



Certificate of Analysis:
14080940

SITE : Atlanta, GA
SAMPLED BY: JBB

Sample ID: 08222014-LNAPL-UD7/UD3/RD1

MATRIX: Free Product

DATE SAMPLED: 08/22/2014

DATE RECIEVED: 08/29/2014

Samples labeled "08222014-LNAPL-UD7", "08222014-LNAPL-UD3", and "08222014-LNAPL-RD1" reported under SPL, Inc. Certificate of Analyses 14080940-001A through -003A were submitted for analyses. The samples were analyzed by PIANO analysis which is an acronym for the weight percent distribution of Paraffins, Isoparaffins, Aromatics, Naphthenics (Cycloparaffins), and Olefins (plus unknown compounds) using a gas chromatograph equipped with a Flame Ionization Detector to determine the general carbon ranges, approximate percentages and match the peak pattern with that of other normal fuel, lubrication and products related to Petroleum Productions.

The three samples exhibit the typical composition, odor, and color of gasoline. The specific gravities of 0.7918, 0.7917, and 0.8369 respectively fall within the normal gasoline ranges. All have a large proportion of C4 and C5 Olefins, a significant amount of 2,2,4-Trimethylpentane, and a wide range of volatile aromatics (Benzene, Toluene, and Xylenes); all of which are normally found in a gasoline. In addition, the majority of the total mass concentrations of these samples (ranging from 85% to 94%) fall in the carbon range of a gasoline (C4-C14).

Upon completion of the analyses we have determined that the samples are slightly to moderately weathered Gasoline Hydrocarbons.

It has been a pleasure working with you and your company. If SPL, Inc. can be of further assistance in this matter please feel free to contact us.

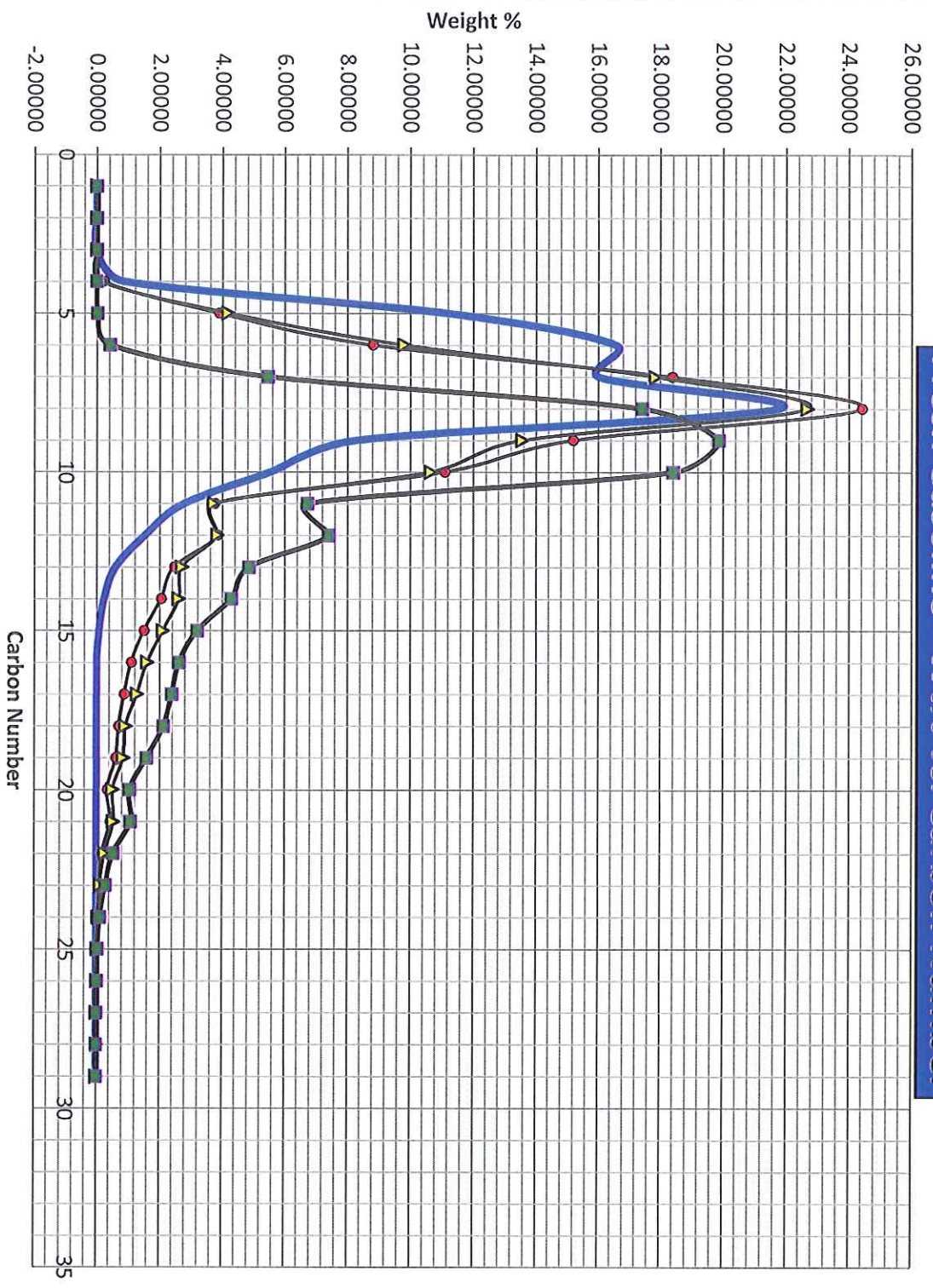
Sincerely,

A handwritten signature in blue ink that reads "Chris Staley". The signature is written in a cursive, flowing style.

Chris Staley
SPL, Inc.
Houston Hydrocarbon Lab Manager
(713) 660-0901 ext. 1188

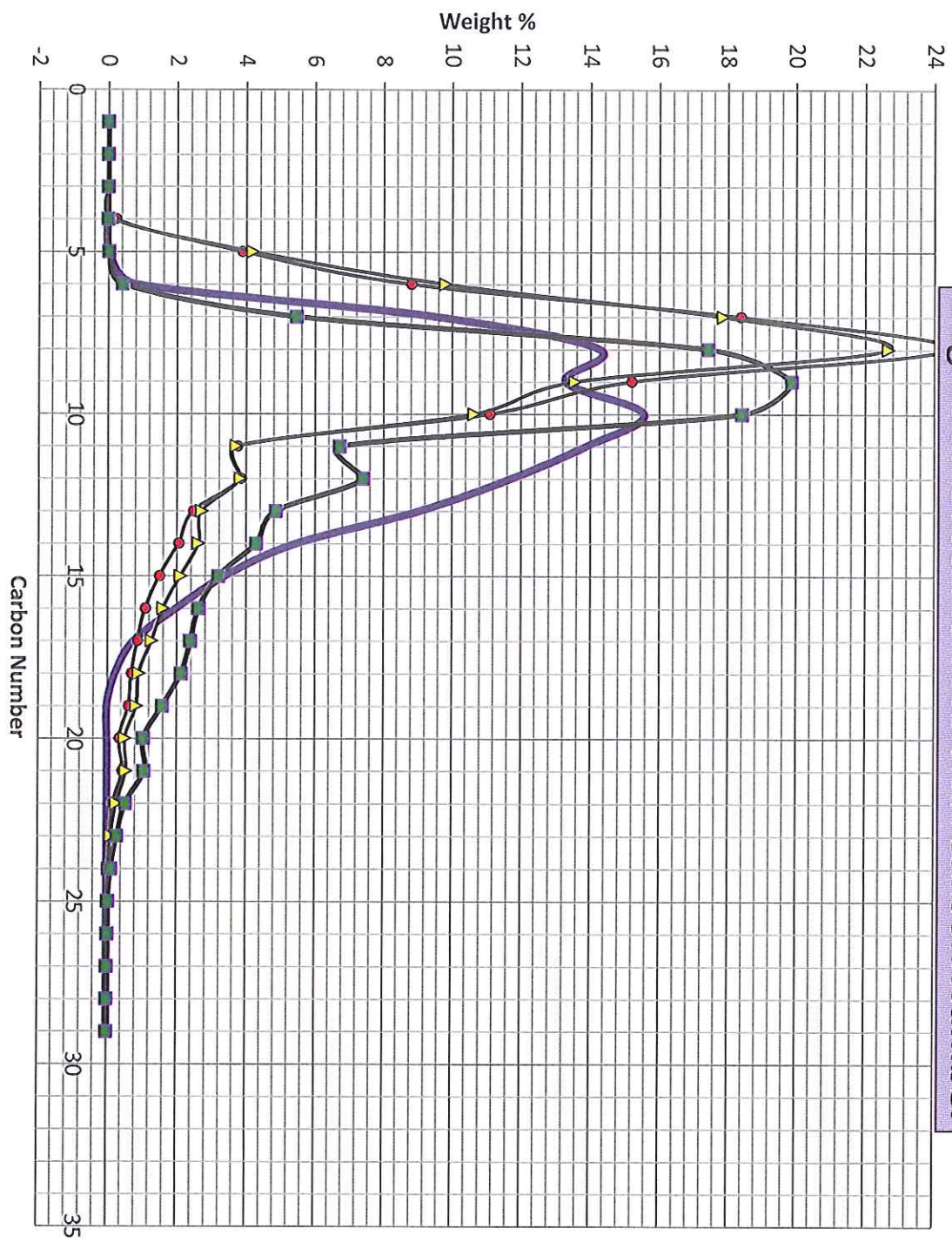
Carbon Number	14080940- 001A	14080940- 002A	14080940- 003A	0	<u>Fresh Gasoline</u>	<u>Degraded Gas</u>
	0	0	0	0		
1	0.00000	0	0.0055		0.00000	-
2	0.00000	0	0.00518		0.00000	-
3	0.00000	0	0.00575		0.00000	-
4	0.22444	0.13208	0		0.85041	0.00
5	3.88509	4.17626	0.0288		11.19083	0.04
6	8.80624	9.81013	0.41632		16.60410	0.77
7	18.37480	17.85854	5.46225		16.03450	9.52
8	24.40944	22.67339	17.43559		21.77133	14.27
9	15.19150	13.55424	19.87143		8.35467	13.29
10	11.09300	10.64412	18.41532		5.57989	15.57
11	3.75380	3.70866	6.72998		2.81048	13.88
12	3.84860	3.83713	7.41107		1.54823	11.72
13	2.46477	2.70327	4.8615		0.61835	9.05
14	2.04585	2.61009	4.2885		0.25580	5.47
15	1.49496	2.10554	3.19019		0.09938	3.39
16	1.09287	1.6005	2.62427		0.01246	2.00
17	0.86941	1.2749	2.3924		0.01231	0.78
18	0.70311	0.91227	2.12902		0.00000	0.24
19	0.61612	0.84106	1.58625		0.01032	0.00
20	0.35021	0.51599	1.04596		0.00724	0.00
21	0.43862	0.54346	1.07061		0.00000	0.00
22	0.17019	0.27156	0.53374		0.00000	0.00
23	0.09711	0.12378	0.29339		0.00000	0.00
24	0.03954	0.05063	0.11919		0.00000	0.00
25	0.02022	0.02591	0.04632		0.00000	0.00
26	0.01012	0.01345	0.02378		0.00000	0.00
27	0.00000	0	0.00768		0.00000	0.00
28	0.00000	0.01307	0		0.00000	0.00
29	0.00000	0	0		0.00000	0.00

Fresh Gasoline - Wt% vs. Carbon Number



- Fresh Gas
- 14080940-001A
- 14080940-002A
- 14080940-003A
-

Degraded Gasoline - Wt% vs. Carbon Number



- Degraded Gas
- 14080940-001A
- 14080940-002A
- 14080940-003A