

# **Federal Workplace Drug Testing Program NLCP Drug Testing Results**

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# Regulated Specimens Tested 2003 through 2012

<b>Year, January - December</b>	<b>Number Specimens Tested</b>
2003	6,602,384
2004	6,677,540
2005	6,842,726
2006	7,542,360
2007	7,990,292
2008	6,265,514
2009	5,468,368
2010	5,764,889
2011	5,915,164
2012	6,168,952

# Regulated Specimens Tested 2009 through 2012

<b>Year, January - December</b>	<b>Number Specimens Tested</b>
2009	5,468,368
2010	5,764,889
2011	5,915,164
2012	6,168,952

# **Regulated Specimens Reported as Positive, Adulterated, Invalid or Substituted 2009 through 2012**

<b>2009 Specimens Reported</b>	<b>2010 Specimens Reported</b>	<b>2011 Specimens Reported</b>	<b>2012 Specimens Reported</b>
88,431	95,472	108,565	112,149

# Specimens Reported Invalid for pH 2009 through 2012

<b>Year</b>	<b>Specimens Reported Invalid</b>	<b>pH Related Invalid Specimens</b>	<b>Low pH Related Invalid Specimens</b>
2009	5,136	1,428	515
2010	5,521	1,496	436
2011	5,489	1,717	901
2012	6,412	1,999	921

# Specimens Reported Invalid for pH 2009 through 2012

Percentages	Jan '09	Feb '09	Mar '09	Apr '09	May '09	Jun '09	Jul '09	Aug '09	Sep '09	Oct '09	Nov '09	Dec '09
Percent of Invalids: pH Related	23.38%	20.82%	24.55%	23.80%	29.07%	29.79%	33.65%	32.81%	36.52%	30.28%	21.41%	17.25%
Percent of Invalids: Low pH Related	10.45%	8.80%	13.29%	10.70%	9.53%	10.85%	10.65%	8.60%	9.04%	11.36%	8.26%	8.89%
Percentages	Jan '10	Feb '10	Mar '10	Apr '10	May '10	Jun '10	Jul '10	Aug '10	Sep '10	Oct '10	Nov '10	Dec '10
Percent of Invalids: pH Related	17.93%	12.77%	13.84%	23.54%	32.53%	32.50%	38.33%	34.48%	32.19%	24.77%	21.67%	22.43%
Percent of Invalids: Low pH Related	6.55%	7.29%	5.03%	8.21%	9.24%	5.94%	10.98%	6.37%	5.90%	10.88%	8.61%	11.21%
Percentages	Jan '11	Feb '11	Mar '11	Apr '11	May '11	Jun '11	Jul '11	Aug '11	Sep '11	Oct '11	Nov '11	Dec '11
Percent of Invalids: pH Related	22.18%	19.23%	20.51%	24.23%	32.59%	33.89%	31.82%	39.19%	40.38%	39.70%	28.51%	22.58%
Percent of Invalids: Low pH Related	12.90%	8.04%	9.97%	10.31%	13.18%	13.41%	10.91%	15.09%	24.92%	27.60%	20.83%	19.35%
Percentages	Jan '12	Feb '12	Mar '12	Apr '12	May '12	Jun '12	Jul '12	Aug '12	Sep '12	Oct '12	Nov '12	Dec '12
Percent of Invalids: pH Related	25.49%	21.77%	24.86%	30.75%	31.46%	35.21%	39.93%	40.73%	38.51%	26.55%	21.51%	26.07%
Percent of Invalids: Low pH Related	19.39%	16.33%	15.58%	16.77%	14.59%	16.37%	14.69%	13.62%	11.34%	11.45%	9.84%	13.51%

# Regulated Specimens Tested 2009 vs. 2010

<b>Month</b>	<b>2009 Specimens Tested</b>	<b>2010 Specimens Tested</b>
Jan	425,915	394,502
Feb	440,275	429,558
Mar	471,037	513,523
Apr	486,197	506,638
May	477,458	509,073
Jun	452,202	496,178
Jul	458,920	488,702
Aug	449,489	488,371
Sep	477,666	517,115
Oct	489,636	499,628
Nov	402,516	453,730
Dec	420,896	459,551

# Regulated Specimens Tested 2009 vs. 2011

<b>Month</b>	<b>2009 Specimens Tested</b>	<b>2011 Specimens Tested</b>
Jan	425,915	404,714
Feb	440,275	450,934
Mar	471,037	555,170
Apr	486,197	510,413
May	477,458	500,289
Jun	452,202	529,738
Jul	458,920	473,416
Aug	449,489	529,247
Sep	477,666	526,405
Oct	489,636	489,324
Nov	402,516	475,981
Dec	420,896	460,137

# Regulated Specimens Tested 2009 vs. 2012

<b>Month</b>	<b>2009 Specimens Tested</b>	<b>2012 Specimens Tested</b>
Jan	425,915	445,964
Feb	440,275	501,050
Mar	471,037	568,498
Apr	486,197	496,631
May	477,458	573,704
Jun	452,202	526,910
Jul	458,920	477,764
Aug	449,489	561,219
Sep	477,666	540,265
Oct	489,636	532,873
Nov	402,516	491,503
Dec	420,896	443,056

# Regulated Specimens Tested 2009 through 2012

<b>Month</b>	<b>2009 Specimens Tested</b>	<b>2010 Specimens Tested</b>	<b>2011 Specimens Tested</b>	<b>2012 Specimens Tested</b>
Jan	425,915	394,502	404,714	445,964
Feb	440,275	429,558	450,934	501,050
Mar	471,037	513,523	555,170	568,498
Apr	486,197	506,638	510,413	496,631
May	477,458	509,073	500,289	573,704
Jun	452,202	496,178	529,738	526,910
Jul	458,920	488,702	473,416	477,764
Aug	449,489	488,371	529,247	561,219
Sep	477,666	517,115	526,405	540,265
Oct	489,636	499,628	489,324	532,873
Nov	402,516	453,730	475,981	491,503
Dec	420,896	459,551	460,137	443,056

# Regulated Specimens Reported as Positive, Adulterated, Invalid or Substituted 2009 vs. 2010

<b>Month</b>	<b>2009 Specimens Reported</b>	<b>2010 Specimens Reported</b>
Jan	6,869	5,897
Feb	6,840	6,564
Mar	7,958	8,160
Apr	7,960	8,200
May	7,721	8,330
Jun	7,450	8,639
Jul	7,671	8,046
Aug	7,728	8,269
Sep	7,452	8,385
Oct	7,579	8,685
Nov	6,386	7,750
Dec	6,817	8,547

# Regulated Specimens Reported as Positive, Adulterated, Invalid or Substituted 2009 vs. 2011

<b>Month</b>	<b>2009 Specimens Reported</b>	<b>2011 Specimens Reported</b>
Jan	6,869	7,172
Feb	6,840	7,368
Mar	7,958	10,093
Apr	7,960	9,115
May	7,721	9,481
Jun	7,450	9,796
Jul	7,671	9,220
Aug	7,728	10,016
Sep	7,452	9,650
Oct	7,579	9,256
Nov	6,386	8,342
Dec	6,817	9,056

# Regulated Specimens Reported as Positive, Adulterated, Invalid or Substituted 2009 vs. 2012

<b>Month</b>	<b>2009 Specimens Reported</b>	<b>2012 Specimens Reported</b>
Jan	6,869	7,864
Feb	6,840	8,691
Mar	7,958	10,596
Apr	7,960	9,566
May	7,721	10,275
Jun	7,450	10,111
Jul	7,671	9,202
Aug	7,728	10,083
Sep	7,452	9,637
Oct	7,579	9,360
Nov	6,386	8,527
Dec	6,817	8,237

# Regulated Specimens Reported as Positive, Adulterated, Invalid or Substituted 2009 through 2012

<b>Month</b>	<b>2009 Specimens Reported</b>	<b>2010 Specimens Reported</b>	<b>2011 Specimens Reported</b>	<b>2012 Specimens Reported</b>
Jan	6,869	5,897	7,172	7,864
Feb	6,840	6,564	7,368	8,691
Mar	7,958	8,160	10,093	10,596
Apr	7,960	8,200	9,115	9,566
May	7,721	8,330	9,481	10,275
Jun	7,450	8,639	9,796	10,111
Jul	7,671	8,046	9,220	9,202
Aug	7,728	8,269	10,016	10,083
Sep	7,452	8,385	9,650	9,637
Oct	7,579	8,685	9,256	9,360
Nov	6,386	7,750	8,342	8,527
Dec	6,817	8,547	9,056	8,237

# Specimens Reported as Drug Positive, Adulterated, Invalid or Substituted 2009 vs. 2010

Percentages	AMP	MAMP	MDMA	MDA	MDEA	BZE	COD	MOR	6-AM	PCP	THC	ADL	INV	SUB
<b>2009 Yearly Percentages</b>	0.244%	0.101%	0.000%	0.000%	0.000%	0.248%	0.099%	0.119%	0.008%	0.023%	0.753%	0.018%	0.097%	0.043%
<b>2010 Yearly Percentages</b>	0.308%	0.114%	0.001%	0.000%	0.000%	0.248%	0.091%	0.109%	0.009%	0.022%	0.760%	0.020%	0.096%	0.045%

# Specimens Reported as Drug Positive, Adulterated, Invalid or Substituted 2009 vs. 2011

Percentages	AMP	MAMP	MDMA	MDA	MDEA	BZE	COD	MOR	6-AM	PCP	THC	ADL	INV	SUB
2009 Yearly Percentages	0.244%	0.101%	0.000%	0.000%	0.000%	0.248%	0.099%	0.119%	0.008%	0.023%	0.753%	0.018%	0.097%	0.043%
2011 Yearly Percentages	0.411%	0.139%	0.003%	0.002%	0.000%	0.336%	0.105%	0.114%	0.014%	0.023%	0.734%	0.021%	0.093%	0.042%

# Specimens Reported as Drug Positive, Adulterated, Invalid or Substituted 2009 vs. 2012

Percentages	AMP	MAMP	MDMA	MDA	MDEA	BZE	COD	MOR	6-AM	PCP	THC	ADL	INV	SUB
2009 Yearly Percentages	0.244%	0.101%	0.000%	0.000%	0.000%	0.248%	0.099%	0.119%	0.008%	0.023%	0.753%	0.018%	0.097%	0.043%
2012 Yearly Percentages	0.462%	0.143%	0.003%	0.001%	0.000%	0.276%	0.097%	0.111%	0.017%	0.023%	0.723%	0.020%	0.104%	0.041%

# Specimens Reported as Drug Positive, Adulterated, Invalid or Substituted 2009 through 2012

Year, %	AMP	MAMP	MDMA	MDA	MDEA	BZE	COD	MOR	6-AM	PCP	THC	ADL	INV	SUB
<b>2009</b>	0.244%	0.101%	0.000%	0.000%	0.000%	0.248%	0.099%	0.119%	0.008%	0.023%	0.753%	0.018%	0.097%	0.043%
<b>2010</b>	0.308%	0.114%	0.001%	0.000%	0.000%	0.248%	0.091%	0.109%	0.009%	0.022%	0.760%	0.020%	0.096%	0.045%
<b>2011</b>	0.411%	0.139%	0.003%	0.002%	0.000%	0.336%	0.105%	0.114%	0.014%	0.023%	0.734%	0.021%	0.093%	0.042%
<b>2012</b>	0.462%	0.143%	0.003%	0.001%	0.000%	0.276%	0.097%	0.111%	0.017%	0.023%	0.723%	0.020%	0.104%	0.041%

# Specimens Reported Invalid for pH 2009 - 2012

Number of specimens	Jan '09	Feb '09	Mar '09	Apr '09	May '09	Jun '09	Jul '09	Aug '09	Sep '09	Oct '09	Nov '09	Dec '09
<b>Invalid</b>	402	341	444	374	430	470	526	570	564	317	327	371
<b>pH Invalids</b>	94	71	109	89	125	140	177	187	206	96	70	64
<b>Low pH Invalids</b>	42	30	59	40	41	51	56	49	51	36	27	33
Number of specimens	Jan '10	Feb '10	Mar '10	Apr '10	May '10	Jun '10	Jul '10	Aug '10	Sep '10	Oct '10	Nov '10	Dec '10
<b>Invalid</b>	290	329	477	463	498	640	574	612	525	432	360	321
<b>pH Invalids</b>	52	42	66	109	162	208	220	211	169	107	78	72
<b>Low pH Invalids</b>	19	24	24	38	46	38	63	39	31	47	31	36
Number of specimens	Jan '11	Feb '11	Mar '11	Apr '11	May '11	Jun '11	Jul '11	Aug '11	Sep '11	Oct '11	Nov '11	Dec '11
<b>Invalid</b>	248	286	351	388	402	537	550	643	634	529	456	465
<b>pH Invalids</b>	55	55	72	94	131	182	175	252	256	210	130	105
<b>Low pH Invalids</b>	32	23	35	40	53	72	60	97	158	146	95	90
Number of specimens	Jan '12	Feb '12	Mar '12	Apr '12	May '12	Jun '12	Jul '12	Aug '12	Sep '12	Oct '12	Nov '12	Dec '12
<b>Invalid</b>	459	441	539	465	569	568	606	712	644	550	437	422
<b>pH Invalids</b>	117	96	134	143	179	200	242	290	248	146	94	110
<b>Low pH Invalids</b>	89	72	84	78	83	93	89	97	73	63	43	57

# Summary

- After the implementation of the revised Guidelines on 1 October 2010 there were:
  - A reduction in the number of specimens tested (5.4%)
  - An increase in the percent of specimens reported as Drug Positive

# Summary (continued)

- The major drugs responsible for the increase in the percent of specimens reported positive were those whose cutoffs were lowered:
  - Cocaine
  - Amphetamine
  - Methamphetamine
- Smaller increases were observed in 6-AM and codeine

# Synthetic Opiate Study

- The Study was in a Limited Population of Regulated Specimens
  - 12663 regulated specimens
  - 266 specimens were tested by DRI, KIMS, CEDIA and EMIT II reagents
  - All Positive result were confirmed

# Synthetic Opiates in Regulated Specimens

- In a population of 12663 regulated specimens, 266 were found to exhibit an IA response equal to or greater than 300 ng/mL Morphine.
- De-identified aliquots of these 266 specimens were tested by DRI, KIMS, CEDIA and EMIT II reagents using a cutoff of 300 ng/mL Morphine.
- These aliquots were also confirmed by GC/MS for Codeine (COD), Morphine (MOR), Hydrocodone (HYC), Hydromorphone (HYM), Oxycodone(OXC) and Oxymorphone (OXM) were confirmed using a cutoff of 100 ng/mL.

# Initial Test Positives

- \*Opiate IA results from reanalysis of the 266 specimens
- \*\* Percent based upon the total population of 12663 specimens

<b>Kit Manufactured</b>	<b>Initial Test Positives* 300 ng/mL Cutoff</b>	<b>Initial Test Positives**</b>
DRI	254	2.0%
KIMS	162	1.3%
CEDIA	253	2.0%
EMIT II	238	1.9%

# Opiate Confirmation Results

- <sup>1</sup> Values do not include aliquots also containing hydrocodone and/ or hydromorphone at concentrations <100ng/mL
- <sup>2</sup> These specimens contained oxycodone and oxymorphone.

<b>Analytes Found (&gt;100 ng/mL)</b>	<b>Number Specimens</b>
No Drug	35
Hydrocodone Only	40
Hydromorphone Only	13
Hydrocodone + Hydromorphone	116
Oxycodone and Oxymorphone	29 <sup>1,2</sup>
Codeine and/or Morphine	33 <sup>1</sup>

# Study 1. Analyte Distribution in Identified Specimens

Concentration Range, ng/mL	Codeine	Morphine	Hydrocodone	Hydromorphone	Oxycodone	Oxymorphone
100-199	15	21	19	29	4	3
200-299	11	5	13	20	12	3
300-399	5	5	6	13	--	6
400-499	11	3	4	5	9	3
500-599	5	6	7	3	--	--
600-699	--	8	2	5	3	3
700-799	--	8	6	2	3	--
800-899	--	2	2	1	--	--
900-999	--	--	4	2	2	--
1000-1999	5	16	17	10	16	30
>2000	53	27	22	3	47	52

# Number of Opiate 300 IA Positive Specimens Confirmed Positive for HYC and/or HYM at Various Confirmatory IA Cutoffs

<b>Number of specimens</b>	<b>KIMS</b>	<b>EMIT</b>	<b>CEDIA</b>	<b>DRI</b>
100	127	162	162	168
200	123	133	133	146
300	112	107	107	114
500	89	87	87	90
1000	60	55	55	60
2000	34	33	33	34

# Identification of Oxycodone and Oxymorphone in Regulated Specimens

- De-identified aliquots from 2892 regulated specimens having an IA response equal to or greater than 100 ng/mL Oxycodone were confirmed for Oxycodone and Oxymorphone.
- 14 specimens were initial test positive 12 confirmed positive for Oxycodone and/or Oxymorphone
- Positivity Rate = 0.42%
- Confirmation Rate = 85.7%

# Summary

- Yes individuals in safety sensitive positions are using the semi synthetic opiates: hydrocodone, hydromorphone, oxycodone and oxymorphone.
- The implications of this use, legally, medically or safety related can only be implied until testing for these compounds begins and results are verified by an MRO.