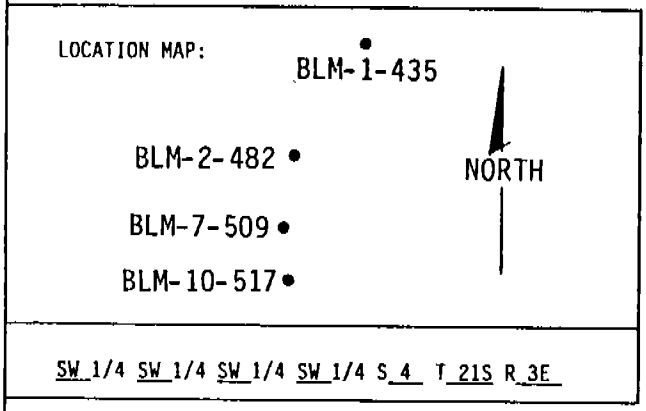
LITHOLOGIC LOG

LOCATION MAP:



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

SITE ID: NASA-WSTF LOCATION ID: BLM-10-517

SITE COORDINATES (ft.):

N 223050.75 E 402963.97

GROUND ELEVATION (ft. MSL): 4533.71 (BRASS CAP)

STATE: NEW MEXICO COUNTY: DOÑA ANA

DRILLING METHOD: AIR-FOAM ROTARY

DRILLING CONTR.: LARJON

DATE STARTED: 9 FEBRUARY 1988 DATE COMPLETED: 3 MARCH 1988

FIELD REP.: J.P. KASZUBA, R. COOPER

COMMENTS: 8 3/4" BOREHOLE 0'-100', REAMED TO 14 3/4" 0'-100'. 9 7/8" 100'-568'. TOTAL DEPTH = 568'. BEDROCK NOT REACHED.

LOCATION DESCRIPTION:

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description	
			0'-10' unavailable	0'-568' cuttings	0'-15'	SURFICIAL SAND AND GRAVEL: Grayish orange (10YR 7/4) to moderate yellowish brown (10YR 5/4) sand and gravel; fine-grained sand, minor gravel up to 7 mm (0.25 inches) in diameter; subrounded to rounded; poorly sorted. Unconsolidated sand and gravel with minor clay (< 10%).
5						
10			begin drillograph			
15			2		15'-568'	ALLUVIUM (Santa Fe Group)
					15'-45'	Light brown (5YR 6/4) to grayish brown (5YR 3/2); silt through sand to gravel and cuttings up to 1 inch in diameter; rounded to angular; poorly sorted. Unconsolidated. Gravelly alluvium containing abundant silt. Pebbles and cuttings include dark gray (N3) to grayish black (N2) limestone, dusky red (5R 3/4) siltstone, light gray (N7) to dark yellowish orange (10YR 6/6) rhyolite, light olive gray (5Y 6/1) andesite, medium light gray (N6) chert and white (N9) to colorless quartz.
20			2			
25			5			
30			9			
35			4			
40			11			
45			4		45'-125'	Pale brown (5YR 5/2) to grayish brown (5YR 3/2); silt through coarse-grained sand; cuttings less than 2 mm (0.1 inches) to 5 mm (0.2 inches) in diameter, average 2 mm (0.1 inch), rarely 12 mm (0.5 inches); subangular to angular; moderately well-sorted. Unconsolidated (?). May represent alluvium with abundant cobbles ± boulders or consolidated alluvium. Cutting lithologies as above.
50			11			

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description	
50			11			
55			15			
60			11		60'-65'	Average cutting size increases to 7 mm (0.25 inches).
65			6		65'-115'	Average cutting size decreases to 2 mm (0.1 inches).
70			16			
75			11			
80			7.5			
85			11.5			
90			26			
95			19			
100			5			
105			5			
110			5			
115			4			

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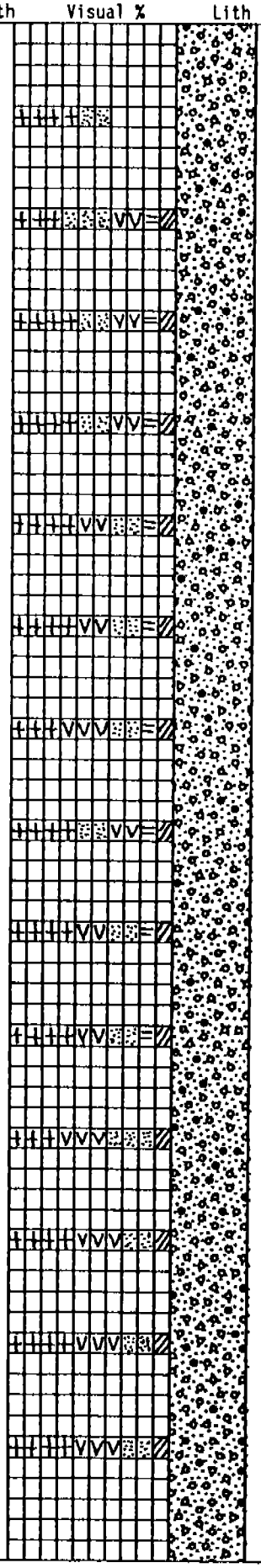

Depth	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description	
115	4			
120	7		120'-135'	Slight increase in volcanic fragments, more light olive gray (5Y 6/1) andesite.
125	4		125'-205'	Limestone most abundant cutting in samples.
130	7			
135	3			
140	3.5		140'-145'	Increased amounts of rhyolite, weathered light olive gray (5Y 6/1) andesite and grayish purple (5P 4/2) andesite.
145	5			
150	6			
155	7			
160	7		160'-170'	Increased amounts of rhyolite and grayish purple (5P 4/2) andesite.
165	8			
170	4		170'-180'	Increased amounts of fine-grained size cuttings.
175	7			
180	5			

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
180			5		
185			4		
190			4		
195			5		
200			6		
205			3		205'-355' Limestone and igneous percentages are fairly equal and combined percentages make up from 70-80% of samples. Most of igneous cuttings are andesites (75%). Of the andesite cuttings, 75% are light olive gray (5Y 6/1) andesite and 25% dusky red (5R 3/4) andesite.
210			3		
215			2		
220			4		
225			4		
230			7		
235			3		
240			7		240'-275' Significant decrease in cutting size, average 1-2 mm (0.04 inches) in size.
245			16		

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
245			16		
250			5		
255			7		
260			5		
265			8		
270			3		
275			5		275'-305' Slight increase in cutting size, average 3-4 mm (0.15 inches).
280			3		
285			9		
290			5		
295			5		
300			5		
305			5		
310			3		

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description	
310			3			
315			6			
320			21			
325			6			
330			7			
335			8			
340			11			
345			25			
350			10			
355			10		355'-568'	Volcanics most abundant cutting with increasing percentage with depth. Also dusky red (5R 3/4) andesite percentage increases significantly from 560'-568'.
360			10		355'-365'	Significant decrease in cutting size, average 2 mm in size.
365			5		365'-370'	Average cutting size 2-3 mm (0.12 inches).
370			7		370'-430'	Significant decrease in cutting size, average 1 mm (0.04 inches) in size.
375			7			

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
375			7		
380			3		
385			3		
390			4		
395			4		
400			2.5		
405			18		405'-420' Some caliche present but < 10%.
410			11.5		
415			9		
420			7		
425			6		
430			6		430' Slight increase in cutting size, average 2-3 mm (0.12 inches).
435			6		
440			10		

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description	
440			10			
445			14		445'-455'	Significant increase in cutting size, average size 4-6 mm (0.24 inches).
450			6			
455			6		455'-480'	Decrease in cutting size, average 2-3 mm (0.12 inches).
460			14		460'-485'	Caliche < 10%.
465			9			
470			33			
475			6			
480			9		480'-485'	Slight increase in cutting size, some large cuttings of white calcite present.
485			7		480'-490'	Decrease in cutting size, average 1-2 mm (0.08 inches).
490			9		490'-508'	Significant increase in cutting size, average 4-5 mm (0.20 inches).
495			9			
500			4			
505			6			

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Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
505			6		
510			7		510'-525' Average cutting size 4-5 mm (0.20 inches).
515			4.5		
520			10		
525			4		525'-550' Decrease in cutting size to 1-2 mm (0.08 inches) average.
530			6		
535			6		
540			6		
545			6		
550			5		550'-568' Slight decrease in cutting size.
555			5		
560			8		560'-568' Increase in andesite percentage, ~ 80% to 90% of volcanics are dusky red (5R 3/4) to blackish red (5R 2/2) andesite when wet.
565			4		
570			3		Total Depth = 568'.