LITHOLOGIC LOG

LOCATION MAP:

WSTF LAND

•BW-5

BLM LAND

•BW-7-211

•BW-2

NORTH
NTS

NW 1/4 NW 1/4 SW 1/4 NW 1/4 S 35 T 20S R 3E

SITE ID: NASA-WSTF LOCATION ID: BW-7-211

SITE COORDINATES (ft.):

N 231556.89 E 413849.70

GROUND ELEVATION (ft. MSL): 4798.64 (B.C.)

STATE: NEW MEXICO COUNTY: DOÑA ANA

DRILLING METHOD: Mud/Air-Foam Rotary

DRILLING CONTR.: Larjon

DATE STARTED: 11 November 88 DATE COMPLETED: 30 November 88

FIELD REP.: J. Kaszuba

COMMENTS: Mud rotary with 12-inch bit, 0'-65'. Air-foam rotary with 7 7/8-inch bit, 65'-230'. Bedrock at 175'.

LOCATION DESCRIPTION: Total depth = 230'.

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
			Begin time	0'-230' cuttings	
5			45		0'-175' Alluvium (Santa Fe Group): Dusky brown (5YR 2/2); cuttings range in size from less than 0.1 inches to 0.75 inches, average 0.1 to 0.3 inches in size except where noted below, are angular to subrounded and moderately sorted. Unconsolidated to semi-consolidated (?), polygenetic, pebble to boulder conglomerate. Clay-bearing intervals noted below. Caliche-bearing interval occurs from 60 to 175 feet. Lithology of cuttings which represent alluvial clasts: light gray (N7) to grayish black (N2) limestone; dark reddish brown (10R 3/4) siltstone; very light gray (N8), fine-grained, well-sorted quartz sandstone; pale yellowish orange (10YR 8/6) siltstone; moderate yellowish brown (10 YR 5/4) siltstone; white (N9), iron-stained rhyolite ; grayish pink (5R 8/2) to moderate pink (5R 7/4) alkali feldspar; dark yellowish brown (10YR 6/6) clay; white (N9) quartz; moderate red (5R 4/6) granite; and light brown (5YR 6/4) caliche.
10			55		
15			13		
20			44		
25			15		
30			12		0'-19' Penetration rates are very slow.
35			46		19'-30' Rapid penetration rates through clay-bearing interval.
40			13		30'-35' Penetration rates are very slow.
45			15		33' Zone of lost circulation suggests a porous interval present.
50			16		35'-55' Penetration rates are relatively rapid.

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description	
				cuttings (cont'd)		
50			16		55'-60'	Penetration rates are relatively slow.
55			16		55'-60'	Clay-rich interval present.
60			47		60'-175'	Caliche occurs as coatings on all cuttings, as distinct cuttings containing angular fragments of all cuttings, and as fracture fill of cuttings.
65			39		66'-190'	Penetration rates are very rapid.
70			65'-75 Not Available		85'-90'	Average cutting size is approximately 0.5 inches. Increase in average cutting size coincides with addition of more Quik-Foam to drilling fluid.
75			Begin Drillograph		85'-100'	Clay-bearing interval present.
80			12			
85			10			
90			2			
95			2			
100			2			
105			5			
110			5			
115			3			

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
				cuttings (cont'd)	
115			3		
120			3		
125			3		
130			3		
135			3		
140			3		
145			3		
150			3		
155			3		
160			3		
165			3		
170			3		
175			3		175'-192' Orejon Andesite: Dark reddish brown (10R 3/4); cuttings range in size from 0.1 to 0.75 inches and are subangular and well-sorted. Orejon Andesite composed of a very fine-grained, rounded, well-sorted volcanic litharenite. Litharenite is very friable and is cemented with clay, limonite and calcite. Calcite also occurs in hairline fractures.
180			3		

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
				cuttings (cont'd)	
180			3		
185			3		
190			4		190'-225' Penetration rates decrease.
195			9		192'-230' Orejon Andesite: Grayish red (5R 4/2) to blackish red (5R 2/2) when wet, grayish red purple (5RP 4/2) when dry; cuttings range in size from less than 0.1 to 0.5 inches and are angular and well-sorted. Orejon Andesite composed of massive porphyritic andesite. Phenocrysts of very fine-grained, white (N9) plagioclase and black mafic minerals occur in an aphanitic matrix. White (N9) calcite fills hairline fractures and also occurs as cuttings (less than 0.1 inches in diameter) throughout the interval. Large calcite cuttings are presumably derived from larger fractures in the andesite and are abundant (less than 10%) from 217' to 224'.
200			5		
205			7		
210			8		
215			18		
220			15		
225			9		225'-230' Penetration rates are very slow.
230			69		Total Depth = 230'.
235					
240					
245					