CORRELATION OF COAL BEDS IN DRILL HOLES AND MEASURED SECTIONS

COMPOSITE COLUMNAR SECTION

SYSTEM: CRETACEOUS
SERIES: UPPER CRETACEOUS
FORMATION: MANCOS SHALE; GALLUP SS.; CREVASSE CANYON
MEMBER: ALLISON; CLEARY COAL; GIBSON COAL
COAL BED NAME: MC zone, MC2A, MC zone, MC 2, MC zone, MC 1, L, CG 8, CG zone, CG 7, CG zone, CG 6, CG zone, CG 4, CD 4, CD zone, CD 3, CD 2

LITHOLOGIC DESCRIPTION

1. SHALE; gray to brown, carbonaceous, sandy, abundant flora and fauna, interbedded light gray medium grained sandstone and siltstone.
2. SHALE; same as No. 1.
3. COAL; Menefee Cleary zone.
4. COAL; Menefee Cleary No. 2A bed.
5. COAL; Menefee Cleary zone.
6. COAL; Menefee Cleary No. 2 bed.
7. COAL; Menefee Cleary zone.
8. COAL; Menefee Cleary No. 1 bed.
9. SANDSTONE; light gray to reddish brown, fine to medium grained, salt and pepper, massive occasional thin shale interbeds.
10. COAL; local bed.
11. SILTSTONE; medium gray, carbonaceous, slightly sandy; thinly interbedded with gray to tan, medium to very coarse grained, poorly sorted sandstone, and dark gray carbonaceous shale.
12. COAL; Crevasse Canyon Gibson No. 8 bed.
13. COAL; Crevasse Canyon Gibson zone.
14. COAL; Crevasse Canyon Gibson No. 7 bed.
15. COAL; Crevasse Canyon Gibson zone.
16. COAL; Crevasse Canyon Gibson No. 6 bed.
17. COAL; Crevasse Canyon Gibson No. 4 bed.
19. SILTSTONE; yellow brown to olive gray, interbedded shales and white to brown, very fine to medium grained, moderate to poorly sorted, calcareous sandstones; locally thin coal beds.
20. SANDSTONE; yellowish gray, very fine grained, well sorted, quartzose, slightly calcareous, fossiliferous.
21. SHALE; light gray to tan, silty; interbedded with reddish very fine grained, micaceous sandstone, and dark gray shale.
22. SILTSTONE; medium gray to dark gray, argillaceous to sandy, thinly interbedded with medium grained tan sandstone, and dark gray carbonaceous shale.
23. COAL; Crevasse Canyon Dilco No. 4 bed.
24. COAL; Crevasse Canyon Dilco zone.
25. COAL; Crevasse Canyon Dilco No. 3 bed.
26. COAL; Crevasse Canyon Dilco No. 2 bed.
27. SANDSTONE; pink to tan to gray, fine to medium grained, moderately sorted, massive, locally cross bedded and calcareous; occasional thin beds of gray argillaceous shale.
28. SHALE; dark gray to light gray, friable, silty; with minor thin, brown, calcareous siltstone. (Note: partial section shown).

A. Crevasse Canyon
B. Mancos Shale
C. Point Lookout Ss.
D. Mulatto Tongue
E. Dalton Ss.
F. Bartlett Barren
G. Cleary Coal

Meters — Feet: 25—100; 50—200; 75—300; 100—400
Vertical Scale

T. 16 N., R. 17 W.

①	②	③	④	⑤	⑥	⑦	⑧
SEARS, 1934 PL. 11, NO.28 SE1/4 SE1/4 NW1/4 SEC. 10	SEARS, 1934 PL. 11, NO.29 NW1/4 NE1/4 SE1/4 SEC. 10	SEARS, 1934 PL. 11, NO.30 NE1/4 NW1/4 NE1/4 SEC. 10	SEARS, 1934 PL. 11, NO.31 NW1/4 NW1/4 NW1/4 SEC.11	SEARS, 1934 PL. 11, NO. 32 SE1/4 SW1/4 SW1/4 SEC. 2	SEARS, 1934 PL. 11, NO. 33 NE1/4 NE 1/4 SE1/4 SEC. 2	SEARS, 1934 PL. 11, NO.34 NW1/4 SW1/4 NE1/4 SEC. 11	SEARS, 1934 PL. 11, NO.35 SE1/4 NW1/4 NW1/4 SEC. 12
Dalton Ss. 7266'	7200'	7137'	7170'	7095'	7059'	7211'	7187' DATUM
Crevasse Canyon Fm. Dilco Coal Member							
CD 4 7210' 2.1	CD 4	CD 4 7080' 2.0	CD 4 7115' 1.6	CD 4	CD 4 7005' 1.0	CD 4 7165' 0.6/0.2	
		CD 3 <1.1		CD 3 7010' 1.8	CD 3 3.1/3.6	CD Zone 1.6 CD 3 3.1/4.7	CD 3 7020' 3.7/4.0
	CD 2 7000' 1.4			CD 2 1.4		CD 2 1.1	CD 2 <1.1

T. 16 N., R. 17 W.

⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰
SEARS, 1934 PL. 11, NO. 36 SW1/4 NW1/4 SW1/4 SEC. 12	SEARS, 1934 PL. 11, NO.38 SW1/4 SW1/4 SE1/4 SEC. 12	SEARS, 1934 PL. 11, NO. 39 NE1/4 NW1/4 SE1/4 SEC. 12	SEARS, 1934 PL. 11, NO.40 SW1/4 NE1/4 SW1/4 SEC. 7	SEARS, 1934 PL. 11, NO. 41 SE1/4 NE1/4 SE1/4 SEC. 7	SEARS, 1934 PL. 11, NO.42 NE1/4 NE1/4 SE1/4 SEC. 5	SEARS, 1934 PL. 12, NO.43 NE1/4 NE1/4 NE1/4 SEC. 8	SEARS, 1934 PL. 12, NO. 44 SW1/4 NE1/4 NW1/4 SEC. 4	SEARS, 1934 PL. 12 , NO 45 NE1/4 NW1/4 NE1/4 SEC. 9
Dalton Ss. 7361'	7395'	7347'	7410'	7422'	7195'	7305'	7320'	7326' DATUM
Crevasse Canyon Fm. Dilco Coal Member								
CD 4 7280' 2.3	CD 4 7330' 2.1	CD 4 7280' 2.3	CD 4 7340' 3.0	CD 4 7350' 1.7	CD 4 7120' 2.1	CD 4 7230' 1.4	CD 4 7245 1.4	CD 4 7250' 1.5
CD Zone 1.1	CD Zone 1.2	CD Zone 0.8						
CD 3 3.5/0.8		CD 3 <1.1	CD 3 <1.1	CD 3 <1.1	CD 3 1.2	CD 3 3.2	CD 3 0.3	CD 3 1.3
								CD 2 <1.1

T. 16 N., R. 16 W.

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SEARS, 1934 PL. 12, NO. 46 SW1/4 SE1/4 SE1/4 SEC. 4	SEARS, 1934 PL. 12, NO. 47 NW1/4 SW1/4 NW1/4 SEC. 2	SEARS, 1934 PL. 12, NO.55 NW1/4 NE1/4 NW1/4 SEC.11	SEARS, 1934 PL. 12, NO. 56 NE1/4 SW1/4 NW1/4 SEC. 4
Dalton Ss. 7280'	7121'	7243'	7312' DATUM
Crevasse Canyon Fm. Dilco Coal Member			
CD 4 7050' 1.2		CD 4 7170 1.5	CD 4 7240' 1.6
CD 3 7150' 3.1/0.3	CD 3 2.8/3.3	CD 3 1.0	CD 3 1.2 2.0
CD 2 1.5/0.1	CD 2 <1.1		CD 2 1.0

T. 17 N., R. 17 W.

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SEARS, 1934 PL. 13, NO. 115 NW1/4 NE1/4 SW1/4 SEC. 26 (PROJECTED)	SEARS, 1934 PL. 13, NO. 117 NE1/4 NW1/4 NW1/4 SEC. 26 (PROJECTED)	SEARS, 1934 PL. 13 NO. 120 SE1/4 NW1/4 SW1/4 SEC. 14 (PROJECTED)
CG 7 7260' 5.2/1.5	CG 7 7040' 7.0 5.5	
2.3	1.8	
CG 6 0.7 1.8	CG 6 0.6	
1.5	1.5	
CG Zone 1.4	1.6	
1.1	0.9 0.5	
CG Zone	2.9/0.8	
	3.5 0.8	
CG 4	CG 4 11.0	CG 4 6660' 12.0

T. 18 N., R. 16 W.

53

THE SUPERIOR OIL COMPANY NAVAJO K-1 SE1/4 SE1/4 SE1/4 SEC. 32 — 6695'

CG 6 3
CG Zone 2 2 2
CG 6 3
CG Zone 2 4 3
CG Zone 3
TD 2503'

T. 17 N., R. 16 W.

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SUPERIOR OIL COMPANY NAVAJO K-1 SE1/4 SE1/4 SE1/4 SEC. 32 — 6695'

CG 6 3
CG Zone 2 2 2
CG 6 3
CG Zone 2 4 3
300'
CD Zone 3
1500'
TD 2503'

T. 17 N., R. 16 W.

54

N.M.S.B.M.M.R. TEST HOLE NO. 3 NE1/4 NW1/4 NE1/4 SEC. 21 — 7130'

MC 1 1.0
0.5 1.0 2.0 1.0 3/1.0 2 1.0 0.5
TD 297

T. 17 N., R. 17 W. / T. 18 N., R. 17 W. / T. 17 N., R. 16 W.

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SEARS, 1934 PL. 14, NO. 121 NW1/4 NW1/4 SE1/4 SEC. 1 (PROJECTED)	SEARS, 1934 PL. 14, NO. 122 NE1/4 NE1/4 SE1/4 SEC. 36 (PROJECTED)	SEARS, 1934 PL. 14, NO. 123 NW1/4 NW1/4 NW1/4 SEC. 8 (PROJECTED)	SEARS, 1934 PL. 14 , NO. 124 SE1/4 NW1/4 SW1/4 SEC. 9 (PROJECTED)	SEARS, 1934 PL. 14, NO. 125 SW1/4 SW1/4 NW1/4 SEC. 3 (PROJECTED)	SEARS, 1934 PL. 14, NO. 128 NW1/4 NE1/4 NE1/4 SEC. 3 (PROJECTED)	SEARS, 1934 PL. 14, NO. 129 SE1/4 NE1/4 SW1/4 SEC. 11 (PROJECTED)	SEARS, 1934 PL. 14, NO. 130 NW1/4 SE1/4 NE1/4 SEC. 11 (PROJECTED)	SEARS, 1934 PL. 14, NO. 137 NW1/4 NE1/4 SE1/4 SEC. 30 (PROJECTED)	SEARS, 1934 PL. 14, NO. 138 SE1/4 NW1/4 SW1/4 SEC. 28 (PROJECTED)	SEARS, 1934 PL. 14, NO. 139 NE1/4 SW1/4 SE1/4 SEC. 29 (PROJECTED)	SEARS, 1934 PL. 14, NO. 140 SW1/4 NE1/4 SE1/4 SEC. 32	SEARS, 1934 PL. 14, NO. 141 SW1/4 NW1/4 SW1/4 SEC. 34	SEARS, 1934 PL. 14 , NO. 142 NE1/4 NE1/4 NW1/4 SEC. 34 (PROJECTED)	SEARS, 1934 PL. 14, NO. 143 NW1/4 SE1/4 SE1/4 SEC. 27 (PROJECTED)	SEARS, 1934 PL. 14, NO. 144 SW1/4 SW1/4 SW1/4 SEC. 26 (PROJECTED)
Point Lookout Ss. Crevasse Canyon Fm. Gibson Coal Mbr.	6485'	6360'	6605'	L 2.0 6580' 6570'											
CG 8 1.5			CG 8 1.5	CG 8 2.3		CG 8 2.5 6640'	CG 8 2.5 6600'	CG 8 0.5 7240' 0.8	CG 8 7180'	CG Zone 1.7	CG Zone 2.5	CG Zone 1.1	CG Zone 1.1	CG Zone 1.1	CG Zone 1.1
				CG 7 5.0	CG 7 4.5 6450'	CG 7 8.7/4.0	CG 7 6.3/4.0	CG Zone 2.7/0.5	CG 7 2.3		CG 7 4.0	CG 6 3.0	CG 6 2.3	CG 7 3.6/3.0	CG 7 0.3 3.4
CG 6 1.5	CG 6 1.5	CG 6 1.5		CG 6 1.1	CG 6 1.4		CG Zone 2.2	CG 7 0.8	CG 7 1.6			1.0	1.5 2.5		CG 7 1.5
		8.0	CG 6 6570' 6.5					CG Zone 1.8			CG Zone 2.6		3.7	CG Zone 2.0/0.1	CG Zone 0.8
			CG Zone 2.8					CG 6 0.3 0.8		CG Zone 1.1	2.0/0.5	CG Zone 0.5			
								CG Zone 4.0		CG 6 1.4		1.1/0.5			

T. 17 N., R. 16 W.

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SEARS, 1934 PL. 14 , NO. 145 NE1/4 SW1/4 NE1/4 SEC. 26 (PROJECTED)	SEARS, 1934 PL. 14, NO. 146 NW1/4 SE1/4 SE1/4 SEC. 26 (PROJECTED)	SEARS, 1934 PL. 17, NO. 260 SE1/4 SW1/4 SW1/4 SEC. 7 (PROJECTED)	SEARS, 1934 PL. 17, NO 261 NE1/4 NW1/4 NE1/4 SEC. 17 (PROJECTED)	SEARS, 1934 PL. 17, NO. 262 NW1/4 NW1/4 NW1/4 SEC. 16 (PROJECTED)	SEARS, 1934 PL. 17 , NO. 263 SW1/4 NE1/4 NW1/4 SEC. 16 (PROJECTED)	SEARS, 1934 PL. 17, NO. 264 SE1/4 SE1/4 NE1/4 SEC. 20 (PROJECTED)	SEARS, 1934 PL. 17, NO. 265 SE1/4 SE1/4 SW1/4 SEC. 19 (PROJECTED)	SEARS, 1934 PL. 17, NO. 266 NE1/4 NE1/4 SE1/4 SEC. 15 (PROJECTED)	SEARS, 1934 PL. 17, NO. 267 SE1/4 SE1/4 SE1/4 SEC. 21 (PROJECTED)	SEARS, 1934 PL. 17, NO. 268 SW1/4 SW1/4 NW1/4 SEC. 27 (PROJECTED)	SEARS, 1934 PL. 17 , NO. 269 NW1/4 SW1/4 SE1/4 SEC. 14 (PROJECTED)
Point Lookout Ss. Crevasse Canyon Fm. Gibson Coal Member	7281'	7397' DATUM										
CG 7 1.8	CG 7 3.3										
CG Zone 4.0	CG Zone 2.6										
CG 6 2.1	CG 6 3.4										
1.1											
CG Zone 1.0	4.0										
1.0	CG Zone 1.0										
	1.1										
		Menefee Fm.									
		Point Lookout Ss.									

COAL BED/ZONE SYMBOLS AND NAMES

L-Local coal bed
MC Zone-Menefee Cleary coal zone
MC2A-Menefee Cleary No. 2A coal bed
MC2-Menefee Cleary No. 2 coal bed
MC1-Menefee Cleary No. 1 coal bed
CG8-Crevasse Canyon Gibson No. 8 coal bed
CG7-Crevasse Canyon Gibson No. 7 coal bed
CG6-Crevasse Canyon Gibson No. 6 coal bed
CG4-Crevasse Canyon Gibson No. 4 coal bed
CG Zone-Crevasse Canyon Gibson coal zone
CD Zone-Crevasse Canyon Dilco coal zone
CD4-Crevasse Canyon Dilco No. 4 coal bed
CD3-Crevasse Canyon Dilco No. 3 coal bed
CD2- Crevasse Canyon Dilco No. 2 coal bed

Meters — Feet: 0—0; 25—100; 50—200; 75—300
Vertical Scale

EXPLANATION

Index number

Company and well name or Measured section location (Projected on Navajo Indian reservation)

Altitude at surface

Bottom of casing

Coal bed showing thickness in feet

<1.1 denotes coal bed less than 1.1 feet, actual thickness not shown.

Rock interval

Break in rock interval. Thickness of missing interval shown in feet.

TD 2503' Total depth of well in feet

6.2/4.0 Coal interbedded with rock
Total coal thickness/
Total rock thickness

COAL RESOURCE OCCURRENCE MAP OF THE HARD GROUND FLATS QUADRANGLE, McKINLEY COUNTY, NEW MEXICO

BY

BERGE EXPLORATION, INC.

1979

PLATE 3
COAL DATA SHEET

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OPEN FILE REPORT 80-028
PLATE 3 OF 4

This report has not been edited for conformity with Geological Survey editorial standards or stratigraphic nomenclature.