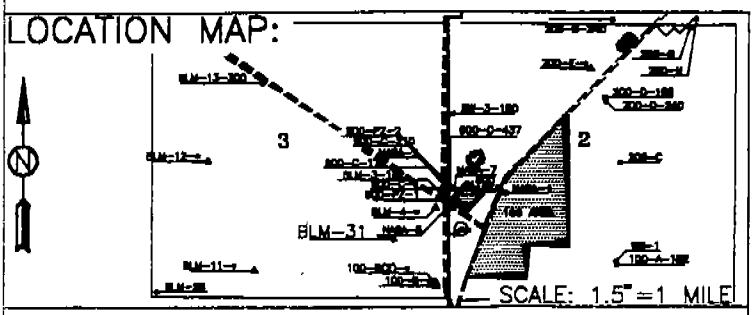
LITHOLOGIC LOG

LOCATION MAP:



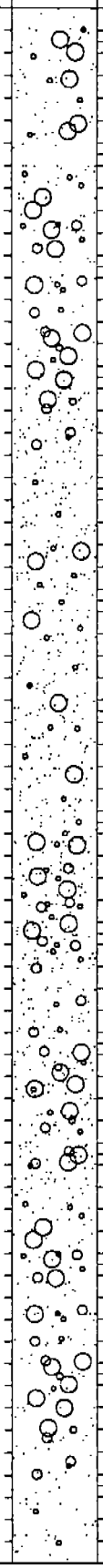
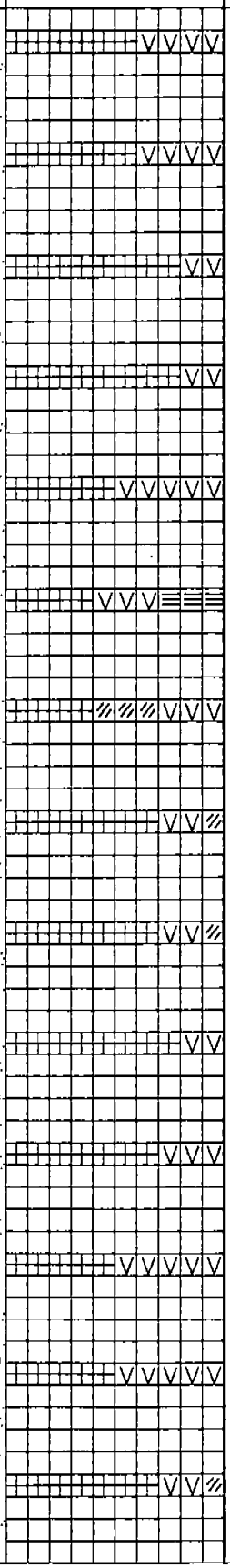
___1/4 ___1/4 SE 1/4 SE 1/4 S 3 T21S R 3E

SITE ID: NASA-WSTF LOCATION ID: BLM-31
SITE COORDINATES (FT.):
N 223,883.49 E 412,433.19
GROUND ELEVATION (FT. MSL): 4726.98
STATE: NEW MEXICO COUNTY: DONA ANA
DRILLING METHOD: MUD ROTARY/AIR FOAM ROTARY
DRILLING CONTR: LARJON DRILLING CO
DATE STARTED: 06-27-95 DATE COMPLETED: 8-01-95
FIELD REP.: M. JACOBS, M. RUSSELL
COMMENTS: 8 1/2" TRICONE W/MUD 0-210', 4 1/2" BUTTON/TRICONE W/FOAM 210-820', 5" STEEL CASING TO 210', BEDROCK AT 200', TOTAL DEPTH = 820'

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
5, 10, 15, 20, 25, 30, 35, 40, 45, 50			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	0-200' **ALLUVIUM (SANTA FE GROUP):** CUTTING SAMPLES CONSIST OF MULTICOLORED CLASTS WITH CLAY-RICH INTERVALS COLORED LIGHT BROWN (5 YR 6/4) TO MODERATE BROWN (5 YR 4/4). CUTTINGS RANGE IN SIZE FROM MUCH LESS THAN 0.8 INCHES (CLAY AND SILT SIZE) TO 1.3 INCHES, AND AVERAGE 0.1 TO 0.2 INCHES. CUTTINGS ARE SUBANGULAR TO ANGULAR. THE ALLUVIUM IS AN UNCONSOLIDATED TO MODERATELY CONSOLIDATED, POORLY SORTED, PEBBLE TO BOULDER, POLYGENETIC CONGLOMERATE. INTERMITTENT CLAY AND CALICHE-RICH INTERVALS ARE NOTED IN THE LOG. CUTTING CLASTS REPRESENTING VARIOUS LITHOLOGIES OCCURRING IN THE ALLUVIUM ARE LIGHT GRAY (N7) TO GRAYISH-BLACK (N2) LIMESTONE, WHITE (N9) IRON-STAINED RHYOLITE, MODERATE REDDISH BROWN (10 R 4/6) TO DUSKY RED (5 R 3/4) AND GREENISH-GRAY (5 GY 6/1) SILTSTONE, WHITE (N9) TO LIGHT GRAY (N7) QUARTZ, GRAYISH PINK (5 R 8/2) TO MODERATE PINK (5 R 7/4) CALICHE, MEDIUM LIGHT GRAY (N6) TO LIGHT BROWNISH GRAY (5 YR 6/1) TUFF, BLACKISH RED (5 R 2/2) ANDESITE, DUSKY BROWN (5 YR 2/2) SANDSTONE AND MINOR AMOUNTS OF CHERT. ● 0-75' GRAVEL: LIGHT BROWN TO DARK BROWN, MEDIUM TO COARSE CLASTS TYPICALLY 0.25 TO 0.75 INCHES, ANGULAR TO SUBANGULAR, PREDOMINANTLY LIMESTONE, QUARTZITE AND VOLCANICS WITH MINOR JASPER, WELL SORTED, POORLY GRADED, ABUNDANT SAND IN FINE FRACTION, TRACE SILT.

LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
55			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
60					
65					
70					
75					⊕ 75–80' GRAVELLY CLAY: CREAM TO LIGHT BROWN, 30 PERCENT FINE GRAVEL AND 70 PERCENT CLAY, GRAVEL CLASTS SUBANGULAR TO SUBROUNDED, COMPRISE LIMESTONE, QUARTZITE, GRANITE AND RHYOLITE.
80					⊕ 80–115' GRAVEL: LIGHT BROWN TO DARK BROWN, CLASTS FROM 0.25 TO 0.5 INCHES, ANGULAR TO SUBROUNDED, PREDOMINANTLY LIMESTONE WITH SUBORDINATE SILTSTONE AND FELSIC VOLCANICS, MODERATELY SORTED, MATRIX GENERALLY COMPOSED OF FINE TO MEDIUM GRAINED SAND.
85					
90					
95					
100					
105					
110					
115					⊕ 115–200' COARSE GRAVEL: LIGHT TO MEDIUM BROWN, COARSE GRAVEL CLASTS TYPICALLY 0.5 TO 1 INCHES, CLASTS SUBANGULAR TO SUBROUNDED, COMPRISE VARIABLE AMOUNTS OF SEDIMENTS AND VOLCANICS WHICH ARE FREQUENTLY SUBEQUAL, POORLY SORTED, WELL GRADED.
120					

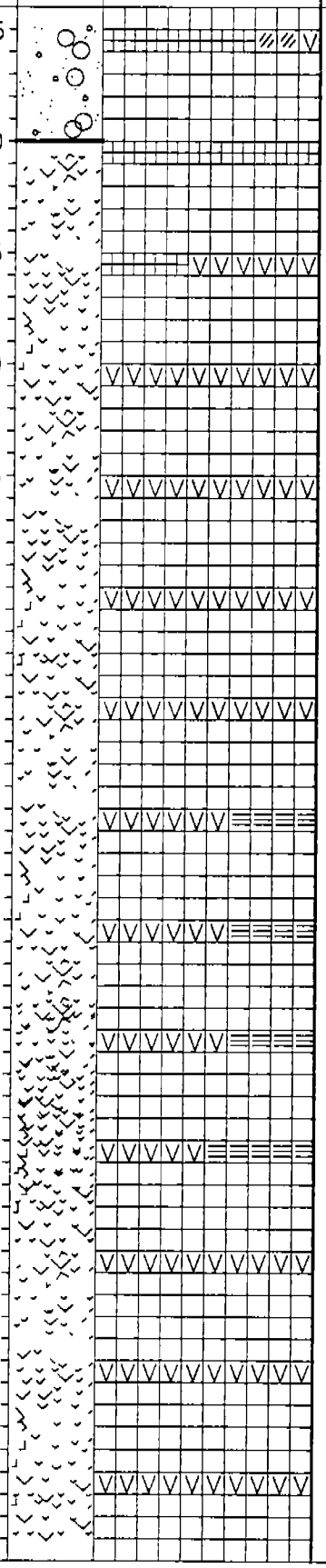
LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
125			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
130					
135					
140					
145					
150					
155					
160					
165					
170					
175					
180					
185					
190					

LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
195			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
200					200–820' OREJON ANDESITE: MEDIUM GREEN TO GRAYISH GREEN, PORPHYRITIC, PLAGIOCLASE PHENOCRYSTS OFF-WHITE IN COLOR AND SUBHEDRAL TO ANHEDRAL, COMPRISE 15 PERCENT OF ROCK, MINOR AUGITE AND HORNBLENDE PHENOCRYSTS ALL SUSPENDED IN AN APHANITIC MATRIX, TRACE PROPYLITIC ALTERATION. SEVERAL DISTINCT VOLCANIC LITHOLOGIES WITHIN THE OREJON ARE DESCRIBED BELOW.
205					
210					
215					
220					
225					
230					@ 230–240' HEAVILY ALTERED ZONE: GRAYISH GREEN, SOFT, CRUMBLY, POSSIBLY AN EPICLASTIC UNIT DERIVED FROM WEATHERED PRODUCTS OF OLDER ROCKS, CONTAINS ANGULAR FRAGMENTS OF ANDESITE TO 0.5 INCHES IN SIZE.
235					
240					
245					
250					
255					
260					@ 260–310' PORPHYRITIC ANDESITE: GRAY TO GRAYISH PURPLE, ENHANCED PORPHYRITIC TEXTURE WITH PHENOCRYSTS TO 30 PERCENT OF UNIT, DENSE WITH LIMITED EVIDENCE OF FRACTURING.

LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
265			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
270					
275					
280					
285					
290					
295					
300					
305					
310					
315					
320					
325					
330					

LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
335			TIMED BY DRILLING	CUTTINGS GRAB SAMPLE EVERY 5'.	
340					@ 340–375' PORPHYRITIC ANDESITE: PURPLE TO TAN, ENHANCED PORPHYRITIC TEXTURE WITH SUBHEDRAL PLAGIOCLASE PHENOCRYSTS TO 30 PERCENT OF UNIT.
345					
350					
355					
360					
365					
370					
375					
380					@ 380–420' REDDISH BROWN, PREDOMINANTLY APHANITIC WITH LOCALIZED MICROPORPHYRITIC TEXTURE, TRACES OF HORNBLENDE VISIBLE.
385					
390					
395					
400					

LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
405			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
410					
415					
420					@ 420–450' ANDESITIC LITHARENITE: GRAYISH GREEN, PREDOMINANTLY COMPRISES FINE TO MEDIUM SAND-SIZED GRAINS, ABUNDANT LITHIC FRAGMENTS COMPOSED OF ANDESITE.
425					
430					
435					
440					
445					
450					@ 450–470' PORPHYRITIC ANDESITE: PURPLE TO PURPLISH GREY, ENHANCED PORPHYRITIC TEXTURE WITH PHENOCRYSTS TO 40 PERCENT OF UNIT, DENSE.
455					
460					
465					
470					

LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
475			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
480					
485					
490					
495					
500					
505					
510					
515					
520					@ 520–535' ANDESITIC LITHARENITE: REDDISH PURPLE, CONTAINS UP TO 30 PERCENT CLAY, TRACE TO MODERATE ALTERATION OF ANDESITE FRAGMENTS, PREDOMINANTLY COMPRISES CONSOLIDATED REWORKED ANDESITIC VOLCANICS, SANDY TEXTURE, SOFT, CRUMBLY AND CONTAINS RELATIVELY ABUNDANT MAFIC MINERALS.
525					
530					
535					@ 535–600' ASH FLOW TUFF: GREENISH PURPLE, PORPHYRITIC TEXTURE, PLAGIOCLASE PHENOCRYSTS COMPRISE 20 TO 30 PERCENT OF ROCK, MATRIX IS PREDOMINANTLY APHANITIC WITH EVIDENCE OF GLASS SHARDS AND IRREGULAR LITHIC FRAGMENTS, ANDESITE TO LATITE IN COMPOSITION.
540					

LITHOLOGIC LOG
(CONTINUED)

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DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
545			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
550					
555					
560					
565					
570					
575					
580					
585					
590					
595					
600					⊕ 600–635' ANDESITE: PURPLE TO REDDISH BROWN, PORPHYRITIC, SUBHEDRAL PLAGIOCLASE PHENOCRYSTS COMPRISE 10–15 PERCENT, MINOR AUGITE PHENOCRYSTS TO 5 PERCENT AND BIOTITE TO 3 PERCENT, PHENOCRYSTS SUSPENDED IN AN APHANITIC MATRIX, TRACE ALTERATION.
605					
610					

LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
615			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
620					
625					
630					
635					⊕ 635–820' REDDISH BROWN, HIGHLY PORPHYRITIC WITH PHENOCRYSTS TO 30 PERCENT, DENSE, MINOR FRACTURES, FRESH WITH NO APPARENT ALTERATION.
640					
645					
650					
655					
660					
665					
670					
675					
680					

LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
685			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
690					
695					
700					
705					
710					
715					
720					
725					
730					
735					
740					
745					
750					

LITHOLOGIC LOG
(CONTINUED)

LOCATION ID: BLM-31

DEPTH	LITH	VISUAL %	DRILLING TIME SCALE: MIN.	SAMPLE TYPE AND INTERVAL	LITHOLOGIC DESCRIPTION (LITH., GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SRTG., CONSOL., DIST. FEATURES)
755			TIMED BY DRILLER	CUTTINGS GRAB SAMPLE EVERY 5'.	
760					
765					
770					
775					
780					
785					
790					
795					
800					
805					
810					
815					
820					TOTAL DEPTH (TD) 820 FEET.