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UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY

Lithologic Descriptions, Core and Cutting Samples,
Mariano Lake-Lake Valley Drilling Project,
McKinley County, New Mexico, Hole Number 8

by

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Open File Report 81-1205
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This report is preliminary and has not been reviewed
for conformity with U.S. Geological Survey editorial
standards and stratigraphic nomenclature.

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INTRODUCTION

In the fall of 1980, the U.S. Geological Survey contracted with Longman Drilling Company of Albuquerque, New Mexico to rotary drill and core twelve holes along a north-south line from Mariano Lake to the vicinity of Lake Valley, New Mexico. This report contains the lithologic descriptions of core and cutting samples from drill hole no. 8.

The drilling project was funded under a reimbursable interagency agreement between the U.S. Bureau of Indian Affairs (BIA) and the U.S. Geological Survey (USGS). The program was designed by representatives of the BIA, USGS, and the Minerals Department of the Navajo Tribe.

PURPOSE

The principal objective of this project was to provide core samples and geophysical logs for petrologic, sedimentologic, geophysical, and geochemical studies of the Upper Jurassic Morrison Formation. Other objectives included the following: stratigraphic and coal studies of Upper Cretaceous rocks; hydrologic and water monitoring of well no. 2; control for a proposed seismic study of the same geographic area; and development of water wells by the Navajo Tribal Water and Sanitation Department.

GENERAL DRILLING PLAN

The locations of all twelve drill holes are shown on figure 1, which is a portion of the Gallup 1° x 2° Quadrangle. The general drilling plan called for most holes to be rotary drilled into the Upper Cretaceous Dakota Sandstone and then cored into or through the Recapture Member of the Morrison Formation. The interval to be cored in each hole was about 600 ft.

Exceptions to the general drilling plan were as follows: Hole no. 2, rotary drilled, surface to Jurassic Entrada Sandstone; Hole no. 4A, cored 21-218 ft, to test an observed near surface I.P. anomaly; Hole no. 6, deepened

after coring by rotary drilling into the Jurassic Entrada Sandstone; Hole no. 7A, cored only the Westwater Canyon Member of the Morrison Formation; Hole no. 8, abandoned in lower part of Westwater Canyon Member of the Morrison Formation; and Hole nos. 9 and 10, abandoned in Upper Cretaceous rocks.

Chip samples were collected at 10-ft or 20-ft intervals throughout each hole and sludge samples collected at 20-ft intervals throughout the cored interval.

The following suite of geophysical logs were included in the general drilling project: natural gamma, self potential, neutron-neutron porosity, resistance, resistivity, temperature, deviation; gamma-gamma density, caliper, magnetic susceptibility, gamma ray spectrometer (KUT), sonic, induced polarization, conductivity, and high-resolution 4-arm digital dipmeter.

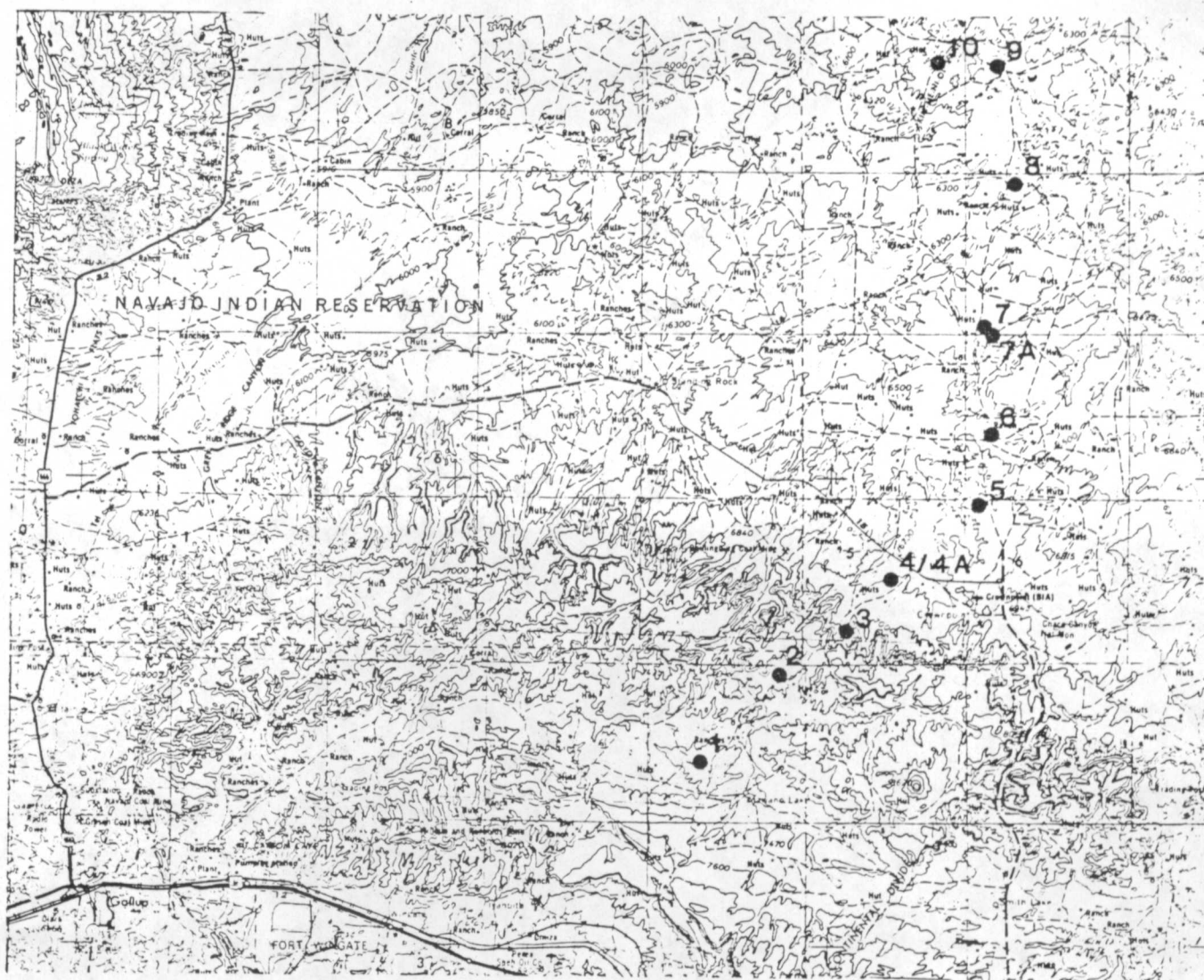


Figure 1. - Location of USGS Drill Holes, Gallup 1° x 2° Quadrangle.

DRILL HOLE NO. 8

The location of this well is shown on figure 2.

The vital statistics on this well include:

Spud date: February 12, 1981

Location: T. 19 N., R. 12 W., S/2 sec. 5

Lat. $35^{\circ}53'10''$, Long. $108^{\circ}08'12''$

Collar Elevation: 6195 ft (topo) Menefee Fm. (Cretaceous)

Core Point Top: 3060 ft (depth) Dakota Sandstone (Cretaceous)

Core Point Bottom: 3520 ft (depth) Westwater Canyon Mbr.,

Morrison Fm. (Jurassic)

Total Depth: 3520 ft (depth) Westwater Canyon Mbr., Morrison Fm.,

(Jurassic)

Core Recovery: 56 percent of intervals cored

Casing: 65 ft of 7 in. surface casing

Status of well: Cemented and abandoned, March 6, 1981.

Hole was abandoned in the Westwater Canyon Member of the Morrison Fm. at 3520 ft, with artesian flows of 350-400 gallons per minute and 180 ft of drill pipe in the hole. The hole could not be logged below 778 ft because of unstable hole conditions. The following suite of geophysical logs were run on this hole and have been published by the U.S. Geological Survey (1981): natural gamma, self potential and resistance.

Cutting samples from rotary drilling were collected and described on 20 ft intervals from 0-2600 ft, and on 10 ft-intervals from 2600-3060 ft, and 3145-3520 ft (table 1). Samples were collected from 3060-3145 ft but not described.

Actual intervals cored were 3060-3110 ft, 3115-3135 ft. 3355-3375 ft, 3375-3381 ft, 3436-3442 ft, and 3500-3520 ft.

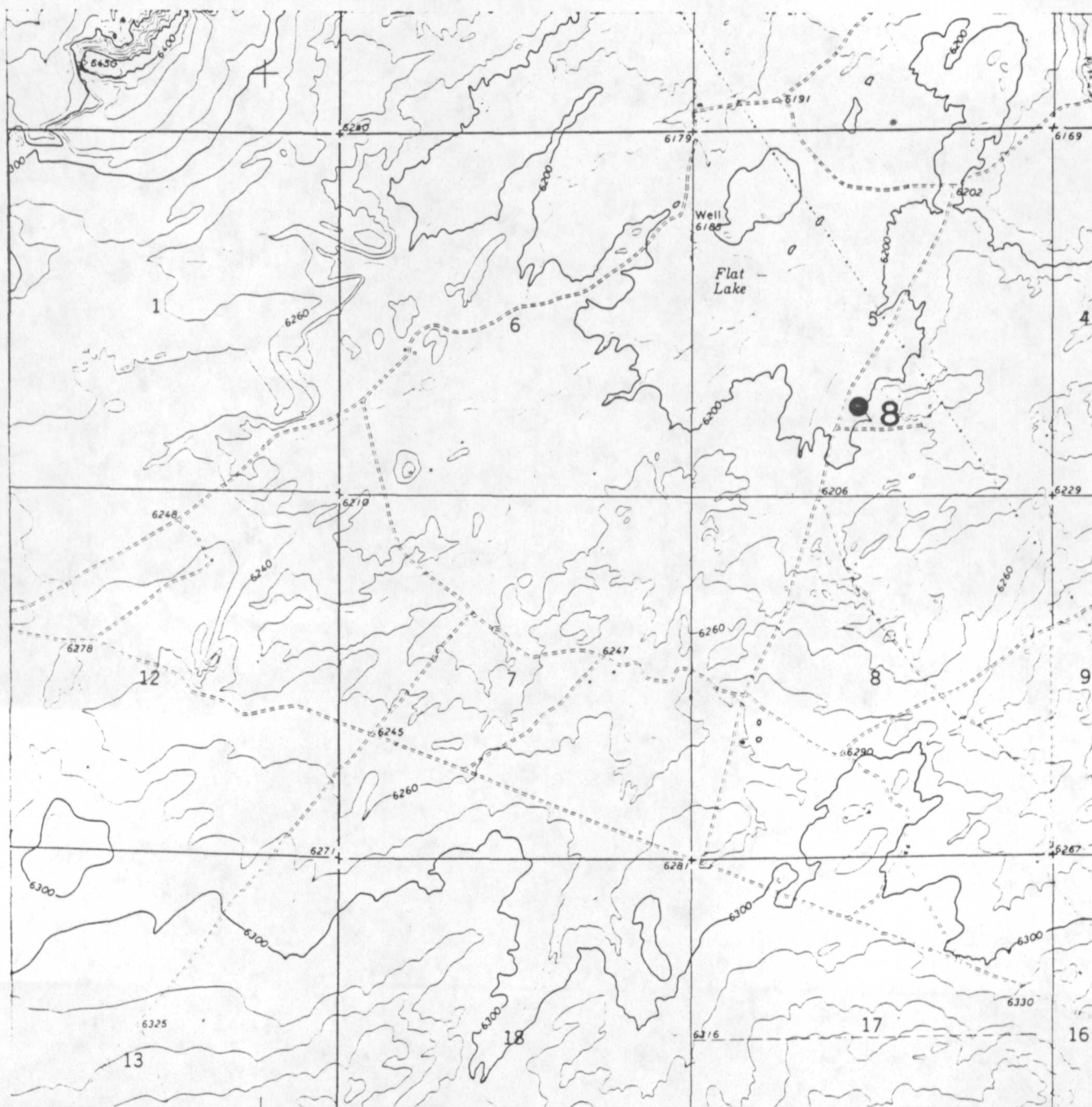


Figure 2.--Location of USGS Drill Hole No. 8, Milk Lake 7 1/2' Quadrangle, T19N, R12W.

Core samples were collected in 20 ft core runs and are 3 in. in diameter. The core samples were described in the field (table 2), taped, boxed, and shipped to the USGS Core Library in Denver where they were frozen, split, photographed, and sampled (for petrography, geochemistry, heavy-mineral-suite, clay-mineralogy and paleomagnetic studies). A split of the core has been archived for reference and future studies.

The following core and cutting descriptions were described in the field. The abbreviations and graphic symbols used in core description are defined in Reynolds and others (1975).

REFERENCES CITED

- Reynolds, M. W., Ahlbrandt, T. S., Fox, J. E., and Lambert, P. W., 1975,
Description of selected drill cores from Paleozoic rocks, Lost Soldier Oil
Field, South Central Wyoming, Part 1: U.S. Geological Survey Open-File
Report 75-662, 34 p.
- USGS, 1981, Geophysical log suite from drill hole no 8, Mariano Lake-Lake
Valley drilling project, McKinley County, New Mexico, USGS Open-File
Report 81-974, 4 p.

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CHIP SAMPLE 106
FORM

Location: S-8 Sec. 5 T. AN R. 12W Quadrangle (7.5') MILK LAKE QUAD.
 Hole No: S-8 State: NEW MEXICO Date: 2-13-81
 Company: USGS County: Mc KINLEY Geologist: ARK-ALT-GMP
 Lat/Long: _____ Sheet 2 of 22.

Table 1. Descriptions of cuttings samples from Mariano Lake -
 Lake Valley Drilling Project, Hole No. 8, New Mexico
 Sandstones
 Estimated % of Lithologies

Depth to top of Sample Interval	Sample Number	Core/Len	Congl.	Sandst.	Siltst.	Shale	Shale Color	Grain Size	Sorting	Rounded	Feldspar	Lenses	Pyrite	Access.	Surface Color	Formation/Marker	COMMENTS
220	80-58-220			80	10	10	10	10	LM	M	SR	1-2	TR	RD, NW CUT MED NW WET CUT	N5 N4R 6/4 (W)	Kmifa	
240				10	60	10	N2 (CARB) 564 4/1		F	-	SA	TR	-	LM, NW CUT	N4	Kmifa	HEMATIC & LIMONITE STAINING
260				60	-	40	N2 564 4/1		UF	P	SA	TR	-	LM, NW CUT	N5	Kmifa	
280				50	-	50	N3 (CARB) 564 4/1		UF-LE LM	PM	SA-R	TR	TR	RD, NW CUT	N5 N4R 5/5 (W)	Kmifa	TAN CHT GRAVELS
300	80-58-300			56	-	40	564 4/1 N4 CARB		UM	M	SR-R	TR	TR	RD, NW CUT	N6 N4R 5/5 (W)	Kmifa	TR SS. LT YELL-BN.
320				80	-	15	N3 CARB 564 4/1		LF	M	SR	2-3	TR	RD, NW CUT	N6 N4R 5/5 (W)	Kmifa	TR LT YELL-BN OS.
340				96	-	TR	CARB N4 564 4/1		UF	MW	SR-SA	1-2	TR	RD, NW CUT	N7	Kmifa	CHERTS MED. TO COARSE
360				98	-	2	CARB		WVF	M	R	TR	-	RD, NW CUT	N6 (W) N4R 1/2 (W)	Kmifa	
380				80	-	40	N3 564 4/1		LF	MW	SR	1-2	-	RD, NW CUT	N6	Kmifa	
400	80-58-400			50	20	30	564 4/1		WVF- LF	M	R	-	-	TAN CUT	54R 4/2 (W) 54 5/1 (W)	Kmifa	

CHIP SAMPLE 106
FORM

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (9.5') MILK LAKE
 Hole No: S-8 State: NEW MEXICO Date: 12-14-81
 Company: USGS County: MCKINLEY Geologist: AK, BLT, GMR
 Lat/Long: _____ Sheet 3 of 25

Table 1. Descriptions of cuttings samples from Mariano Lake -
 Lake Valley Drilling Project, Hole No. 8, New Mexico.
 Sandstones

Depth to Top of Sample Interval	Sample Number	Grain Size	Gravel	Shale Color	Shale	Siltst	Sandst	Gravel	Grain Size	Sorting	Roundness	Feldspar	Carbonates	Pyrite	Flint	Trace	Subs. Color	Formation / Member	Comments
420	420	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	
440	440	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	SHOOS INCREASE IN ORANGE BM.
460	460	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	
480	480	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	
500	500	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	
520	520	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	DECREASE IN RED CRT.
540	540	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	DECREASE IN RED CRT.
560	560	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	DECREASE IN RED CRT.
580	580	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	DECREASE IN RED CRT.
600	600	70 5 5 2	25 25	N3 504 4/1 54A 2/2 CARB	50	50 2/2	2-4	LF uf	SR	SR	SR	TR	TR	TR	TR	TR	N6	Kimfa	DECREASE IN RED CRT.

CHIP SAMPLE 106
FORM

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (9.5) MILK LAKE
 Hole No: S-8 State: NEW MEXICO Date: 12-14-81 MADRY VALENTINE
 Company: USGS County: McKINLEY Geologist: APR/BUT/GMR
 Lat/Long: _____ Sheet 4 of 20

Table 1. Descriptions of cuttings samples from Mariano Lake -
 Lake Valley Drilling Project, Hole No. 8, New Mexico Sandstones
 Estimated % of Lithologies

Depth to top of Sample Interval	Sample Number	Grain Size	Long.	Sandst.	Siltst.	Shale	Shale Color	Coal	Lithology	Grain Size	Sorting	Roundness	Feldspar	Carbonates	Rhyolite	Floccs.	Sandstone Color	Remarks/Notes	Comments
620	620			60		40	5Y 4/1			LF	P	SA-XR	-	TR			5YR 4/1 (2)	Kmfc	FINE OR MATH IN SS. (CARB.)
640	640			50		2	N3 (CARB)			LF-400	2M	SA-XR	-	TR			5YR 4/1 (2)	Kmfc	GRANULAR CAST TO SANDSTONE FROM GREEN SS.
660	660			60		40	5Y 4/1 TO 5Y 2/1			LF-400	M	SA-XR	-	TR			5Y 4/1 (2)	Kmfc	LT TAN CHERTS
680	680			80		0	N2-3			LF-400	P	SA	-	TR			5Y 4/1 (2)	Kmfc	SWISS FINT TO SS (CARB.)
700	700			68	5	30	5Y 4/1 (N) N3 (CARB) (50)			LF-400	P	SA-XR	RA	-			5Y 4/1 (2)	Kmfc	LT TAN CHERTS
720	720			30		10	5Y 4/1 TO 5Y 2/1			LF-400	M	SA	-	TR			5Y 4/1 (2)	Kmfc	SWISS FINT TO SS (CARB.)
740	740			80	10	20	5Y 4/1 TO 5Y 2/1			LF-400	-	SA-XR	-	TR			5Y 4/1 (2)	Kmfc	LT TAN CHERTS
760	760			60		40	N3 (CARB)			LF-400	P	SA-XR	TR	TR			5Y 4/1 (2)	Kmfc	SWISS FINT TO SS (CARB.)
780	780			20		50	N6 TO N2			LF-400	P	SA	-	TR			5Y 4/1 (2)	Kmfc	SWISS FINT TO SS (CARB.)
800	800			89		10	N3 5Y 4/1			LF-400	P	SA-XR	-	TR			5Y 4/1 (2)	Kmfc	SWISS FINT TO SS (CARB.)

CHIP SAMPLE 106
FORM

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (7.5) MILK LAKE
 Hole No: S-8 State: NEW MEXICO Date: 2-14-81
 Company: USGS County: McKINLEY Geologist: ARK/BJT/GMR
 Lat/Long: _____ Sheet 5 of 22

Table 1. Descriptions of cuttings samples from Mariano Lake -
 Lake Valley Drilling Project, Hole No. 8, New Mexico
 Sandstones
 Estimated % of Lithologies

Depth to Top of Sample Interval	Sample Number	Grain Size	Congl.	Sandst.	Siltst.	Shale	Shale Color	Bed	Lithology	Grain Size	Sorting	Rounded	Feldspar	Carbon.	Pyrite	Notes	Subsac Color	Form Name / Number	COMMENTS
	820	80-88-920		90	5	10	NY (CMB) 20 SY 2/1 15	12		W-15 (in 10)	W	32	1	1			10K 5/5	KndC-Kpl	DISAGREGATED SS
	840		90				SG 2/1 N3 (CMB)	12		W-15 (in 10)	W-2	32	1				10K 5/5	Kpl	DISAGREGATED SS. LARGE CRIST. GRAINS.
	860		80			20	NY (CMB) SY 2/1			LE	W	32-2	1	(10%)			NB	Kpl	LARGE QUARTZ GRAINS BLACK FIELDS IN SS. SPILLAGE RED ACC.
	880		85-90	2-5		5-10	N1 (CMB) SY 4/1			LF	W	W	1	1%			NB	Kpl	100 QUARTZ GRAINS DK. GREEN GRAINS ~ 1%
	900	80-88-900	90			10	N3	1		LF	W	W	12	1			N5 SY 4 1/1	Kpl	DK. GREEN WE ~ 1% W. RED WE ~ 1% ACC. SPILLAGE IN SS.
	920		89					1		LF-10	W	W	1	1			SY 4 1/1	Kpl	LESS GREEN + RED ACC.
	940		100							LF	W	W	1	1			N5 SY 4 1/1	Kpl	BLK. 3A VERY FINE GRAINS QZ. OVERGRASS
	960		90			10	SY 2/1 (CMB)			LF	W	32-34	1	(1)			N4 SY 4 1/1 (10)	Kpl	BLK. SHINY ACROSS GRANULAR SIZE TAN CRIS.
	980		90			30	SY 2/1 SY 4 1/1	12		LF	W	32-34	1	?			N4	Kpl (KndC?)	BLK. SHINY FLOCKS IN CLAY MATRIX. LC TAN CRIST.
	1000	80-88-900	90			2	SY 2/1			W-15 in 10	W	32-34	1	100% SPILLAGE BEANS			SY 5 1/1 (55) SY 2/1 (30)	KndC(?)	1A 71N 120 SS. QZ. OVERGRASS.

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (9.5') MILL LAKE
Hole No: S-8 State: NEW MEXICO Date: 2-15-81
Company: USGS County: MC KINLEY Geologist: ARR/BET/GMR/DHO
Lat/Long: _____ Sheet 6 of 22

[illegible]

CHIP SAMPLE 106
FOAM

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (7.5') MILK LAKE
 Hole No: S-8 State: NEW MEXICO Date: 2-16-81
 Company: USGS County: Mc KINLEY Geologist: ARK/CLT/HM/GR
 Lat/Long: _____ Sheet 7 of 23

Table 1. Descriptions of cuttings samples from Mariano Lake -
 Lake Valley Drilling Project, Hole No. 8, New Mexico
 Estimated % of Lithologies

Sample Number	Grain Size	Coarse	Medium	Fine	Very Fine	Clay	Shale	Silt	Sand	Gravel	Other	Remarks
1220	120	5	20	50	20	5	50	20	20	10	10	SPALL FRAGS. TAN TO BEIGE
1240	120	5	20	50	20	5	50	20	20	10	10	TAN CHESTS (LC)
1260	120	5	20	50	20	5	50	20	20	10	10	"
1280	120	5	20	50	20	5	50	20	20	10	10	SPALL FRAGS TAN TO BEIGE
1300	120	5	20	50	20	5	50	20	20	10	10	TRACE RED CHEST
1320	120	5	20	50	20	5	50	20	20	10	10	
1340	120	5	20	50	20	5	50	20	20	10	10	UL. SS. FRAGS SPALL FRAGS 1-5mm TR. SA QPZ SPALLS TR. RED CHEST
1360	120	5	20	50	20	5	50	20	20	10	10	
1380	120	5	20	50	20	5	50	20	20	10	10	DR. GREEN 1-2% CALCITE OR GYPSUM
1400	120	5	20	50	20	5	50	20	20	10	10	TR. RED CHEST 3mm SPALL FRAG

CHIP SAMPLE 106
FORM

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (7.5') MILK LAKE
 Hole No: S-8 State: NEW MEXICO Date: 2-16-81
 Company: USGS County: MC KINLEY Geologist: GR/DAH
 Lat/Long: _____ Sheet 8 of 20

Table 1. Descriptions of cuttings samples from Mariano Lake -
 Lake Valley Drilling Project, Hole No. 8, New Mexico Sandstones
 Estimated % of Lithologies

Depth to top of Sample Interval	Sample Number	Core/Sec	Congl.	Sandst.	Siltst.	Shale	Shale Color	Bed	Lithology	Grain Size	Sorting	Roundness	Feldspar	Carbonates	Rhyolite	Access.	Sample Color	Formal Name/Remarks	Comments
1420	1420			0		00	N3			NV	NV	SR	1	1	1	BLK, 10 cut	N2		
1440	1440		75		25	25	N3 SYN 42 (M)			UVF	LF	SR	1	1	1	BLK, 10 cut	N2		SHELL LAB BLK SHALE HAS TR. MAYBE
1460	1460		60		40	40	N4 (35) SYN 21 (21) SYN 3/2 (2)			LF	NV	SR	1	1	1	BLK, 10 cut	N2		SHELL PRAGS. (F)
1480	1480		50		50	50	N4 (30) N5 (20)			LF	NV	SR	1	1	1	BLK, 10 cut	N6		MT. SHALE SYN 1/4
1500	1500		50		50	50	N4 (CMB) (15) N2 (15)	TR		UVF	W	R	1	1	1	BLK, 10 cut	N5		LIM ST. ON SANDS AND SHALE (SYN 4/4) ANGULAR, QUARTZ WHITE CHIPS SHELL PRAGS. (F)
1520	1520		40		60	60	N5 N3 (CMB) (15)	TR		LF	W	SR	1	1	1	BLK, 10 cut	N5		MT. PRODUCT 10A 44 12
1540	1540		50		50	50	N4 (CMB) (15)	12		UVF	W	WR	1	1	1	BLK, 10 cut	N5		MT. PRODUCT 10A 44 12
1560	1560		70		30	30	N4 (CMB) (15)	TR		UVF	W	WR	1	1	1	BLK, 10 cut	N5		MT. PRODUCT 10A 44 12
1580	1580		80		20	20	N4 (CMB) (15)	1		UVF	W	WR	1	1	1	BLK, 10 cut	N5		MT. PRODUCT 10A 44 12
1600	1600		50		50	50	N1-CMB (35) SYN 41 (15)	TR		UVF	W	SR	1	1	1	BLK, 10 cut	N6		SYN 41 MT. PRODUCT SYN 41-MOS CMB SAMPLE

Table 1. Descriptions of cuttings samples from Mariano Lake - Lake Valley Drilling Project, Hole No. 8, New Mexico Sandstones
Estimated % of Lithologies

Table 1. Descriptions of cuttings samples from Marano Lake - Lake Valley Drilling Project, Hole No. 8, New Mexico Sandstones																		
Core No. to top of	Sample Number	Core/ice	Estimated % of Lithologies					Lithology	Grain Size	Sorting	Roundness	Feldspar	Lithology	Pyrite	Foliation	Sandstone Color	Comments	
			Coarl.	Sandst.	Siltst.	Shale	Stale color											
1671	1671	BS-58-1671		50		50	NSM 40 54 1/4 (10)	TR		U	SR						N/G	CHAL. FRAGS. (CAHNUIC) at 1 mm ALT PRODUCT 10R 4/6 UPPER CHAL. SS. GRAINS 54 1/4
1640	1640			50		50	N1 CM 8/20 54 1/4 (10)		LF	MW	SR						N/G	LOWER COARSE. TAN CHAL. IN SAMPLE MARI SHELL FRAGS. BASE OF IN MATRIX
1660	1660			60		40	54 1/4 (50) N2 1/2 (1) N2 (20)		LF	MW	SR						N/G	SHELL FRAGS. ALT. PRODUCT
1700	1700								UVE	MW	SR						N/G	
1720	1720								UVE	MW	SR						N/G	
1740	1740			90		10	54 1/4 (10) 54 1/4 (10)	TR	UVE	MW	SR						N/G	BS AGGREGATED SS. ALT. PRODUCT IN SS. 54 1/4
1760	1760			70		30	54 1/4 (10) N2 (20)	TR	UVE	MW	SR						N/G	BS AGGREGATED SS. ALT. PRODUCT IN SS. 54 1/4
1780	1780			70		30	54 1/4 (10) N3 (20)		UVE	MW	SR						N/G	BS AGGREGATED SS. ALT. PRODUCT IN SS. 54 1/4
1880	1880	BS-58-1880		90		10	54 1/4 (10) N3 (20)		UVE	MW	SR						N/G	BS AGGREGATED SS. ALT. PRODUCT IN SS. 54 1/4

Location: SE Sec. 5 T. 19N R. 12W Quadrangle (7.5') MILN LARE
Hole No: 5-8 State: NEW MEXICO Date: 2-17-81
Company: USGS County: McKinley Geologist: DM/GR
Lat/Long: _____ Sheet 9 of 22

Sample No.	Core/Sec	Core	Length	Soil	Size	Shale	Shale Color	Core	Section	Grain Size	Sorting	Roundness	Foliation	Partic.	Pyrite	Recess.	Sandstone Color	Remarks	Comments
1320	18-58-610	70	90	85	1	14	N2	1	1	LF	W	SR	1	1	1	1	N6	1	1
1340	18-58-610	70	85	80	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1360	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1380	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1400	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1420	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1440	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1460	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1480	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1500	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1520	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1540	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1560	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1580	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1
1600	18-58-610	70	90	85	1	15	N3	1	1	LF	W	SR	1	1	1	1	N6	1	1

CHIP SAMPLE 106
Form

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (7.5') Milk Lake
 Hole No: 58 State: New Mexico Date: 2-18-81
 Company: USGS County: McKinley Geologist: SM/AR/GR
 Lat/Long: _____ Sheet 11 of 28

Table 1. Descriptions of cuttings samples from Mariano Lake - Lake Valley Drilling Project, Hole No. 8, New Mexico

Sandstones															Form thin / number	COMMENTS				
Depth to top of sample interval	Sample Number	Grain Size	Congl.	Sandst.	Siltst.	Shale	Shale Color	Coal	Limestone	Grain Size	Sorting	Rounded	Fieldpar	Carbon.			Pyle	Fluores.	Sandstone Color	
2020	60-58-2020			92	-	3	N3	-	-	uf	mm	SC	TR	-	-	-	12 ppm acc. & dis. & criz	N7	Gallop. Sandstone Kg	4 wide spread to 100 mic. from stained gte.
2040				95	-	5	N3	-	-	uf-lm	mm	SC	TR	-	-	-	10, 20 acc. & dis. & criz	N7	as above very clean sand Kg	
2060				70	-	30	N3 (N5) 5G 4/1 (S) 5G 4/1 (N)	-	-	uf	mm	SC	-	-	-	-	as above	5G 4/1	FILTHY SANDSTONE Kg	
2080				92	-	3	N3 5G 4/1 (N)	TR	-	uf	mm	SC	TR	-	-	-	10, 20 acc. & dis. & criz	N7	Kg	thin. st. quartz.
2100				98	-	2	N3 5G 4/1	TR	-	lm-lc (0.12)	mm	SC-30	TR	-	-	-	10, 20 acc. & dis. & criz	N7	Kg	thin. st. gte. base gte.
2120				85	-	15	N3 (N4) 5G 4/1 (S)	1-2	-	lm-lc	mm	SC-50	TR	-	-	-	10, 20 acc. & dis. & criz	N7	Kg	thin. stained gte. 100 gte. dis. acc.
2140				15	-	85	N3 (N5) 5G 4/1 (N) 5G 4/1 (N)	TR?	-	uf	mm	SC	TR	-	-	-	10, 20 acc. & dis. & criz	N7	Marl. Shale Km	limonite stained gte.
2160				15	-	80	N2 5G 4/1 (N) 5G 4/1 (N)	TR	5/8 3/4 1cm	lm	mm	SC-50	-	-	-	-	10, 20 acc. & dis. & criz	N6	Km	thin. stained ss. limonite "
2180				25	-	70	N2 5G 4/1 (N) 5G 4/1 (N)	TR	-	lm-uf	mm	SC	-	-	-	-	10, 20 acc. & dis. & criz	N6	Km	NOTE: thin cherts as noted throughout section probably co. cherts type 2N
2200	60-58-2200			20	-	80	N2 (N5) 5G 4/1 (S) 5G 4/1 (S)	TR	7/8 10/16 1/4	lm	mm	SC-50	TR?	-	-	-	10, 20 acc. & dis. & criz	N6	Km	GAMMA SIZE BLK. cherts.

CHIP SAMPLE 106
FARM

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (7.5') Milk Lake
Hole No: 5-8 State: New Mexico Date: 2-19-81
Company: USGS County: McKinley Geologist: AK, LM, GR
Lat/Long: _____ Sheet 12 of 22

Table 1. Descriptions of cuttings samples from Mariano Lake -
Lake Valley Drilling Project, Hole No. 8, New Mexico
Sandstones
Estimated % of Lithologies

Depth to Top of Sample Interval	Sample Number	Grain Size	Sandstones						Facies	Sediment Color	Remarks/Number	Comments
			Congl.	Sandst.	Siltst.	Shale	Shale Color	Cal	Lithology	Grain Size		
2220	85-2220			20	1	5	N3 564 #1 12 carb	-	TR 100% 100%	uf	TR	tan stained gtz. large tan cts-granules lim. stained ss 54554
2240				10	-	90	N3 (B5) 564 #1 (5)	-	TR 100% 100%	uf	TR	lim. st. ss. chips lim. st. gtz.
2260				30	-	60	N3 564 #1 12 carb	-	TR 100% 100%	uf	TR	tan. st. gtz. " " of ss. chips abundant white acc
2280				15	-	75	N3 564 #1	-	TR 100% 100%	uf	TR	tan. st. gtz. lim. st. ss.
2300				10	-	90	SG 2/1 N3	-	TR 100% 100%	uf	TR	filmy sample
2320				10	-	90	564 #1 N3	-	TR 100% 100%	uf	TR	100% gtz, milky gtz. carb. l. comp. on shale backing plan
2340				10	TR	90	N3 564 #1	TR	-	uf	TR	Shell frag. dirty sample
2360				10	-	90	N3	TR	-	uf	TR	dirty sample
2380				10	-	90	3000 carb N3	TR	-	uf	TR	
2400	85-2400			5	-	85	N3-carb 564 #1	-	-	uf	TR	

CHIP SAMPLE 106
FORM

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (7.5') Milk Lake
 Hole No: S-8 State: New Mexico Date: 2-20-81
 Company: USGS County: McKinley Geologist: GL, ARK
 Lat/Long: _____ Sheet 13 of 22

Table 1. Descriptions of cuttings samples from Mariano Lake -
 Lake Valley Drilling Project, Hole No. 8, New Mexico Sandstones
 Estimated % of Lithologies

Depth to Top of Sample Interval	Sample Number	Grain Size	Lithology					Lamination	Grain Size	Sorting	Roundness	Foliation	Carbonates	Pyrite	Fossils	Sediment Color	Form No./Number	Comments
			Congl.	Sandst.	Siltst.	Shale	Shale Color	Cal										
2420	80-58-2420							SAMPLE'S DESTROYED				WIND					km	
2440																	km	
2460																	km	All samples below contaminated w/ wind blown sands (10/2/76)
2480																	km	re. has stained ss.
2500																	km	
2520																	km	
2540																	km	sample very calc.
2560																	km	Sample/sample very calcareous
2580																	km	very calc. shell fragments
2600	80-58-2600																km	very calc.

Table 1. Descriptions of cuttings samples from Mariang Lake - Lake Valley Drilling Project, Hole No. 8, New Mexico Sandstones

Hole No: 5-8 State: New Mexico Date: 2-22-81

Company: USGS County: McKim Geologist: DMM/GR

Lat/Long: _____, Sheet 14 of 22

[illegible]

CHIP SAMPLE 106
FARM

Location: 3-8 Sec. 5 T. 19N R. 12W Quadrangle (9.5') Milk Lake
Hole No: 5-8 State: New Mexico Date: 2-22-81
Company: W&P County: McKinley Geologist: GR, DM
Lat/Long: _____ Sheet 15 of 22

Table 1. Descriptions of cuttings samples from Mariano Lake -
Lake Valley Drilling Project, Hole No. 8, New Mexico

Depth to top of sample interval	Sample Number	Grain Size	Estimated % of Lithologies						Sandstones						Formation/Marker	Comments
			Coarse	Med	Fine	Silt	Clay	Shale	Shale	Shale	Shale	Shale	Shale	Shale		
2710																
2720																
2730																
2740																
2750																
2760																
2770																
2780																
2790																
2800																

CHIP SAMPLE 106
10 FT. SAMPLE INTERVAL FORM

Location: 3-8 Sec. 5 T. 19N R. 12W Quadrangle (9.5') Milk Lake
Hole No: 3-8 State: New Mexico Date: 2-20-81
Company: U.S.G.S. County: McKinley Geologist: ARK / LMR
Lat/Long: _____ Sheet 16 of 22

Table 1. Descriptions of cuttings samples from Mariano Lake -
Lake Valley Drilling Project, Hole No. 8, New Mexico Sandstones
Estimated % of Lithologies

Depth to base of Sample Interval	Sample Number	Gravel	Sandst.	Siltst.	Shale	Shale Color	Bed	Lithology	Grain Size	Sorting	Roundness	Feldspar	Lithology	Pyrite	Fluores.	Subsac Color	Formation / Member	Comments	10 FT. SAMPLE INTERVAL
2810	2810		30		40	N3	-	-	lf- mm	mm	sr	-	-	-	ch pyr	N7	King	Supersand and disagregated	
2820	2820		50		50	N3 (40) N8 (40)	-	-	uf	mm	sr	-	-	-	ch pyr	N7	King	Sand dirty and disagregated	
2830	2830		50		50	N3 (40) N8 (40)	-	-	uf	mm	sr	-	-	-	ch pyr	N7	King		
2840	2840		50		50	N3 (40) N8 (40)	tr	-	uf	mm	sr	-	-	-	ch pyr	N7	King		
2850	2850		15		85	N2 (60)	-	0	-	-	-	-	-	-	ch pyr	N7	King		
2860	2860		15		85	N3 (72) N8 (3)	-	1	-	-	-	-	-	-	ch pyr	N7	King		
2870	2870		15		82	N3 (72) N8 (3)	-	3	uf	mm	sr	-	-	-	ch pyr	N7	King		
2880	2880		20		80	N3 (84) N8 (16)	-	1-2	uf	mm	sr	-	-	-	ch pyr	N7	King		
2890	2890		60		35	N3 (13) N8 (87)	tr	5	lf	mm	sr	-	-	-	ch pyr	N7	King		
2900	2900		60		35	N3 (13) N8 (87)	tr	5	lf	mm	sr	-	-	-	ch pyr	N7	King		

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (7.5') Milk Lk
Hole No: S-8 State: New Mexico Date: 1-20-81
Company: USGS County: McKraley Geologist: ARE/EMP/MT
Lat/Long: _____ Sheet 17 of 22

Sandstones

Lake Valley Drilling Project, Hole No. 8, New Mexico										Sedimentation										Sedimentation										Sedimentation																																																																																																																																																					
Sample Number										Grain Size										Sorting										Roundness										Fieldpar.										Grains.										Rate										Heest.										Sandst. Color										Remarks/Notes										Comments																																																																															
Core No.										Congl.										Sandst.										Siltst.										Shale										Shale Color										Core										Lithology										Grain										Sorting										Roundness										Fieldpar.										Grains.										Rate										Heest.										Sandst. Color										Remarks/Notes										Comments									
2910										40										59										N3										TR										2										uvf										P										SR										TR										N8 (v)										gls argonauts										all samples are laminated w/ mudstone ss over																																																											
2920										40										59										N3 (v)										TR										3										uvf										W										SR										TR										N8 (v)										gls argonauts																																																																					
2930										50										40										N3 (v)										TR										0										uvf										M										SR										TR										N8 (v)										laminar stnd. spec. gls argonauts																																																																					
2940										40										60										N3 (v)										TR										18										uvf										MW										SR										TR										N8 (v)										uvf arg.										SHELL FRAGMENT																																																											
2950										50										50										N3 (v)										TR										1										uvf										W										SR										TR										N8 (v)										uvf arg. lamination stnd. spec.																																																																					
2960										30										70										N3 (v)										TR																				uvf										NW										SR																				N7										uvf arg. lamination stnd. spec.																																																																					
2970										60										40										N3 (v)																														uvf										MW										SR																				N7																																																																															
2980										80										20										N3 (v)																														uvf										W										SR																				N7																																																																															
2990										70										30										N3 (v)																														uvf										W										SR																				N7																																																																															
2990										35										50										TR										N7										uvf										W										SR																																																																																																													

CHIP SAMPLE 106
FORM

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (7.5') Milk Lake
 Hole No: S-8 State: New Mexico Date: 2/22/81
 Company: USGS County: McKinley Geologist: ARK, DHM, GMR
 Lat/Long: _____ Sheet 18 of 22.

Table 1. Descriptions of cuttings samples from Mariano Lake - Lake Valley Drilling Project, Hole No. 8, New Mexico																	
Sample Number (Chip Sample Interval)	Gravel	Estimated % of Lithologies						Sandstones						Formations / member	Comments		
		Congl.	Sandst.	Siltst.	Shale	Shale Color	Carb.	Limestone	Grain Size	Sorting	Rounded	Feldspar	Carbonates			Pyrite	Alte.
3010		97	-	3	N2-Carb	-	-	LF	N	SD	-	-	-	-	NZ	NZ	good wash sand
3020		94.5	-	5-6 TR TR	N2-Carb 5G 41 NB	TR	-	LF	MM	SR	-	-	-	-	NZ	NZ	more or less above i. more dirty
3030		98	-	2	N2-Carb	TR	-	LF-UF (M)	WV	SR	-	-	TR	TR	NZ	NZ	again st. dirty
3040		95	-	5 TR	N2-Carb 5G 41 NB	TR	-	UF TR LF	WV	SR	-	-	TR	TR	NZ	NZ	
3050		85	-	18 2	N2-Carb 5G 41	TR	-	LF	WV	SR	-	-	-	TR in 5/16"	NZ	NZ	large tan ch's in mm
3060		60	-	40 TR TR	N2-Carb 5G 41 NB	-	-	LF-UF	M	SR	-	-	-	TR in 5/16"	NZ	NZ	lim. st. green
Core point																	

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (7.5') Milk Lake
Hole No: S-8 State: New Mexico Date: 3-1-81
Company: USGS County: McKinley Geologist: DHM/ RSM
Lat/Long: _____ Sheet 19 of 22.

Table 1. Descriptions of cuttings samples from Mariano Lake -
Lake Valley Drilling Project, Hole No. 8, New Mexico Sandstones
Estimated % organic

Sample Number	Grain Size	Congl.	Sandst.	Siltst.	Shale	Shale Color	Bed	Lithology	Grain Size	Sorting	Roundness	Feldspar	Carbonates	Rhyol.	Flint.	Sandstone Color	Remarks / Notes
3060 -	SAMPLES					NOT DESCRIBED											CORED IN DAKOTA NO SAMPLES (for samples not described)
3135			45		55	N2 carb (5)	TR	6m	uf	m	A-SR					N4	interbedded sand grains no chips of ss. larger qtz more ang. than in 10 ft. gte.
3145			35		65	54 2/3 (120)		6m	uf	w	A-SR					N2	BRUSHY BASIN MBR. MURKIN FM. white clay j carb. fine chts 7-2 mm. mostly dis. ag. grains
3155			35		65	56 4/5 (18)		6m	uf	w						N7	interbedded sand grains no chips of ss. larger qtz more ang. than in 10 ft. gte.
3165			20		80	54 1/2 (120)		6m	disag	m	A-SR					N7	interbedded sand grains no chips of ss. larger qtz more ang. than in 10 ft. gte.
3175			30	1-2	70	54 1/2 (120)		6m	uf	m	A-SR					N7	interbedded sand grains no chips of ss. larger qtz more ang. than in 10 ft. gte.
3185			30		70	54 1/2 (120)		6m	uf	w	A-SR					N7	interbedded sand grains no chips of ss. larger qtz more ang. than in 10 ft. gte.
3195			30		70	54 1/2 (120)		6m	uf	m	A-SR					N7	interbedded sand grains no chips of ss. larger qtz more ang. than in 10 ft. gte.
3205			40		60	54 1/2 (120)		6m	uf	m	A-SR					N7	interbedded sand grains no chips of ss. larger qtz more ang. than in 10 ft. gte.
3215			50		50	54 1/2 (120)		6m	uf	m	A-SR					N7	interbedded sand grains no chips of ss. larger qtz more ang. than in 10 ft. gte.
3225			50		50	54 1/2 (120)		6m	uf	m	A-SR					N7	interbedded sand grains no chips of ss. larger qtz more ang. than in 10 ft. gte.

CHIP SAMPLE 106

FORM

Location: Sec. 5 T. 19N R. 12W Quadrangle (7.5') Milk Lake
 Hole No: S-8 State: N.M. Date: 3/1/81
 Company: U.S.G.S. County: McKinley Geologist: B.S.M., DHM
 Lat/Long: _____ Sheet 20 of 22

Depth to top of Sample Interval	Sample Number	Core/ice	Congl.	Sandst.	Siltst.	Shale	Slate color	Color	Crd	Limestone	Blk. Sst.	Sorting	Roundness	Feldspar	Carbonates	Pyrite	Foliation	Fracture	Succrose Color	Fracture/Remarks	Comments
3235	80-58-3235	60/60	40			45	N-2 5 505/1 10 N-5				UF -LM	M	SA -SR							Jmb	Disaggregated sands Abundant green grains
3245		60/60	10			65 15 5Y4/1 10 5G6/1 5 5Y5/1	N-2 5Y4/1 5G6/1				LC -LM	M	SR -SA	TR						Jmb (C)	11
3255		60/60	15			60 20 5Y4/1 5 5G6/1	N-2 5Y4/1 5G6/1				LF LM-LC	M	SR -SA							Jmb (?)	11
3265		60/60	80			5 10 N-2 5 5G6/1	5Y4/1 N-2 5G6/1				UVF LC-LM	M	SA -SR	TR						Jmb (?)	Some aggregated sands Mostly disaggregated. Green grains. Large dark stain 10% milk quartz, 15% small
3275		60/60	50			48 5' N-2 5 5G6/1	5Y4/1 (carb) N-2 5G6/1				UVF greenish -UF	P		TR						Jmb (?)	Trace white claystone Trace aggregates Mostly disaggregated Green staining Dark green grains
3285		60/60	80			10 5 5G6/1 5 5Y4/1 (carb)	N-2 5G6/1 5Y4/1 (carb)				UF -uc	P	SA -SR	TR						Jmb (?)	Disaggregated sands Green staining Dark green grains
3295		60/60	80			10 5 5G6/1 5 5Y4/1 (carb)	N-2 5G6/1 5Y4/1 (carb)				UF -uc	P	SA -SR	TR						Jmb (?)	Same as above but less green grains
3305		60/60	90			5 2 5G6/1 3 5Y4/1 (carb)	N-2 5G6/1 5Y4/1 (carb)				UVF LC -UF	P	SR -SA	TR						Jmb (?)	uvf aggregated LC-uvf, Iron-stained quartz Green grains
3315		60/60	90			5 2 5G6/1 3 5Y4/1 (carb)	N-2 5G6/1 5Y4/1 (carb)				UVF LC -UF	P	SR -SA	TR						Jmb (?)	11
3325	80-58-3325	60/60	90			5 2 5G6/1 3 5Y4/1 (carb)	N-2 5G6/1 5Y4/1 (carb)				UVF (2mm grain) -UF	P	SR -SA	TR						Jmb (?)	Green stained grains Iron stained grains

CHIP SAMPLE 106
Form

Location: S-8 Sec. 5 T. 19N R. 12W Quadrangle (9.5') MILK LAKE
Hole No: S-8 State: New Mexico Date: 3-1-81
Company: U.S.G.S. County: McKinley Geologist: AMM, BSM, ARK
Lat/Long: _____ Sheet 21 of 22

Depth to top of bed (meters) Interval	Sample Number	Core/Sec	Congl.	Sandst.	Siltst.	Shale	Shale color	Coal	Limestone	Grain size	Sorting	Roundness	Feldspar	Carbonates	Pyrite	Fossils	Sandstone Color	Remarks/Number	Comments
3335	3335	60-65		80	1	20	N2 (12) 50-41 (14) 54-41 (14)	1	1	6-10	2	SA	6r	1	-	1		Jmb	tr. white agg. sands (kd?) Fe staining (limonite) abundant gr. grains
3345	3345	60-65		90		10	N2 (16) 50-41 (12) 54-41 (12)	1	1	6-10	2	SA	6r	1	-	1		Jmb	tr. white agg. (kd?) Fe stained grains (limonite)
3355	3355	60-65		90		10	N2 (16) 50-41 (12) 54-41 (12)	1	1	6-10	2	SA	6r	1	-	1		Jmb + Jmb	tr. white agg. (kd?) Fe staining (limonite)
3375	3375	60		80		20	N3 (15) 50-41 (5)	1	1	6-10	2	SA	2	1	-	1		Jmb	hem. st. gr. z.
3381	3381	60		90		5	N3 (15) 50-41 (2) N8 (11)	1	1	6-10	2	SA	4	1	-	1		Jmb	hem. st. gr. z. limonite
3390	3390	60		30		20	N3 (10) N3 (10) N8 (11)	1	1	6-10	2	SA	1	1	-	1		Jmb	
3400	3400	60		30		20	N3 (10) N3 (10) N8 (11)	1	1	6-10	2	SA	6r	1	-	1		Jmb	
3410	3410	60		40		60	60-71 (10) N3 (60) N8 (11)	1	1	6-10	2	SA	6r	1	-	1		Jmb	10R 4/6 - tr. brown mudstone
3420	3420	60		30		20	50-71 (10) N3 (59) N8 (11)	1	1	6-10	2	SA	6r	1	-	1		Jmb	
3430	3430	60		50		30	50-71 (15) N3 (15) N8 (11)	1	1	6-10	2	SA	4	1	-	1		Jmb	lots of chips of Jd sand

Location: S-8 Sec. 5 T. 19N R. 2W Quadrangle (7.5') Milk Lake
Hole No: S-8 State: New Mexico Date: 4/3/81
Company: USGS County: McKinley Geologist: ARK & BAS
Lat/Long: _____ Sheet 22 of 22.

Sandstones

[illegible]

Table 2 Descriptions of core from Mariano Lake - Lake Valley
Drilling Project Hole No. 8, New Mexico

LOCATION S-8 Sec. 5 T. 14N. R. 12W QUADRANGLE (7.5') 141K LKLC
STATE New Mexico COUNTY McKinley DATE 2-21-81
LAT.-LONG. GEOL. BRK. / D.H.M. / G.M.B.

THICKNESS	SAMPLE NO.	UNIT NO.	FM/MBR.	RADIOACT.	CPS	VISUAL POROSITY	CORE ESTIMATE	ROCK TYPE	FOOTNOTES	COLOR	CLAY DOMINANT	GRAIN SIZE	BEDDING	SEDIMENTARY STRUCTURES	BIOLOGY/ORGANICS	SORTING/ROUNDNESS	CEMENT	PERCENT FELDSPAR	ACCESSORY MINERALS OR FRAGMENTS	NOTES: (ALTERATION, ATTITUDE, CLASTS, MINERALIZATION, & MISC. INFO.)	INFERRED ENVIRONMENT OF DEPOSITION	TRANSPORT DIRECTION (NO. OF MEASUREMENTS)
3060																						
3070																						
3080																						
3090																						
3100																						
3110																						
3120																						

LOCATION S-8 Sec. 5 T. 19N R. 12W
STATE New Mexico COUNTY Mckinley
U.S.G.S. CORE LIBRARY NUMBER _____ API WELL NUMBER _____

3155 - 3355 Rotary Drilled

Contact Kd-Jmb on Geolograph
at 3162 ft.

3135 to
3355
Rotary
Drilled

Kd
Geolograph

Jmb
Geolograph

Brushy
Beva. Mbr.
Morrison Fm.

Kd

Jmb

3140

3150

3160

3170

3180

3190

3200

3210

LOCATION S-8 Sec. 5 T. 19N R. 12W
STATE New Mexico COUNTY Mckinley
U.S.G.S. CORE LIBRARY NUMBER _____ API WELL NUMBER _____

3155-3355 Rotary Drilled

Table 2. Descriptions of core from Mariano Lake - Lake Valley
Drilling Project Hole No. 8, New Mexico

3210

3220

3230

3240

3250

3260

3270

3280

LOCATION S-8 Sec. 5 T. 19N R. 12W
STATE New Mexico COUNTY McKinley
U.S.G.S. CORE LIBRARY NUMBER _____ API WELL NUMBER _____

Table 2. Descriptions of core from Mariano Lake - Lake Valley Drilling Project Hole No. 8, New Mexico



Table 2 Descriptions of core from Mariano Lake - Lake Valley
Drilling Project Hole No. 8, New Mexico

LOCATION <u>S-3</u> Sec. <u>5</u> T. <u>19 N</u> R. <u>12 W</u>									
STATE <u>New Mexico</u> COUNTY <u>McKinley</u>									
U.S.G.S. CORE LIBRARY NUMBER _____ API WELL NUMBER _____									
3370		NR 5841	tan thin	Current? ell	END bik stringer	M. sh F/10/10 N/A	V. CA N/A	2-3 TR	tan red bik thin clay at top
3380		5841 5841 5841	tan thin	?	?	NS shale	V. CA N/A	1-2 Lr	10 cm. dk. sh. clay clast w/ purple (5842/1) (angular); red chert; thin in m. sh. TR PY 281 100. bik stringer; 4 cm abundant. black apatites. NO Recovery tan & red chert; black acc.; grn grains towards base to greener with more clay; iron. base with 1/2 mm. organic matter. iron. calcite, blebs; grn & bik grains & chert NO Recovery
3390	3381-3436 Rotary Drilled								
3400	3381-3436 Rotary Drilled								
3410	"K" Shale Geotrophic								
3420	3381-3436 Rotary Drilled								
3430	3381-3436 Rotary Drilled								
3440		5841 5841 5841	tan thin	Current? ell	END bik stringer	M. sh F/10/10 N/A	V. CA N/A	2-3 TR	5 in mottled with purple mudstone (w/ red); bik stringer (100) chert, bik. apatite, dk. grn grains tan stringers bik. sh Upper 18" mostly out of order. coarse & fine sand lamination 1 1/2 ft up - more clay in zone of clay in sand lower 2 ft has org stringers & clay in sand tan & red chert; grn grains, black acc.

U.S.G.S. CORE LIBRARY NUMBER.....API WELL NUMBER.....

Table 2 Descriptions of core from Mariano Lake - Lake Valley

