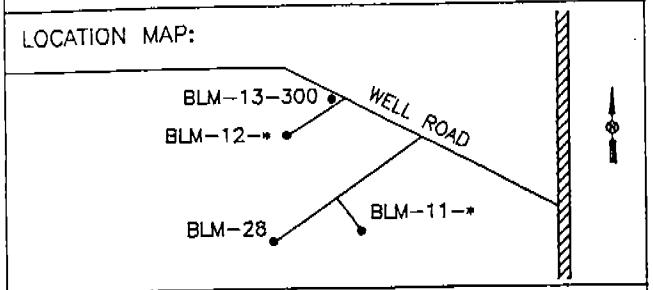
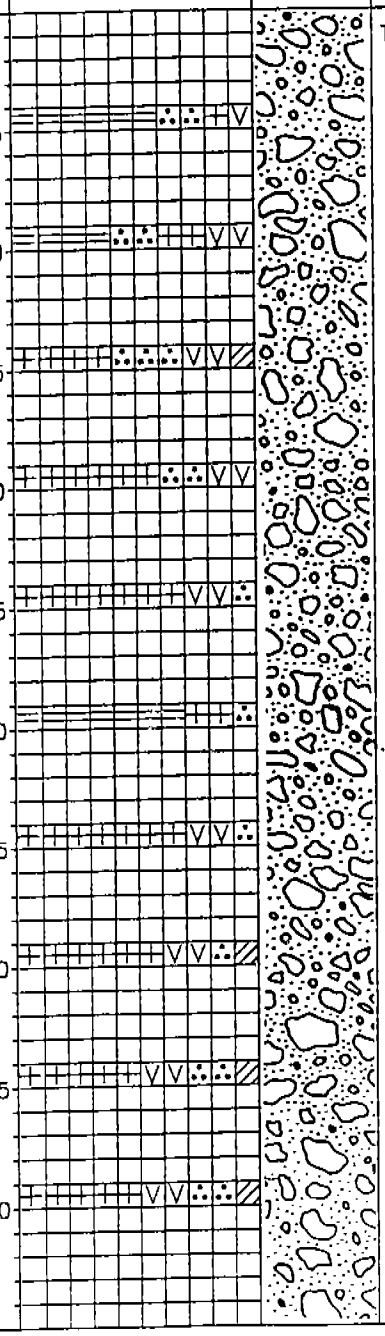
LITHOLOGIC LOG

LOCATION MAP:



SW 1/4 SW 1/4 SW 1/4 SW 1/4 S 3 T 21S R 3E

SITE ID: NASA-WSTF LOCATION ID: BLM-28
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
STATE: NEW MEXICO COUNTY: DONA ANA
DRILLING METHOD: MUD ROTARY-AIR/FOAM ROTARY
DRILLING CONTR.: LARTON DRILLING CO.
DATE STARTED: 3/24/94 DATE COMPLETED: 5/10/94
FIELD REP.: D. MENZIE > GCL
COMMENTS: MUD ROTARY 0-312' WITH 8-1/2" TRICONE. 310.5' OF 5" STEEL SURFACE CASING. OREJON ANDESITE AT 300'. AIR/FOAM ROTARY 310-560' WITH 4-1/2" HAMMER BIT. TD = 560'.

DEPTH	VISUAL %	LITH.	DRILLING TIME SCALE: MIN	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'	0-300' ALLUVIUM (SANTA FE GROUP): SAMPLES RANGE IN COLOR FROM LIGHT BROWN (5YR 6/4) TO MODERATE BROWN (5YR 4/4). SAMPLES ARE COMPRISED OF CUTTINGS WHICH RANGE IN SIZE FROM MUCH LESS THAN 0.1 INCH (SILT AND CLAY) TO 1.0 INCHES AND AVERAGE 0.3 INCHES. CUTTINGS ARE ROUNDED TO ANGULAR AND POORLY SORTED. SAMPLES REPRESENT UNCONSOLIDATED TO MODERATELY CONSOLIDATED, PEBBLE TO BOULDER, POLYGENETIC CONGLOMERATE. CLAY-RICH INTERVALS OCCURRING WITHIN THE ALLUVIUM ARE NOTED IN THE LOG. CUTTINGS LITHOLOGIES WITHIN THE ALLUVIUM CONSIST OF DARK GRAY (N3) LIMESTONE, MODERATE REDDISH BROWN (10YR 4/6) SILTSTONE, WHITE (N9) IRON-STAINED RHYOLITE, GRAYISH RED (10R 4/2) ANDESITE, MODERATE PINK (5R 7/4) GRANITE. MINOR AMOUNTS (<10 PERCENT) OF SANDSTONE, CALICHE AND CHERT OCCUR IN SOME SAMPLES. THE ALLUVIUM BECOME VOLCANIC-RICH (>60 PERCENT VOLCANIC CLASTS) AT 230 FEET.
5			30		
10			34		
15			4		
20			12		0-300' MUD ROTARY WITH 8 1/2 INCH TRICONE BIT.
					0-10' CLAY-RICH INTERVAL, CLAY CONTENT 40 TO 60 PERCENT.
25			7		10-40' CUTTING SIZE <0.1 INCH TO 1 INCH, SUBROUNDED TO ANGULAR, POORLY SORTED.
					25-30' CLAY-RICH INTERVAL, CLAY CONTENT 70 PERCENT.
30			20		
35			30		
40			30		40-300' CUTTING SIZE <0.1 INCH TO 0.4 INCHES, SUBROUNDED TO ANGULAR, POORLY SORTED.
45			20		
50			21		

LITHOLOGIC LOG
(Continued)

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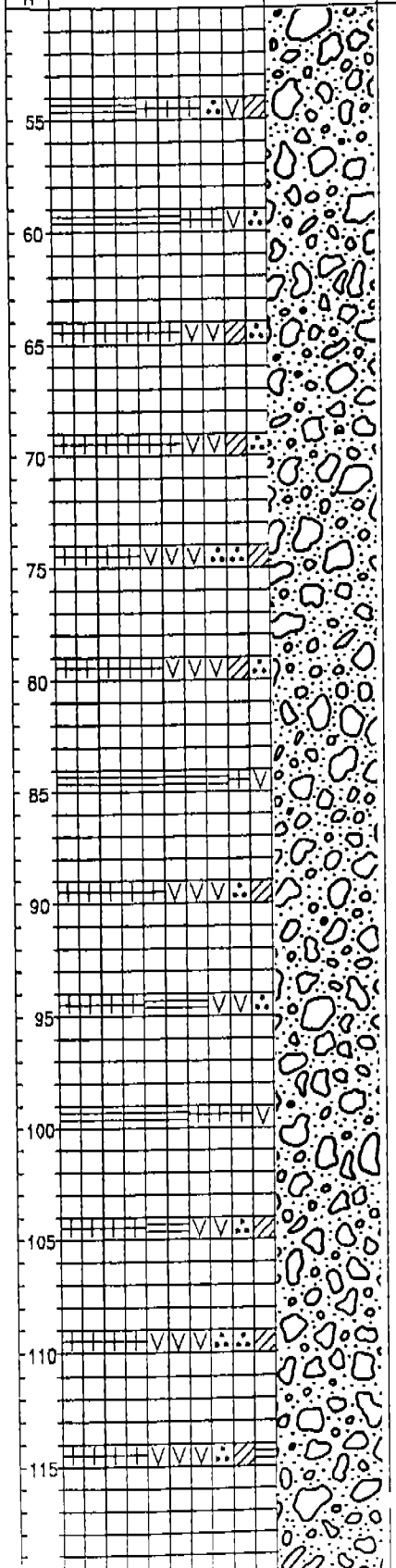

DRILLING TIME SCALE: MIN	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
CONT'D	CONT'D	50–55' CLAY 40 PERCENT.
40		55–60' CLAY-RICH CONTENT 60 PERCENT.
19		
46		
20		
24		
29		80–85' CLAY-RICH 80 PERCENT.
27		
19		90–95' 30 PERCENT CLAY.
25		95–100' CLAY CONTENT INCREASE TO 60 PERCENT.
34		
27		
31		
25		

LITHOLOGIC LOG
(Continued)

LOCATION ID: BLM-28

DEPTH	VISUAL %	LITH.	DRILLING TIME SCALE: MIN	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
			CONT'D	CONT'D	
120			33		
125			23		
130			29		130–135' CLAY CONTENT 20 PERCENT.
135			23		
140			36		
145			54		
150			22		150–170' CLAY-RICH INTERVAL, CLAY CONTENT 20 TO 60 PERCENT.
155			24		
160			33		
165			19		
170			20		
175			55		
180			45		

LITHOLOGIC LOG
(Continued)

LOCATION ID: BLM-28

DEPTH	VISUAL %	LITH.	DRILLING TIME SCALE: MIN	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
			CONT'D	CONT'D	
185			30		
190			43		
195			35		
200			52		
205			69		
210			59		
215			54		
220			69		
225			50		
230			61		
235			81		
240			47		
245			55		

LITHOLOGIC LOG
(Continued)

LOCATION ID: BLM-28

DEPTH	VISUAL %	LITH.	DRILLING TIME SCALE: MIN	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
			CONT'D	CONT'D	
250			82		
255			86		
260			71		
					263' REPLACE WORN-OUT TRICONE BIT WITH NEW ONE.
265			89		
270			14		
275			17		
280			32		
285			13		300-560' OREJON ANDESITE: SAMPLES RANGE IN COLOR FROM BROWNISH GRAY (5YR 4/1) TO DARK REDDISH BROWN (10R 3/4). SAMPLES RANGE IN SIZE FROM LESS THAN 0.1 INCH (SILT AND CLAY) TO 0.6 INCHES AND AVERAGE 0.2 INCHES. CUTTINGS ARE SUBROUNDED TO ANGULAR. SAMPLES CONSIST OF FINE-GRAINED TO PORPHYRITIC ANDESITE WITH PHENOCRYSTS OF PLAGIOCLASE, HORNBLENDE, AND BIOTITE. THE ANDESITE IS EXTENSIVELY ALTERED TO CLAY MINERALS (SAUSSURITE) NEAR THE ALLUVIUM CONTACT AND ALTERATION DECREASES WITH DEPTH. CALCITE MINERALS ARE PRESENT AS FILLING IN FRACTURES, ESPECIALLY IN THE UPPER 200 FEET.
290			25		
295			31		300-560' CUTTING SIZE <0.1 INCH TO .6 INCHES, SUBROUNDED TO ANGULAR.
300			32		300-310' WEATHERED ZONE MORE CLAY MINERALS.
305			45		
310			48		

LITHOLOGIC LOG
(Continued)

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DEPTH	VISUAL %	LITH.	DRILLING TIME SCALE: MIN	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
			CONT'D	CONT'D	310–560' AIR/FOAM ROTARY WITH 4 1/2 INCH HAMMER BIT.
315			7		
320			6		
325			7		
330			4		
335			10		
340			7		
345			6		
350			6		
355			7		
360			5		
365			5		
370			7		
375			5		

LITHOLOGIC LOG
(Continued)

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DEPTH	VISUAL %	LITH.	DRILLING TIME SCALE: MIN	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
			CONT'D	CONT'D	
380			6		
385			5		
390			5		
395			8		
400			8		400–470' SLIGHT COLOR CHANGE.
405			6		
410			9		
415			7		
420			7		
425			7		
430			6		
435			8		
440			4		

LITHOLOGIC LOG
(Continued)

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DEPTH	VISUAL %	LITH.	DRILLING TIME SCALE: MIN	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
			CONT'D	CONT'D	
445			7		
450			5		
455			6		
460			6		
465			4		
470			9		470' SLIGHT COLOR CHANGE.
475			8		
480			9		
485			6		
490			8		
495			10		
500			11		
505			5		

LITHOLOGIC LOG
(Continued)

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DEPTH	VISUAL %	LITH.	DRILLING TIME SCALE: MIN	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
			CONT'D	CONT'D	
510			6		
515			7		
520			7		
525			6		
530			5		
535			8		
540			9		
545			4		
550			7		
555			8		
560			8		560' TOTAL DEPTH BY DRILLO GRAPH. (562 FEET TD BY GEOPHYSICAL LOGS).
565					
570					