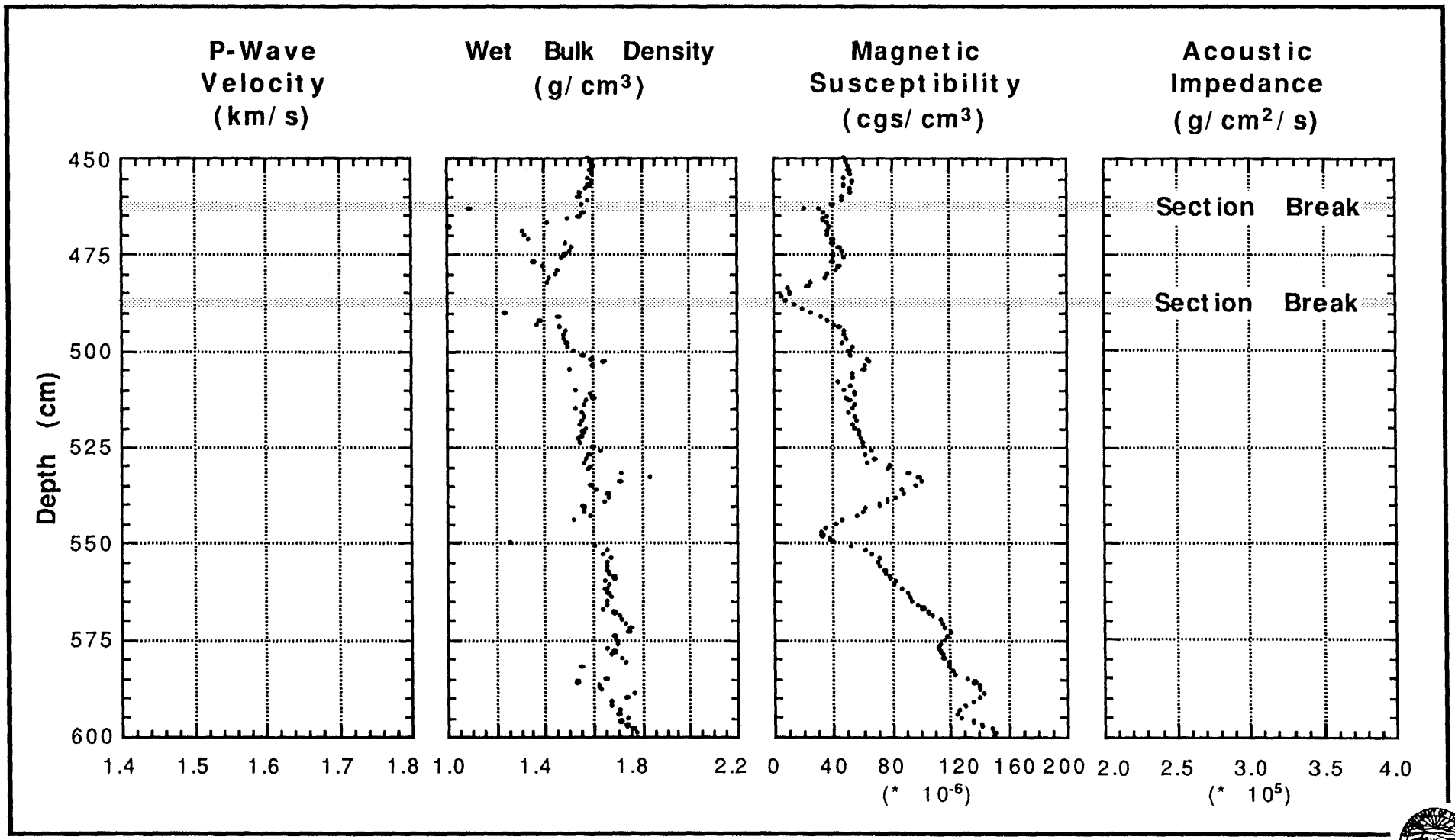
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 16PC

(450-600 cm)



LAT: 41° 40.08' N
LON: 124° 49.82' W

Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

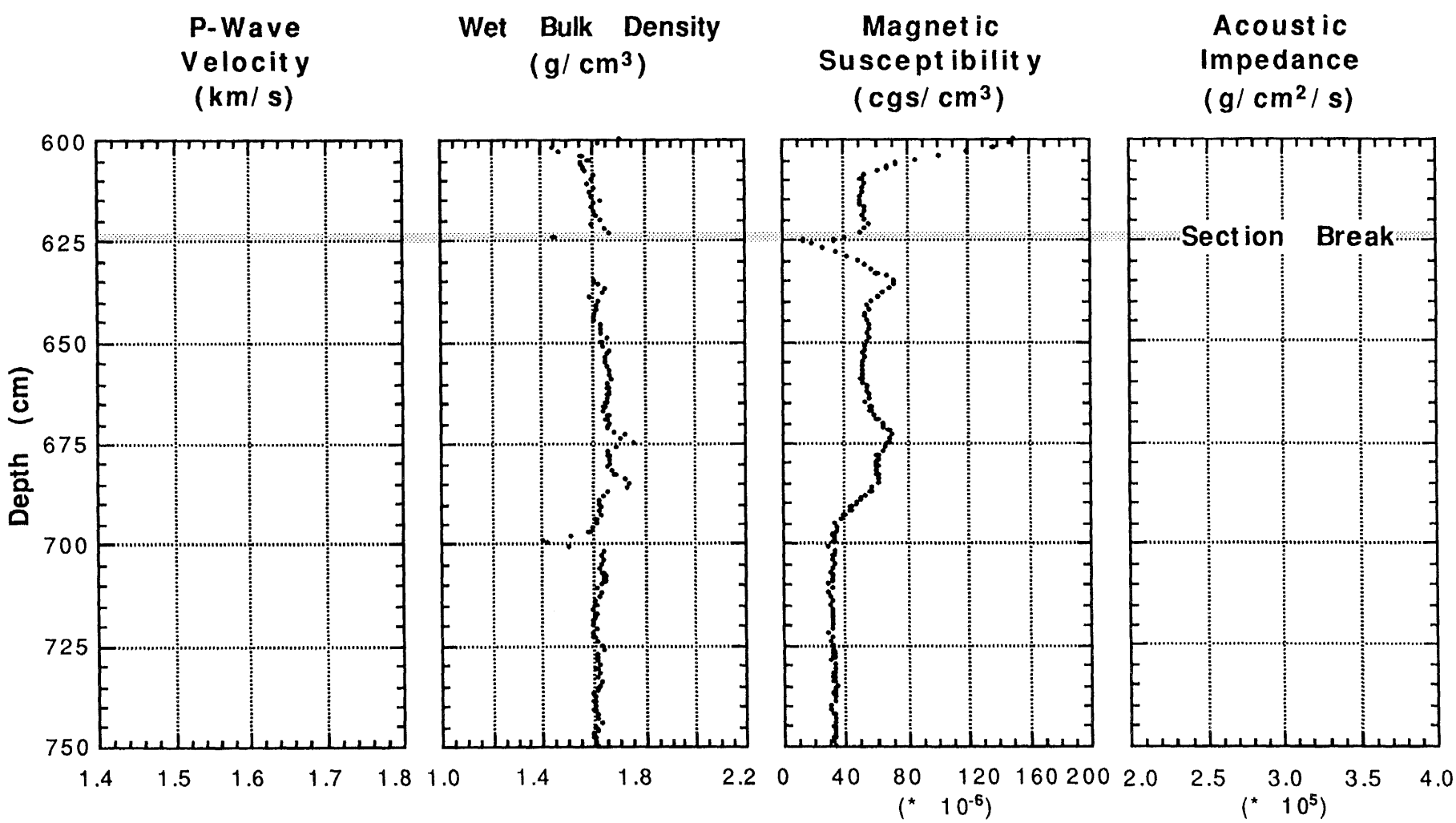
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 16PC

(600-750 cm)



LAT: 41° 40.08' N
LON: 124° 49.82' W

Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

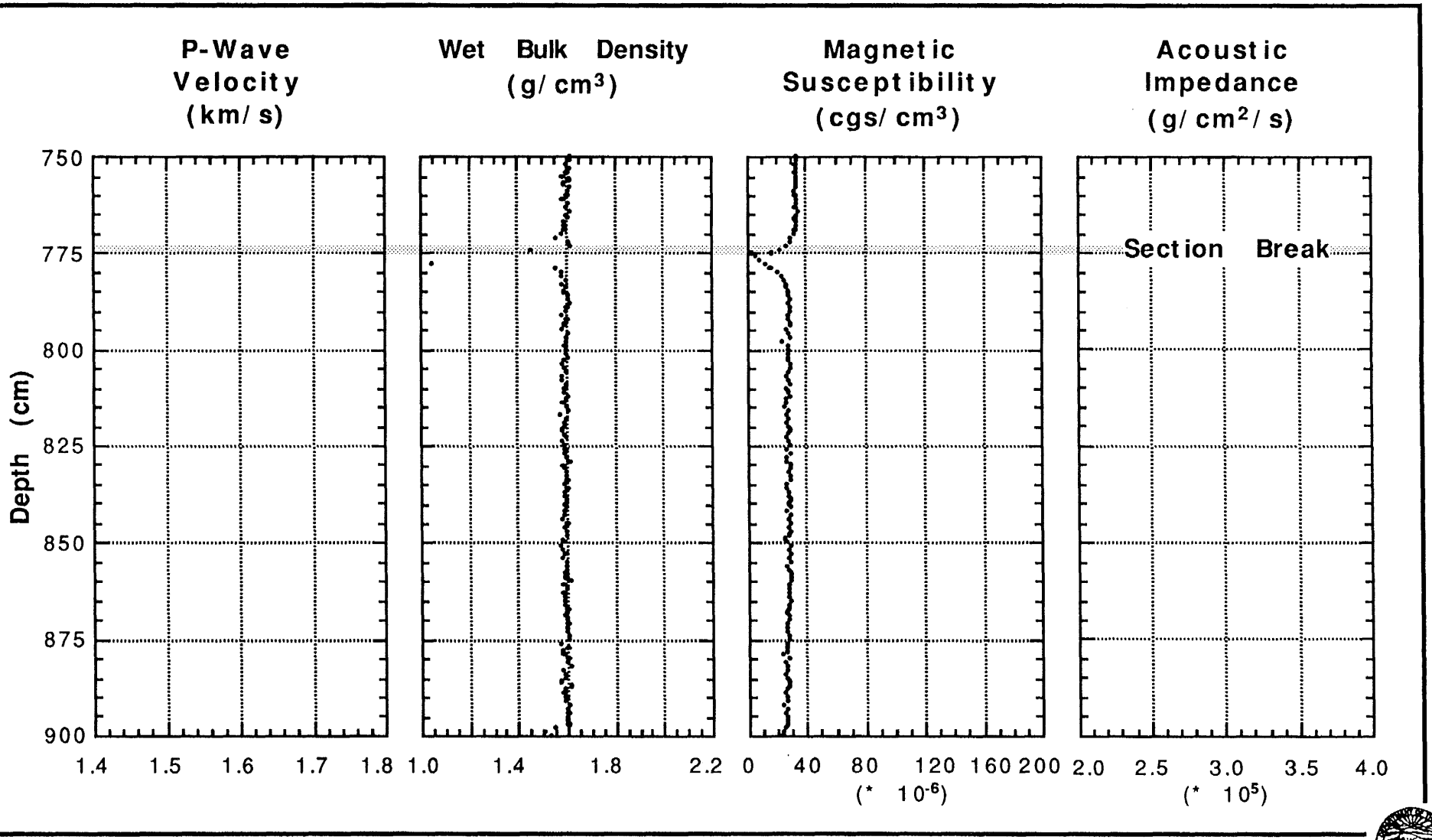
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 16PC

(750-900 cm)



LAT: 41°40.08' N
LON: 124° 49.82' W

Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

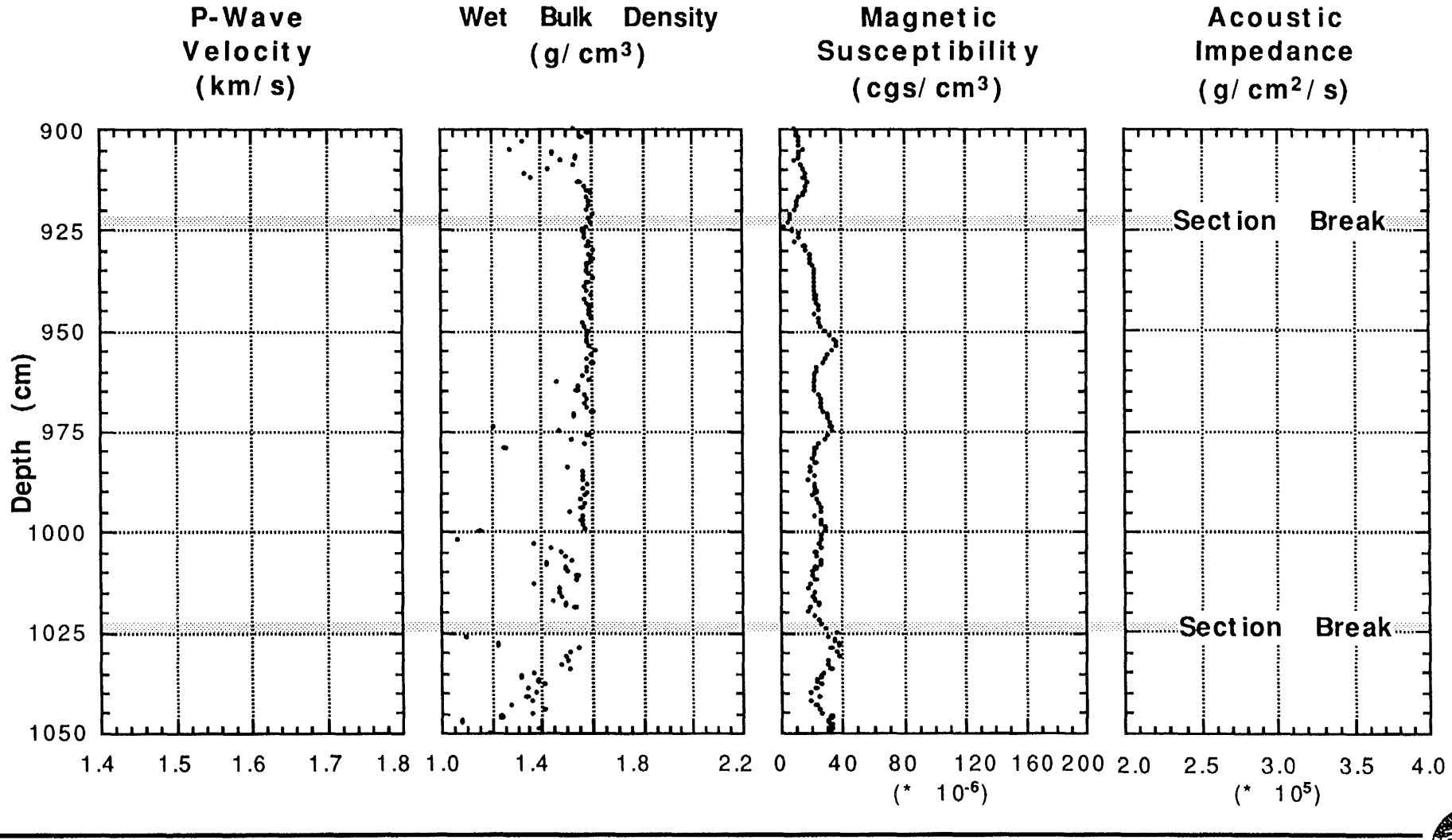
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 16PC

(900-1050 cm)



LAT: 41° 40.08' N
LON: 124° 49.82' W

Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

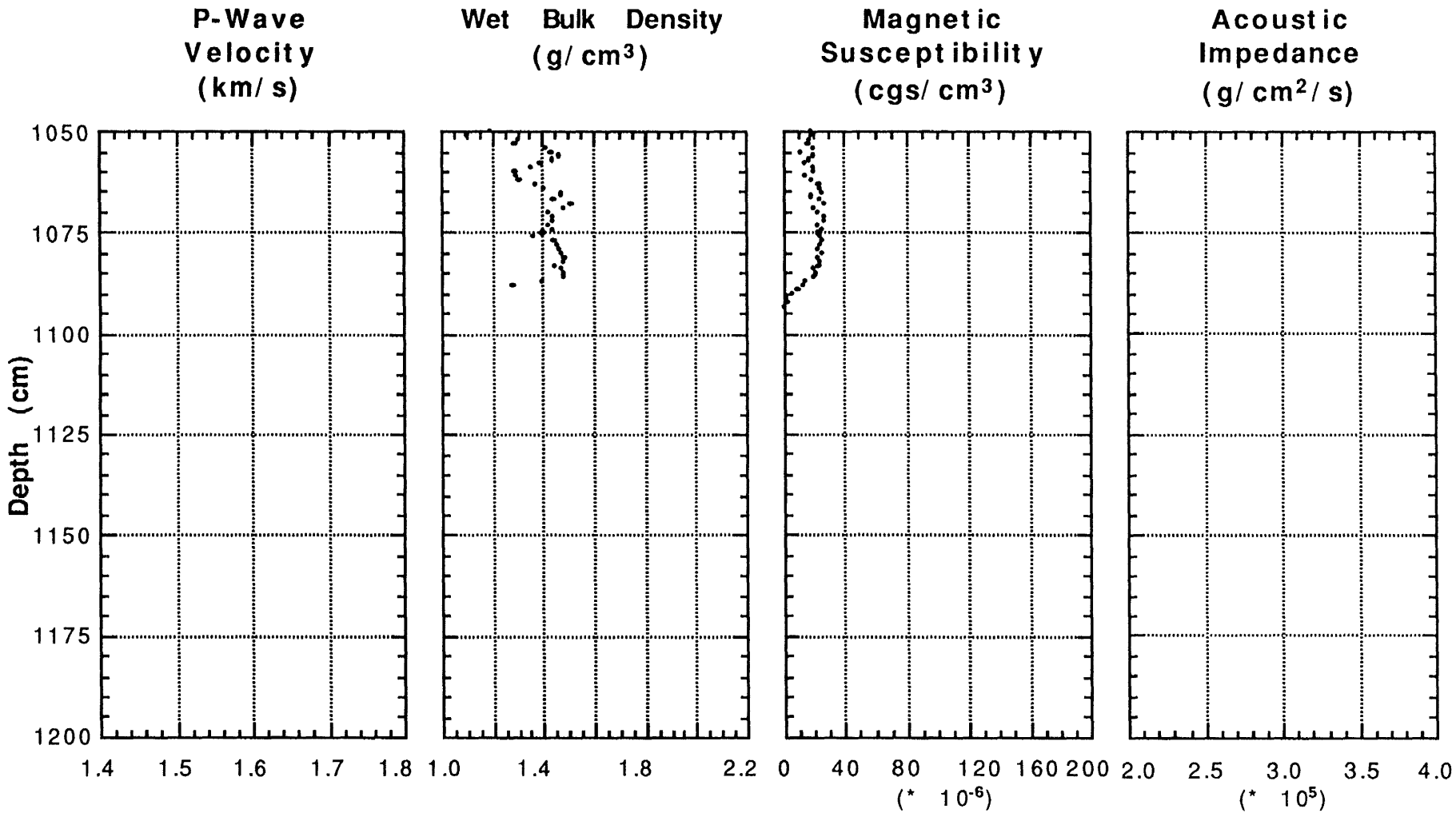
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 16PC

(1050-1093 cm)

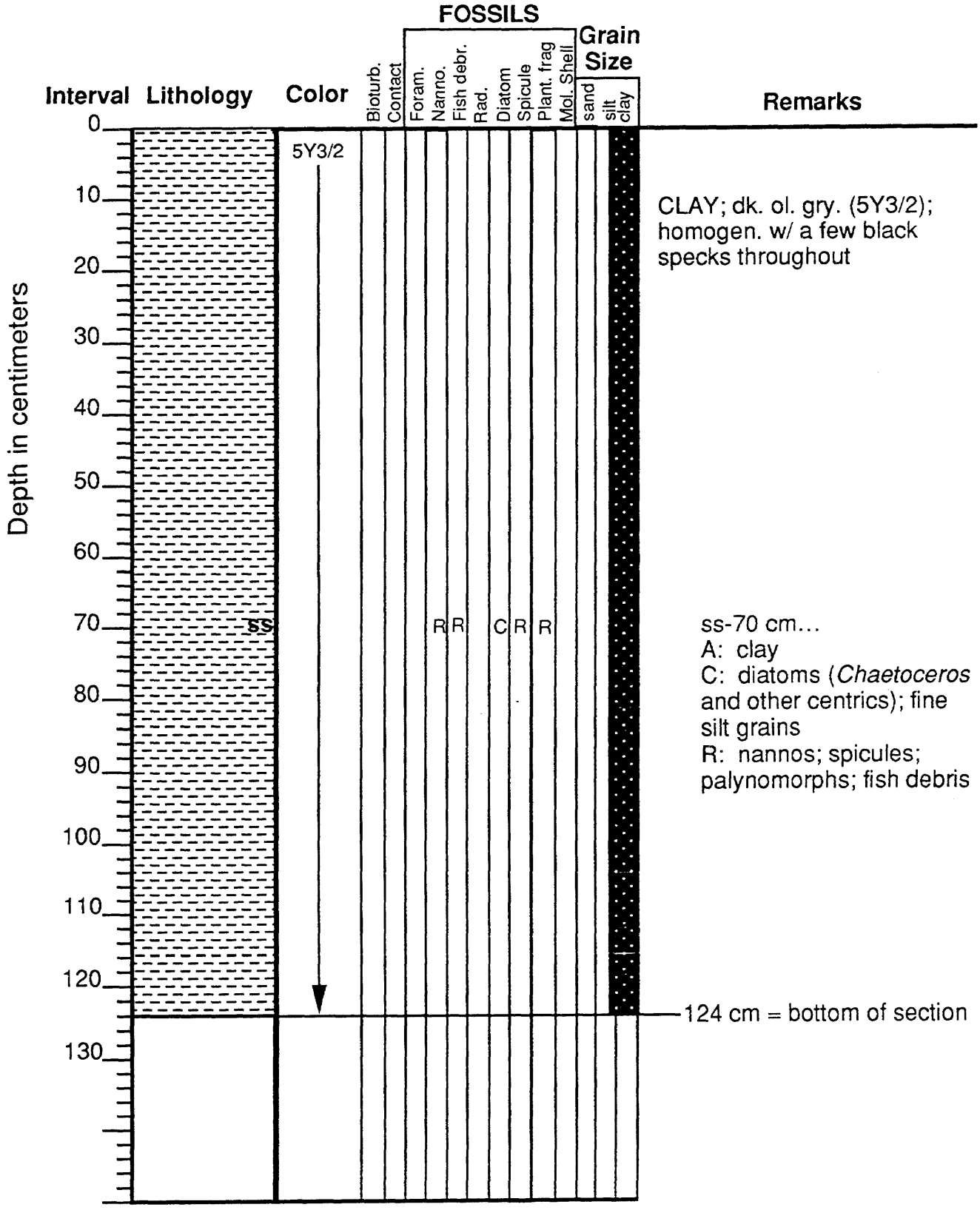


LAT: 41° 40.08' N
LON: 124° 49.82' W

Depth: 901 M
Drill Site ID: CA-1 Eel River Basin

USGS

EW95-04 Core: 17TC Sect.: 2 (0-124 cm)
42 14.55 N, 125 49.82 W, 2671 m



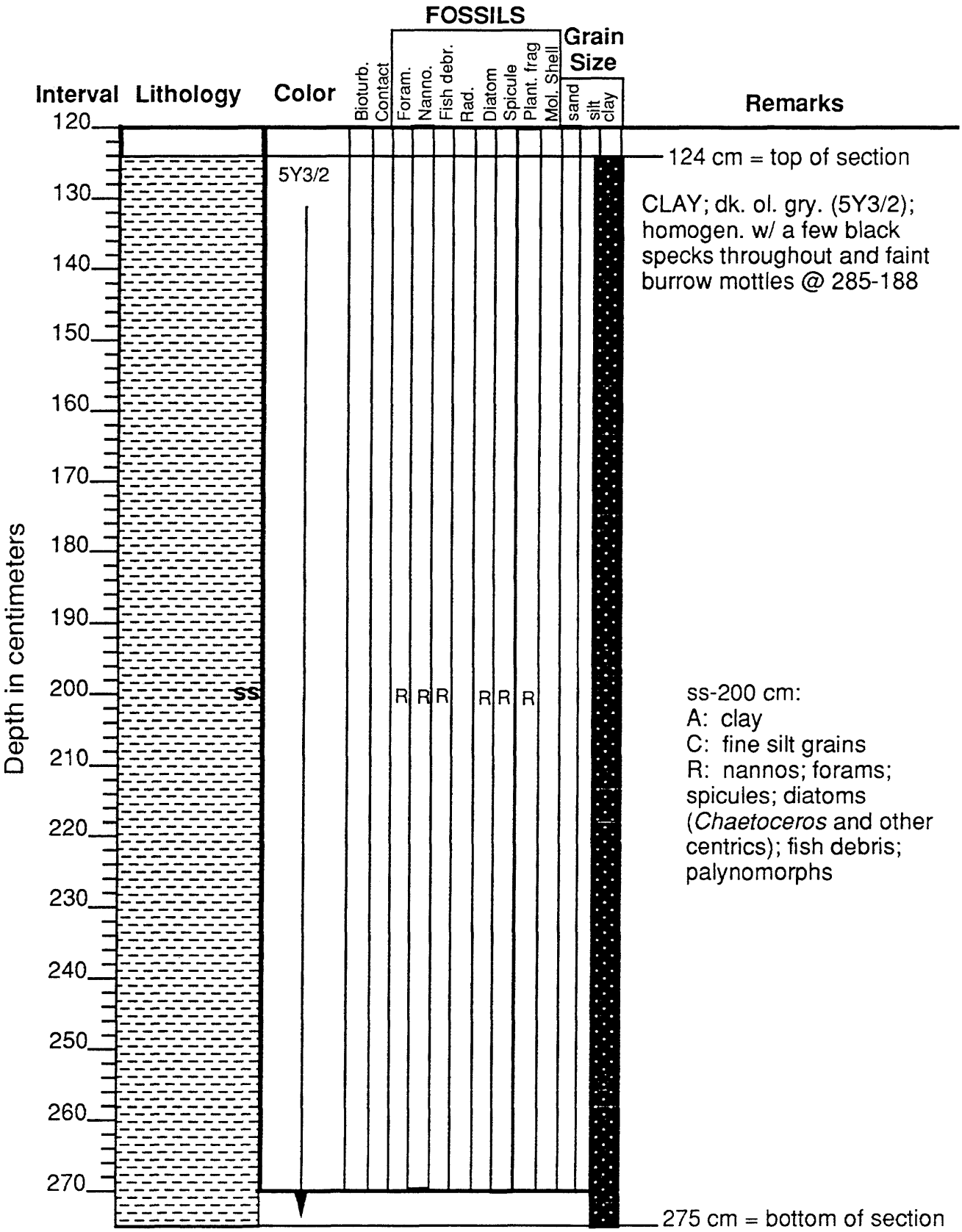
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

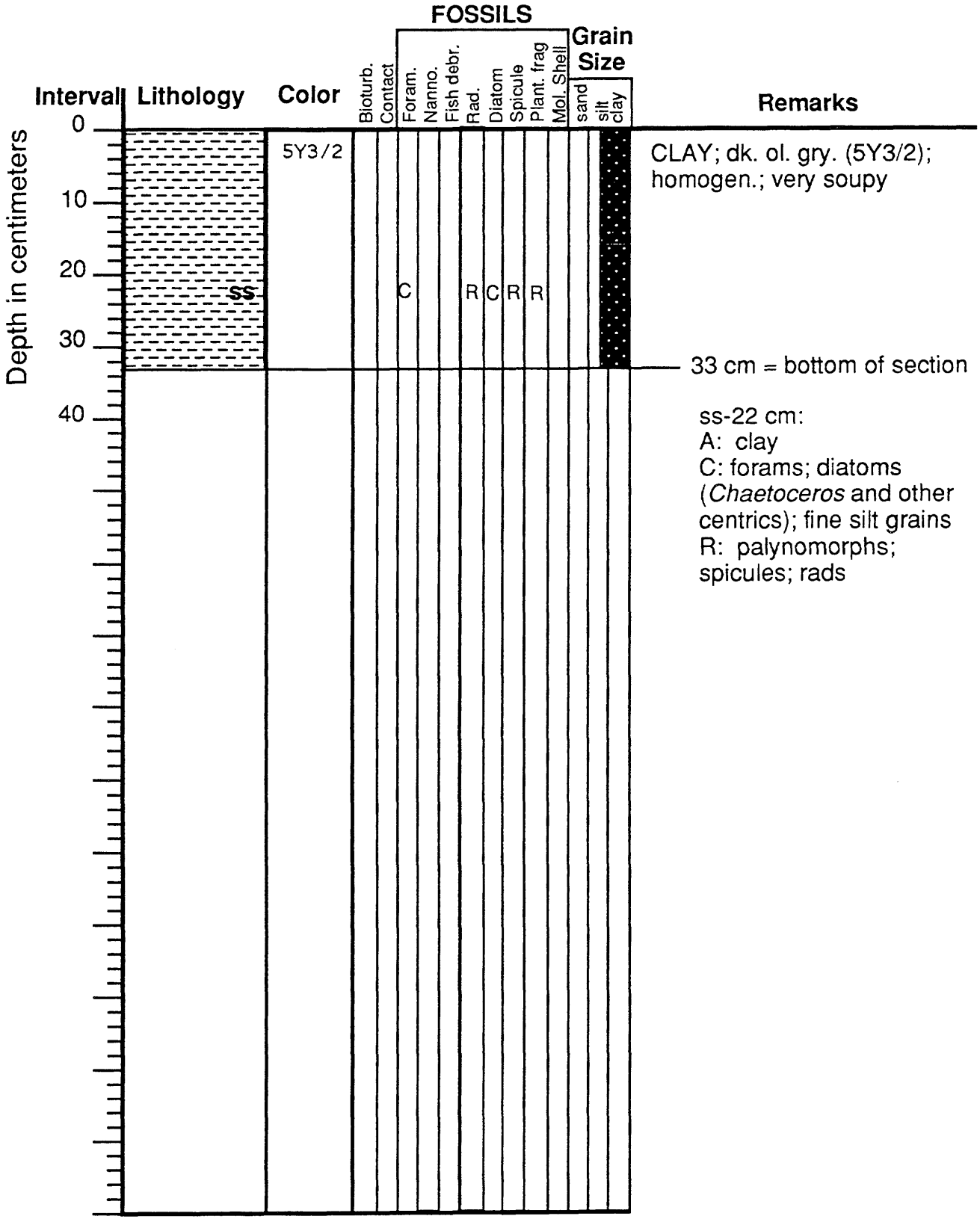
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 17TC Sect.: 1 (124-275 cm)
42 14.55 N, 125 49.82 W, 2671 m



EW95-04 Core: 17PC Sect.: 11 (0-33 cm)
42 14.55 N, 125 49.82 W, 2671 m



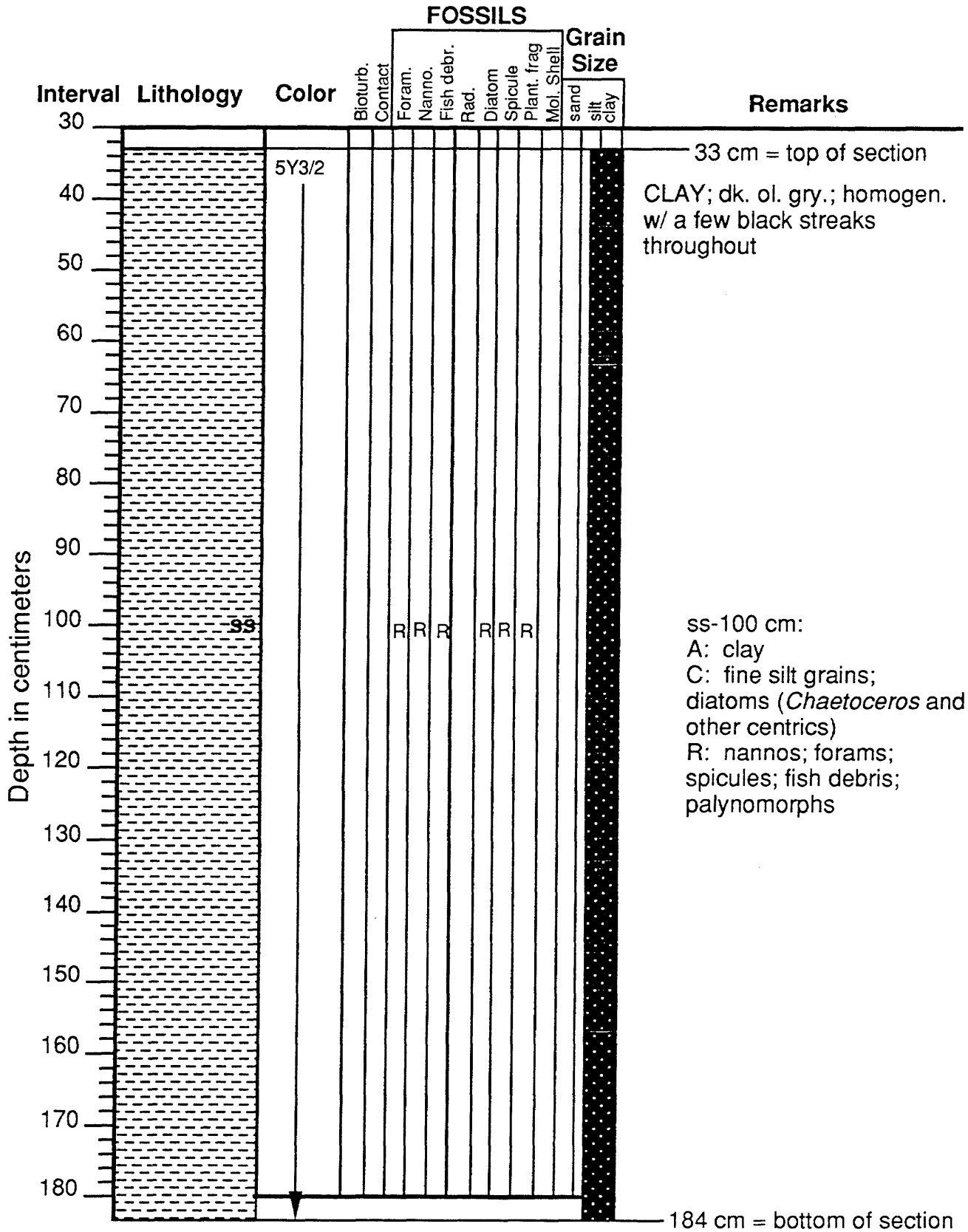
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

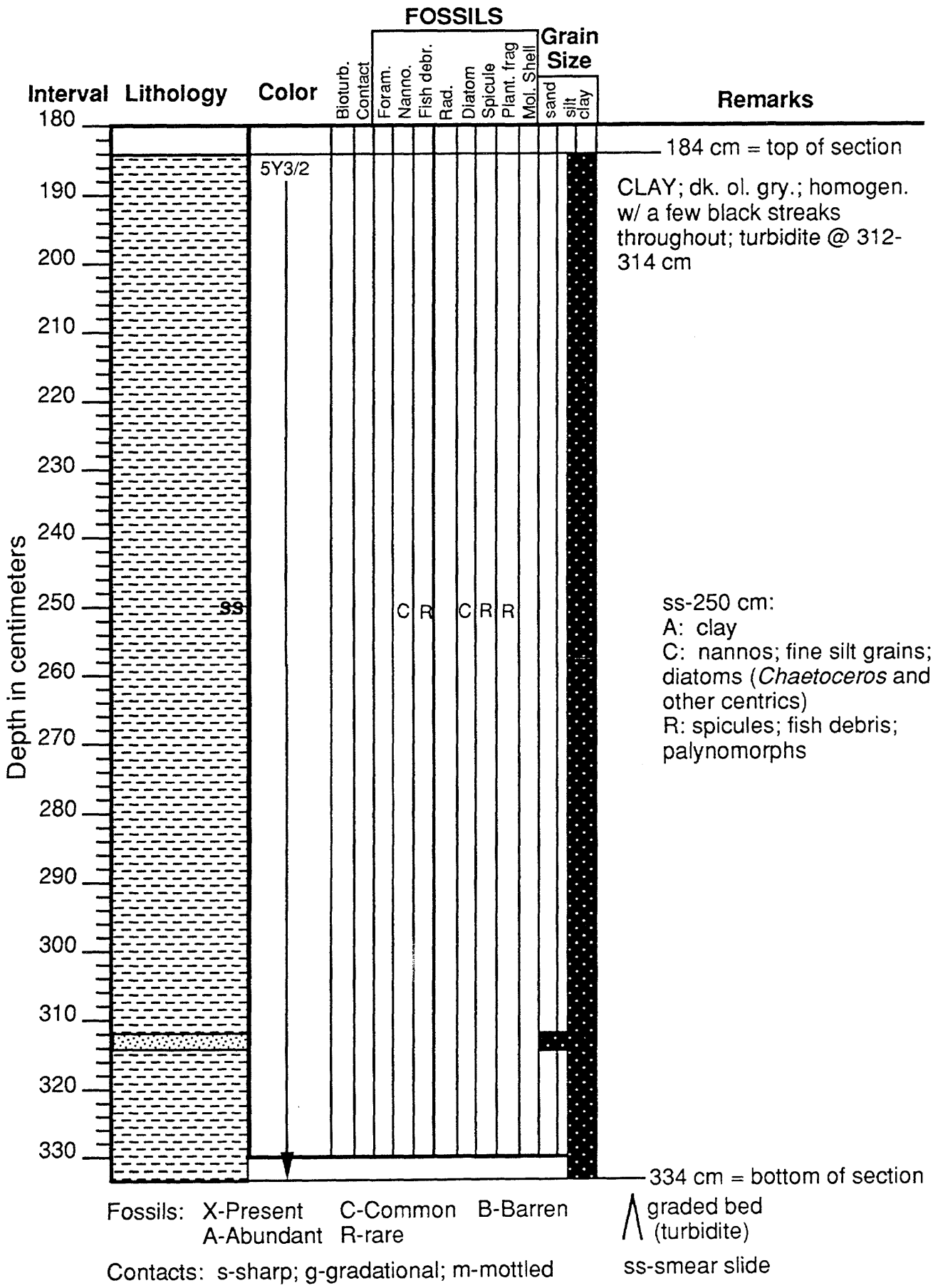
graded bed (turbidite)

ss-smear slide

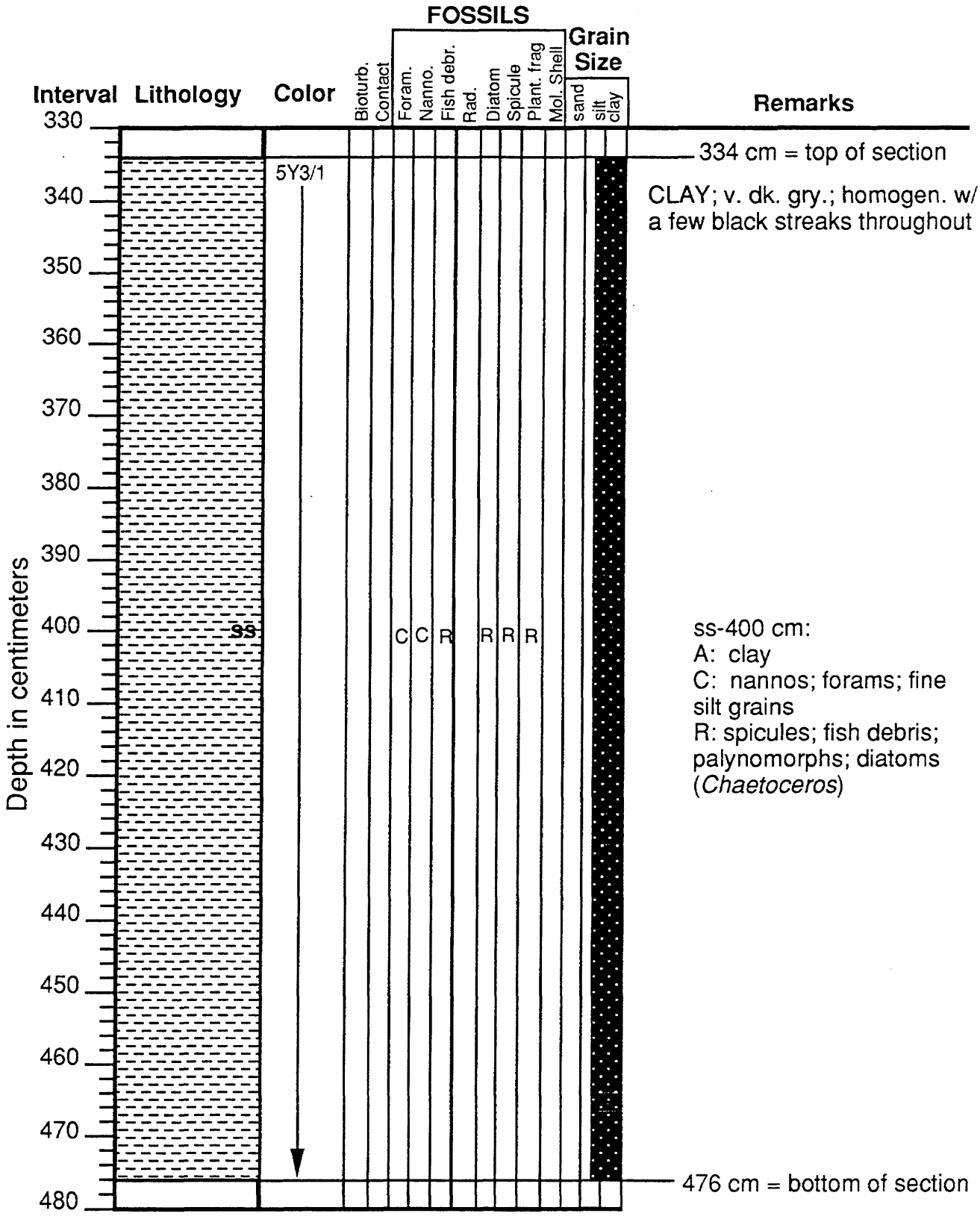
EW95-04 Core: 17PC Sect.: 10 (33-184 cm)
42 14.55 N, 125 53.28 W, 2671 m



EW95-04 Core: 17PC Sect.: 9 (184-334 cm)
42 14.55 N, 125 53.28 W, 2671 m



EW95-04 Core: 17PC Sect.: 8 (334-476 cm)
42 14.55 N, 125 53.28 W, 2671 m



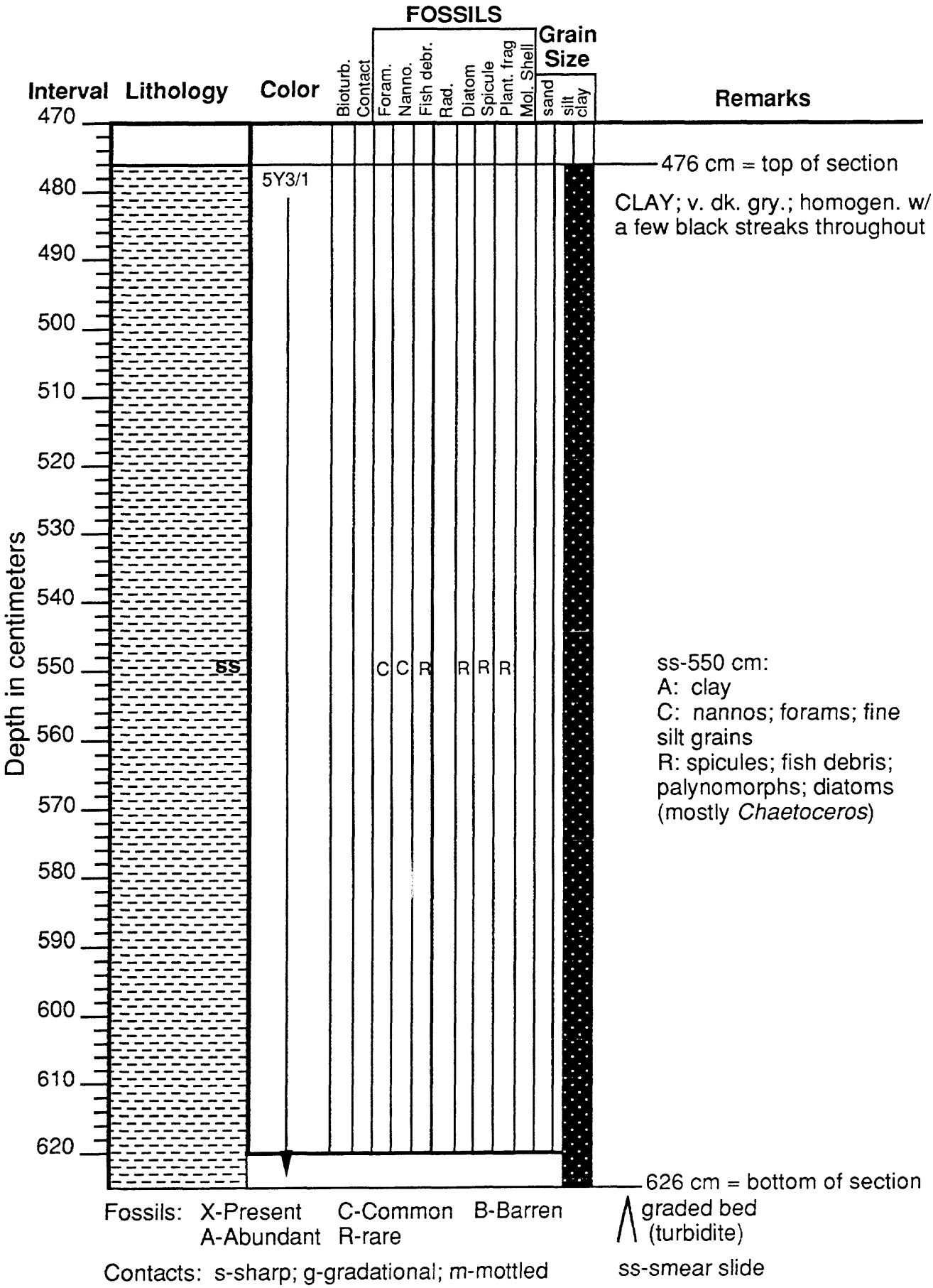
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

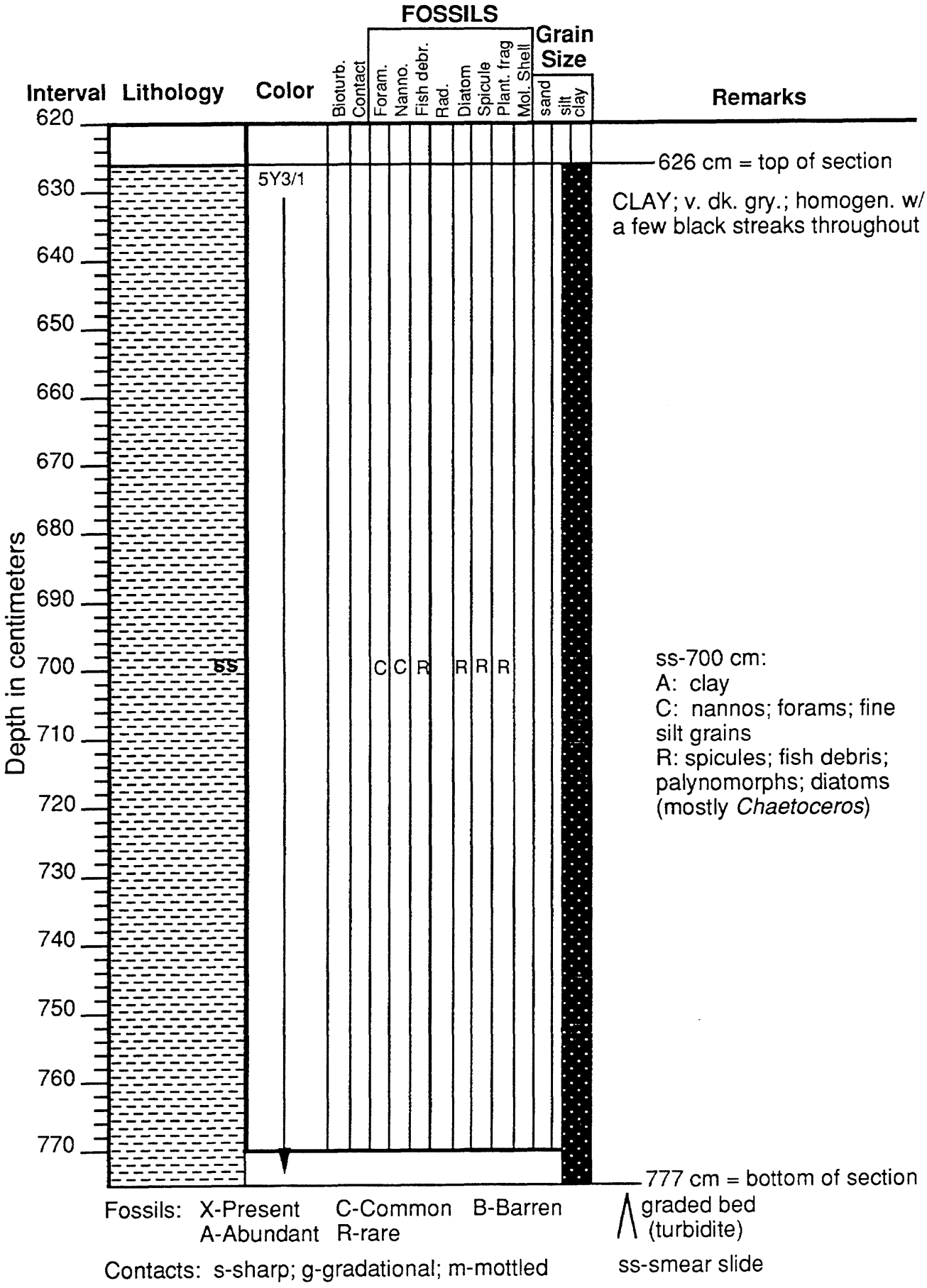
graded bed (turbidite)

ss-smear slide

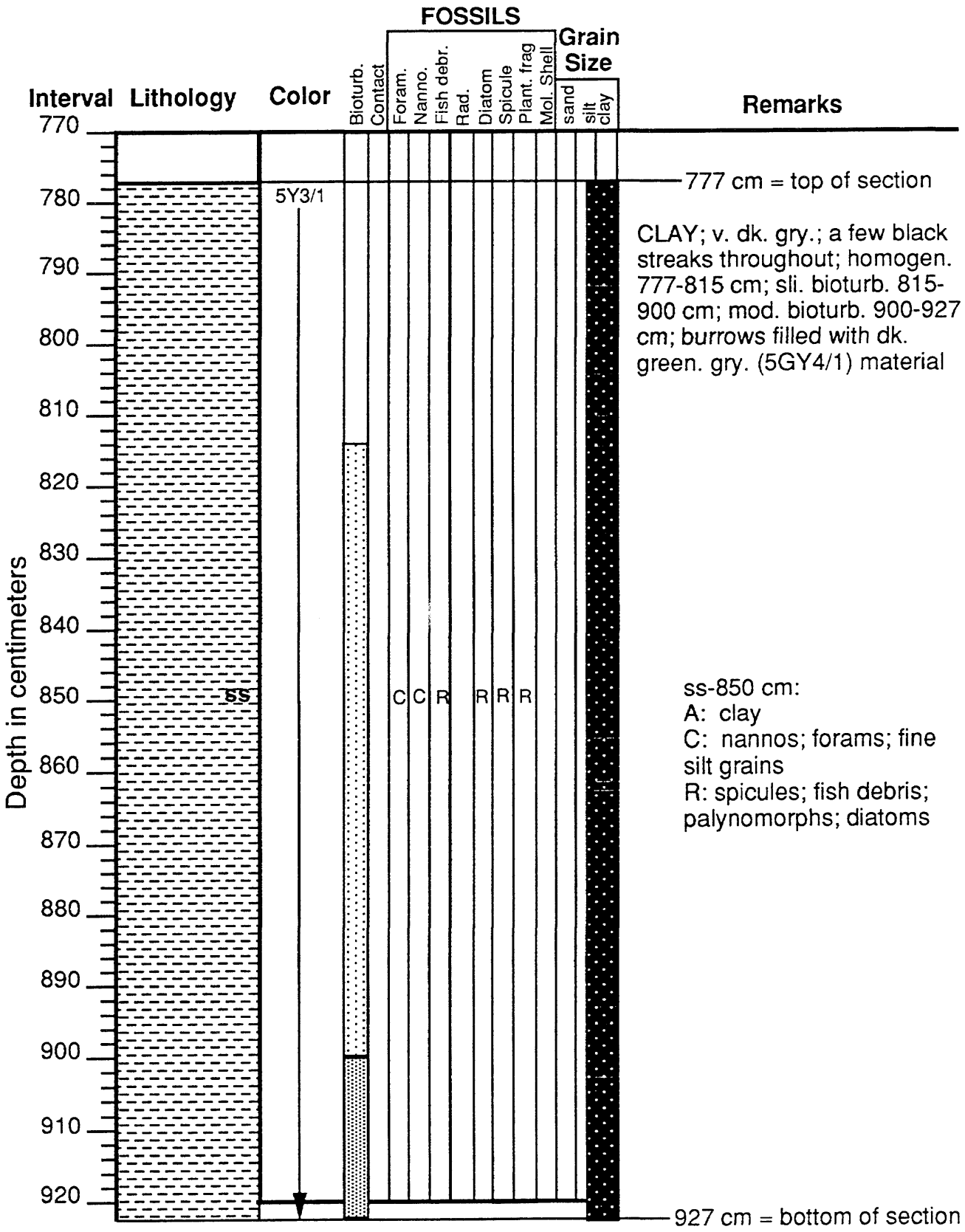
EW95-04 Core: 17PC Sect.: 7 (476-626 cm)
42 14.55 N, 125 53.28 W, 2671 m



EW95-04 Core: 17PC Sect.: 6 (626-777 cm)
42 14.55 N, 125 53.28 W, 2671 m



EW95-04 Core: 17PC Sect.: 5 (777-927 cm)
42 14.55 N, 125 53.28 W, 2671 m



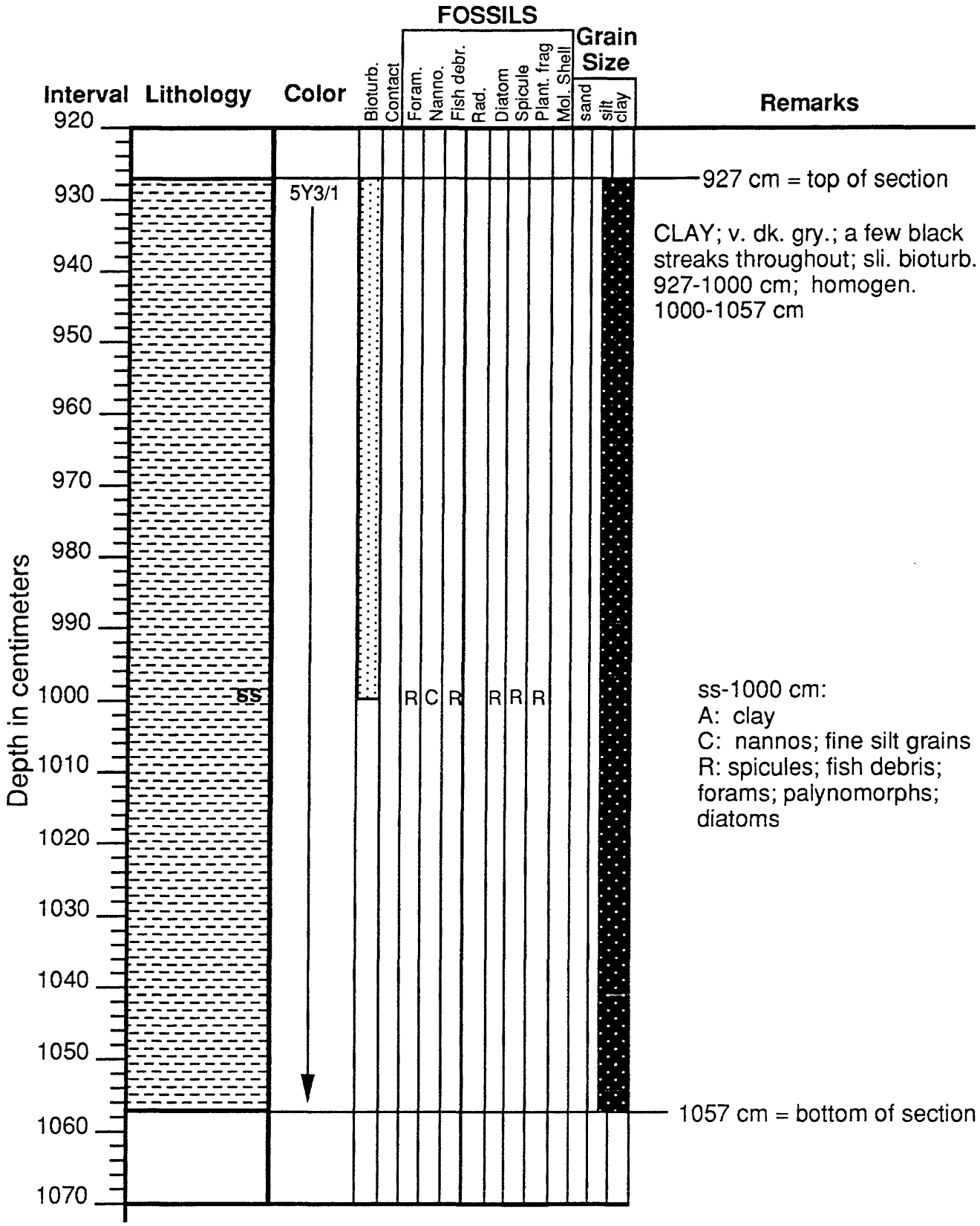
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

graded bed (turbidite)

Contacts: s-sharp; g-gradational; m-mottled

ss-smear slide

EW95-04 Core: 17PC Sect.: 4 (927-1057 cm)
42 14.55 N, 125 53.28 W, 2671 m



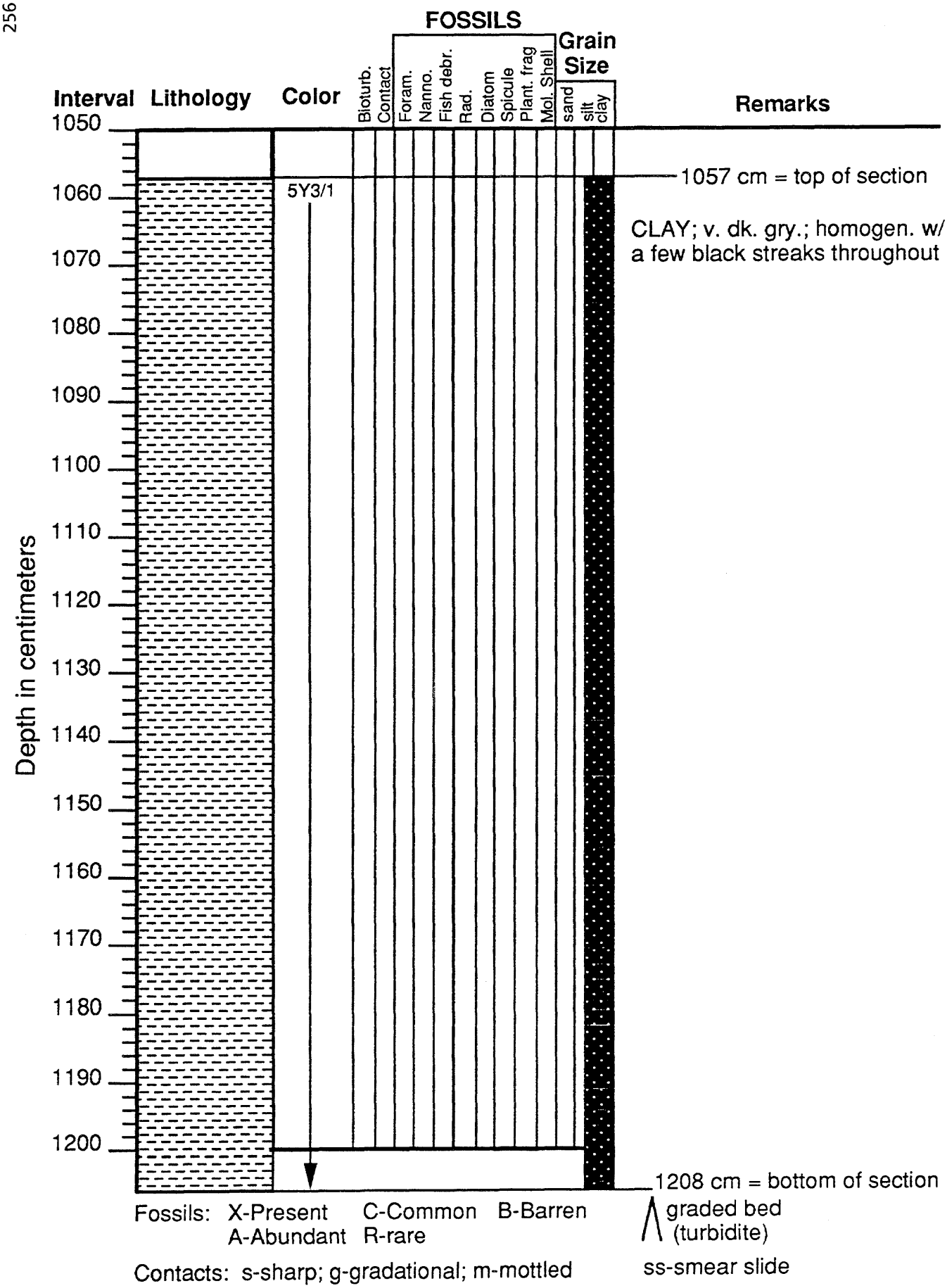
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

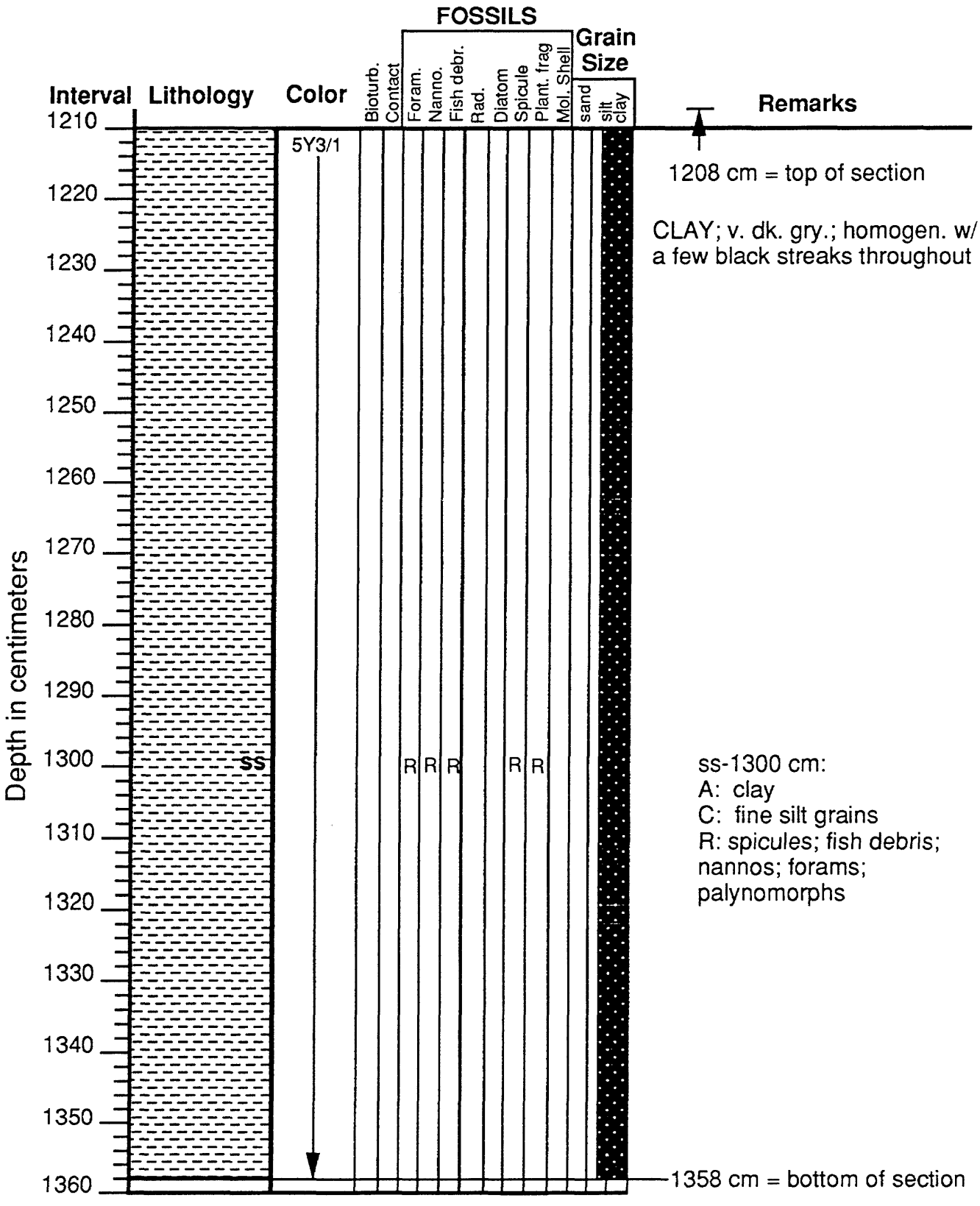
graded bed (turbidite)

ss-smear slide

EW95-04 Core: 17PC Sect.: 3 (1057-1208 cm)
42 14.55 N, 125 53.28 W, 2671 m



EW95-04 Core: 17PC Sect.: 2 (1208-1358 cm)
42 14.55 N, 125 53.28 W, 2671 m



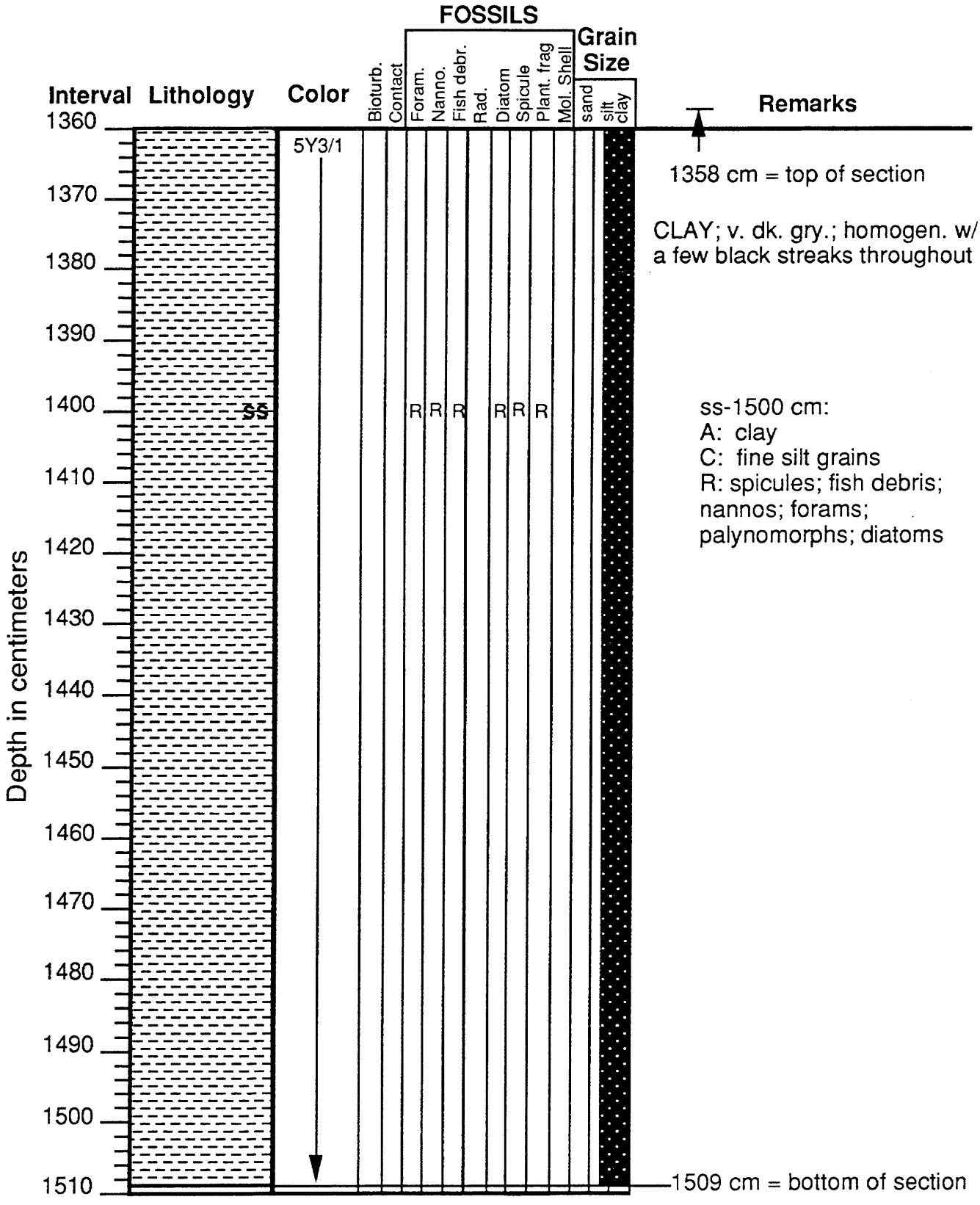
Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

ss-smear slide

EW95-04 Core: 17PC Sect.: 1 (1358-1509 cm)
42 14.55 N, 125 53.28 W, 2671 m



Fossils: X-Present C-Common B-Barren
A-Abundant R-rare

Contacts: s-sharp; g-gradational; m-mottled

graded bed (turbidite)

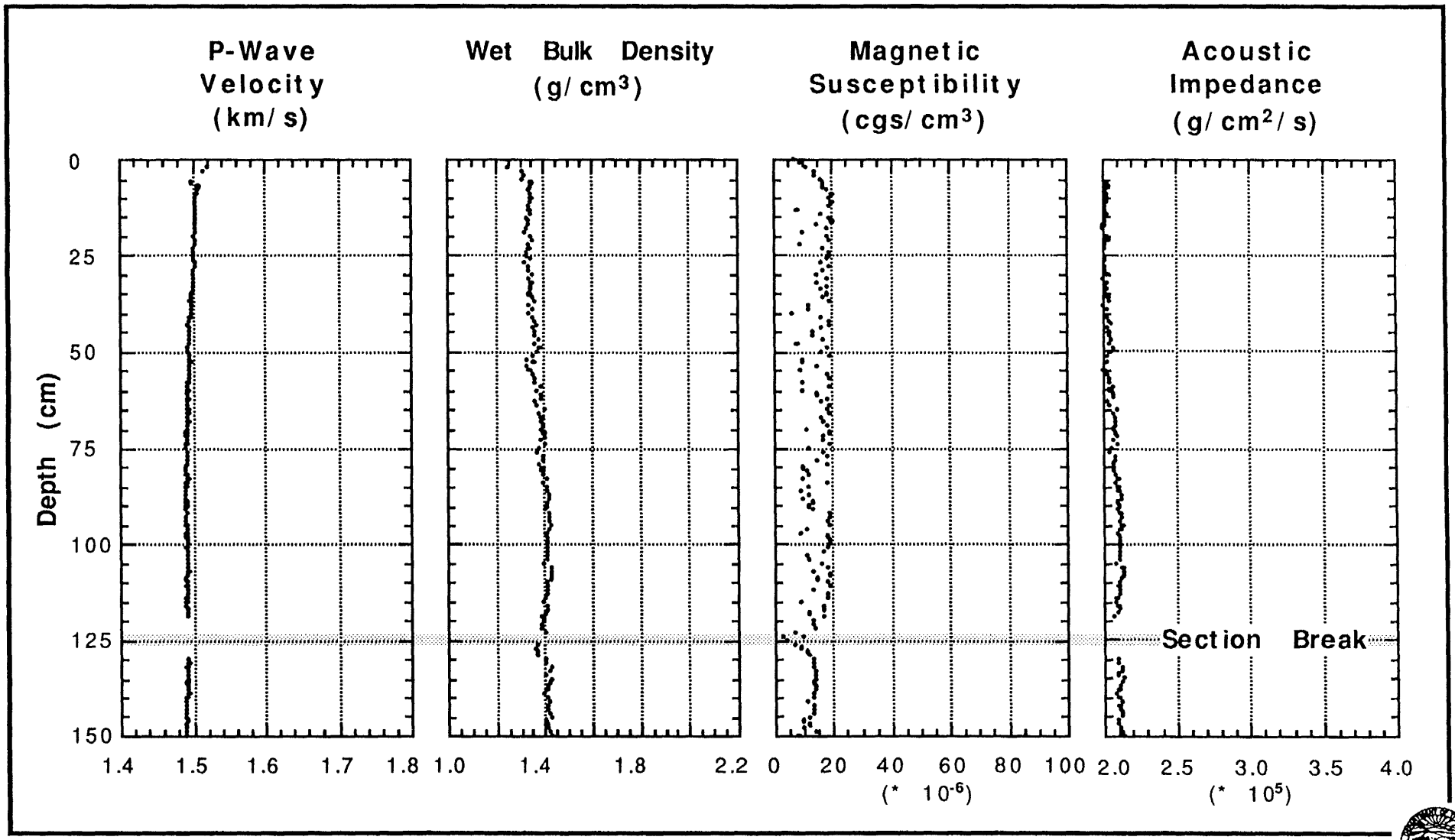
ss-smear slide

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17TC

(0-150 cm)



LAT: 42°14.55' N
LON: 125°53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

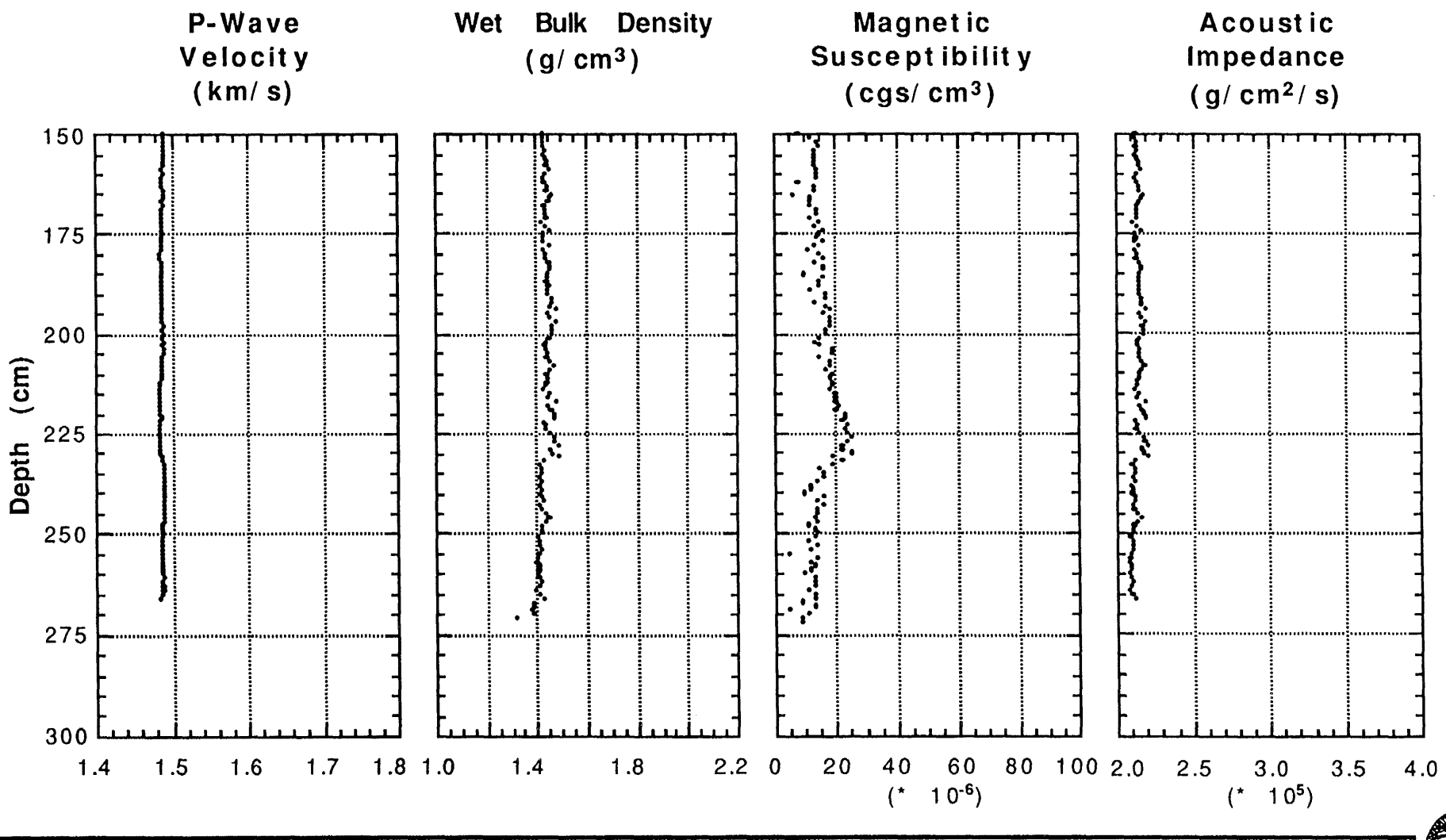
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17TC

(150-275 cm)



LAT: 42°14.55' N
LON: 125°53.28' W

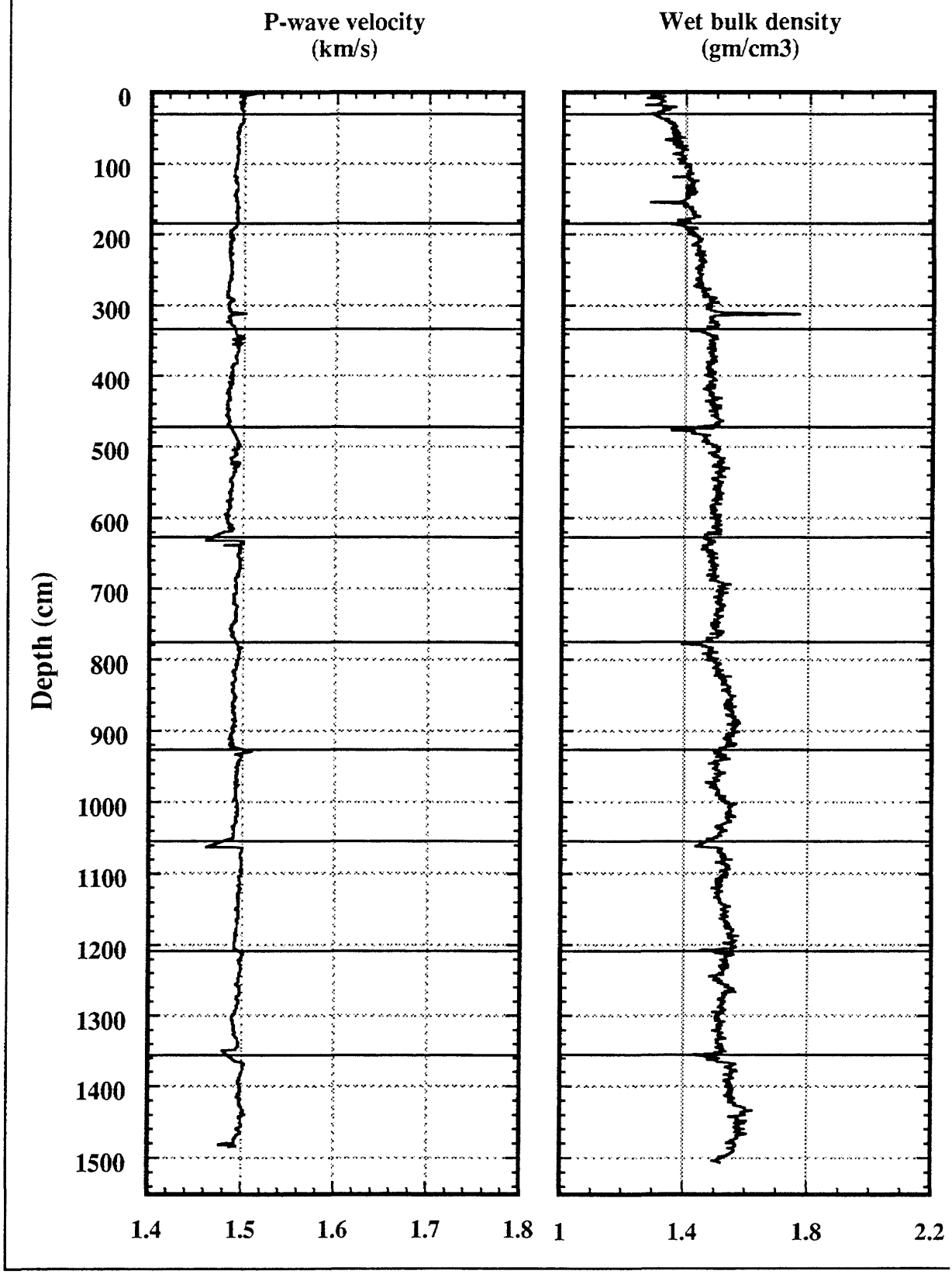
Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 17PC
(0- 1509 cm)



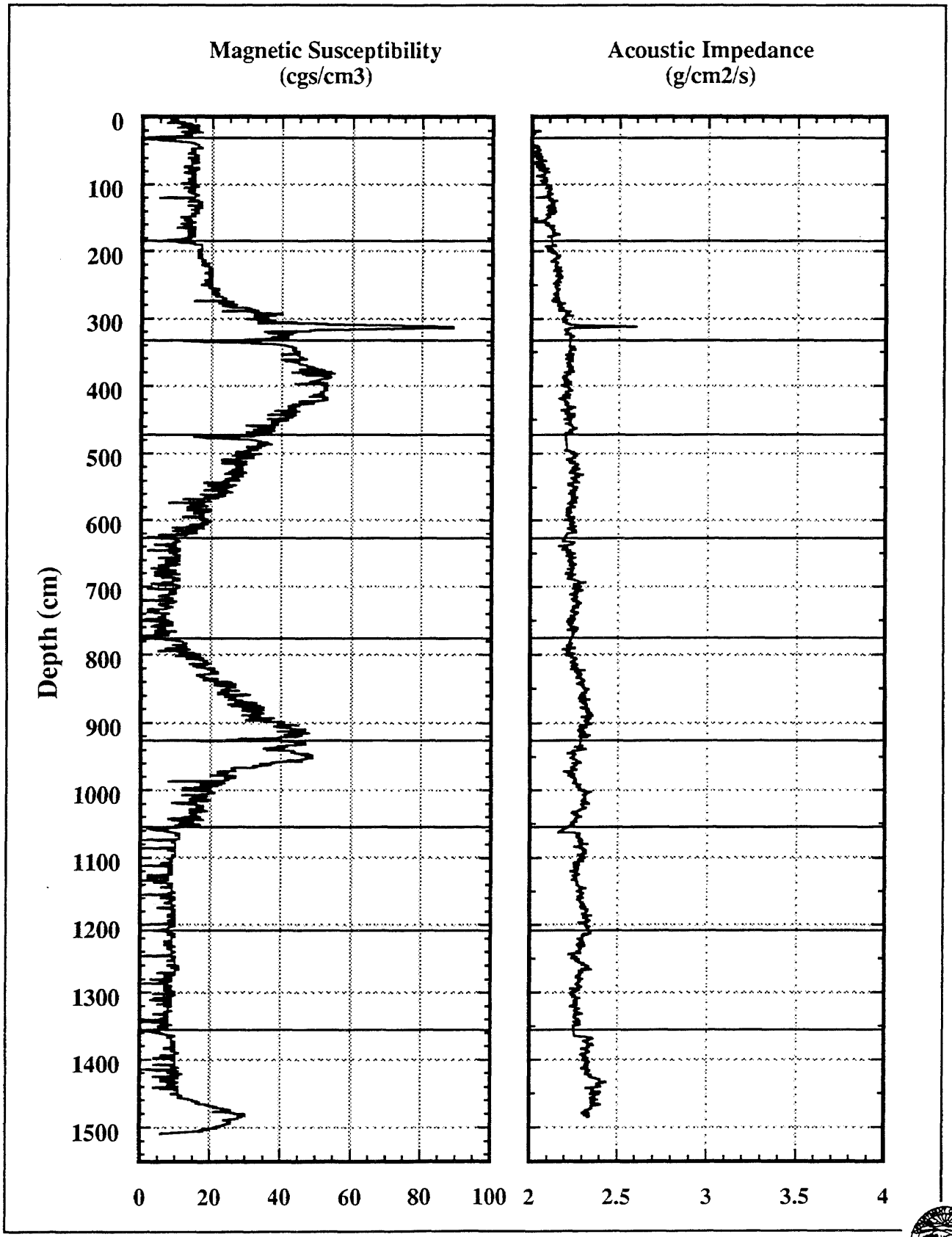
LAT: 42°14.55'N Depth: 2671 m
LON: 125°53.28'W Drill Site ID: CA-3 northern Gorda Swell

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504 - 17PC
(0- 1509 cm)



LAT: 42°14.55'N Depth: 2671 m
LON: 125°53.28'W Drill Site ID: CA-3 northern Gorda Swell

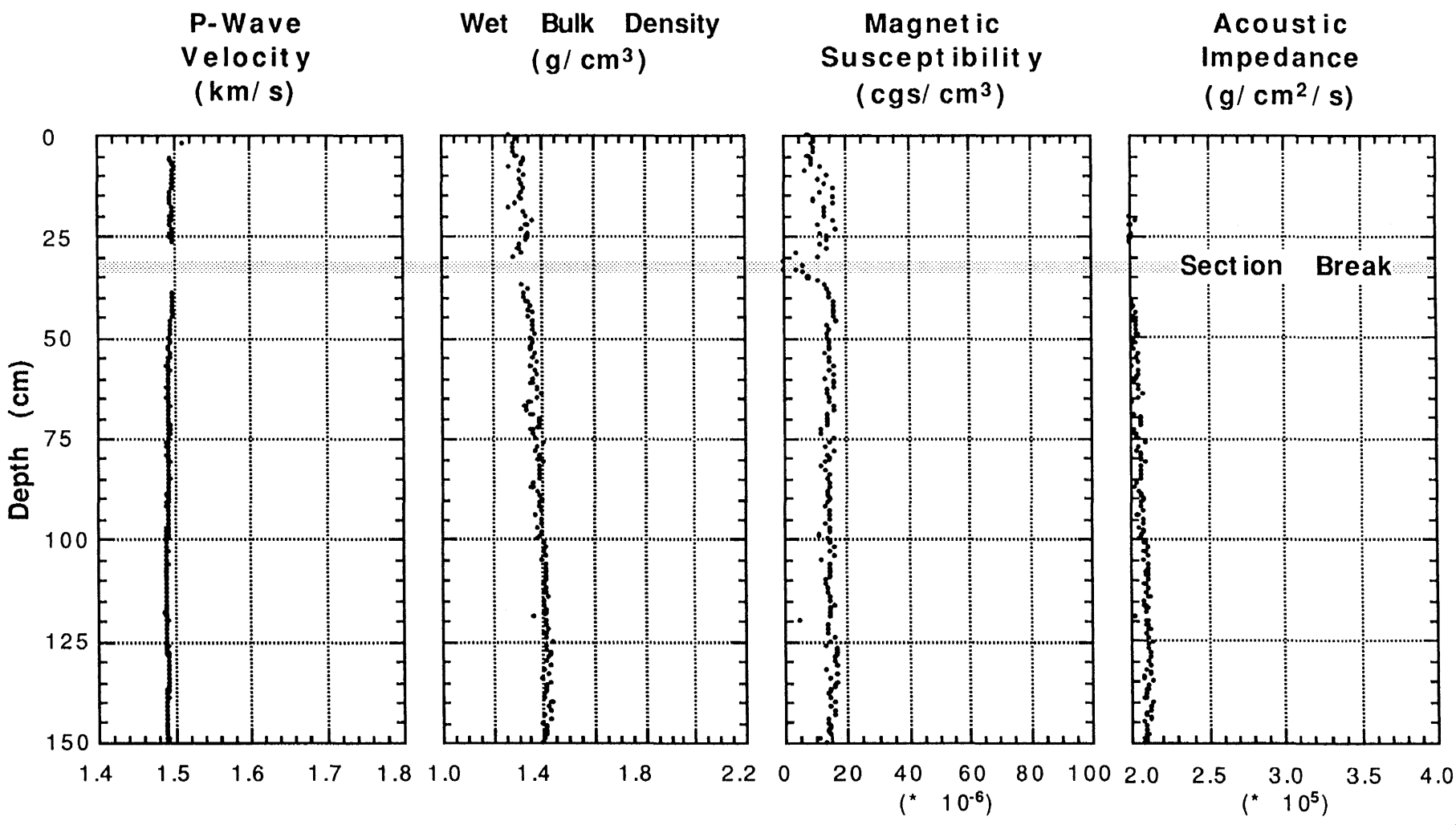
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(0-150 cm)



LAT: 42° 14.55' N
LON: 125° 53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

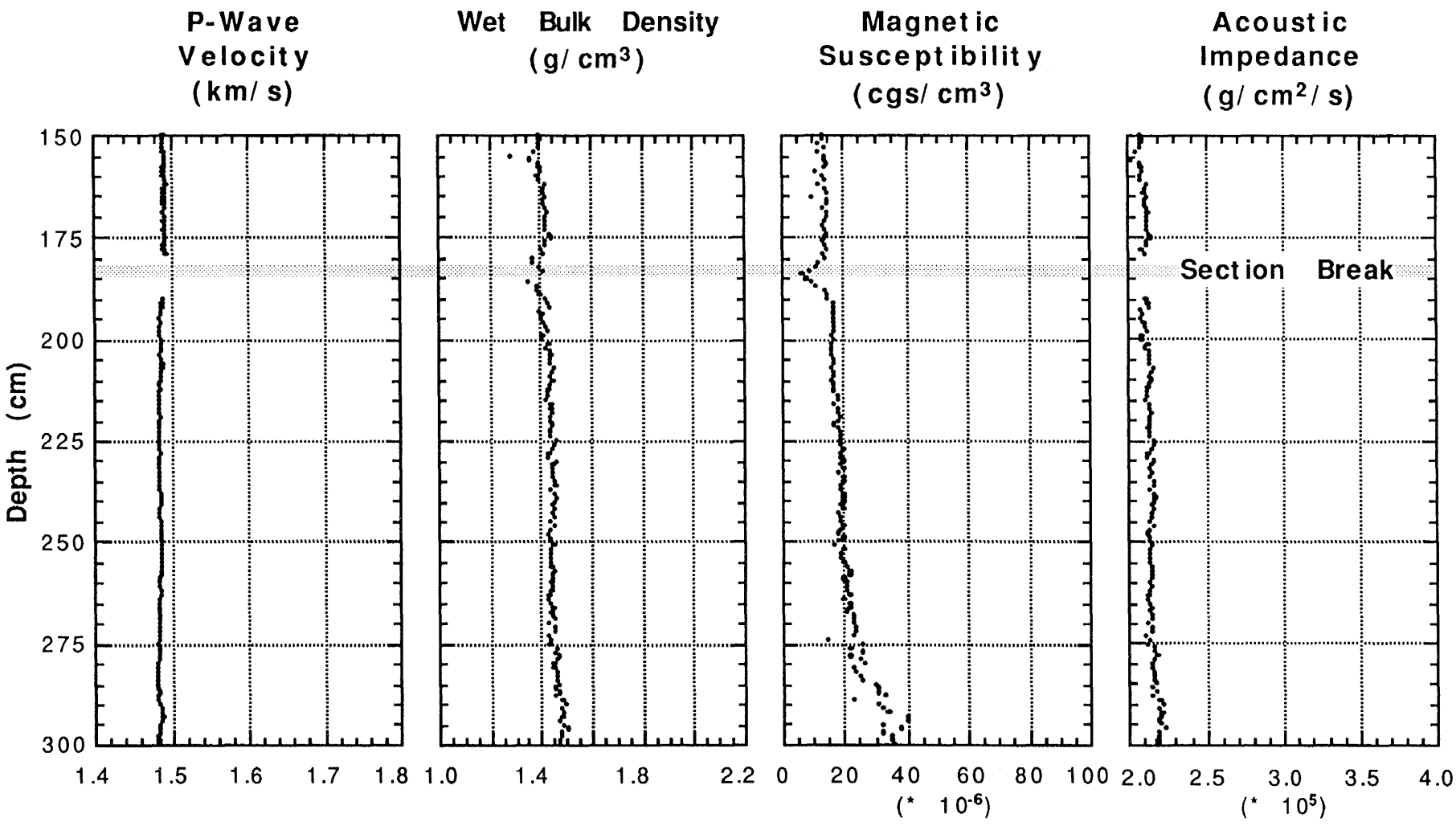
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(150-300 cm)



LAT: 42° 14.55' N
LON: 125° 53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

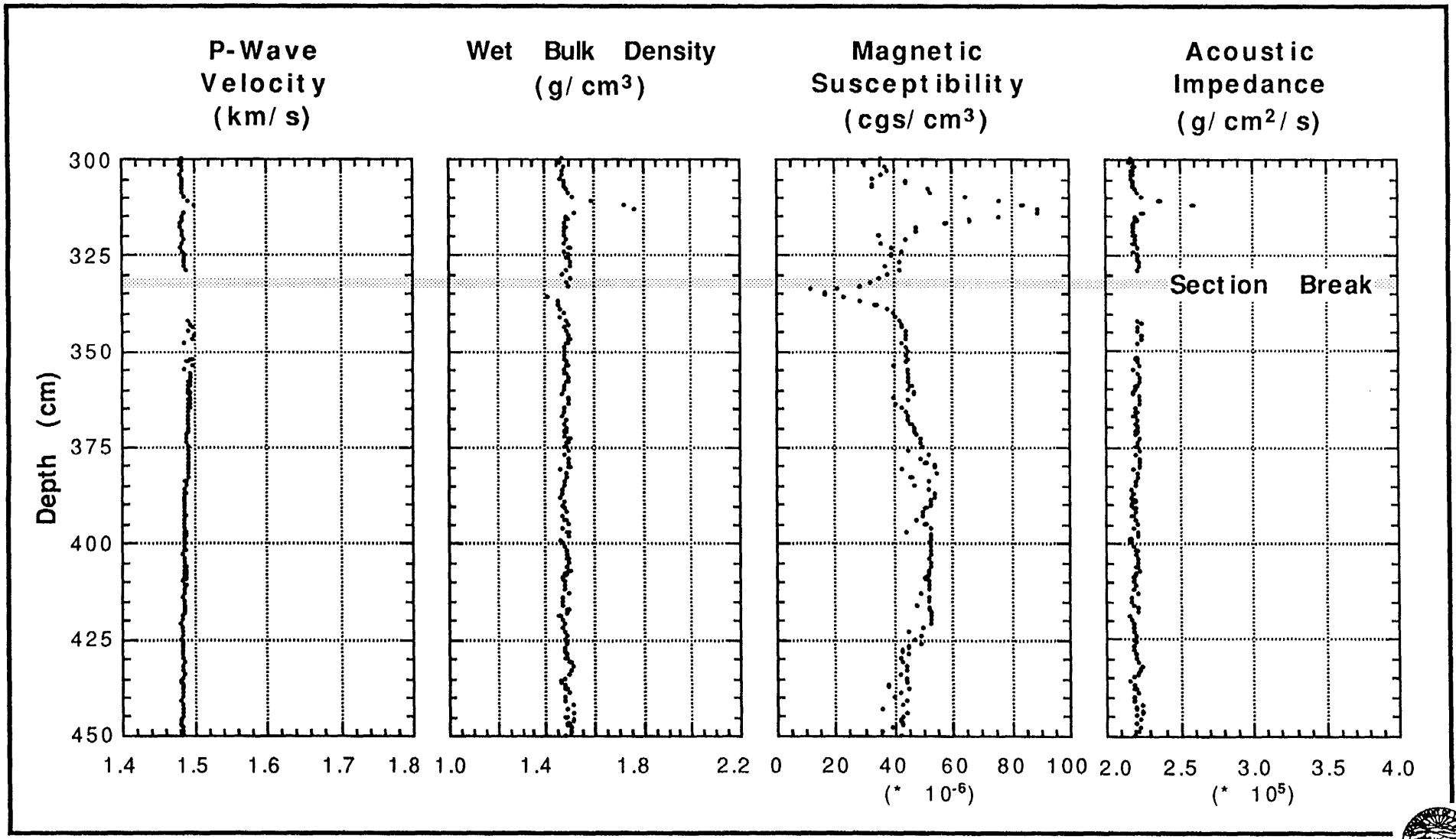
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(300-450 cm)



LAT: 42°14.55' N
LON: 125°53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

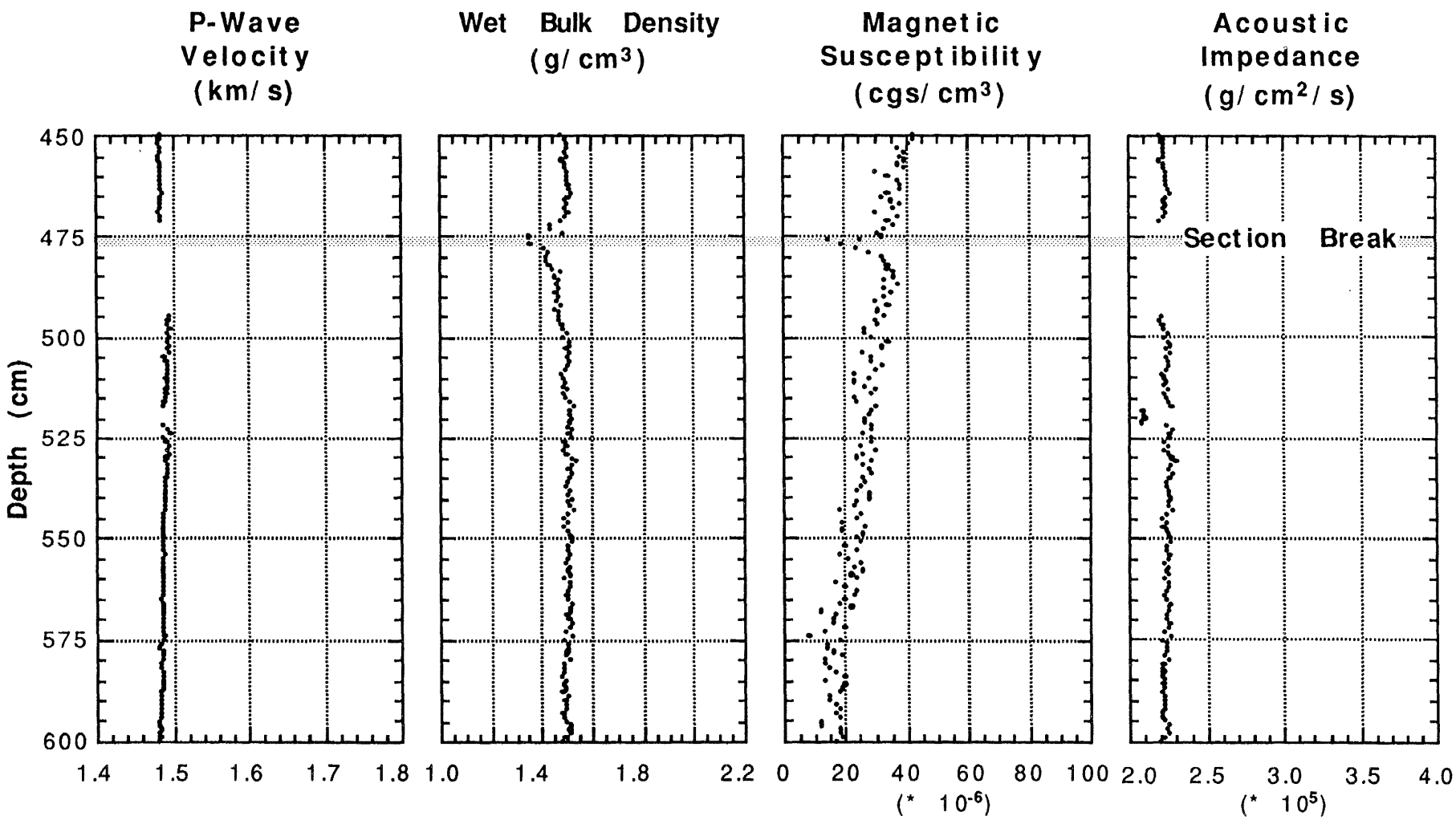
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(450-600 cm)



LAT: 42° 14.55' N
LON: 125°53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

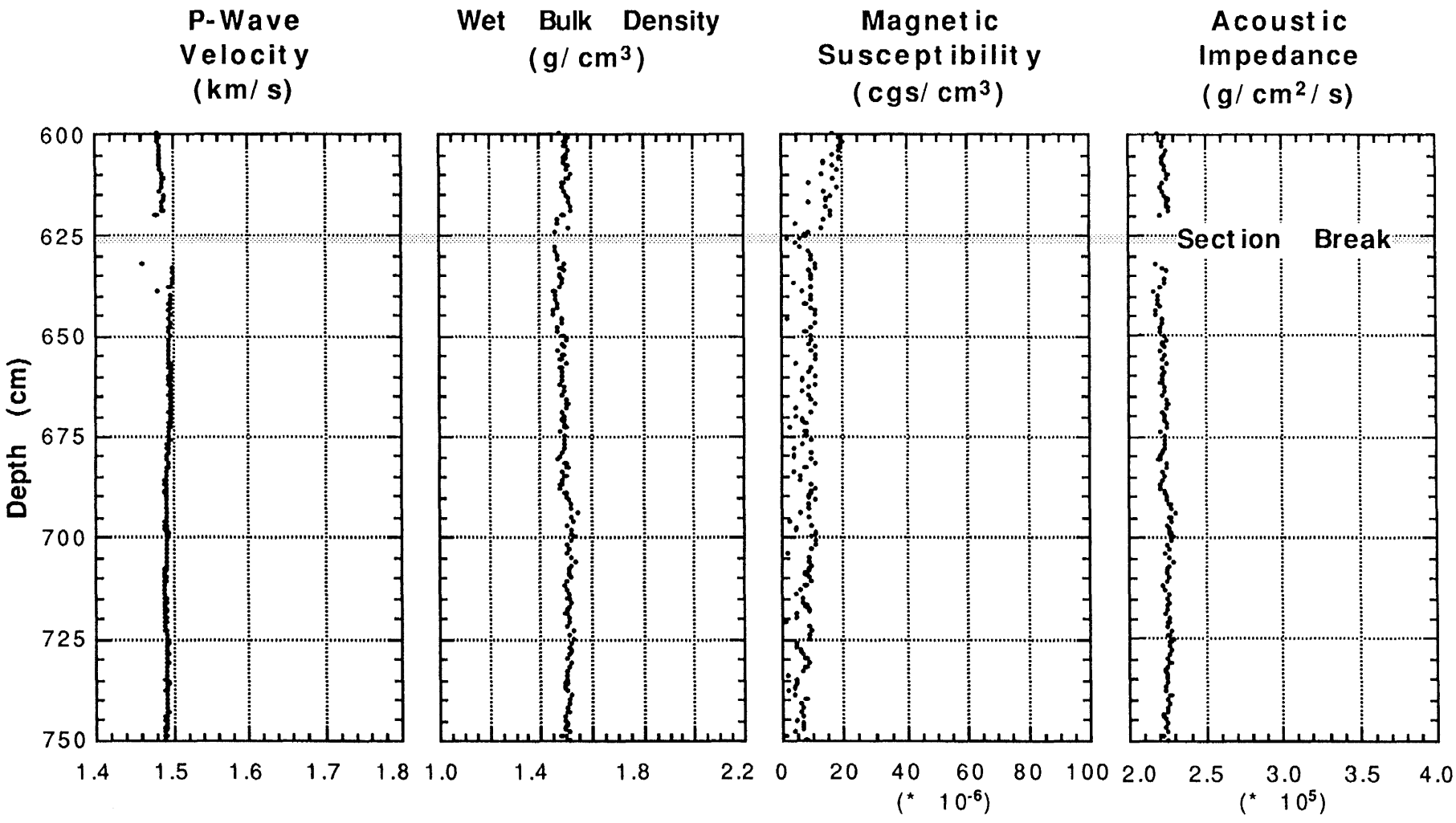
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(600-750 cm)



LAT: 42° 14.55' N
LON: 125° 53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

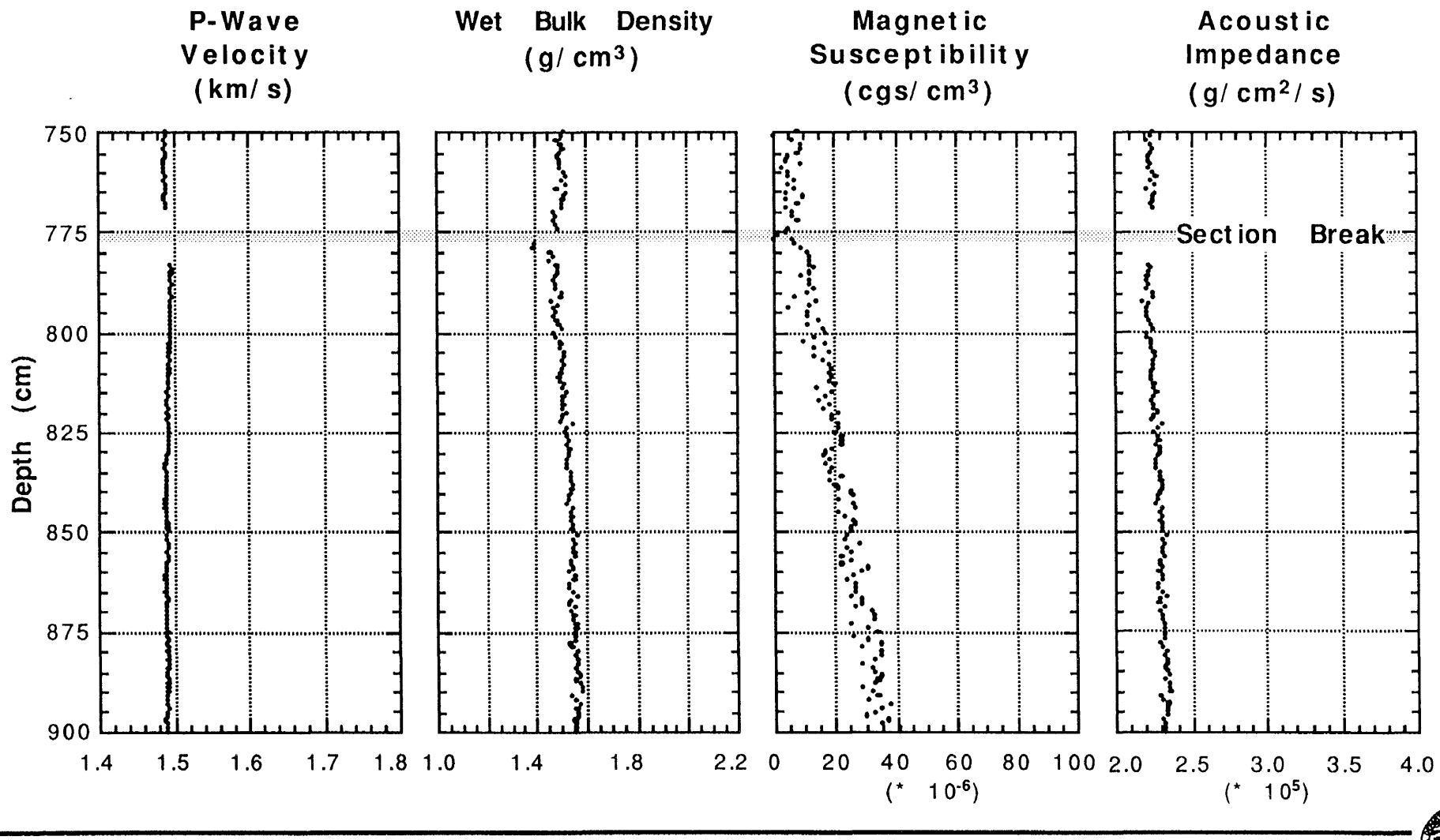
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(750-900 cm)



LAT: 42°14.55' N
LON: 125°53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

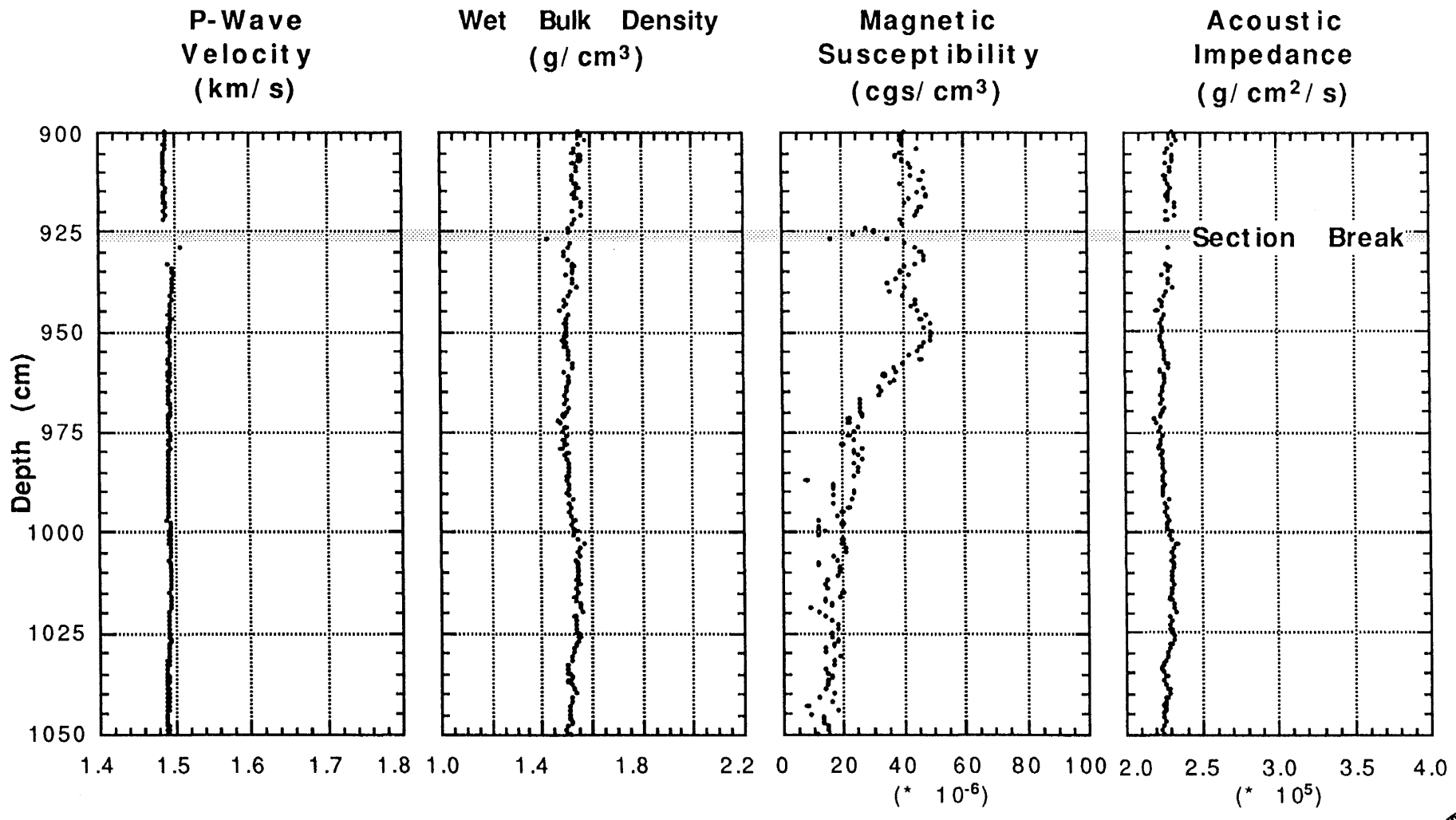
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(900-1050 cm)



LAT: 42°14.55' N
LON: 125°53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

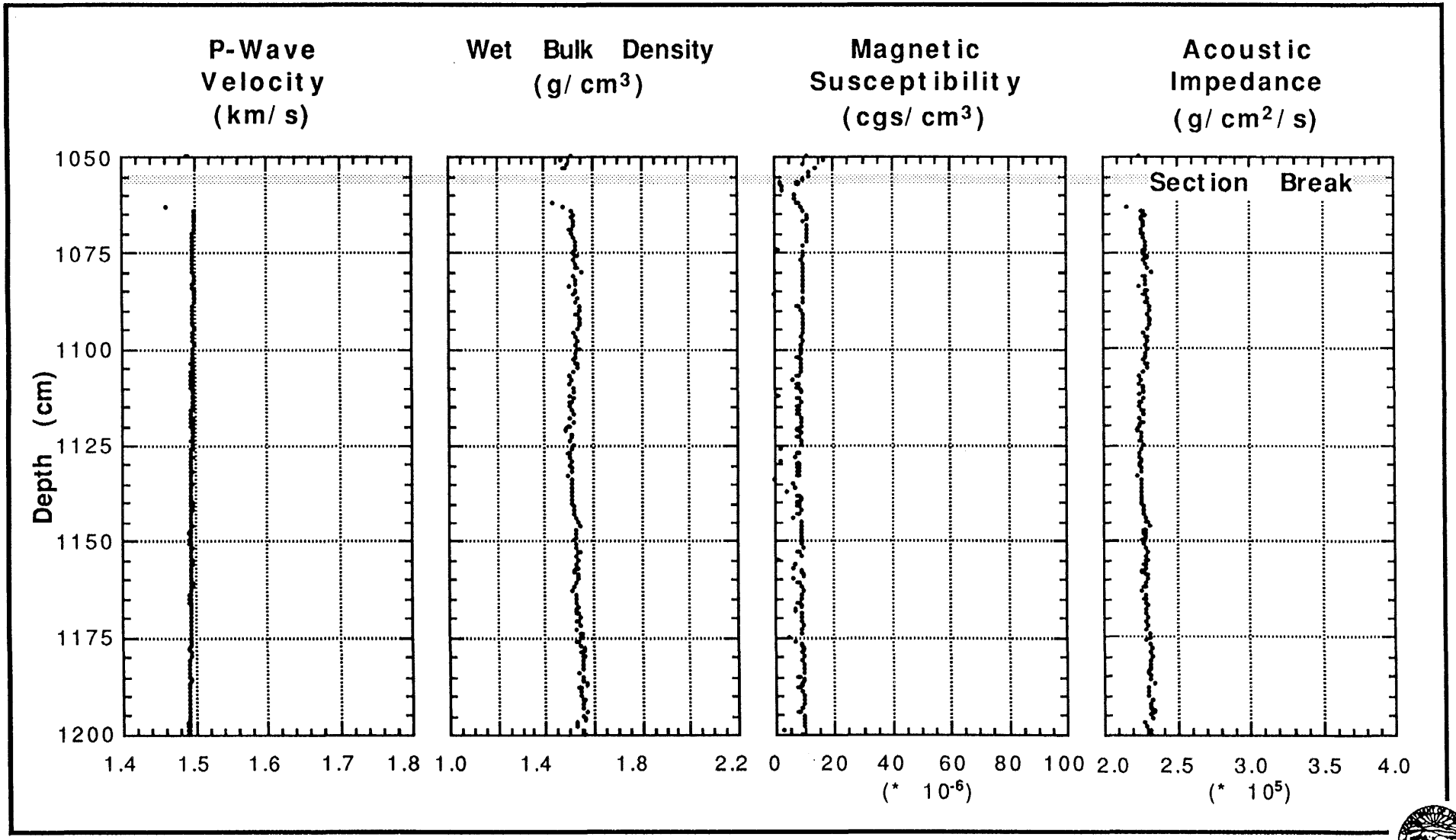
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(1050-1200 cm)



LAT: 42°14.55' N
LON: 125°53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

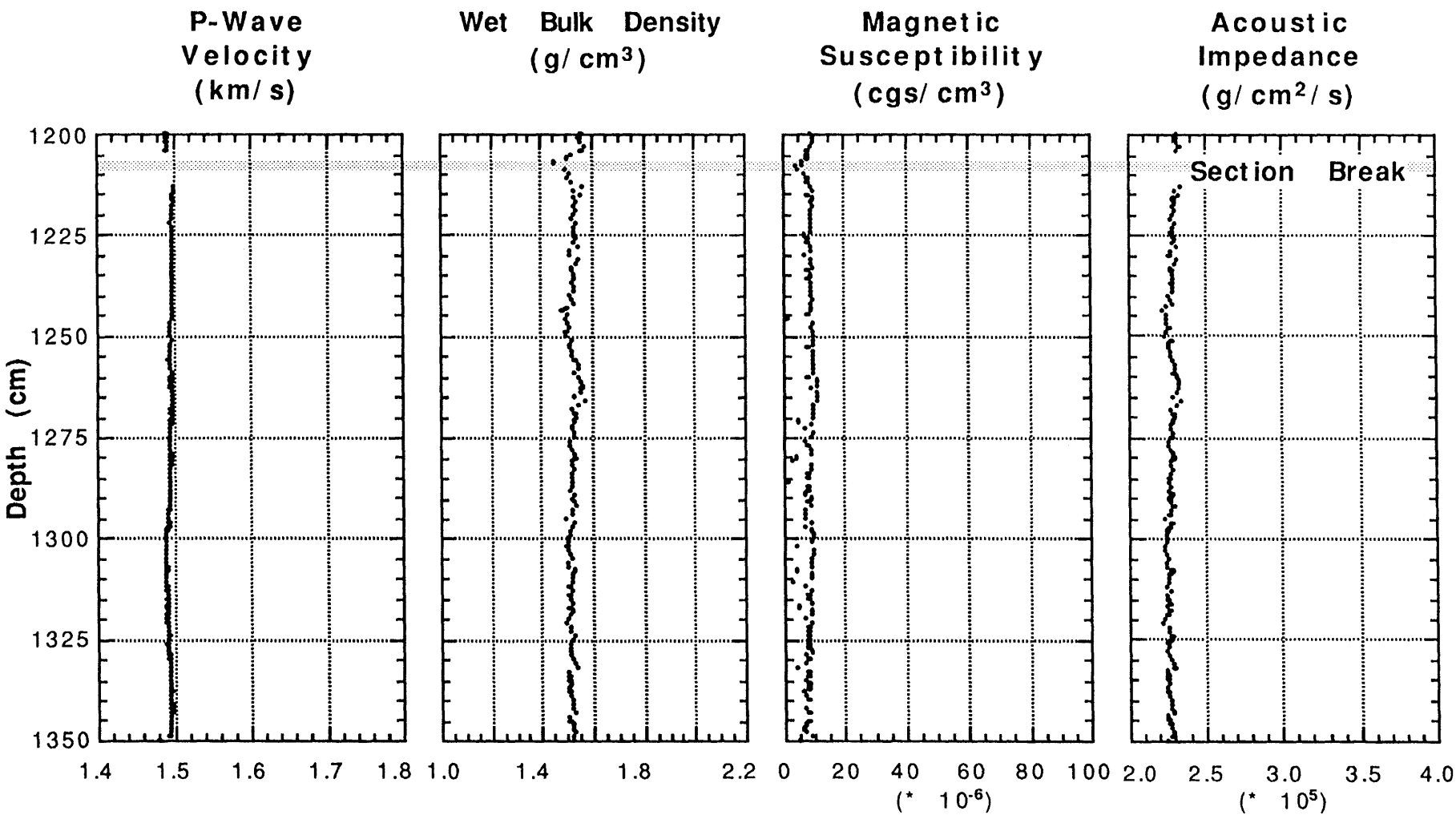
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(1200-1350 cm)



LAT: 42°14.55' N
LON: 125°53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

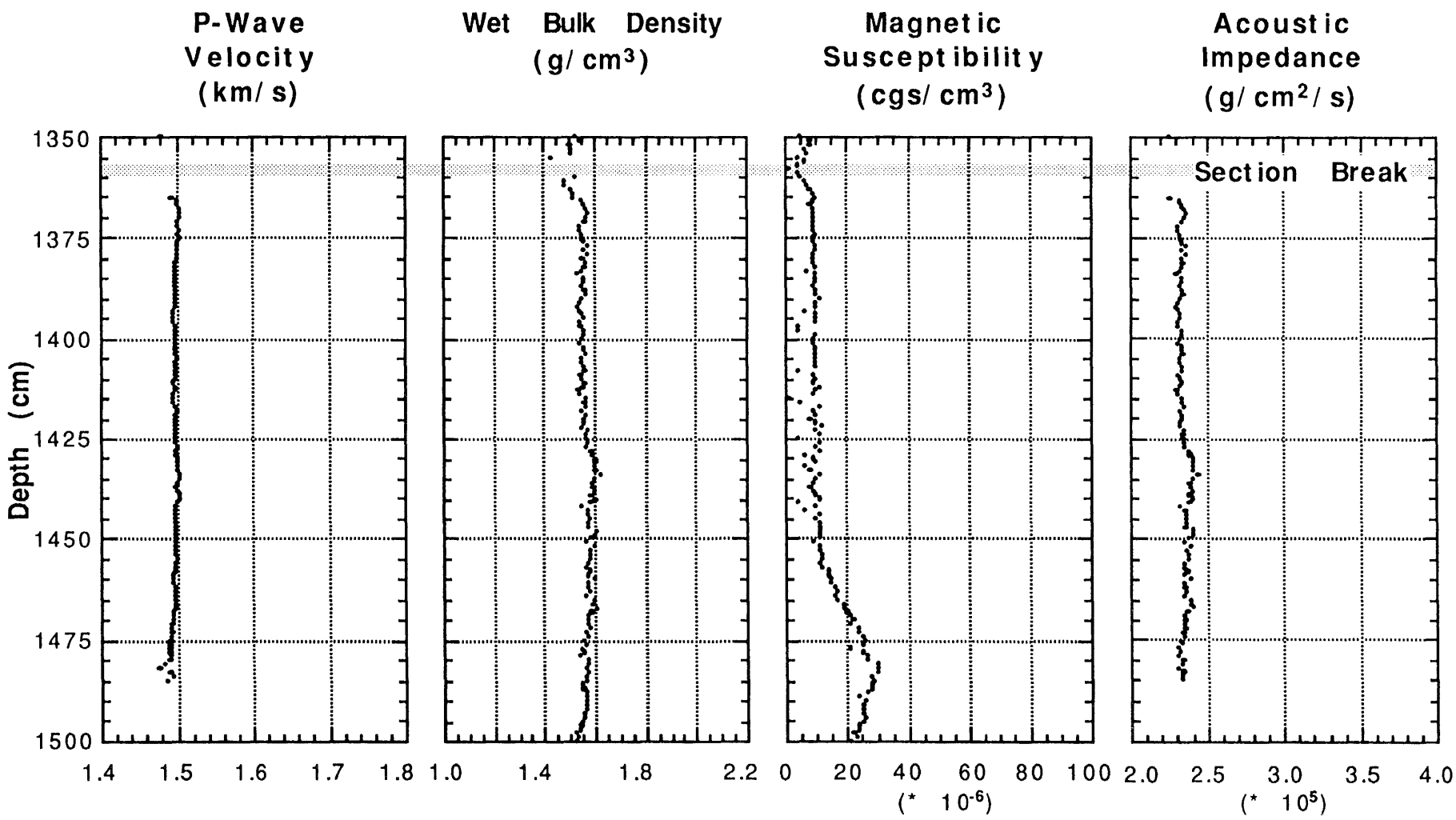
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(1350-1500 cm)



LAT: 42°14.55' N
LON: 125°53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

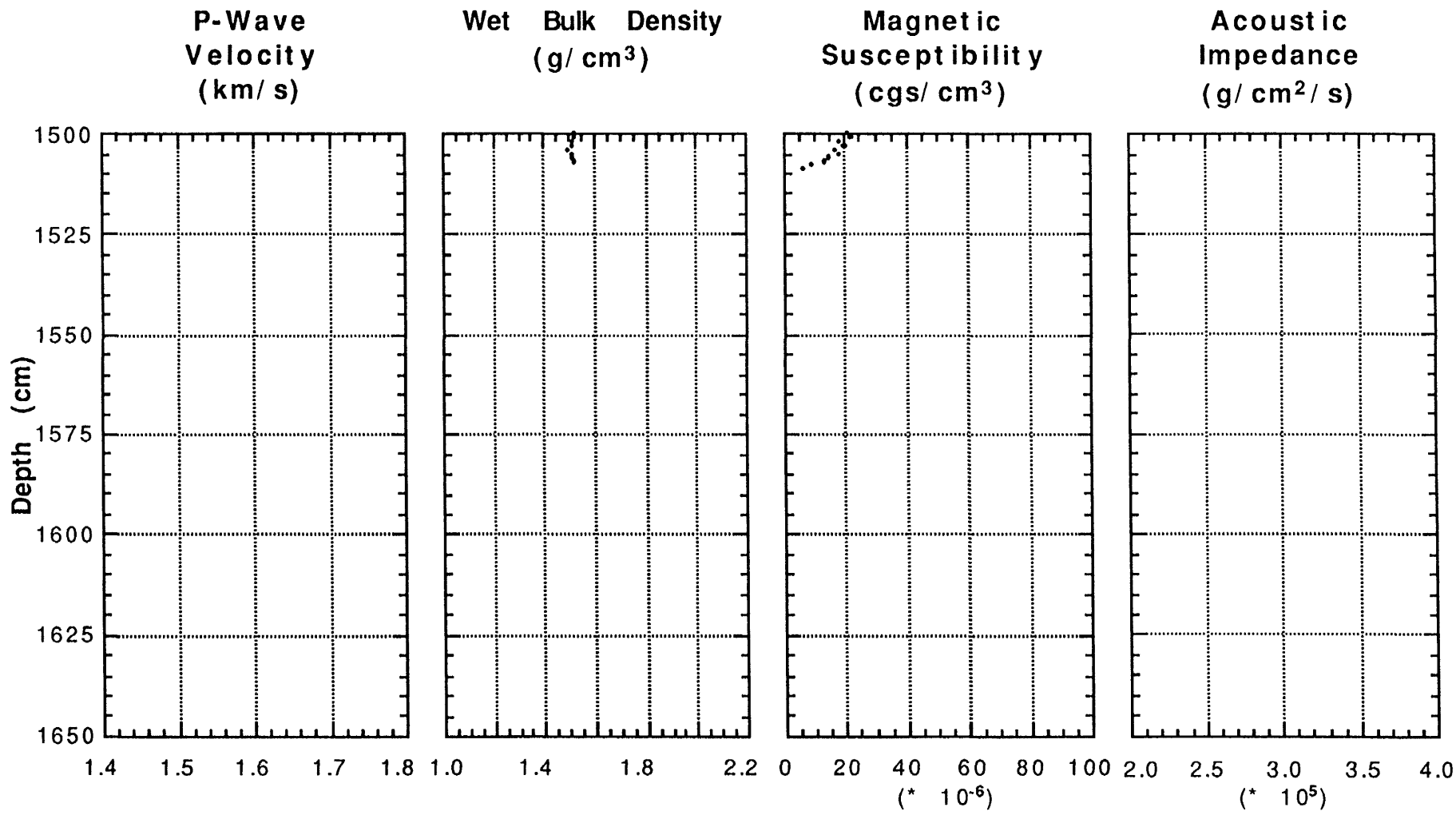
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 17PC

(1500-1509 cm)



LAT: 42°14.55' N
LON: 125°53.28' W

Depth: 2671 M
Drill Site ID: CA-3 northern Gorda Swell

USGS

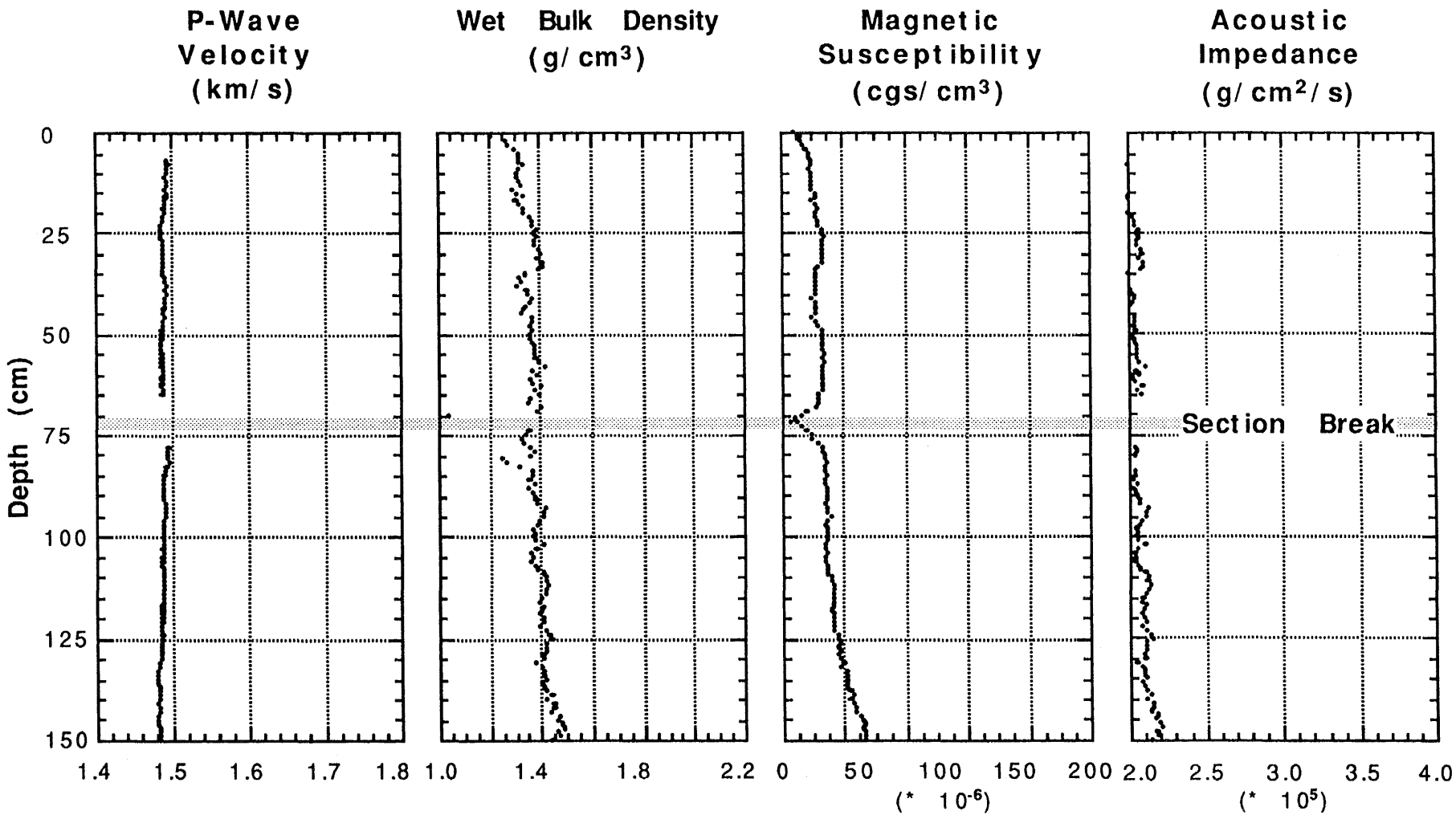
Core 18PC was not described

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18TC

(0-150 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

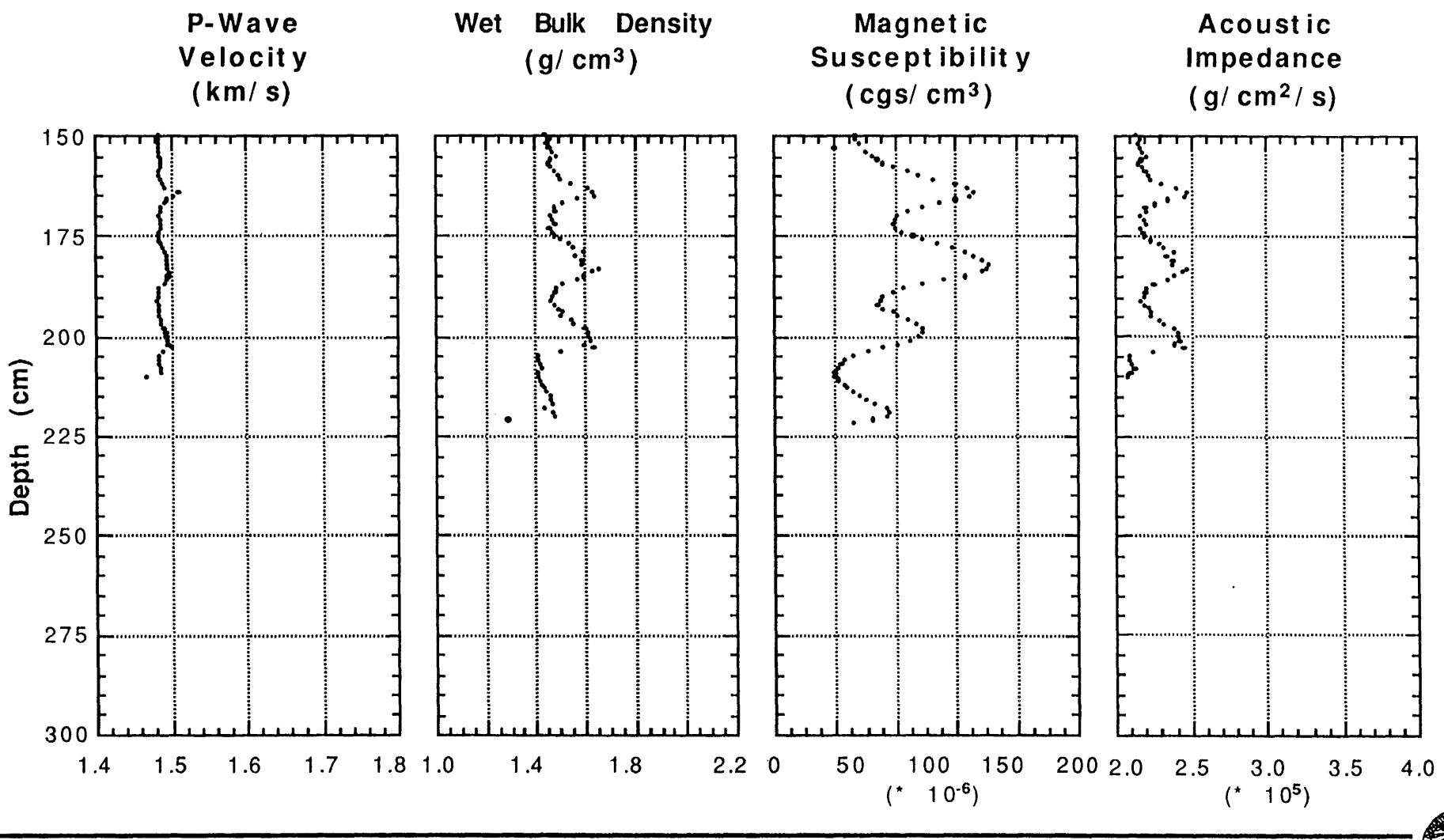
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18TC

(150-222 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

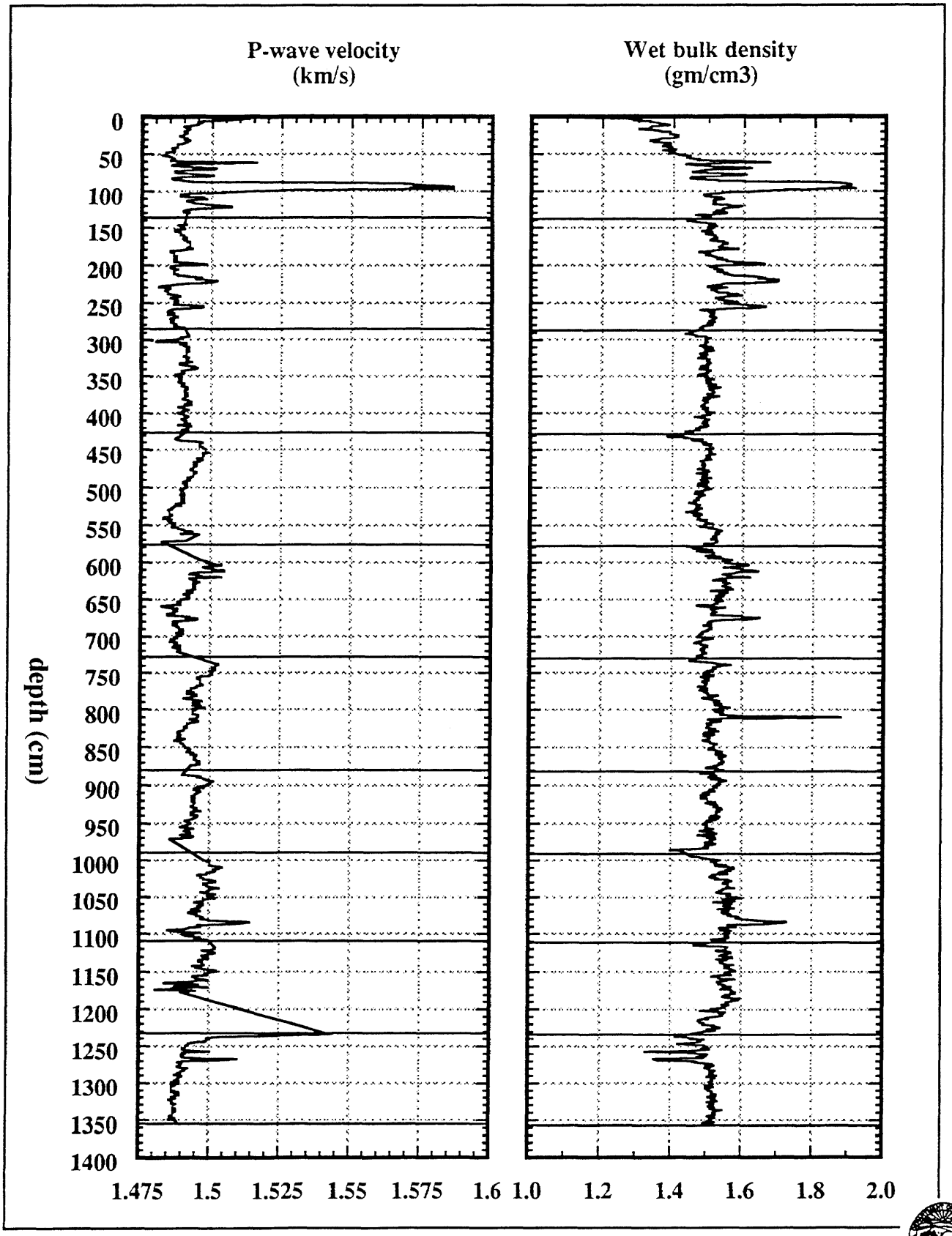
Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-18PC
(0-1356 cm)



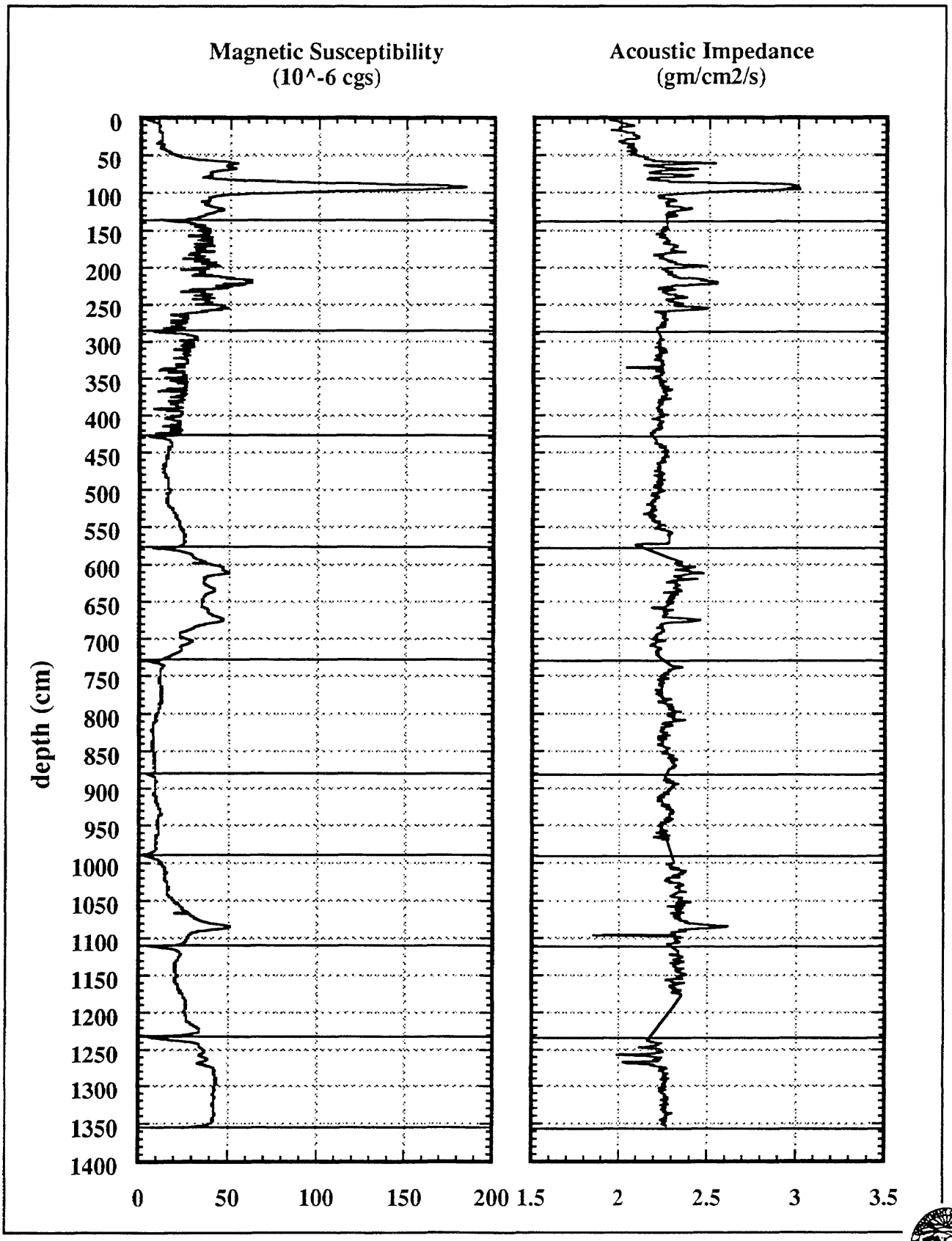
LAT: 41° 00.04'N Depth: 3075 m
LON: 126° 26.11'W Drill Site ID: CA-4 southern Gorda Swell

USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL-PROPERTY LOG

EW9504-18PC
(0-1356 cm)



LAT: 41° 00.04'N Depth: 3075 m
LON: 126° 26.11'W Drill Site ID: CA-4 southern Gorda Swell

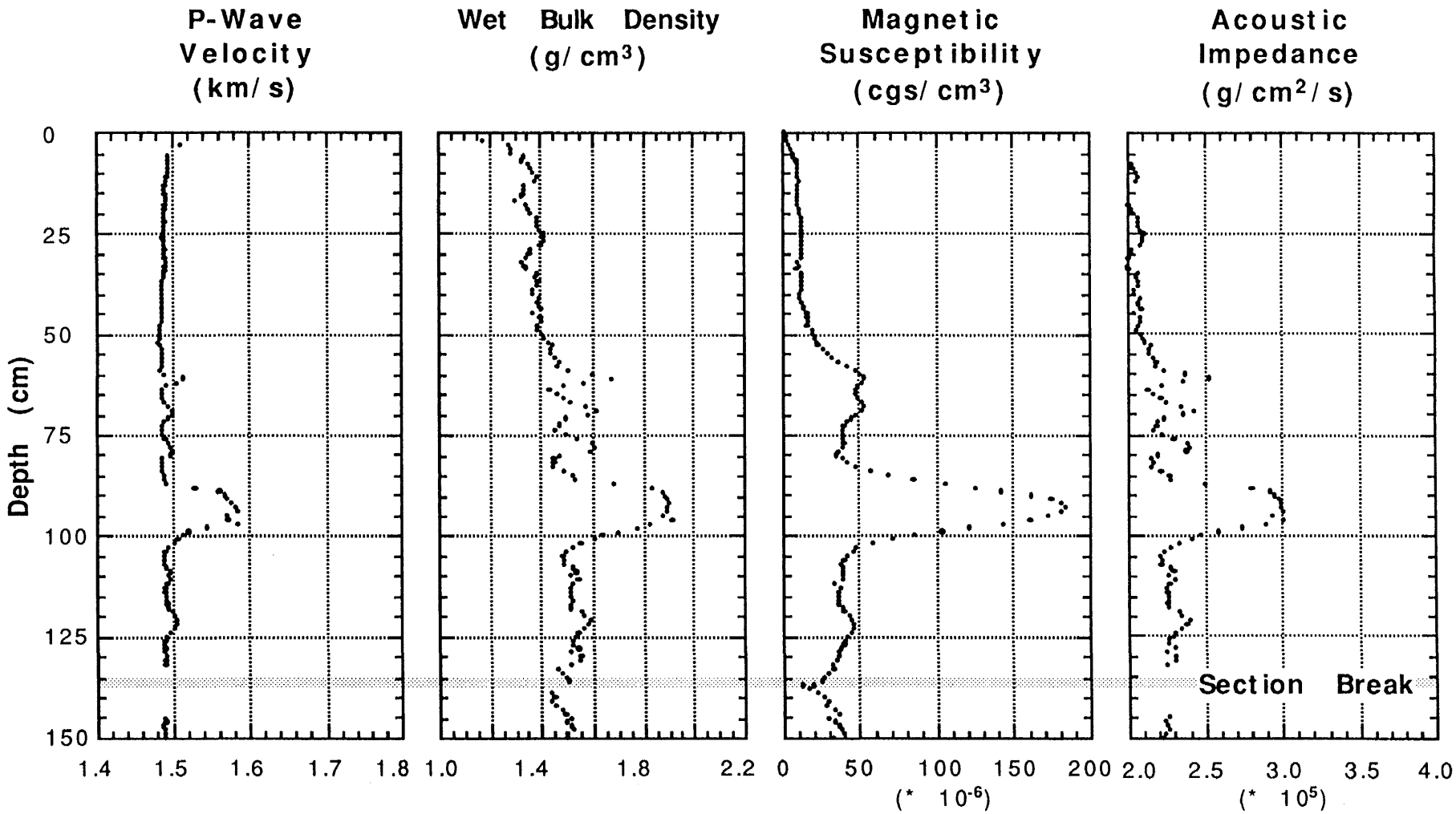
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(0-150 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

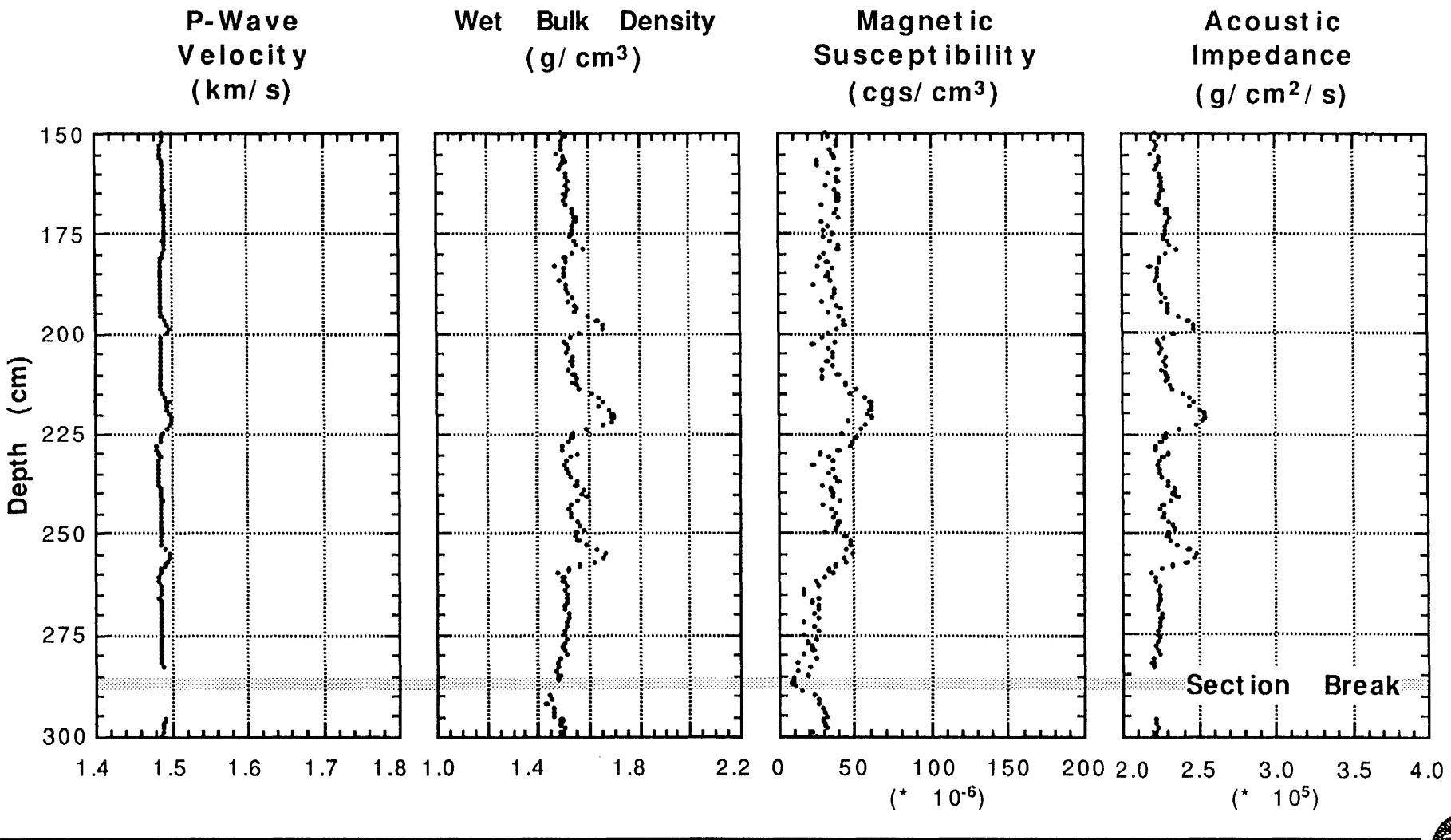
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(150-300 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

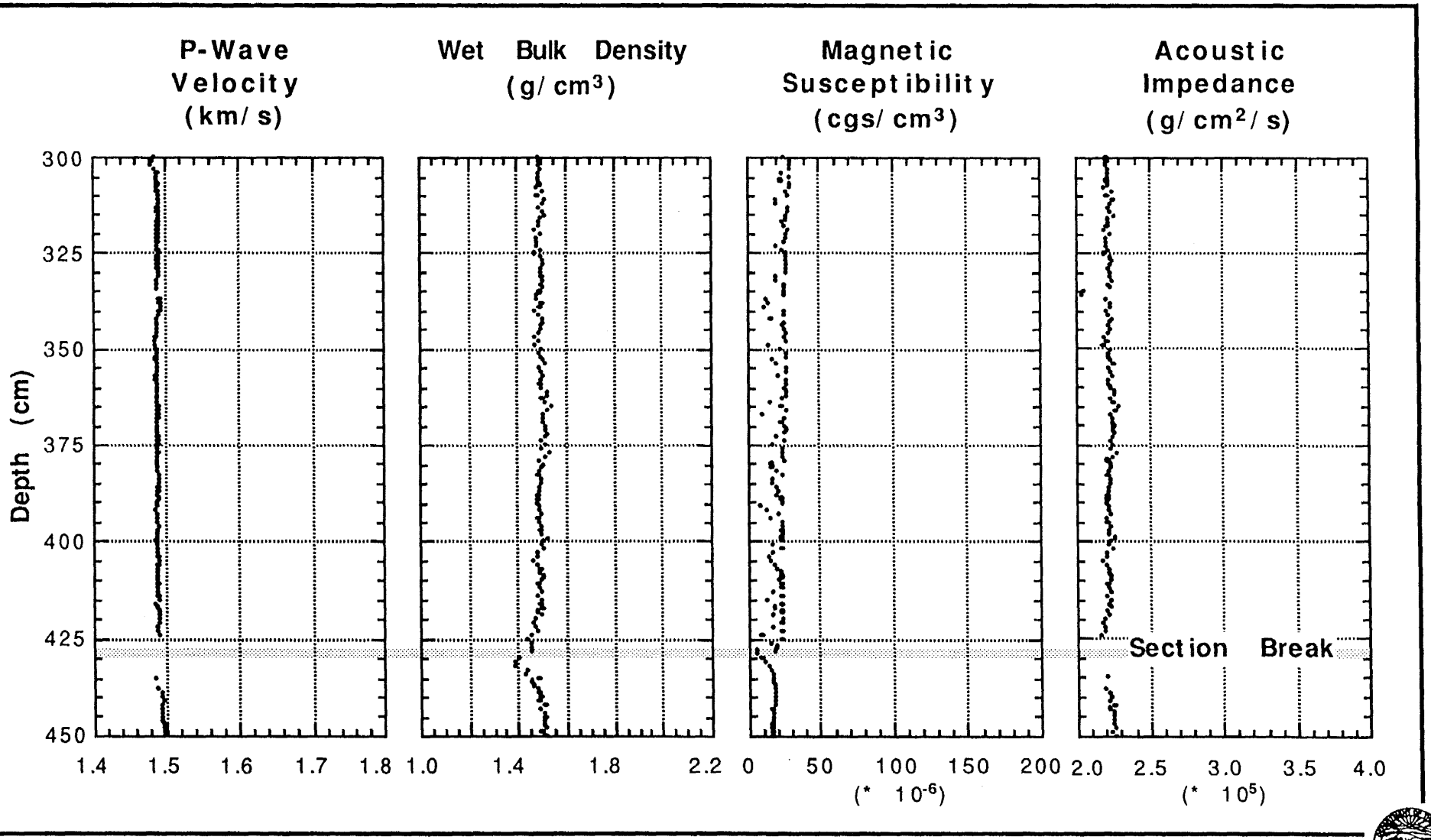
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(300-450 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

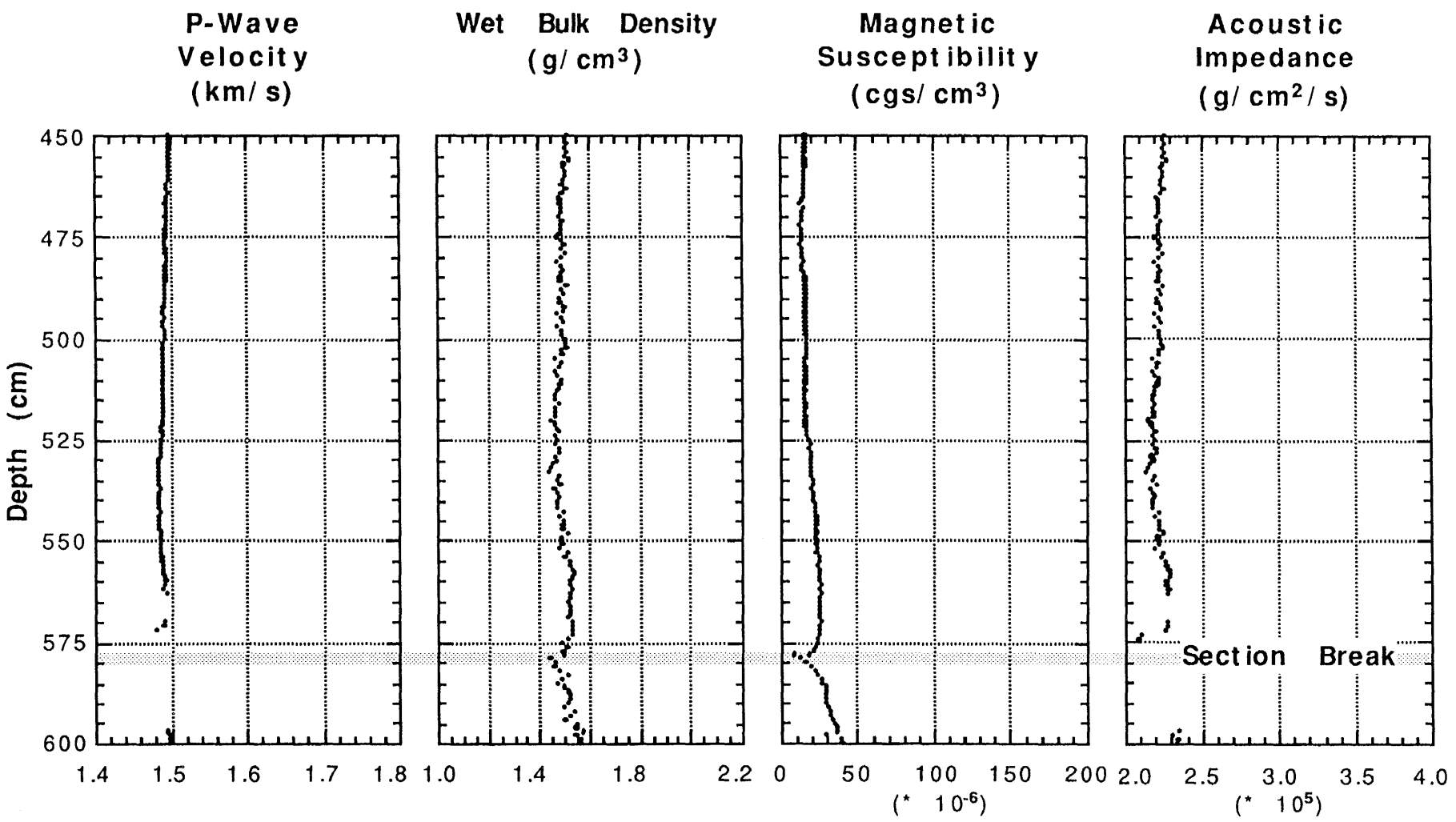
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(450-600 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

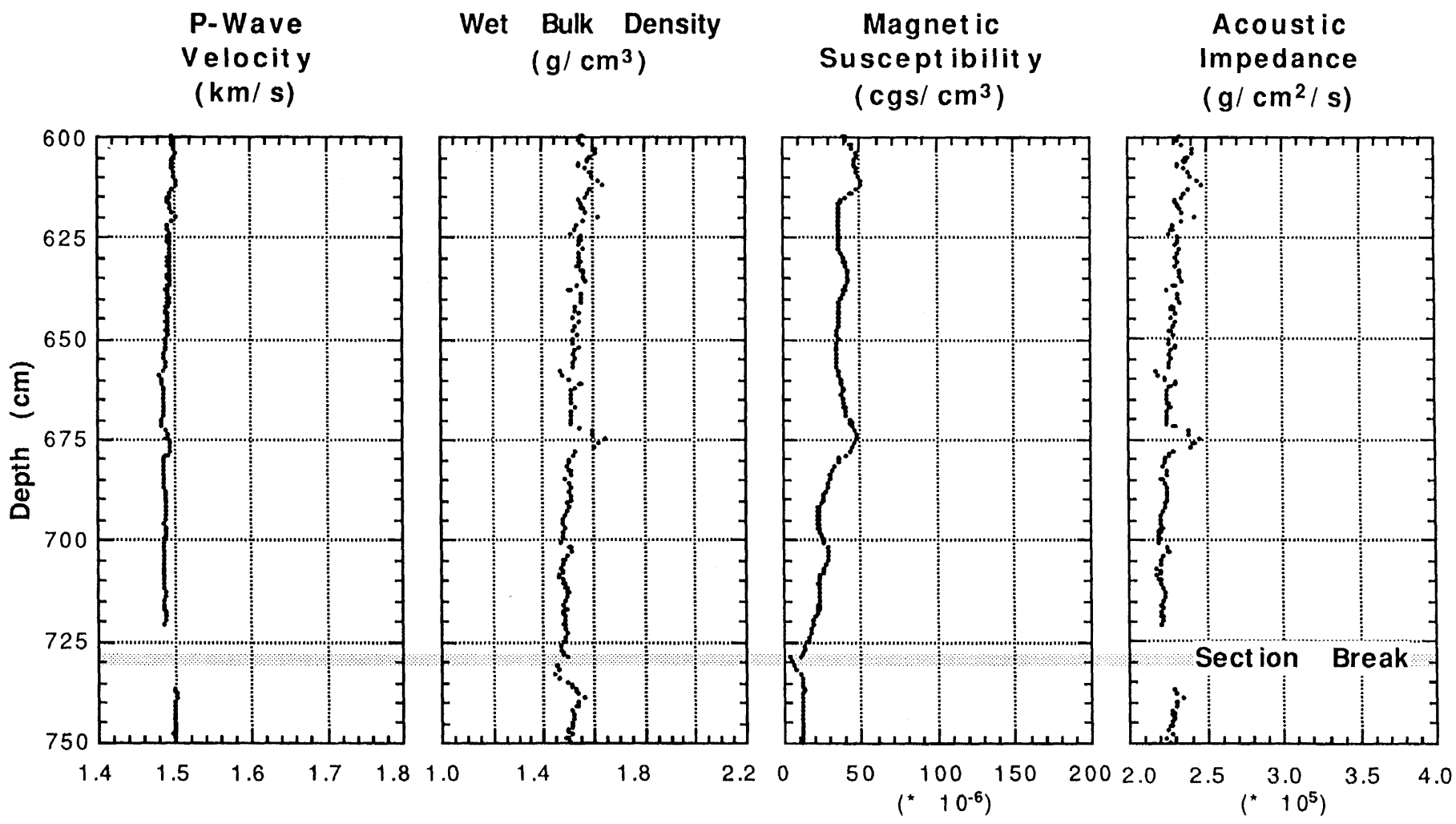
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(600-750 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

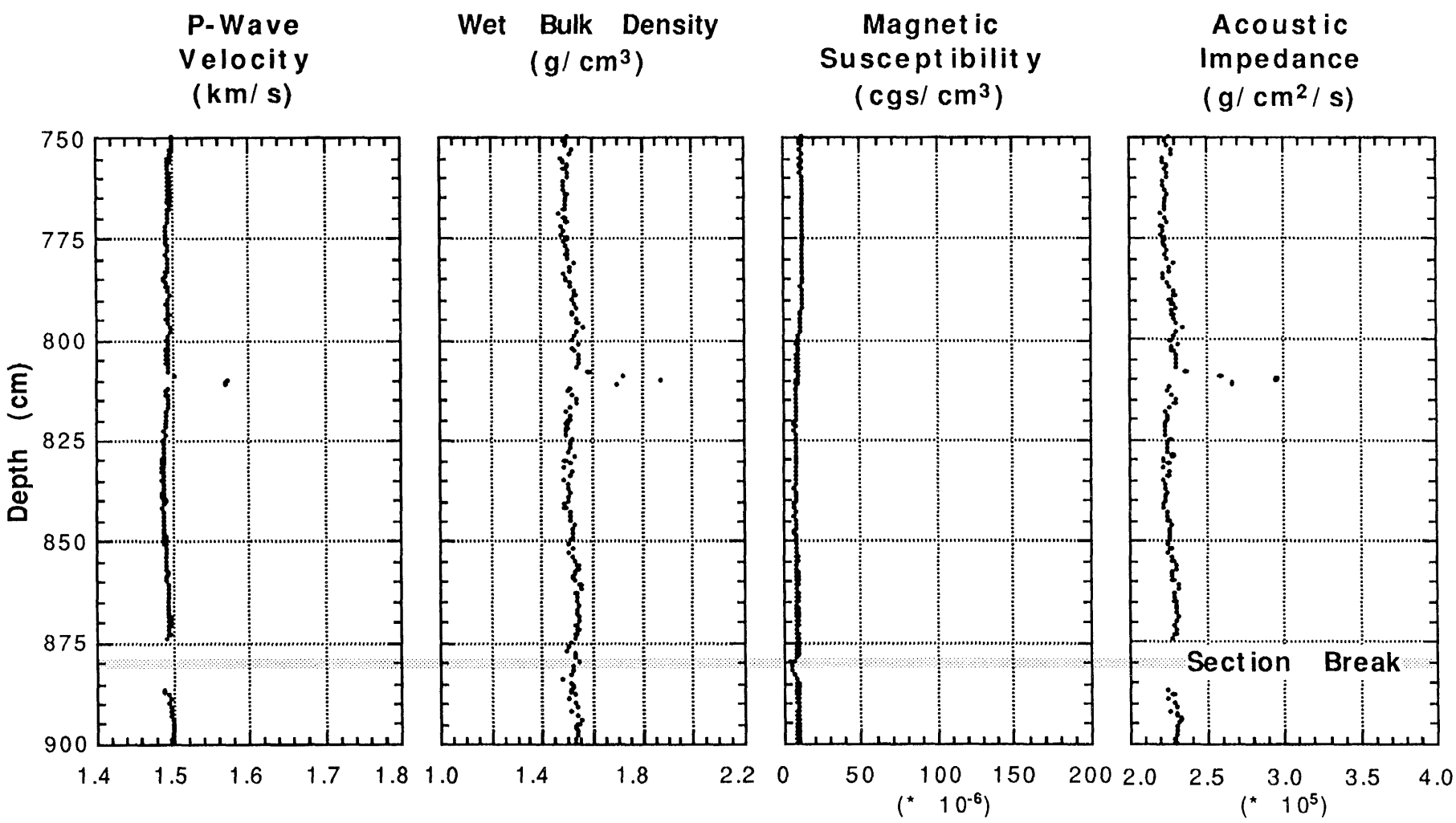
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(750-900 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

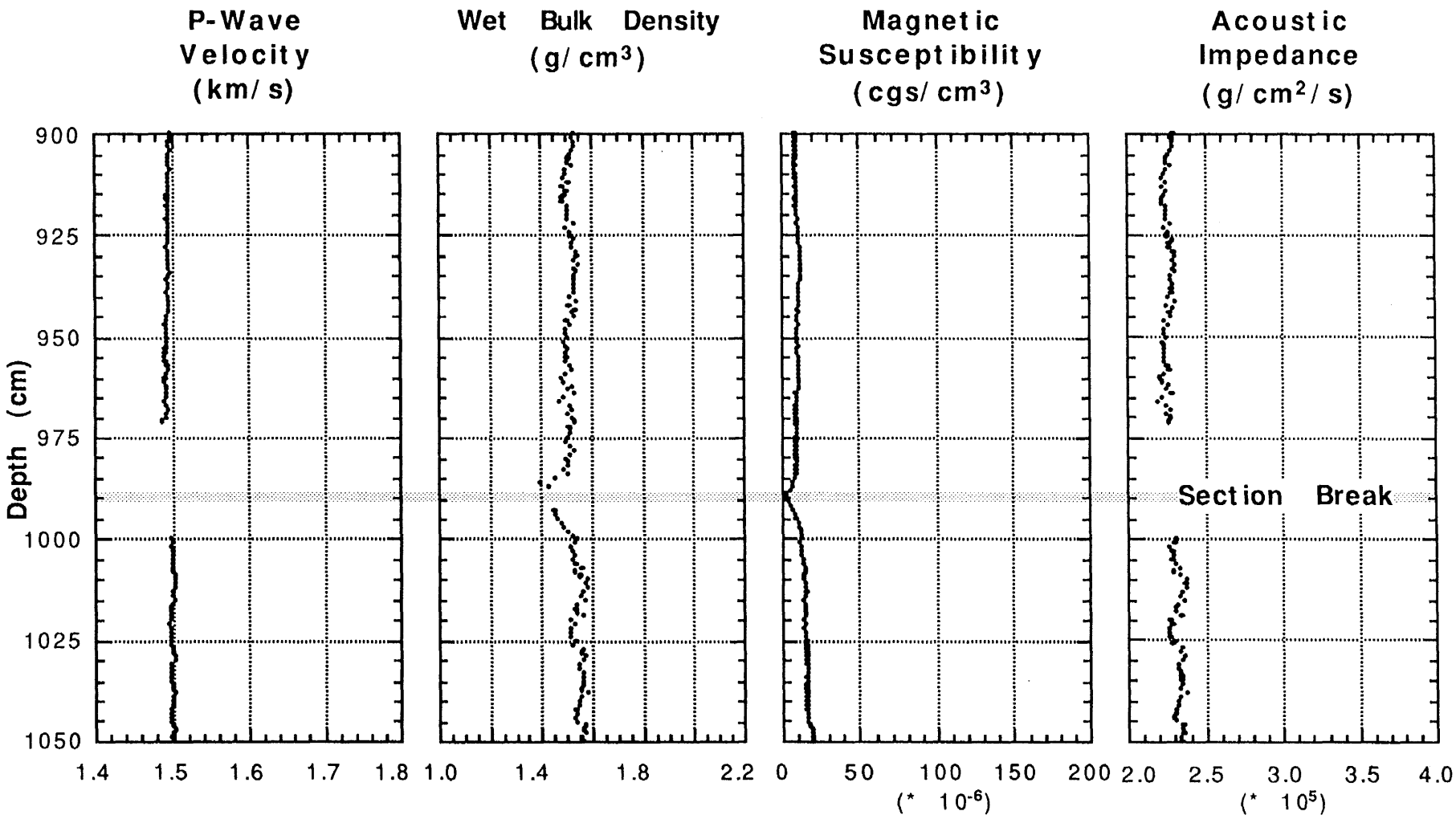
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(900-1050 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

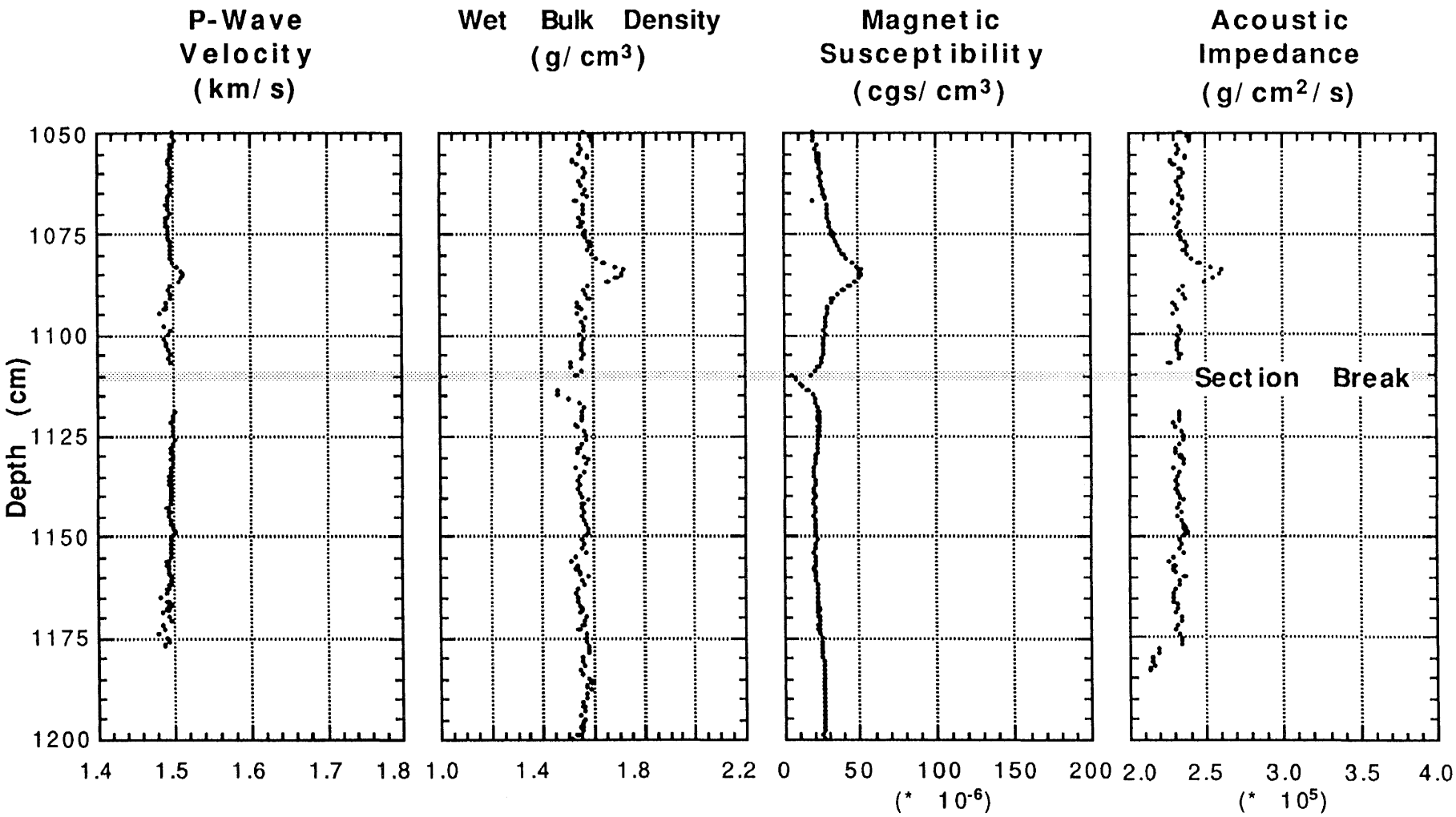
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(1050-1200 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

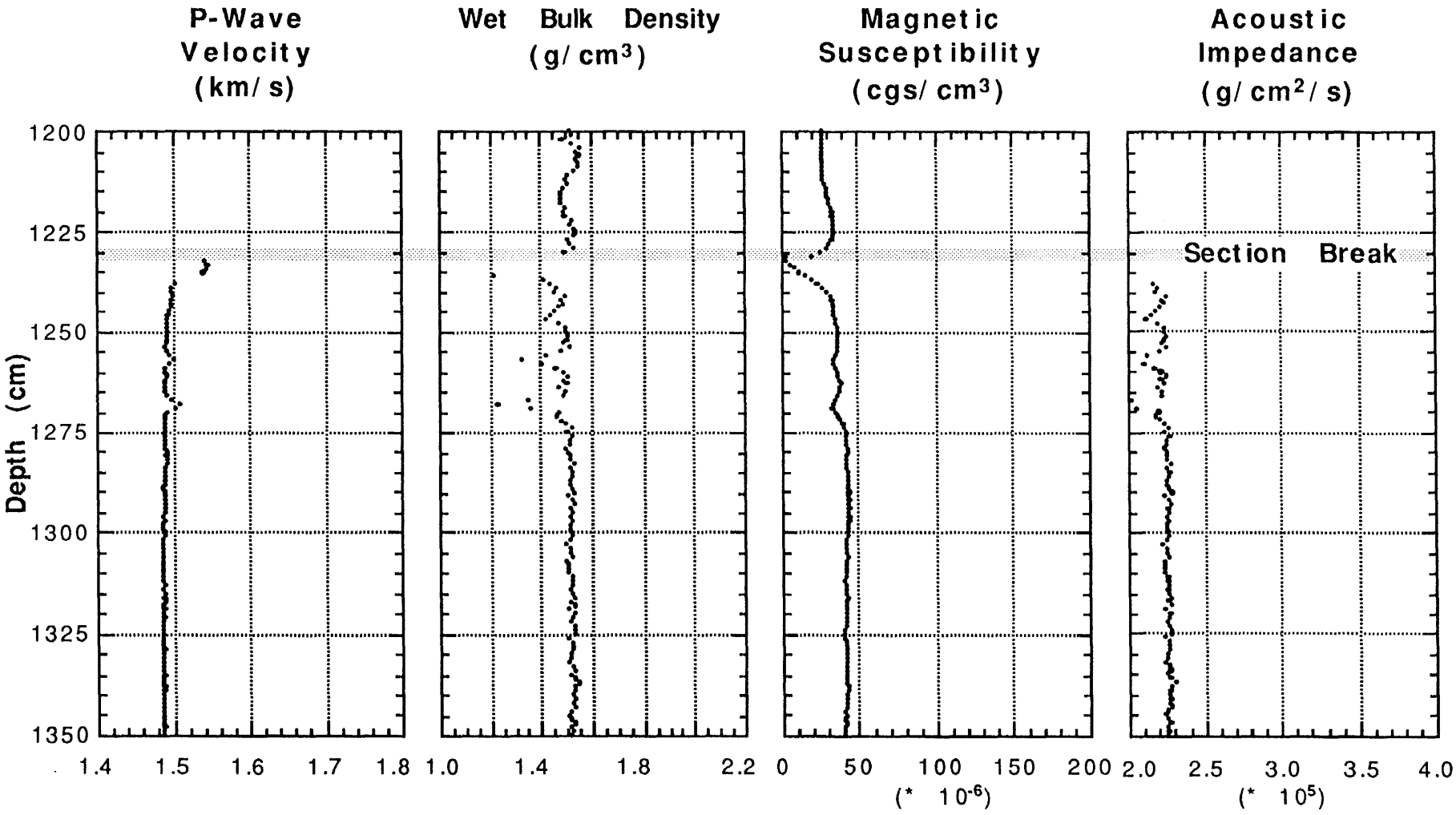
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(1200-1350 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

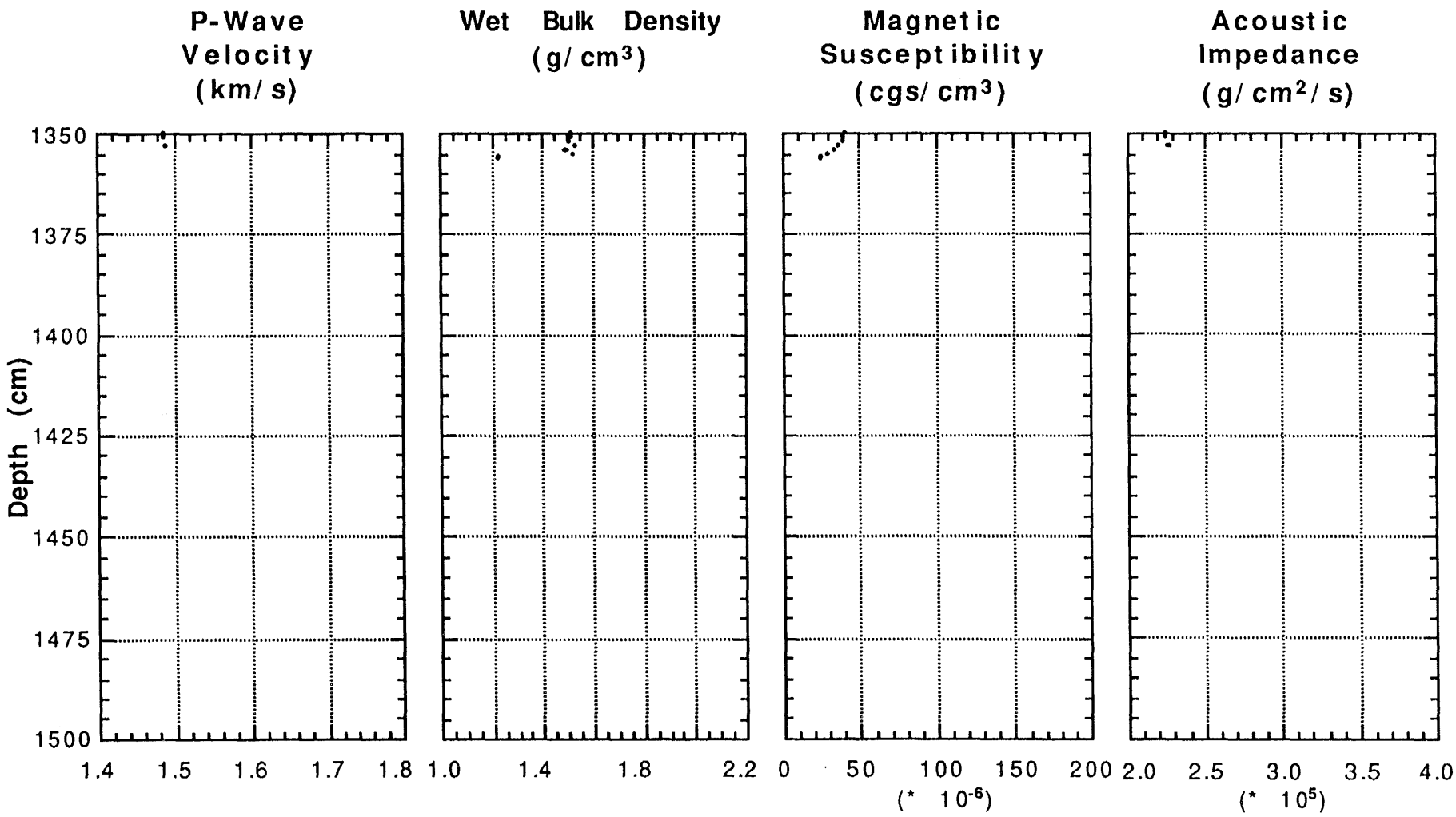
USGS

CALIFORNIA MARGIN SITE SURVEY

PHYSICAL PROPERTY LOGS

EW9504 - 18PC

(1350-1356 cm)



LAT: 41°00.04' N
LON: 126°26.11' W

Depth: 3075 M
Drill Site ID: CA-4 southern Gorda Swell

USGS