

PAGE

GULF MINERAL RESOURCES CO.
WELL BRANZA 12
LOCATION _____

REMARKS

OIL SHALE CORE DESCRIPTION

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DEPTH	LITHOLOGY	COLOR					BEDDING		EST. RICHNESS		CALCAR- OUSNESS		ACCE- SSORY		MISC.		REMARKS								
		TAN	GRAY	BROWN	GRY-BRN	BLACK	OTHER	LAM.	CONTOUR.	OTHER	POOR	FAIR	MOD.	RICH	SLIGHTLY	MODERATELY	VERY	PYRITE	SALINE MIN.	CARBON	FOSSILS	VUGS	FRACT.	BRECCIA	
Core #5 Cut 20.0 Rec 20.0	349.4	marlstone	X					X			X														
	350.6	Tuff		X				X			X														
	350.8	marlstone	X					X			X														
	351.7	Tuff		X				X			X														
	352.1	marlstone	X					X			X														
	352.5	Tuff		X				X			X														
	353.3	marlstone	X					X			X														
	357.8	oil sh			X			X			X														
	358.7	marlstone	X					X			X														
	360.7	oil sh			X			X			X														
	361.6	Tuff		X				X			X														
	361.7	oil sh			X			X			X														
	362.0	Tuff	X					X			X														
	362.1	marlstone	X					X			X														
	363.3	Tuff	X					X			X														
	364.8	marlstone	X					X			X														
	368.6	oil sh			X			X			X														
	368.9	Tuff	X					X			X														
	369.0	oil sh			X			X			X														
	369.3	marlstone	X					X			X														
	369.4																								
Core #6 Cut 20.2 Rec 20.0	369.9	marlstone	X					X			X														
	370.6	oil sh			X			X			X														
	371.5	oil sh	X		X			X			X														
	373.1	Tuff	X					X			X														
	373.6	oil sh	X		X			X			X														
	374.4	oil sh			X			X			X														
	376.8	Tuff	X					X			X														
	377.5	oil sh			X			X			X														
	378.4	oil sh	X					X			X														
	378.7	Tuff	X					X			X														
	379.6	oil sh			X			X			X														
Core #7 Cut 20.0 Rec 19.9	380.2	Phosph. ss	X		X			X			X														
	382.9	Sandstone	X					X			X														
	389.4																								
	389.6	Sandstone	X					X			X														
	390	Siltstone	X					X			X														
	391.0	B.t. ss	X					X			X														
	391.8	Siltstone	X					X			X														
	392.1	B.t. ss	X					X			X														
	393.1	Sandstone	X					X			X														
	394.7	B.t. ss	X					X			X														
	395.0	Siltstone	X					X			X														
	395.6	B.t. ss	X					X			X														
	397.1	Siltstone	X					X			X														
	397.6	B.t. ss	X					X			X														
	398	ss	X					X			X														
	398.7	Siltstone	X					X			X														
	398.8	Sandstone	X					X			X														
	399.5	B.t. ss	X					X			X														
	402																								

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Large X
FRACTURE
From 350.7 - some thin tuff lenses
354.4 - Tuff very oily
along surface

red brn

1" Tuff at 364.5 & 1/2" at 367.1
FRAC 364.5-365.7 - oil

Some green
much green
OK green

wh - Tan

wh - Tan

wavy-sorted Tan & red brn
no bitumen

wavy lean

Crossbedded & not too rich

MANY 60% gr laminations
90% gr sand

60% gr sand

much gy sand 10%

OIL SHALE CORE DESCRIPTION

PAGE 3

DEPTH	LITHOLOGY	COLOR					BEDDING		EST. RICHNESS			CALCAR- OUSNESS			ACCE- SSORY			MISC.			REMARKS					
		TAN	GRAY	BROWN	GRY-BRN	BLACK	OTHER	LAM.	CONTORT.	OTHER	POOR	FAIR	MOD.	RICH	SLIGHTLY	MODERATELY	VERY	PYRITE	SALINE MIN.	CARBON		FOSSILS	VUGS	FRACT.	BRECCIA	
402	Bit SS		/			X							X												Best of core - Still not 100% cross bedded	
403.3	Sandstone	X																								
403.7	Siltstone	X																								
404	Sandstone	X																								Cross bedded
405	Bit. SS	/				X							X										X			Fracture 404.7 - 405.7 Two thin Bit. SS. zone 1" at 406.3 & 1/2" at 406.7
405.4	Sandstone	X																								
409.5																										
END CORE																										
Looks like This core is close to northern extent of a stratigraphic pick out. Due to increase in silt. But may be only locally so.																										

Core #7
Cont.