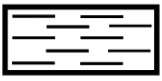




Shale



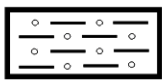
Blocky peds



Mudstone



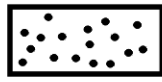
Slickensides



Interlaminated sandy shale or silty sandstone



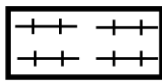
Carbonate nodules



Sandstone



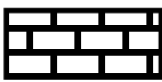
Brachiopods (whole and fragmented)



Siltstone



Crinoid fragments



Limestone



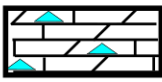
Gastropods



Shaley limestone



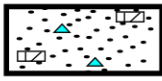
Foraminifera



Cherty dolomitic limestone



Brachiopods



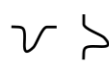
Sandy cherty dolomitic-limestone conglomerate



Bioturbation



Lithoclasts Shale Dolomite Chert



Burrowing (vertical and horizontal)



Low-angle cross beds



Organic or carbonaceous debris



Heterolithic (lenticular) laminae



Root Traces



Heterolithic (wavy) laminae



Stylolites



Heterolithic (flaser) laminae



Pyrite



Mud Drapes



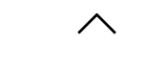
Phosphate



Asymmetric ripples



Siderite



Symmetric ripples

- - - Gradational contact



Convolute laminae

— Sharp contact



Desorbed sample

2.01a

Facies photograph

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		370 - 390 ft		PAGE		1 OF 25				
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			31-32			
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown			DATE		January 2005	
DEPTH (feet)	COLOR	LITHOLOGY	CARBONATES					SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX		
			CLAY	SAND	EVAP	MUDST	WCKST							PCKST	GRNST
			Z	V	F	M	C								
370															
372															
374										Organic rich, blocky non-laminated mudstone					
376										Light gray packstone-grainstone. Both upper and lower contacts are gradational. Fossiliferous.					
378										Light greenish-gray blocky mudstone with light bluish gray carbonate nodules.					
380										Thin (0.5') light gray bioclastic grainstone. 1-3 mm grains.					
382										2.06					
384										2.03c					
386										Dark greenish gray mudstone gradual transition below to shale with slickensides, burrows, and root casts.					
388										Light bluish gray carbonate nodules.					
390										Dark greenish-gray very finely laminated (<0.5 mm) shale.					
										Dark greenish gray blocky mudstone.					

WELL NAME		Deffenbaugh Quarry #2		INTERVAL		390 - 400 ft		PAGE		2 OF 25			
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS						BOXES		32-34			
COMPANY		Kansas Geological Survey				DESCRIBED BY		W.M. Brown		DATE		January 2005	
DEPTH (feet)	COLOR	LITHOLOGY	CARBONATES				SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX	
			CLAY	SAND	EVAP	MUDST							WCKST
			Z	V	F	M	C						
390										Dark greenish-gray mudstone with light bluish-gray carbonate nodules, slickensides, root traces, and burrows.			
392										Disarticulated fossil fragments (brachiopods, pelecypods, crinoids, and gastropods).			
394										Grain supported at top (packstone fabric).			
396										Light gray bioturbated wackestone to packstone.		33	
398										Mostly unabraded fossils.			
400													
402													
404										2.13a Dark-gray shale with pyrite and siderite.			
406													
408										Lenticular, wavy, and flaser bedded, ripple-cross laminated sandstone and shale. Very-fine grained. Pyrite mineralization.			
410										Dark-gray shale with pyrite and siderite.		34	

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		430 - 450 ft		PAGE		4 OF 25					
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			35-37				
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown				DATE		January 2005	
DEPTH (feet)	COLOR	LITHOLOGY	CARBONATES					SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX			
			CLAY	SAND	EVA/P	MUDST	WCKST							PCKST	GRNST	BNIDST
			Z	V	F	F	M	C								
430										Coarsening upwards, light-gray interlaminated shale and sandstone. Ripple-cross laminated, Lenticular, flaser and wavy bedding. Mud drapes.						
432										Dark shell rich layer.						
434										Light greenish gray blocky mudstone with occasional preserved relic laminae. Light bluish gray carbonate nodules, burrows, and root casts.						
436										Slickenslides.						
438										Very light gray wackestone.	Higginsville Limestone					
440										Unabraded brachiopod and bivalve fossils.						
442										Organic rich, rooted and burrowed dark gray mudstone with slickenslides.						
444										2-3 mm carbonaceous shale layers or coal laminae.						
446										Reddish-brown and greenish-gray mottling. Weakly preserved laminae, slickenslides common.						
448										2.03d						
450										Dark greenish-gray blocky mudstone.						

DEPTH (feet)	LITHOLOGY	CARBONATES	CLASTICS	SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX	
490 492 494 496 498 500 502 504 506 508 510	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> EVAP MUDST WCKST PCKST GRNST BNDST </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> CLAY SAND Z V F F M C </div> </div>					<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> CARBONATES </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> CLASTICS </div> </div>		DESCRIPTION - NOTES - Thickness - Color - Lithology (Grain Size, Sorting, Roundness) - Composition - Sedimentary Structures - Contacts - Body / Trace Fossils - Post-Depositional and Diagenetic	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX
						S	Medium-gray interlaminated sandy shale.			
						S	Occasional thin beds (5-10 mm) of black shale.			
						S	Occasional thin beds (1-20 mm) of Brown sideritic nodules.			
						S			42	

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		510 - 530 ft		PAGE		8 OF 25							
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			42-44						
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown				DATE		January 2005			
DEPTH (feet)	LITHOLOGY	CARBONATES			SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES				SURFACES, FACIES, INTERVAL, and COMMENTS		BOX				
		EVAP	MUDST	WCKST	PCKST	GRNST	BN DST	CLAY	SAND	Z	V	F	M	C				
		CLASTICS																
510																		
512																		
514																		
516																		
518																		
520																		
522																		
524																		
526																		
528																		
530																		

Medium gray, weakly laminated Siltstone.

Plant debris common.

Coarsens upwards, slightly.

44

S

P

2.17b

S

P

2.01a

525

Upper Iron Post Coal

43

44

WELL NAME		Deffenbaugh Quarry #2		INTERVAL		530 - 550 ft		PAGE		9 OF 25			
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS						BOXES		44-46			
COMPANY		Kansas Geological Survey				DESCRIBED BY		W.M. Brown		DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES					SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX	
		CLAY	SAND	EVAPE	MUDST	WCKST							PCKST
		Z	V	F	M	C							
530							4		Coarsening upward very-fine-grained medium-gray sandstone. Wavy, flaser and lenticular bedding in ripple-cross laminae.				
532							~	(P)	Micaceous and rich in organic debris.	Squirrel Sandstone	43		
							4		2.08a Burrows.				
534									Pyrite				
536							4						
538							~						
540							~		Medium-gray interlaminated sand, silt, and shale.				
542							~						
544								(P)					
546								(S)	Dark-gray pyrite and siderite rich shale.				
548							4		Medium-gray sandstone with burrows and organic material.				
							~		4" coal.	Lower Iron Post Coal			
550									Light to medium-gray sand, shale, and silt, interlaminated with lenticular and wavy beds.				

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		570 - 590 ft		PAGE		11 OF 25				
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			47-49			
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown			DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES					SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX			
		CLAY	SAND	EVAPE- MUDST	WCKST	PCKST							GRNST	BNST	
		Z	V	F	M	C									
570									Bevier Coal from 570'-571'-4"	Bevier coal					
572									Mottled and blocky mudstone. Dark gray in color, and rich in organics. Silt content increases with depth.		48				
574									Roots, burrows, and slickensides common.						
576									Greenish-gray blocky mudstone.						
578									Very light-gray wackestone. Articulated brachiopod and pelecypod fossils.	Verdigris Limestone					
580									Dark-gray blocky mudstone with burrows, slickensides, and root traces.	V-Shale, top of V-Shale interval					
582									Black shale with disarticulated pelecypod and brachiopod fragments.						
584									Greenish-gray blocky mudstone.						
586									Coarsening upwards, medium-gray, structureless, very fine-grained sandstone.		49				
588									Organic material, root traces, and burrows are common throughout.						
590									Transitional contacts below to greenish-gray shale.						

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		590 - 610 ft		PAGE		12 OF 25				
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			49-51			
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown			DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES					SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX			
		EVAP	MUDST	WCKST	PCKST	GRNST							BNIDST	CLAY	SAND
		Z	V	F	M	C									
590									Brownish-red and greenish-gray blocky mottled mudstone.						
592									Slickensides, burrows, and root traces 2.03e						
594															
596									Pale yellowish-gray, greenish-gray, and reddish-brown mottled blocky mudstone. 2.03a		50				
598									Weakly laminated medium-gray sandy shale.						
600															
602															
604															
606								P	Pyritic finely laminated black shale 2.15 Fleming coal @ 605'-607'-3"	Fleming coal					
608									Organic rich, coarsening-upwards, siltstone. Root traces, slickensides, and burrows common.		51				
610									Blocky medium-gray mudstone.						

WELL NAME		Deffenbaugh Quarry #2		INTERVAL		610 - 630 ft		PAGE		13 OF 25			
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS						BOXES		51-53			
COMPANY		Kansas Geological Survey				DESCRIBED BY		W.M. Brown		DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES				SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX		
		EVAP	MUDST	WCKST	POKST							GRNST	BNST
		CLASTICS											
		CLAY	SAND	Z	V	F	M	C					
610									Medium dark-gray and greenish-gray blocky mudstone.				
									Slickenslides, burrows, and root traces				
612									Light bluish-gray nodular carbonate.				
614													
616													
618									Disarticulated fossils in dark-gray shale. Very light-gray muddy wackestone. Crinoids, brachiopods, and bivalve fossils preserved.				
620									Dark greenish-gray, and medium dark-gray blocky mudstone.				
									Yellowish and reddish mottled.				
622													
624													
626									Dark-gray shale with yellow and red mottles but no slickenslides or roots.				
628													
630									Disarticulated fossils in dark-gray shale. Very light-gray wackestone. Dark-gray shale				

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		630 - 650 ft		PAGE		14 OF 25					
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			53-54				
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown				DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES					SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES		SURFACES, FACIES, INTERVAL, and COMMENTS		BOX		
		CLASTICS														
		EVAP	MUDST	WCKST	POKST	GRNST	BNDST									
		CLAY	SAND	Z	V	F	F	M	C							
630																
632										Dark-gray shale. Faint laminations, poorly developed						
634										Pyrite						
636																
638										Mineral Coal, 637'-8" to 639'-4". Substantial pyrite.		Mineral coal				
640																
642										Dark-gray and greenish-gray blocky mudstone. Organic rich				54		
644										Slickenslides						
646										Fining-upwards medium-gray siltstone						
648										Medium-gray fining-upwards blocky Very fine-grained sandstone. Organic rich.						
650										Light greenish-gray blocky mudstone. Slickenslides and root traces.				53		

WELL NAME		Deffenbaugh Quarry #2			INTERVAL	650 - 670 ft		PAGE	15 OF 25						
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS						BOXES			54-56				
COMPANY		Kansas Geological Survey				DESCRIBED BY		W.M. Brown				DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES		CLASTICS	SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES		SURFACES, FACIES, INTERVAL, and COMMENTS	BOX				
		EVAP	MUDST					WCKST	POKST			GRNST	BNDST	CLAY	SAND
650								Poorly laminated medium-gray, silty shale.							
652															
654															
656								Burrowed and rooted non-laminated siltstone.							
658															
660															
662								Coarsening upwards, very light-gray, Very fine-grained, sandstone. No laminations, organic rich.			54				
664															
666								Lenticular silty-sandy-shale. Heterolithic.							
668								Pale-yellowish mottles in dark greenish-gray and dark-gray shale. Occasional root traces.							
670								Laminated and burrowed siltstone.			53				

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		670 - 690 ft		PAGE		16 OF 25					
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			56-58				
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown				DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES					SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX				
		EVAP	MUDST	WCKST	POKST	GRNST							BRDST			
		CLASTICS														
		CLAY	SAND													
		Z	V	F	M	C										
670																
672																
674																
676												57				
678								(S)								
680								(S)	<1' very fine-grained sandstone beds.							
682								(S)								
684																
686								(P)	Disarticulated fossil bed in dark gray Shale. Pyrite.							
688								(P)	Coal with calcite filled cleats.							
690									Light-gray blocky mudstone.			58				

WELL NAME		Deffenbaugh Quarry #2			INTERVAL	690 - 710 ft		PAGE	17 OF 25						
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS						BOXES			58-59				
COMPANY		Kansas Geological Survey				DESCRIBED BY		W.M. Brown				DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES		SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS			BOX				
		EVAP	MUDST									WCKST	POKST	GRNST	BNDST
690							Fining-upwards, light-gray laminated shaley siltstone.								
692															
694							Thin (3-4 mm) sandy laminae. Lenticular ripple-cross laminated.								
696							Laminations, organic material, and burrows.								
698															
700							Medium light-gray micaceous fine-grained sandstone. Occasional mud drapes and flasers.								
702											59				
704															
706							Sharp contact of medium-grained micaceous sandstone with underlying dark-gray very finely-laminated shale.								
708															
710							Brightly banded coal with pyrite and Calcite mineralization.								

WELL NAME Deffenbaugh Quarry #2				INTERVAL 710 - 730 ft		PAGE 18 OF 25		
LOCATION S1-T12S-R23E, NW-SW-SE, Johnson Co., KS						BOXES 59-61		
COMPANY Kansas Geological Survey				DESCRIBED BY W.M. Brown		DATE January 2005		
DEPTH (feet)	LITHOLOGY	CARBONATES EVAP - MUDST - WCKST - POKST - GRNST - BNDST CLASTICS CLAY SAND Z V F F M C	SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES - Thickness - Color - Lithology (Grain Size, Sorting, Roundness) - Composition - Sedimentary Structures - Contacts - Body / Trace Fossils - Post-Depositional and Diagenetic	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX
710			∩ ∩ ∩			Light-gray blocky mudstone.		
712			∩ ∩ ∩			Medium light-gray laminated siltstone		60
714			∩ ∩ ∩					
716			∩ ∩ ∩			3" coal, bright bands. Calcite and pyrite mineralization in cleats.		
718			∩ ∩ ∩			1' very fine grained sandstone bed. Mud drapes.		
720			∩ ∩ ∩					
722			∩ ∩ ∩					
724			∩ ∩ ∩		Ⓢ			61
726			∩ ∩ ∩			Dark greenish-gray and dark-gray sideritic shale. Occasional mottles.		
728			∩ ∩ ∩					
730			∩ ∩ ∩		Ⓢ			

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		730 - 750 ft		PAGE		19 OF 25						
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			61-63					
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown				DATE		January 2005		
DEPTH (feet)	LITHOLOGY	CARBONATES		SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES		SURFACES, FACIES, INTERVAL, and COMMENTS	BOX							
		CLAY	SAND				CLASTICS	EVAP			MUDST	WCKST	POKST	GRNST	BNDST	THICKNESS	COLOR
		Z	V	F	F	M	C										
730																	
732																	
734																	
736																	
738																	
740																	
742																	
744																	
746																	
748																	
740																	

S

P

S

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P

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P

P

Dark greenish-gray to medium dark-gray sideritic and pyritic shale.

Siderite is typically banded (1-3 cm in thickness) and pyrite is usually nodular (0.5-1 cm in diameter)

Dull coal with calcite and pyrite mineralization in cleats.

Organic debris and 2mm coal stringers.

Laminated below 746'-6".

Pyrite mineralization in laminated greenish-gray siltstone with dark gray Shale.

Handwritten notes: 4 l, w v, l, v l, l

61

62

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		750 - 770 ft		PAGE		20 OF 25					
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			63-64				
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown				DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES					SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX				
		EVAP	MUDST	WCKST	POKST	GRNST							BNST			
		CLASTICS														
		CLAY	SAND	Z	V	F	F	M	C							
750																
752																
754																
756																
758																
760																
762																
764																
766																
768																
770																

CARBONATES

EVAP
MUDST
WCKST
POKST
GRNST
BNST

CLASTICS

CLAY
SAND
Z
V
F
F
M
C

SEDIMENTARY
STRUCTURES

FOSSILS

POST-DEPOSITIONAL /
DIAGENETIC FEATURES

DESCRIPTION - NOTES

- Thickness
- Color
- Lithology (Grain Size, Sorting, Roundness)
- Composition
- Sedimentary Structures
- Contacts
- Body / Trace Fossils
- Post-Depositional and Diagenetic

SURFACES, FACIES,
INTERVAL,
and COMMENTS

BOX

Lenticular and wavy bedded ripple-cross laminated sandy shale. Pyrite.

Mud drapes.

Transitional contact.

Sharp contact.
Organic debris, pyrite.

Heterolithic with mud drapes, lenticular and wavy bedding. Micaceous very fine-grained sandstone.

2.11c

Slight coarsening-upwards profile, more and thicker mud laminae.



64

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		770 - 790 ft		PAGE		21 OF 25					
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			64-66				
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown				DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES		CLASTICS	SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES		SURFACES, FACIES, INTERVAL, and COMMENTS	BOX					
		EVAP MUDST WCKST POKST GRNST BNDST	CLAY SAND Z V F F M C					- Thickness - Color - Lithology (Grain Size, Sorting, Roundness) - Composition - Sedimentary Structures - Contacts - Body / Trace Fossils - Post-Depositional and Diagenetic								
770								Lenticular and wavy bedded ripple-cross laminated sandy shale. Pyrite.			65					
772							Mud drapes.									
774							Transitional contact.									
776																
778							Very thin muddy drapes and occasional flaser beds.									
780							Transitional contact.									
782							Heterolithic interlaminated shale and sandstone.									
784							Bi-directional current ripples, mud drapes and double mud drapes, flaser and wavy bedding.				66					
786							Dark-gray shale laminae interlaminated with very light-gray sand laminae.									
788																
790																

WELL NAME		Deffenbaugh Quarry #2			INTERVAL		790 - 810 ft		PAGE		22 OF 25				
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS							BOXES			66-68			
COMPANY		Kansas Geological Survey					DESCRIBED BY		W.M. Brown			DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES					SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX			
		EVAP	MUDST	WCKST	POKST	GRNST							BNST	CLAY	SAND
		Z	V	F	F	M	C								
790									Lenticular and wavy bedded ripple-cross laminated sandy shale.						
792									2.11f Mud drapes.						
794									Bi-directional current ripples.		67				
796									Burrows						
798								(P)	Convolute laminae. Soft sediment deformation (?)						
800															
802									Dark-gray very-fine to fine grained burrowed sandstone.						
804								(S)	Dark-gray sideritic shale.		68				
806								(S)							
808								(P)	Pyritic bright coal.						
810									Medium gray blocky mudstone.						

WELL NAME		Deffenbaugh Quarry #2		INTERVAL		830 - 850 ft		PAGE		24 OF 25			
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS						BOXES		70-71			
COMPANY		Kansas Geological Survey				DESCRIBED BY		W.M. Brown		DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES				SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX		
		EVAP	MUDST	WCKST	POKST							GRNST	BNDST
830									Black pyritic shale				
832									Sharp contact. Medium gray pyritic non-laminated siltstone.				
834									Concentric well-rounded yellow coarse-grained. Non-carbonate, but appear to be diagenetically altered ooids.				
836									Laminated light-gray sandstone.				
840													
842													
844									Brightly banded Riverton coal, 10% pyrite.				
844									Medium-gray blocky siltstone.				
846									Laminated and lenticular burrowed shaley sandstone. Pyrite and siderite common. Heterolithic.				
846									2.11e				
848									Dark gray to black sideritic shale.				
850													

CARBONATES

CLASTICS

CLAY SAND
Z V F F M C

DESCRIPTION - NOTES

- Thickness
- Color
- Lithology (Grain Size, Sorting, Roundness)
- Composition
- Sedimentary Structures
- Contacts
- Body / Trace Fossils
- Post-Depositional and Diagenetic

SURFACES, FACIES,
INTERVAL,
and COMMENTS

BOX

P

P

P

P

S

S

ll

l l
v v
v l

Riverton coal

Top of the
Riverton interval

71

70

WELL NAME		Deffenbaugh Quarry #2		INTERVAL		850 - 870 ft		PAGE		25 OF 25			
LOCATION		S1-T12S-R23E, NW-SW-SE, Johnson Co., KS						BOXES		71-73			
COMPANY		Kansas Geological Survey				DESCRIBED BY		W.M. Brown		DATE		January 2005	
DEPTH (feet)	LITHOLOGY	CARBONATES		SEDIMENTARY STRUCTURES	FOSSILS	POST-DEPOSITIONAL / DIAGENETIC FEATURES	DESCRIPTION - NOTES	SURFACES, FACIES, INTERVAL, and COMMENTS	BOX				
		CLAY	SAND							EVAP	MUDST	WCKST	POKST
		Z	V	F	M	C							
850							Dark-gray pyritic and sideritic shale.						
852				∩			2' burrowed fine-grained sandstone.						
854				∩			Slickenslides		72				
856				∩			Coarse yellowish sand.						
858							10° dip on beds.						
860							Sand and shale matrix with 2-10 cm limestone, chert, and dolomite angular clasts.	Basal Pennsylvanian Conglomerate					
862							2.18a						
864				∩			Sharp based	Base of Pennsylvanian, Cherokee Group, and Riverton Interval	73				
866							Very light-gray cherty dolomitic limestone.	Mississippian dolomitic cherty limestone					
868													
870							Well and Core TD.						