Hit Parade #31-3H

Hydrocarbon Shows Observed in Core

Core Depth Top	Core Depth Bottom	Depth Shift	Log Depth Top	Log Depth Bottom	Core Type	Core No.	Formation	Show	Lithology	Date of Observation	Comments
4247.0	4252.0	6.0	4253.0	4258.0	Whole	3	Bear Gulch	Spotty Gold UV fluorescence in microporous matrix		8/18/2011	
4255.0	4272.0	6.0	4261.0	4278.0	Whole	3	Bear Gulch	Yellow-Gold pinpoint UV fluorescence in matrix	Limestone, dark gray	8/12/2011	
4259.0	4261.0	6.0	4265.0	4267.0	Whole	3	Bear Gulch	Yellow-Gold UV fluorescence in microporous matrix		8/18/2011	
4265.0	4270.0	6.0	4271.0	4276.0	Whole	3	Bear Gulch	Yellow-Gold UV fluorescence in microporous matrix; UV bright from 4269-4270		8/18/2011	
4269.0	4270.5	6.0	4275.0	4276.5	Whole	3	Bear Gulch	Bright Yellow-Green UV Fluorescence on Fractures	Limestone, dark gray	8/12/2011	
4269.0	4271.0	6.0	4275.0	4277.0	Whole	3	Bear Gulch	Bright Gold UV Fluorescence on fractures	Limestone, dark gray	8/12/2011	
4269.8		6.0	4275.8	6.0	Whole	3	Bear Gulch	Fast yellow-orange-gold cut, Gold residual ring cut		8/18/2011	
4271.0	4277.0	6.0	4277.0	4283.0	Whole	3	Bear Gulch	Bright Yellow-White UV fluorescence on fractures, in microporous matrix, and concentrated along laminae in matrix		8/18/2011	
4272.0	4273.0	6.0	4278.0	4279.0	Whole	3	Bear Gulch	Bright Yellow-Green UV Fluorescence on Fractures	Limestone, dark gray	8/12/2011	
4274.5	4276.0	6.5	4281.0	4282.5	Whole	3	Bear Gulch	Bright Yellow-Green UV Fluorescence on Fractures	Limestone, dark gray	8/12/2011	
4281.0	4282.0	6.5	4287.5	4288.5	Whole	3	Bear Gulch	Dull Gold UV fluorescence in matrix		8/18/2011	
4287.0	4294.0	7.0	4294.0	4301.0	Whole	3	Bear Gulch	Dull Gold UV fluorescence in matrix		8/18/2011	
4287.0	4294.0	7.0	4294.0	4301.0	Slabbed	3	Bear Gulch	Dull Gold UV fluorescence in matrix	Limestone	11/8/2011	
4291.0	4292.0	7.0	4298.0	4299.0	Whole	3	Bear Gulch	Dull Gold UV fluorescence on fracture		8/18/2011	
4295.0	4297.0	6.0	4301.0	4303.0	Whole	3	Bear Gulch	Spotty Bright Yellow-Gold UV fluorescence on fracture		8/18/2011	
4296.7		6.0	4302.7	6.0	Whole	3	Bear Gulch	Slow yellow-orange gold cut, yellow-gold residual cut		8/18/2011	
4298.5	4299.0	7.0	4305.5	4306.0	Whole	3	Bear Gulch	Bright Yellow-Gold UV Fluorescence on fracture		8/18/2011	
4298.8	4299.0	7.0	4305.8	4306.0	Whole	3	Bear Gulch	Bright Yellow-Gold UV Fluorescence on fracture	Limestone, dark gray	8/12/2011	
4307.5	4316.0	7.0	4314.5	4323.0	Whole	3	Lower Tyler	Bleeding Free Oil	Claystone, med. Greenish gray	8/12/2011	
4321.0	4323.5	4.0	4325.0	4327.5	Whole	3	Lower Tyler	Faint to fair Yellow-Gold UV Fluorescence on fractures	Shale, dark gray to black	8/12/2011	
4322.0	4323.5	4.0	4326.0	4327.5	Whole	3	Lower Tyler	Bright Yellow-Gold UV fluorescence on fractures		8/18/2011	
4458.0	4462.0	8.0	4466.0	4470.0	Whole	7	2nd Bench Heath Limestone	Spotty Yellow-Gold UV fluorescence in matrix around anhydrite beds/nodules		8/18/2011	
4461.0	4462.0	8.0	4469.0	4470.0	Whole	7	2nd Bench Heath Limestone	Gold-Yellow UV Fluorescence in matrix	Dolomite	8/12/2011	
4462.0	4464.0	8.0	4470.0	4472.0	Whole	7	2nd Bench Heath Limestone	Bright pervasive Yellow-Gold UV fluorescence in matrix	Dolomite	8/18/2011	
4462.0	4466.5	8.0	4470.0	4474.5	Whole	7	2nd Bench Heath Limestone	Yellow-Gold pervasive UV fluorescence in matrix	Limestone, dolomitic	8/12/2011	
4464.0	4467.0	8.0	4472.0	4475.0	Whole	7	2nd Bench Heath Limestone	Spotty Bright Yellow-Gold UV fluorescence in matrix	Limestone	8/18/2011	
4467.0	4470.0	8.0	4475.0	4478.0	Whole	7	2-3 Shale	Spotty Bright Yellow-Gold UV fluorescence in matrix	Shale	8/18/2011	
4471.0	4472.0	8.0	4479.0	4480.0	Whole	7	3rd Bench Heath Limestone	Bright Greenish Yellow UV Fluor on fractures, Yellow-Gold pervasive UV fluorescence in matrix	Limestone	8/12/2011	
4471.0	4472.0	8.0	4479.0	4480.0	Whole	7	3rd Bench Heath Limestone	Bright Yellow-Green-White UV Fluorescence on Fracture	Limestone	8/18/2011	
4472.0	4476.0	8.0	4480.0	4484.0	Whole	7	3rd Bench Heath Limestone	Bright Yellow-Gold spotty UV fluorescence in matrix	Limestone	8/18/2011	
4477.0	4479.0	9.0	4486.0	4488.0	Whole	7	3-4 Shale	Bright Yellow-Gold pervasive UV fluorescence in matrix	Shale	8/18/2011	
4479.0	4484.5	10.0	4489.0	4494.5	Whole	7	4th Bench Heath Limestone	Bright spotty Yellow-Gold UV fluorescence in low porosity matrix	Limestone	8/18/2011	
4479.0	4488.0	10.0	4489.0	4498.0	Whole	7	4th Bench Heath Limestone	Gold-Yellow UV Fluorescence in matrix & on fractures	Dolomite grading down to dolomitic limestone	8/12/2011	
4481.0	4484.5	9.5	4490.5	4494.0	Whole	7	4th Bench Heath Limestone	Bright Yellow-Gold UV fluorescence on fracture	Limestone	8/18/2011	
4484.5	4488.5	9.0	4493.5	4497.5	Whole	7	4th Bench Heath Limestone	Bright pervasive Yellow-Gold UV fluorescence in matrix	Dolomite	8/18/2011	Brightest UV from 4484.5-4486
4485.0	4486.0	9.0	4494.0	4495.0	Whole	7	4th Bench Heath Limestone	Bright Yellow-Gold UV fluorescence on fracture	Dolomite	8/18/2011	
4489.6		9.0	4498.6	9.0	Whole	8	Lower Heath Limestone	Faint slow yellow cut		8/18/2011	
4495.5	4500.5	7.5	4503.0	4508.0	Whole	8	Lower Heath Limestone	Sparse Yellow-Gold UV fluorescence in matrix	Shale, calcareous	8/18/2011	
4499.0	4500.0	7.5	4506.5	4507.5	Whole	8	Lower Heath Limestone	Bright Yellow-Gold UV Fluorescence on fracture	Limestone	8/12/2011	
4499.0	4500.0	7.5	4506.5	4507.5	Whole	8	Lower Heath Limestone	Bright Yellow-Green-White UV Fluorescence on Fracture	Shale, calcareous	8/18/2011	
4504.0	4505.0	5.5	4509.5	4510.5	Whole	8	Lower Heath Limestone	Bright Yellow-Gold UV Fluorescence on fracture	Limestone	8/12/2011	
4504.0	4506.0	5.5	4509.5	4511.5	Whole	8	Lower Heath Limestone	Bright Yellow-Gold UV fluorescence on fracture + scattered Bright Yellow-Gold UV fluorescence in matrix	Limestone	8/18/2011	
4508.0	4509.0	5.5	4513.5	4514.5	Whole	8	Cox Ranch	Bright Yellow-Green-White UV Fluorescence on Fracture	Limestone	8/18/2011	Scattered UV Fluorescence in matrix
4509.5	4510.5	5.5	4515.0	4516.0	Whole	8	Cox Ranch	Bright Yellow-Green-White UV Fluorescence on Fracture	Limestone	8/18/2011	Scattered UV Fluorescence in matrix
4509.8	4510.2	5.5	4515.3	4515.7	Whole	8	Cox Ranch	Bright Greenish Yellow UV Fluor on fractures	Black Limestone Mudstone w/ en echelon subvertical fractures	8/12/2011	
4510.5	4511.5	5.5	4516.0	4517.0	Whole	8	Cox Ranch	Bright Yellow-Green-White UV Fluorescence on Fracture	Limestone	8/18/2011	Scattered UV Fluorescence in matrix
4513.0	4514.5	5.5	4518.5	4520.0	Whole	8	Cox Ranch	Bright Yellow-Gold UV fluorescence on fracture		8/18/2011	
4513.8	4514.2	5.5	4519.3	4519.7	Whole	8	Cox Ranch	Bright Yellow-Gold UV Fluorescence in matrix	Dark Gray to Black Calcareous Shale	8/12/2011	
4515.0	4517.0	5.5	4520.5	4522.5	Whole	8	Cox Ranch	Scattered Bright Yellow-Gold UV fluorescence in matrix		8/18/2011	
4523.0	4524.0	6.0	4529.0	4530.0	Whole	9	Cox Ranch	Bright Yellow-Gold UV Fluorescence in matrix	Shale	8/18/2011	
4525.0	4526.0	6.0	4531.0	4532.0	Whole	9	Cox Ranch	Bright Yellow-Gold UV Fluorescence in matrix	Shale	8/18/2011	
4528.0	4530.0	6.0	4534.0	4536.0	Whole	9	Cox Ranch	Bright Yellow-Green-White UV Fluorescence on Fracture	Limestone	8/18/2011	
4528.5	4531.4	5.5	4534.0	4536.9	Whole	9	Cox Ranch	Yellow-Gold UV fluorescence on fracture planes	Limestone, dark gray to black	8/12/2011	
4528.6		6.0	4534.6	6.0	Whole	9	Cox Ranch	Slow yellow-white cut, Yellow residual ring cut		8/18/2011	
4535.4	4636.0	4.5	4539.9	4640.5	Whole	9	Cox Ranch	Weak Scattered Yellow-Gold UV Fluorescence in matrix		8/18/2011	
4541.0	4548.0	1.5	4542.5	4549.5	Whole	10	Cox Ranch	Yellow-Gold UV Fluorescence finely disseminated in matrix, concentrated along some horizontal laminae	Shale, calcareous	8/18/2011	
4547.0	4547.2	1.0	4548.0	4548.2	Whole	10	Cox Ranch	Bright Yellow-Green UV Fluorescence on Fractures	Shale, Black, Calcareous, fossiliferous	8/12/2011	
4548.0	4552.5	1.0	4549.0	4553.5	Whole	11	U-Marker, lower Cox Ranch	Pervasive Weak Yellow-Gold UV Fluorescence	Shale, fissile	8/18/2011	
4552.5	4554.0	2.0	4554.5	4556.0	Whole	11	Cox Ranch	Yellow-Gold UV Fluorescence, Fine, Pervasive, in matrix	Dolomitic Limestone	8/18/2011	
4557.0	4559.0	2.0	4559.0	4561.0	Whole	11	Forest Grove LS	Moderate-Dull Yellow-Gold UV Fluorescence on Fracture; Dull UV Fluorescence in matrix	Limestone	8/18/2011	
4560.4	4560.6	2.0	4562.4	4562.6	Whole	11	Lower Heath	Bright Yellow-Green UV Fluorescence on Fractures	Coal - Carbonaceous Shale	8/18/2011	Microfractures

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Hydrocarbon Shows Observed in Core

Core Depth Top	Core Depth Bottom	Depth Shift	Log Depth Top	Log Depth Bottom	Core Type	Core No.	Formation	Show	Lithology	Date of Observation	Comments
4563.0	4567.0	3.5	4566.5	4570.5	Whole	12	Lower Heath	Pervasive Gold UV Fluorescence in matrix	Claystone	8/18/2011	
4573.0	4575.0	3.5	4576.5	4578.5	Whole	12	Upper Van Dusen	Pervasive Gold UV Fluorescence in matrix	Claystone	8/18/2011	
4575.0	4576.0	3.5	4578.5	4579.5	Whole	12	Upper Van Dusen	Pervasive Dull Gold-Yellow UV Fluorescence in matrix	Dolomitic Limestone	8/18/2011	
4578.0	4583.0	3.5	4581.5	4586.5	Whole	12	Upper Van Dusen	Pervasive Dull Gold-Yellow UV Fluorescence in matrix	Dolomitic Limestone	8/18/2011	
4583.0	4589.0	8.0	4591.0	4597.0	Whole	12	Upper Van Dusen	Pervasive Bright Yellow-Green-White UV Fluorescence in matrix	Shale, calcareous	8/18/2011	
4585.5	4586.0	7.5	4593.0	4593.5	Whole	12	Upper Van Dusen	Bright Yellow-Green-White UV Fluorescence on Fracture	Shale, calcareous	8/18/2011	
4590.0	4593.0	5.5	4595.5	4598.5	Whole	13	Upper Van Dusen	Weak Yellow-Gold UV Fluorescence in matrix	Limestone	8/18/2011	
4593.0	4598.0	5.5	4598.5	4603.5	Whole	13	Middle Van Dusen	Bright Yellow-Gold UV Fluorescence in matrix	Claystone	8/18/2011	
4603.0	4620.5	9.0	4612.0	4629.5	Whole	14	Lower Van Dusen	Pervasive Yellow-Gold UV Fluorescence in microporous matrix	Limestone	8/18/2011	
4614.9		9.5	4624.4	9.5	Whole	14	Lower Van Dusen	Faint Slow yellow-gold cut		8/18/2011	
4615.5	4619.0	9.0	4624.5	4628.0	Whole	14	Lower Van Dusen	Bright Yellow-Green-White UV Fluorescence on Fracture	Limestone	8/18/2011	
4616.5	4619.0	9.0	4625.5	4628.0	Whole	14	Lower Van Dusen	Bright Yellow-Green UV Fluorescence on Fractures	Limestone, sub-vertical fractures	8/12/2011	