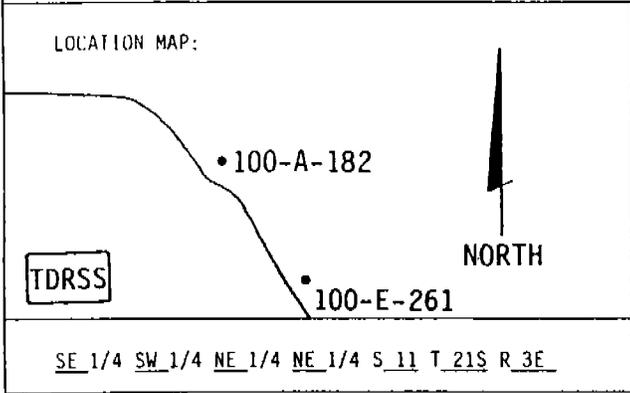


LITHOLOGIC LOG



SITE ID: NASA-WSTF LOCATION ID: 100-E-261
 SITE COORDINATES (ft.):
 N 221627.40 E 417825.78
 GROUND ELEVATION (ft. MSL): 4900.99 (B.C.)
 STATE: NEW MEXICO COUNTY: DOÑA ANA
 DRILLING METHOD: Mud/Air-Foam Rotary
 DRILLING CONTR.: Larion
 DATE STARTED: 06/21/89 DATE COMPLETED: 07/07/89
 FIELD REP.: G. Contaldo
 COMMENTS: Mud Rotary 0'-61' (12 3/8" bit). Reamed hole (15" bit) to 60'; air-foam rotary 60'-283' (9 7/8" bit). Total Depth = 283'

LOCATION DESCRIPTION: Bedrock encountered at 144'.

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
			0'-61' timed by driller every joint	0'-283' cuttings	0'-145' Alluvium (Santa Fe Group): Very light gray (N8) to grayish black (N2), cuttings range in size from less than 0.1 inch to 0.8 inch. Unconsolidated to semi-consolidated, polygenetic conglomerate containing clasts ranging in size from clay to boulders. Clay and silt rich in uppermost 15'. Cutting lithologies include light gray (N7) to black (N1) micritic limestone, very light gray (N8) to light gray (N7) rhyolite, moderate reddish brown (10 R 4/6) to dark reddish brown (10 R 3/4) siltstone, light brown (5 YR 5/6) to moderate brown (5 YR 4/4) fine to medium grained sandstone; grayish orange (10 R 8/2) to very light gray (N8) caliche, transparent to very light gray (N8) quartz, transparent to moderate red (5 R 4/6) mottled granite, yellowish gray (5 Y 7/2) to grayish red (10 R 4/2) andesite, moderate olive brown (5 Y 4/4) to pale olive (10 Y 6/2) chert, and moderate brown (5 YR 3/4) to gray brown (5 YR 3/2) clay.
5	+++vvvv//o				
10	+++vvvv//o		73		
15	+++vvvv//o				
20	+++vvvv//o				
25	+++vvvv//o				
30	+++vvvv//o		156		0'-15' Surficial alluvium which is silt and clay rich. Cutting size ranges from <0.1 to 0.8 inch.
35	+++vvvv//o				15'-20' Decrease in average cutting size, 0.4 inch maximum.
40	+++vvvv//o				20'-55' Increase in average cutting size to 0.8 inch maximum. Also, increase in percentage of limestone in cuttings and decrease in percentage of volcanics in cuttings (primarily rhyolite).
45	+++vvvv//o		151		33' Bit chattering on larger boulder
50	+++vvvv//o				

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description	
50	VVVV//O			0'-283' cuttings (cont'd)		
55	VVVV//O					55'-115' Decrease in average cutting size to 0.4 inch maximum.
60	VVVV//O		(Begin Drilllograph) 70			60'-70' Large rounded olive gray (5 Y 4/1) cuttings are grout from the installation of surface casing.
65	VVVV//O		8			
70	VVVV//O		14			
75	VVVV//O		18			
80	VVVV//O		30			
85	VVVV//O		12			
90	VVVV//O		24			88' Bit chattering on large boulder.
95	VVVV//O		18			
100	VVVV//O		10			
105	VVVV//O		13			
110	VVVV//O		17			
115	VVVV//O		18			

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
				0'-283' cuttings (cont'd)	
115	vv//o		18		115'-144' Further decrease in average cutting size to 0.3 inch maximum. Further increase in percentage of limestone cuttings and decrease in percentage of volcanic cuttings (primarily rhyolite).
120	vv//o		20		
125	vv//o		36		
130	vv//o		15		
135	vv//o		12		
140	vv//o		24		
145	vv//o		24		
150	vv//o		74		144'-283' Bit chattering throughout majority of this interval. Marked decrease in penetration time.
155	vv//o		45		144'-215' Silty Micritic Limestone (Panther Seep Formation): Cuttings are grayish black (N2) to black (N1), light brown (5 YR 5/6) to brownish gray (5 YR 4/1), and white (N9) to very light gray (N8); cuttings range in size from less than 0.1 inch to 0.3 inch. Cuttings are angular and well sorted. This interval consists primarily of micritic limestone with alternating thin beds or laminae of calcareous siltstone. Calcite and chert cuttings are also present. The majority of calcite present fills fractures within the limestone. The chert probably occurs as nodules within limestone.
160	vv//o		65		
165	vv//o		103		
170	vv//o		118		
175	vv//o		122		
180	vv//o		90		175'-185' Slight decrease in average cutting size to 0.2 inch maximum.

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
				0'-283' cuttings (cont'd)	
180			90		
185			96		
190			48		
195			36		
200			93		200'-210' Increase in percentage of siltstone cuttings and slight increase in average cutting size to 0.3 inch maximum.
205			46		
210			100		
215			111		215'-283' <u>Micritic Limestone (Panther Seep Formation)</u> : Cuttings are grayish black (N2) to black (N1), brownish gray (5 YR 4/1), and white (N9) to very light gray (N8); cuttings range in size from less than 0.1 to 0.5 inch. Cuttings are angular to subrounded and well sorted. This interval consists primarily of micritic limestone with few alternating thin beds of calcareous shale and calcareous siltstone (minor amounts). The calcite fills fractures within the limestone. Chert is present and probably occurs as nodules within limestone.
220			76		
225			42		
230			78		
235			54		
240			91		
245			80		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
				0'-283' cuttings (cont'd)	
245			80		
250			77		
255			67		
260			76		260'-270' Decrease in average cutting size to 0.1 inch maximum. Increase in percentage of siltstone cuttings which suggest thin beds or laminae of siltstone interbedded within limestone in this interval.
265			73		
270			57		270'-280' Increase in average cutting size to 0.4 inch maximum.
275			71		
280			36		280'-283' Further increase in average cutting size to 0.6 inch maximum.
			55		TD = 283'
285					
290					
295					
300					
305					
310					