

## 18f0371 talha Zafar

```
raw_img %>%
  image_crop(geometry_area(350, 0,350, 10)) %>%
  ocr()

## [1] "ye May 5, 2019\n|\n[I =\nRe/Liter\n[| 73.407\ncease 72.001\n720\n73a0
| 66.06 |\n7326 |\nMOGAS E510 Gasoline\nRetail_| Retail | Direct\n73.26 |
73.26\n[329 | ose| 056\n(76.69 | 73.80 | 73.80\n| SeR=oe | EOE |=\n|_76.69 |
73.80 | 73.80\n_Ser ber ee| 264\ni007] a6 | 809\nnite ae |\n[ez | 15.39)
1539\n108.42 Lasse 1085 |\n@sn\nnper by age. [231%\n"
```

### Including Plots

```
raw_img %>%
  image_quantize(colorsace = "gray") %>%
  image_ggplot()
```

E-10 Gasoline Price effective May 5, 2019			
		Rs./Liter	
A. MOGAS 5100 Hybrid Average cost of supply		73.43	
B. Direct to Retailer price (maximum till 10th)		73.00	
C. 100% cost of supply to Retailer price (100% of A)		73.43	
D. 100% cost of supply to Retailer price (100% of B)		73.00	
E. Local taxes (10% of C)		7.34	
F. Local taxes (10% of D)		7.30	
MOGAS 5100 Retail Sale Price		80.64	81.00
MOGAS 5100 Hybrid Retail Sale Price		80.64	81.00
MOGAS 5100 Hybrid Retail Sale Price		80.64	81.00
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MOGAS 5100 Hybrid Retail Sale Price		80.64	81.00
MOGAS 5100 Hybrid Retail Sale Price		80.64	81.00
MOGAS 5100 Hybrid Retail Sale Price		80.64	

```
fuzz_fun(20)
```

ve May 5, 2019

		<b>Rs/Liter</b>	
		73.40	
		72.00	
		7.20	
	73.40	66.06	
		<b>73.26</b>	
	<b>MOGAS</b>	<b>E-10 Gasoline</b>	
	Retail	Retail	Direct
	73.40	73.26	73.26
	3.29	0.54	0.54
	<b>76.69</b>	<b>73.80</b>	<b>73.80</b>
	-	-	-
	<b>76.69</b>	<b>73.80</b>	<b>73.80</b>
	2.64	2.64	2.64
	3.47	3.47	
	14.00	10.62	14.09
	<b>96.80</b>	<b>90.53</b>	<b>90.53</b>
	11.62	15.39	15.39
	<b>108.42</b>	<b>105.92</b>	<b>105.92</b>
	<b>(2.50)</b>	-	
per by %age		2.31%	

```
no_grid <- raw_img %>%
  image_quantize(colorspace = "gray") %>%
  image_transparent(color = "white", fuzz=20) %>%
  image_background("white")

image_ggplot(no_grid)
```

E-10 Gasoline Price effective May 5, 2019		
		Per Liter
A. HUCAS/50 Mph, End Average cost of supply		29.43
B. Federal Fuel Tax (14.5¢ per gallon, 11¢/l.)		29.63
C. State Fuel Tax (14.5¢ per gallon, 11¢/l.)		2.20
D. 7.5¢ State Highway Tax (20¢/gallon)	17.43	
E. Local Sales Tax (1.5¢/l.)		73.26
<b>Max. E-10 Pre-Sale Price</b>		
	1456.62	8.14¢ per liter
F. Fuel and supply, 10-12¢ per liter	8.44¢	
G. Fuel Tax (14.5¢ per gallon, 11¢/l.)	72.43	33.20
H. Sales Tax (1.5¢/l.)	7.25	3.16
I. State Highway Tax (20¢/gallon)	76.69	73.18
J. Federal Fuel Tax		
K. Federal Fuel Tax		
L. Federal Fuel Tax		
M. Federal Fuel Tax		
N. Federal Fuel Tax		
O. Federal Fuel Tax		
P. Federal Fuel Tax		
Q. Federal Fuel Tax		
R. Federal Fuel Tax		
S. Federal Fuel Tax		
T. Federal Fuel Tax		
U. Federal Fuel Tax		
V. Federal Fuel Tax		
W. Federal Fuel Tax		
X. Federal Fuel Tax		
Y. Federal Fuel Tax		
Z. Federal Fuel Tax		
AA. Federal Fuel Tax		
AB. Federal Fuel Tax		
AC. Federal Fuel Tax		
AD. Federal Fuel Tax		
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AG. Federal Fuel Tax		
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AK. Federal Fuel Tax		
AL. Federal Fuel Tax		
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AO. Federal Fuel Tax		
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AR. Federal Fuel Tax		
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AU. Federal Fuel Tax		
AV. Federal Fuel Tax		
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AX. Federal Fuel Tax		
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AZ. Federal Fuel Tax		
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BB. Federal Fuel Tax		
BC. Federal Fuel Tax		
BD. Federal Fuel Tax		
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BH. Federal Fuel Tax		
BI. Federal Fuel Tax		
BJ. Federal Fuel Tax		
BK. Federal Fuel Tax		
BL. Federal Fuel Tax		
BM. Federal Fuel Tax		
BN. Federal Fuel Tax		
BO. Federal Fuel Tax		
BP. Federal Fuel Tax		
BQ. Federal Fuel Tax		
BR. Federal Fuel Tax		
BS. Federal Fuel Tax		
BT. Federal Fuel Tax		
BU. Federal Fuel Tax		
BV. Federal Fuel Tax		
BW. Federal Fuel Tax		
BX. Federal Fuel Tax		
BY. Federal Fuel Tax		
BZ. Federal Fuel Tax		
CA. Federal Fuel Tax		
CB. Federal Fuel Tax		
CC. Federal Fuel Tax		
CD. Federal Fuel Tax		
CE. Federal Fuel Tax		
CF. Federal Fuel Tax		
CG. Federal Fuel Tax		
CH. Federal Fuel Tax		
CI. Federal Fuel Tax		
CJ. Federal Fuel Tax		
CK. Federal Fuel Tax		
CL. Federal Fuel Tax		
CM. Federal Fuel Tax		
CN. Federal Fuel Tax		
CO. Federal Fuel Tax		
CP. Federal Fuel Tax		
CQ. Federal Fuel Tax		
CR. Federal Fuel Tax		
CS. Federal Fuel Tax		
CT. Federal Fuel Tax		
CU. Federal Fuel Tax		
CV. Federal Fuel Tax		
CW. Federal Fuel Tax		
CX. Federal Fuel Tax		
CY. Federal Fuel Tax		
CZ. Federal Fuel Tax		
DA. Federal Fuel Tax		
DB. Federal Fuel Tax		
DC. Federal Fuel Tax		
DD. Federal Fuel Tax		
DE. Federal Fuel Tax		
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DJ. Federal Fuel Tax		
DK. Federal Fuel Tax		
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DO. Federal Fuel Tax		
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DR. Federal Fuel Tax		
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```
no_grid %>%
  image_negate() %>%
  image_ggplot()
```

E-10 Gasoline Price effective May 5, 2019				
				Regulator
1. MD&S/DQ weighted Average cost change				18.43
2. Federal Tax Deduction increase (11.9¢/gal)				77.69
3. Weighted cost of Refinery gas (7.7¢/Btu)				2.20
4. Fuel Price - Weighted Refinery costs (20% of 1)				16.41
5. Total Value added (1 = 0)				73.26
<b>Base Cost-Exponent Sales Price</b>				
	MD&S	Exponent	value	
1. FRI and sales tax, 1-12.1¢ per Gallon	8.14	1.00	8.14	100%
2. Sales Tax (12.1¢)	12.45	1.00	12.45	100%
3. Volume (1.00)	7.75	1.00	7.75	100%
4. Volume (1.00)	16.69	1.00	16.69	73.61%
5. Total Refinery Fuel Costs				
6. Refinery (10.11)	7.66	1.00	7.66	73.61%
7. Refinery (10.11)	2.41	1.00	2.41	22.39%
8. Total Refinery costs	3.41	1.00	3.41	31.56%
9. Refinery cost increase by Federal Tax	4.71	1.00	4.71	43.54%
10. Refinery (10.11)	6.08	1.00	6.08	56.46%
11. Refinery (10.11)	1.88	1.00	1.88	17.54%
12. Value added (1 = 0)	138.17	100.00	138.17	100.00%
B. Base Cost between MD&S and 210.0¢/Gallon				(2.58)
C. 210.0¢/Gallon - Base				4.13%

```
no_grid %>%
  image_negate() %>% # negate
  image_morphology(method = "Thinning", kernel = "Rectangle:20x1") %>%
  image_negate() %>% # back to white
  image_ggplot()
```



```
no_grid_crop <- no_grid %>%
  image_crop(geometry_area(350, 0,350, 10))

no_grid_crop %>%
  image_ggplot()
```

ve May 5, 2019		
Re: [I]n Re [tier\n[7340   \n[200\n720\nTaD 66.06\n73.26		
\nMOGAS \n~F:40 Castine\nRetail   Reta   Direc\n73.26   73.26\n[3297 054		
054\n[7669   73.20   7380\nTt\n[7669   73.90   73.90\n- Ser der ee \n-		
349\n~~ rae  e\n360 [9053   9053\nsae   weet 15.39\n108.42   105.92   105.92		
\nesa\nper by age 23%\n"		
num_only <- tesseract::tesseract( options = list(tessedit_char_whitelist = c(".0123456789 ")) )		
no_grid %>% image_quantize(colorsace = 'gray') %>% image_threshold() %>% image_crop(geometry_area(350, 0,350, 10)) %>% ocr(engine = num_only)		
## [1] "5 2019\n73.40\n72.00\n7 320\n730 66.06\n73.26\n0 10\n73407326 73.26\n329 054 054\n76.69 73.80 73.80\n76697380 73.80\n264 264 264\n37		

```
no_grid_crop %>%
  image_ocr()

## [1] "ve May 5, 2019\n-\n[I\nRe [tier\n[7340 | \n[200\n720\nTaD 66.06\n73.26\n|\nMOGAS \n~F:40 Castine\nRetail | Reta | Direc\n73.26 | 73.26\n[3297 054\n054\n[7669 | 73.20 | 7380\nTt\n[7669 | 73.90 | 73.90\n- Ser der ee|\n-\n349\n~~ rae |e\n360 [9053 | 9053\nsae | weet 15.39\n108.42 | 105.92 | 105.92\n|\nesa\nper by age 23%\n"

num_only <- tesseract::tesseract(
  options = list(tessedit_char_whitelist = c(".0123456789 "))
)

no_grid %>%
  image_quantize(colorsace = 'gray') %>%
  image_threshold() %>%
  image_crop(geometry_area(350, 0,350, 10)) %>%
  ocr(engine = num_only)

## [1] "5 2019\n73.40\n72.00\n7 320\n730 66.06\n73.26\n0 10\n73407326\n73.26\n329 054 054\n76.69 73.80 73.80\n76697380 73.80\n264 264 264\n37
```

```
347\n14.00 1062 1408\n9680 9053 90.53\n11.62 15391530\n408.42 105.92
10592\n50\n. 2314.\n"
```

```
combo <- tesseract::tesseract(
  options = list(
    tessedit_char_whitelist = paste0(
      c(letters, LETTERS, " ", ".0123456789 (-)"), collapse = ""
    )
  )
)
```

```
raw_text <- no_grid %>%
  image_quantize(colorspace = "gray") %>%
  image_transparent("white", fuzz = 22) %>%
  image_background("white") %>%
  image_threshold() %>%
  image_crop(geometry_area(300, 0, 400, 10)) %>%
  ocr(engine = combo)
```

```
raw_tibble <- raw_text %>%
  str_split(pattern = "\n") %>%
  unlist() %>%
  tibble(data = .)
```

```
raw_tibble$data = gsub(' ', '', as.character(raw_tibble$data))
raw_tibble$data = gsub('-', '', as.character(raw_tibble$data))
col1 = raw_tibble[1:7,]
raw_tibble = raw_tibble[-(1:9),]
raw_tibble = raw_tibble[-(11:13),]
col1 = col1[-(1:2),]
```

```
col1 = sub('.*? ', '', col1$data)
col1 = data.frame(col1)
check = separate(raw_tibble, data, into = c('retail1', 'retail2', 'direct'), sep =
'\\ ', extra = 'merge')
```

```
## Warning: Expected 3 pieces. Missing pieces filled with `NA` in 1 rows [6].
```

```
library(tidyverse)
col1 = col1 %>% add_row(col1 = check$retail2)
col1
```

```
##      col1
## 1    7340
## 2    72.00
## 3      20
## 4    66.06
## 5    73.26
## 6    7326
## 7      054
## 8    7320
```



```
## 9      7380
## 10     264
## 11     347
## 12    10627
## 13     9053
## 14     1539
## 15   105.92
```

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.