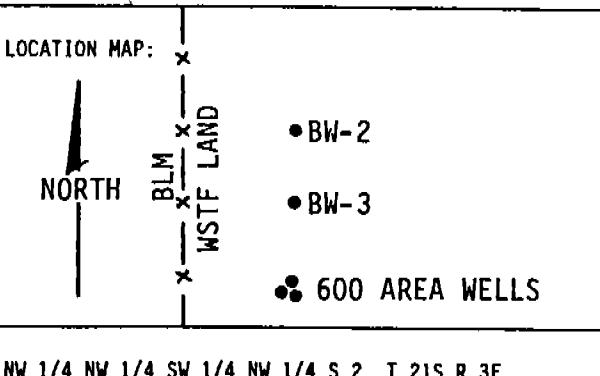


LITHOLOGIC LOG

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SITE ID: NASA-WSTF LOCATION ID: BW-3-180
SITE COORDINATES (ft.):
N 226092.45 E 413634.63
GROUND ELEVATION (ft. MSL): 4734.03 (BRASS CAP)
STATE: NEW MEXICO COUNTY: DOÑA ANA
DRILLING METHOD: MUD/AIR-FOAM ROTARY
DRILLING CONTR.: LARJON
DATE STARTED: 12 AUGUST 1988 DATE COMPLETED: 24 AUGUST 1988
FIELD REP.: J. KIRBY
COMMENTS: 12 1/4" borehole 0'-71' mud rotary, 7 7/8" borehole
71'-232' air-foam rotary. 8" x 71' surface casing. Bedrock at
depth = 232'. Bit, stabilizers & subs plugged in bottom of hole.

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
					<u>ALLUVIUM (Santa Fe Group): Continued</u>
50	+++:::==/OV		38		
55	+++:::==/OV		38		
60	+++:::==/OV		26		
65	+++:::==/OV		27		
70	+++:::==/OV		28		70'-80' Gravelly zone. Cutting size increases to <0.1 inches to 0.5 inches, average size 0.25 inches. Sample is 70% natural grains, 30% drill cuttings. Increase in limestone content.
75	+++:::==/EM	Drillograph inoperative			
80	+++:::==/V			80'-85'	Average cutting size decreases to 0.1 inches.
85	+++:::==/CE			85'-90'	Gravelly zone. Cutting size increases to <0.1 inches to 1.5 inches with average size 0.25 inches. Sample is greater than 90% natural grains.
90	+++:::==/C			90'-95'	Maximum cutting size decreases to 1 inch. Caliche coating common. Sample is 70% natural grains, 30% drill cuttings.
95	+++:::==/C		7	95'-100'	Cutting size decreases to <0.1 inches to 0.75 inches with average size approximately 0.2 inches. Increase in caliche (grains and coatings) and siltstone content.
100	+++:::==/C		6	100'-105'	Sample is 60% natural grains, 40% drill cuttings.
105	+++:::==/C		5	105'-110'	Gravelly zone, greater than 90% natural grains present in sample, maximum grain size increases to 1.25 inches.
110	+++:::==/C		4	110'-115'	Sample is 75% drill cuttings. Maximum size decreases to 0.5 inches, average size 0.2 inches.
115	+++:::==/C		14		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
115	+ + + + + + + : o		14		<u>ALLUVIUM (Santa Fe Group):</u> Continued
120	+ + + + + + + : o		15		115'-125' Cutting size increases to <0.1 inches to 1.0 inch, average size 0.2 inches. Increase in amount of limestone cuttings and caliche coatings. Sample is 50% natural grains, 50% drill cuttings.
125	+ + + + + + + : o		12		125'-130' Significant decrease in cutting size to <0.1 inches to 0.4 inches, average size 0.15 inches. Sample is 80% drill cuttings.
130	+ + + + + + + : o		12		130'-140' Increase in amount of caliche.
135	+ + + + + o o : /		11		
140	+ + + + + + + : /		13		140'-145' Maximum cutting size increases to 1 inch. Sample is 60% drill cuttings.
145	+ + + + + o o : /		7		145'-171' Maximum cutting size decreases to 0.5 inches. Sample is 85% drill cuttings.
150	+ + + + + + + : / o		12		
155	+ + + + + + + : / o		13		
160	+ + + + + + + : / o		9		
165	+ + + + + + + : / o		12		
170	+ + + + + + + : / o		14		
175	V V V V V V V o o o		10		
180	V V V V V V V M o o		17		171'-232' <u>OREJON ANDESITE:</u> Sample consists of 60% andesite cuttings, 40% lightly consolidated caliche cuttings containing andesite fragments. Andesite cutting description: Brownish gray (5YR 4/1) to light gray (N7) porphyritic andesite. Fine- to medium-grained, anhedral to euhedral phenocrysts of plagioclase and lesser amounts of mafic minerals present. The groundmass is holocrystalline (10x hand lens) and very fine grained. Caliche coatings are common.

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
180	VVVVVVVVVVPP		17		<u>OREJON ANDESITE</u> Continued: Caliche description: Light brownish gray (SYR 6/1), light to moderately consolidated, caliche cement containing 0.01 to 0.1 inches, anhedral to euhedral clasts of the above-described Orejon Andesite.
185	VVVVVVVVVVVVVV		29		180'-232' Maximum cutting size 0.4 inches, average size 0.2 inches.
190	VVVVVVVVVVVVVV		33		
195	VVVVVVVVVVVVVV		27		
200	VVVVVVVVVVVVVV		30		
205	VVVVVVVVVVVVVV		25		
210	VVVVVVVVVVVVVV		23		
215	VVVVVVVVVVVVVV		38		
220	VVVVVVVVVVVVVV		59		
225	VVVVVVVVVVVVVV		33		
230	VVVVVVVVVVVVVV		25		Total depth = 232'.
235					
240					
245					