

**Crude Oil  
By  
EFV Distillation**

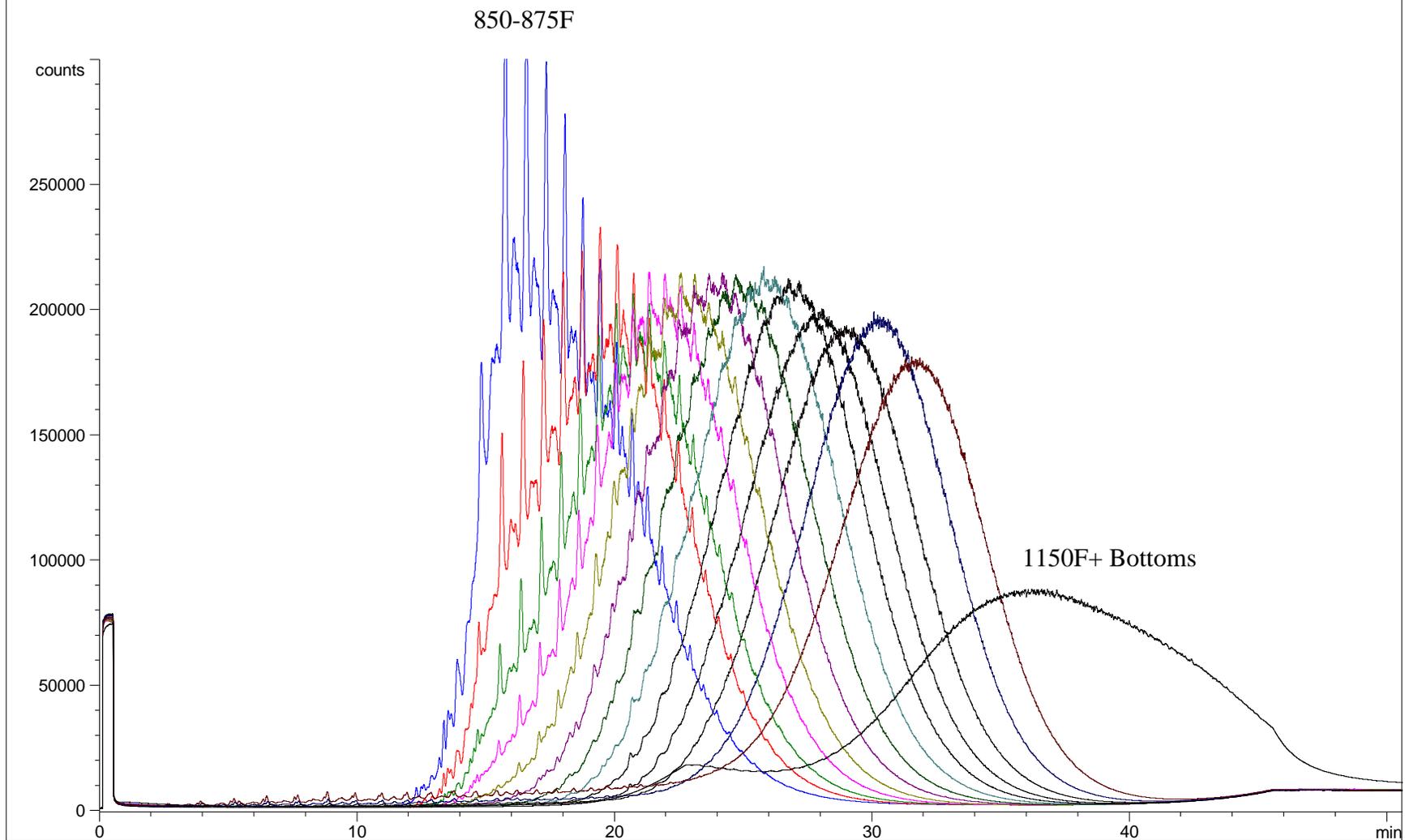
Provided by  
**Triton Analytics Corp.**

16840 Barker Springs, #302  
Houston, TX 77084  
(281) 578-2289



**Photographic Representation of Full Range of EFV Distillation Cuts**

Crude Oil Distillation Cuts 850-1150 and Bottoms at 25 Degree Intervals



Triton Analytics Corp.  
16840 Barker Springs, #302  
Houston, TX 77084  
(281) 578-2289

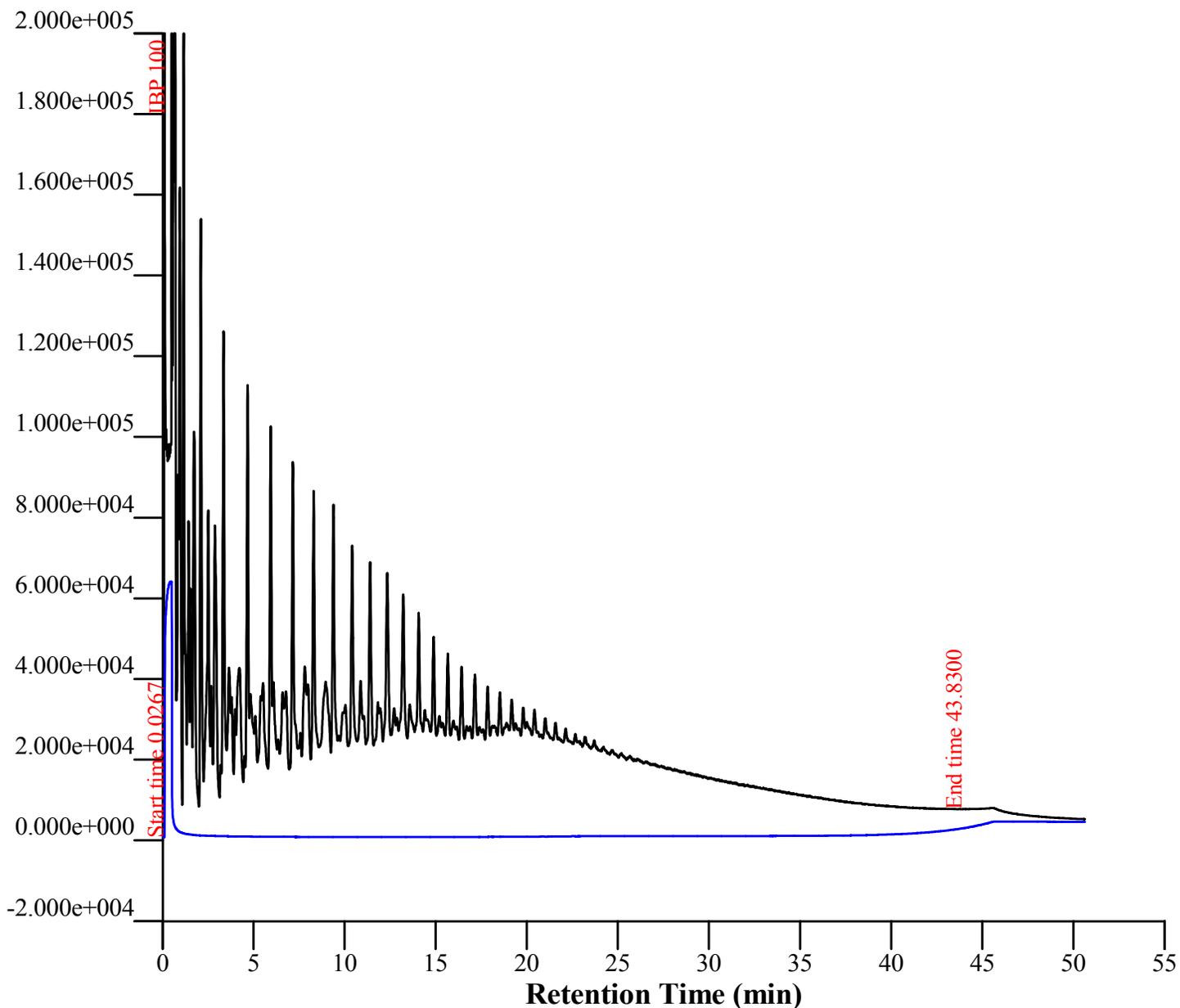
Certificate of Analysis

Equilibrium Flash Vaporizer Results																
Feed ID: Crude Oil		Feed API: 33.6					Feed SG: 0.8570									
EFV Run #	Feed	TBP	1	2	3	4	5	6	7	8	9	10	11	12	13	
EFV Cut Point, deg F (AET)		650	850	875	900	925	950	975	1000	1025	1050	1075	1100	1125	1150	1150+
Flash Zone Conditions																
Temperature, deg F		384	525	548	570	590	614	635	658	680	703	720	746	767	789	
Vacuum, mmHg(abs)		10.0	5.1	5.2	5.3	5.1	5.3	5.2	5.2	5.2	5.3	4.7	5.0	4.8	4.7	
EFV Overhead Product																
Run Yield, wt%		51.3	31.4	5.3	5.1	5.6	6.1	7.3	7.0	7.5	7.2	8.1	8.9	10.8	12.6	
Cut Yield (on feed), wt%		51.3	15.3	1.8	1.6	1.7	1.7	1.9	1.7	1.7	1.5	1.6	1.6	1.8	1.9	12.9
Cut Yield (on feed), lv%		56.5	14.5	1.6	1.5	1.6	1.6	1.8	1.6	1.6	1.4	1.4	1.4	1.6	1.6	10.4
Cum Yield (on feed), wt%		51.3	66.6	68.3	70.0	71.6	73.4	75.3	77.0	78.8	80.3	81.9	83.5	85.3	87.1	100.0
Cum Yield (on feed), lv%		56.5	71.0	72.6	74.1	75.7	77.2	79.0	80.6	82.1	83.5	84.9	86.3	87.9	89.6	100.0
Microcarbon, wt%	4.00	0.00	0.00	0.04	0.09	0.18	0.35	0.60	0.99	1.58	2.30	3.23	4.32	5.92	7.70	29.5
C5 Asphaltenes (IP-143), wt %														<0.1	0.1	22.5
C7 Asphaltenes (IP-143), wt%														<0.1	0.1	16.9
High Precision Hydrogen, wt %	12.72	14.09	12.34	12.11	11.92	12.01	11.86	11.77	11.70	11.61	11.54	11.40	11.33	11.23	11.12	9.75
Total Sulfur, wt%	1.913	0.558	2.370	2.509	2.579	2.655	2.687	2.840	3.004	3.093	3.078	3.283	3.258	3.451	3.574	4.640
Total Nitrogen, wt%	868 ppm	12 ppm	485 ppm	602 ppm	694 ppm	773 ppm	851 ppm	940 ppm	0.104	0.113	0.123	0.134	0.144	0.157	0.172	0.372
Nickel, ppm wt	3.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	0.4	0.8	27
Vanadium, ppm wt	13.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	0.5	0.7	1.2	2.0	3.1	5.0	99
Density @60F	0.8561	0.7752	0.9023	0.9103	0.9181	0.9250	0.9315	0.9376	0.9430	0.9482	0.9525	0.9578	0.9622	0.9670	0.9718	1.0539
API Gravity @60F	33.6	50.8	25.2	23.8	22.5	21.3	20.3	19.3	18.4	17.6	16.9	16.1	15.4	14.7	14.0	2.6
Specific Gravity @60F	0.8570	0.7760	0.9032	0.9112	0.9190	0.9259	0.9324	0.9386	0.9439	0.9491	0.9534	0.9588	0.9631	0.9680	0.9728	1.0549

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Feed	Vial	: 8
Acquired on	: 13-Feb-07, 21:12:44	Injection	: 1
Processed on	: 2/14/2007 11:44:52 AM	Sample (g)	: 0.0975
Sample type	: Crude	Solvent (g)	: 4.8988
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: thn		
Sequence name	: 0213A.S		

Data File : 0213A\008F1101.D



**HTSD3 ASTM High temperature****2**


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Sample name : Crude Feed  
 Acquired on : 13-Feb-07, 21:12:44 Vial : 8  
 Processed on : 2/14/2007 11:44:52 AM Injection : 1  
 Data File : 0213A\008F1101.D

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**General Variables**

Used Blank 0213A\007F1001.D  
 Used BP calibrant 0213A\090F0101.D  
 Used Reference 0213A\095F0301.D  
 Solvent start 0.097  
 Solvent end 0.510  
 Quenching factor 2.4  
 Used Start elution (min) 0.027  
 Used End elution (min) 43.830 set  
 Total area 320991578  
 Found Recovery 96.8  
 Used Recovery 96.8  
 Response factor 5.8869e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	99.8	25.0	392.2	50.0	635.6	75.0	906.8
1.0	101.4	26.0	404.8	51.0	646.8	76.0	919.6
2.0	111.0	27.0	416.2	52.0	655.2	77.0	932.6
3.0	129.0	28.0	421.6	53.0	665.6	78.0	945.8
4.0	149.6	29.0	432.4	54.0	674.6	79.0	959.4
5.0	163.2	30.0	443.2	55.0	685.6	80.0	973.6
6.0	183.0	31.0	453.8	56.0	695.4	81.0	988.2
7.0	198.4	32.0	461.8	57.0	706.2	82.0	1003.4
8.0	209.2	33.0	474.2	58.0	716.4	83.0	1019.2
9.0	227.0	34.0	484.6	59.0	727.6	84.0	1035.8
10.0	237.4	35.0	490.8	60.0	737.8	85.0	1052.2
11.0	256.2	36.0	503.2	61.0	749.0	86.0	1069.6
12.0	262.0	37.0	512.0	62.0	759.4	87.0	1087.6
13.0	274.6	38.0	519.8	63.0	770.4	88.0	1106.6
14.0	285.2	39.0	530.2	64.0	780.8	89.0	1126.6
15.0	301.0	40.0	540.8	65.0	791.0	90.0	1147.8
16.0	304.8	41.0	549.2	66.0	802.0	91.0	1170.2
17.0	316.4	42.0	559.8	67.0	812.6	92.0	1194.2
18.0	327.0	43.0	570.2	68.0	823.6	93.0	1220.6
19.0	333.4	44.0	577.2	69.0	835.2	94.0	1250.6
20.0	345.0	45.0	588.0	70.0	846.6	95.0	1284.0
21.0	353.6	46.0	598.2	71.0	858.4	96.0	1317.4
22.0	365.0	47.0	604.6	72.0	870.6	96.8	1351.0
23.0	374.6	48.0	616.2	73.0	882.6		
24.0	384.4	49.0	625.8	74.0	894.6		

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**HTSD3 ASTM High temperature**

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Sample name	: Crude Feed	Vial	: 8
Acquired on	: 13-Feb-07, 21:12:44	Injection	: 1
Processed on	: 2/14/2007 11:44:52 AM		
Data File	: 0213A\008F1101.D		

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**BP Distribution table - cut points**

<b>BP</b>	<b>Recovered</b>	<b>Fraction</b>
<b>°F</b>	<b>mass%</b>	<b>mass%</b>
360.0	21.7	21.7
480.0	33.7	12.0
650.0	51.4	17.7
750.0	61.1	9.7
800.0	65.8	4.7
900.0	74.5	8.6
1000.0	81.8	7.3
1100.0	87.7	5.9
1200.0	92.2	4.6

Density @ 60F: 0.8561

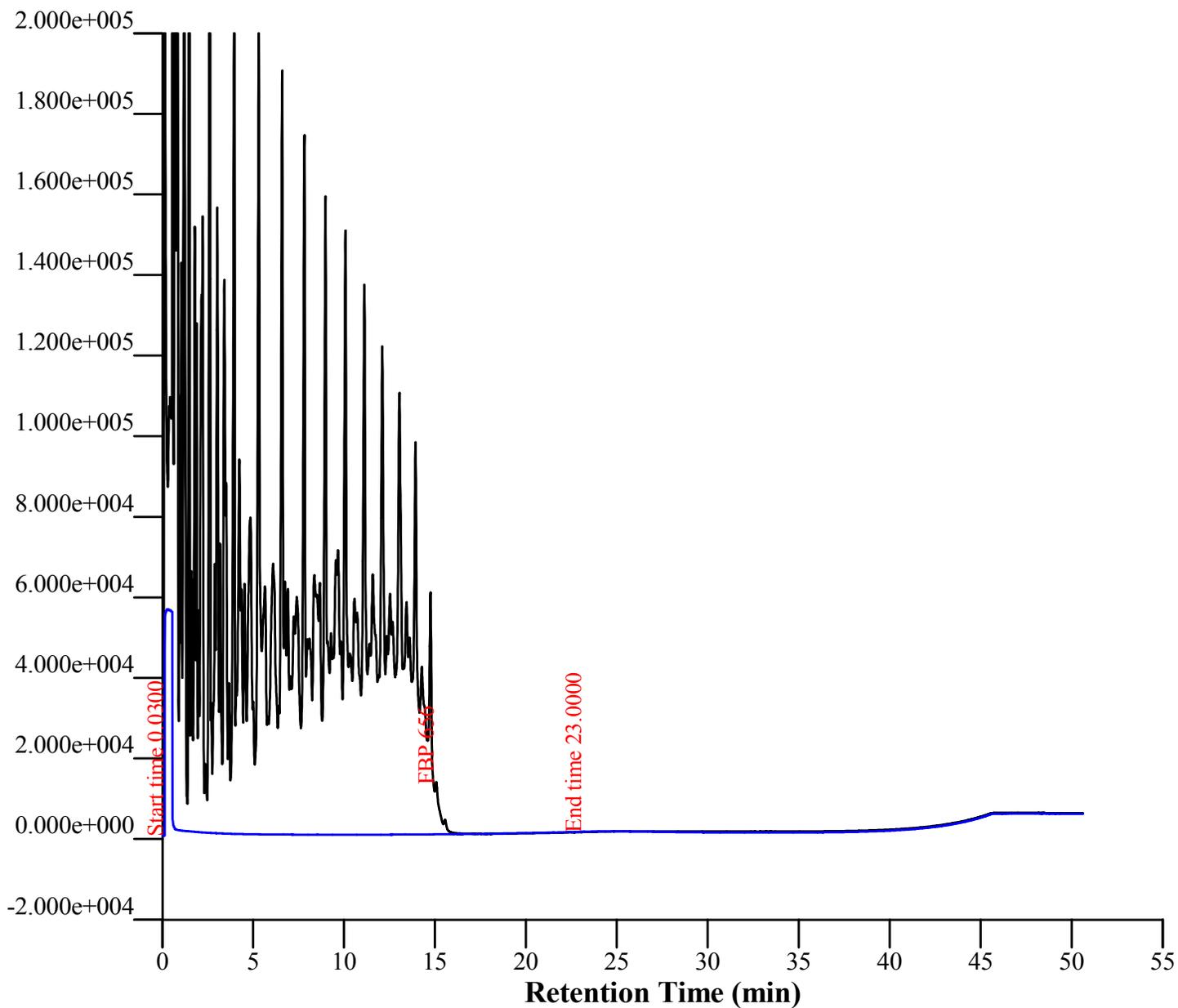
API @ 60F: 33.6

SG @ 60F: 0.8570

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (IBP-650F)	Vial	: 2
Acquired on	: 26-Apr-07, 17:03:47	Injection	: 1
Processed on	: 4/27/2007 3:10:12 PM	Sample (g)	: 0.0916
Sample type	: Crude	Solvent (g)	: 4.8943
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\002F0601.D



**HTSD3 ASTM High temperature****2**


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Sample name : Crude Cut (IBP-650F)  
 Acquired on : 26-Apr-07, 17:03:47 Vial : 2  
 Processed on : 4/27/2007 3:10:12 PM Injection : 1  
 Data File : 0426A\002F0601.D

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**General Variables**

Used Blank 0426A\007F1101.D  
 Used BP calibrant 0426A\090F0101.D  
 Used Reference 0426A\095F0401.D  
 Solvent start 0.113  
 Solvent end 0.550  
 Quenching factor 2.4  
 Used Start elution (min) 0.030  
 Used End elution (min) 23.000 set  
 Total area 302844150  
 Found Recovery 99.7  
 Used Recovery 100.0  
 Response factor 6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
1.8	96.8	26.0	269.8	51.0	397.2	76.0	524.0
2.0	97.2	27.0	273.8	52.0	405.6	77.0	530.4
3.0	100.0	28.0	280.4	53.0	410.0	78.0	536.2
4.0	104.2	29.0	286.0	54.0	417.6	79.0	541.4
5.0	114.2	30.0	289.0	55.0	421.4	80.0	548.0
6.0	128.0	31.0	302.4	56.0	423.0	81.0	550.4
7.0	138.4	32.0	304.4	57.0	428.0	82.0	555.0
8.0	148.4	33.0	305.6	58.0	433.8	83.0	561.2
9.0	149.2	34.0	314.0	59.0	440.6	84.0	566.0
10.0	149.6	35.0	317.6	60.0	445.8	85.0	572.4
11.0	150.6	36.0	322.0	61.0	453.4	86.0	576.6
12.0	159.2	37.0	328.8	62.0	456.2	87.0	579.6
13.0	173.2	38.0	331.6	63.0	459.0	88.0	585.6
14.0	181.4	39.0	338.2	64.0	465.4	89.0	590.6
15.0	192.6	40.0	345.4	65.0	472.0	90.0	596.4
16.0	199.6	41.0	346.8	66.0	477.0	91.0	601.4
17.0	204.4	42.0	352.2	67.0	482.2	92.0	604.4
18.0	210.0	43.0	356.2	68.0	489.0	93.0	610.4
19.0	222.4	44.0	362.6	69.0	491.0	94.0	616.0
20.0	232.2	45.0	369.4	70.0	495.6	95.0	622.6
21.0	236.0	46.0	373.4	71.0	502.0	96.0	627.6
22.0	240.2	47.0	382.8	72.0	507.2	97.0	633.2
23.0	255.4	48.0	385.6	73.0	511.4	98.0	641.4
24.0	258.2	49.0	387.2	74.0	517.8	99.0	650.8
25.0	260.6	50.0	392.2	75.0	520.8	FBP	655.6

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**HTSD3 ASTM High temperature**

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Sample name	: Crude Cut (IBP-650F)	Vial	: 2
Acquired on	: 26-Apr-07, 17:03:47	Injection	: 1
Processed on	: 4/27/2007 3:10:12 PM		
Data File	: 0426A\002F0601.D		

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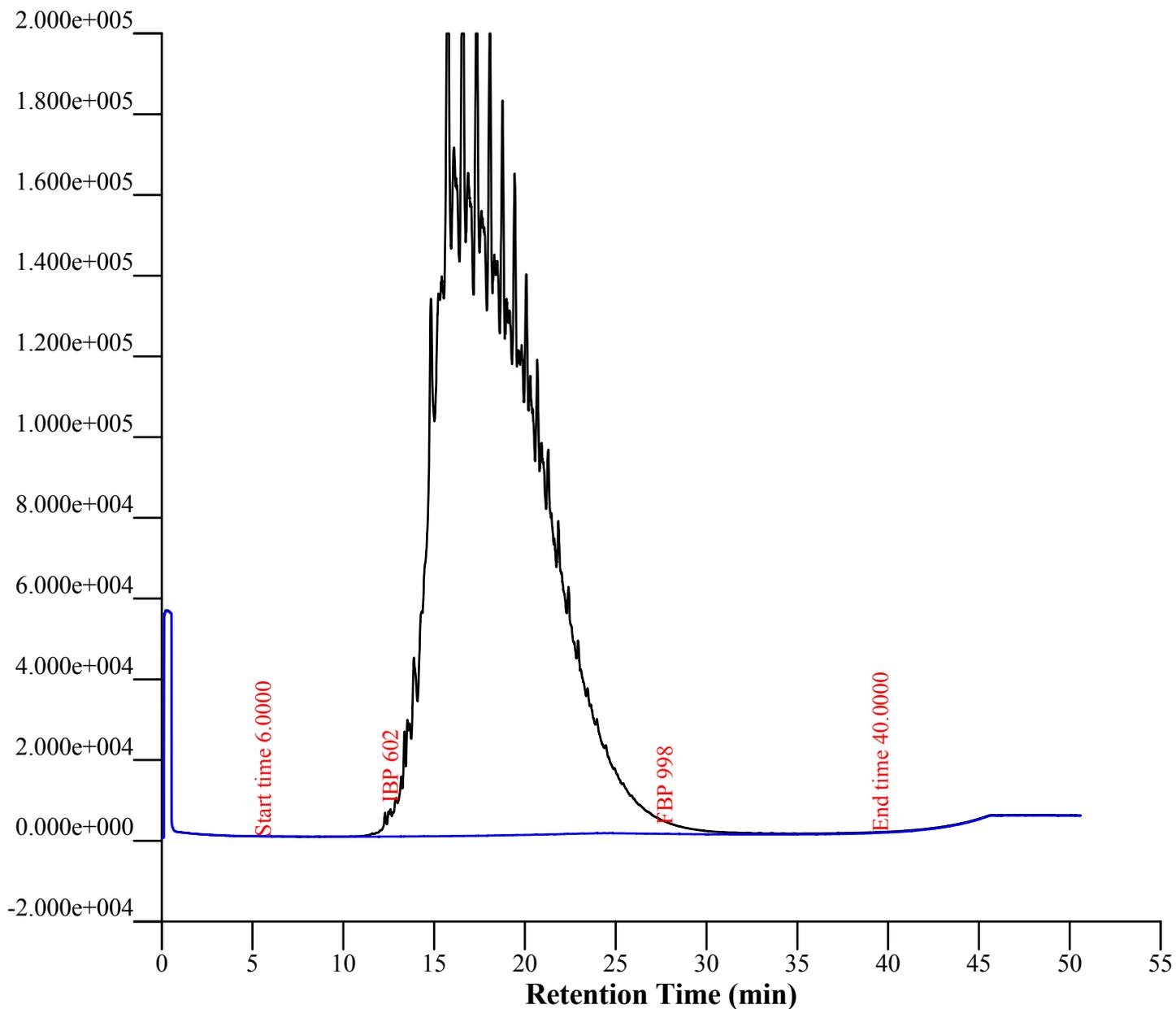
**BP Distribution table - cut points**

<b>BP</b>	<b>Recovered</b>	<b>Fraction</b>
<b>°F</b>	<b>mass%</b>	<b>mass%</b>
360.0	43.7	43.7
480.0	66.6	22.9
650.0	98.9	32.3
750.0	100.0	1.1
800.0	100.0	0.0

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (650-850F)	Vial	: 3
Acquired on	: 26-Apr-07, 18:09:14	Injection	: 1
Processed on	: 4/27/2007 3:12:31 PM	Sample (g)	: 0.1066
Sample type	: Crude	Solvent (g)	: 4.8902
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\003F0701.D



**HTSD3 ASTM High temperature****2**


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Sample name	: Crude Cut (650-850F)	Vial	: 3
Acquired on	: 26-Apr-07, 18:09:14	Injection	: 1
Processed on	: 4/27/2007 3:12:31 PM		
Data File	: 0426A\003F0701.D		

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**General Variables**

Used Blank	0426A\007F1101.D
Used BP calibrant	0426A\090F0101.D
Used Reference	0426A\095F0401.D
Solvent start	0.113
Solvent end	0.550
Quenching factor	2.4
Used Start elution (min)	6.000 set
Used End elution (min)	40.000 set
Total area	350992191
Found Recovery	99.5
Used Recovery	100.0
Response factor	6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	601.8	26.0	694.0	52.0	744.4	78.0	807.6
1.0	613.2	27.0	696.4	53.0	746.6	79.0	810.8
2.0	626.0	28.0	698.4	54.0	748.8	80.0	813.6
3.0	634.6	29.0	700.0	55.0	751.0	81.0	817.0
4.0	641.0	30.0	701.4	56.0	753.4	82.0	820.4
5.0	646.2	31.0	702.8	57.0	755.6	83.0	824.0
6.0	650.4	32.0	704.6	58.0	758.0	84.0	827.6
7.0	653.2	33.0	706.8	59.0	760.0	85.0	831.2
8.0	655.8	34.0	708.8	60.0	761.8	86.0	835.4
9.0	658.8	35.0	710.6	61.0	764.0	87.0	839.8
10.0	661.8	36.0	712.8	62.0	766.4	88.0	844.2
11.0	664.4	37.0	714.8	63.0	768.8	89.0	849.2
12.0	666.6	38.0	717.0	64.0	771.4	90.0	854.4
13.0	669.0	39.0	719.4	65.0	773.8	91.0	860.0
14.0	671.4	40.0	721.0	66.0	776.4	92.0	866.2
15.0	673.8	41.0	722.4	67.0	778.4	93.0	873.0
16.0	675.8	42.0	724.2	68.0	780.4	94.0	880.6
17.0	677.6	43.0	726.2	69.0	783.2	95.0	889.2
18.0	679.0	44.0	728.4	70.0	785.6	96.0	899.6
19.0	680.4	45.0	730.4	71.0	788.4	97.0	912.8
20.0	682.0	46.0	732.6	72.0	791.0	98.0	931.2
21.0	684.2	47.0	734.6	73.0	793.8	99.0	962.8
22.0	686.4	48.0	737.0	74.0	796.0	FBP	998.4
23.0	688.2	49.0	739.2	75.0	798.8		
24.0	690.2	50.0	741.0	76.0	801.6		
25.0	692.0	51.0	742.6	77.0	804.6		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (650-850F)		
Acquired on	: 26-Apr-07, 18:09:14	Vial	: 3
Processed on	: 4/27/2007 3:12:31 PM	Injection	: 1
Data File	: 0426A\003F0701.D		

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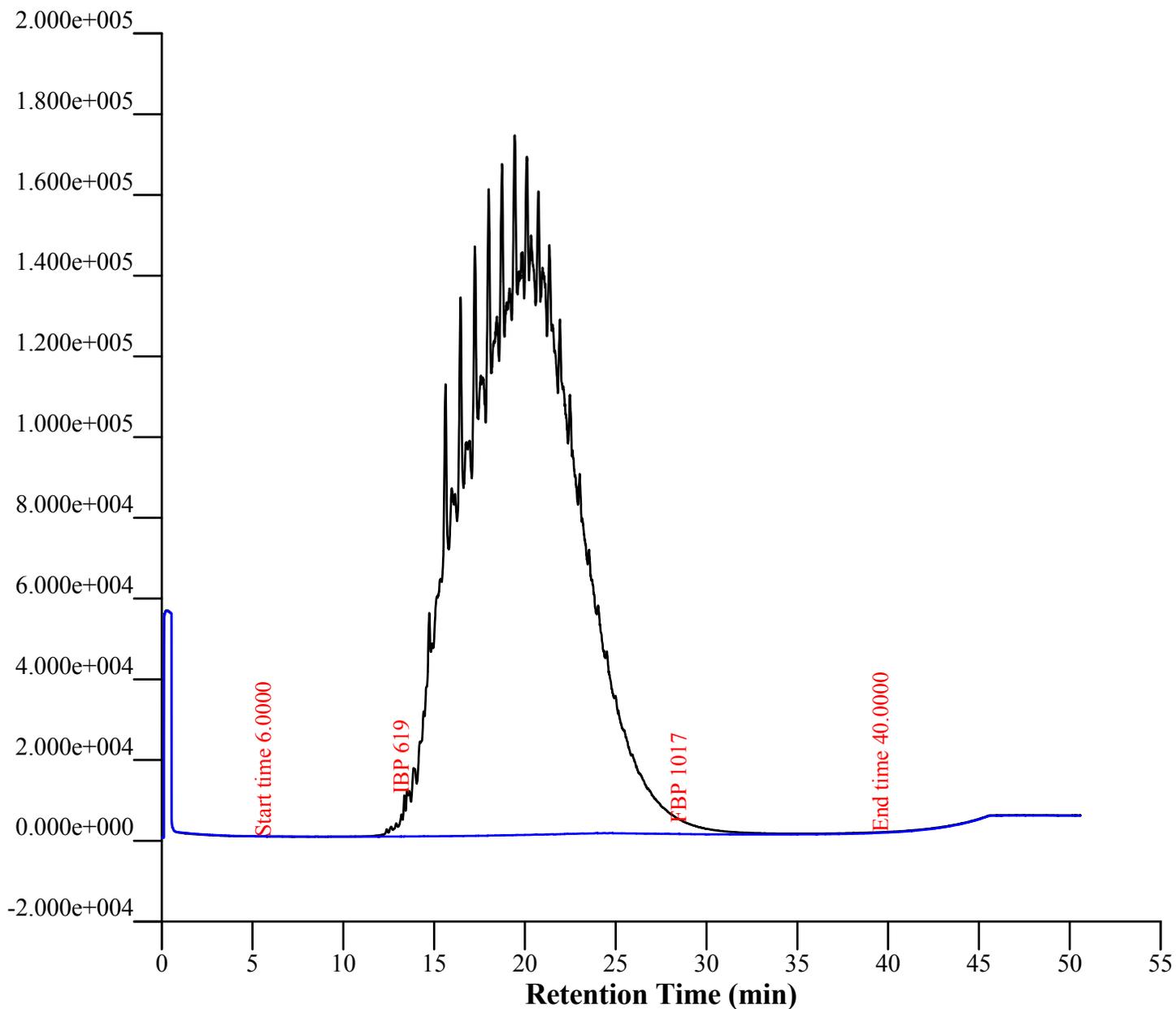
**BP Distribution table - cut points**

<b>BP</b>	<b>Recovered</b>	<b>Fraction</b>
<b>°F</b>	<b>mass%</b>	<b>mass%</b>
480.0	0.0	0.0
650.0	5.9	5.9
750.0	54.6	48.6
800.0	75.4	20.9
900.0	96.0	20.6
1000.0	99.5	3.5
1100.0	99.8	0.3
1200.0	100.0	0.1

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (850-875F)	Vial	: 4
Acquired on	: 26-Apr-07, 19:15:01	Injection	: 1
Processed on	: 4/27/2007 3:13:52 PM	Sample (g)	: 0.1026
Sample type	: Crude	Solvent (g)	: 4.9015
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\004F0801.D



**HTSD3 ASTM High temperature****2**

Sample name	: Crude Cut (850-875F)	Vial	: 4
Acquired on	: 26-Apr-07, 19:15:01	Injection	: 1
Processed on	: 4/27/2007 3:13:52 PM		
Data File	: 0426A\004F0801.D		

**General Variables**

Used Blank	0426A\007F1101.D
Used BP calibrant	0426A\090F0101.D
Used Reference	0426A\095F0401.D
Solvent start	0.113
Solvent end	0.550
Quenching factor	2.4
Used Start elution (min)	6.000 set
Used End elution (min)	40.000 set
Total area	338711255
Found Recovery	99.9
Used Recovery	100.0
Response factor	6.0471e-011

**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	618.8	26.0	733.2	52.0	791.6	78.0	850.4
1.0	631.2	27.0	736.0	53.0	793.8	79.0	853.2
2.0	644.8	28.0	738.6	54.0	795.6	80.0	856.0
3.0	652.2	29.0	740.6	55.0	797.6	81.0	859.2
4.0	658.8	30.0	742.6	56.0	799.6	82.0	862.0
5.0	664.2	31.0	745.4	57.0	801.8	83.0	865.4
6.0	669.2	32.0	747.8	58.0	803.8	84.0	868.8
7.0	673.6	33.0	750.2	59.0	805.8	85.0	872.2
8.0	676.6	34.0	752.6	60.0	808.2	86.0	875.6
9.0	680.6	35.0	755.0	61.0	810.4	87.0	879.2
10.0	684.6	36.0	757.4	62.0	812.4	88.0	883.2
11.0	688.2	37.0	759.4	63.0	814.4	89.0	887.4
12.0	691.8	38.0	761.2	64.0	816.6	90.0	891.8
13.0	695.6	39.0	763.6	65.0	818.8	91.0	896.6
14.0	698.2	40.0	766.0	66.0	821.0	92.0	901.8
15.0	701.0	41.0	768.2	67.0	823.2	93.0	907.8
16.0	704.4	42.0	770.6	68.0	825.6	94.0	914.4
17.0	707.6	43.0	772.8	69.0	828.0	95.0	922.2
18.0	710.8	44.0	775.2	70.0	830.0	96.0	931.2
19.0	714.0	45.0	777.0	71.0	832.4	97.0	942.6
20.0	717.4	46.0	778.8	72.0	834.8	98.0	958.6
21.0	719.6	47.0	780.8	73.0	837.2	99.0	986.4
22.0	722.0	48.0	783.0	74.0	839.8	FBP	1016.6
23.0	724.8	49.0	785.2	75.0	842.4		
24.0	727.6	50.0	787.4	76.0	845.0		
25.0	730.4	51.0	789.4	77.0	847.6		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (850-875F)		
Acquired on	: 26-Apr-07, 19:15:01	Vial	: 4
Processed on	: 4/27/2007 3:13:52 PM	Injection	: 1
Data File	: 0426A\004F0801.D		

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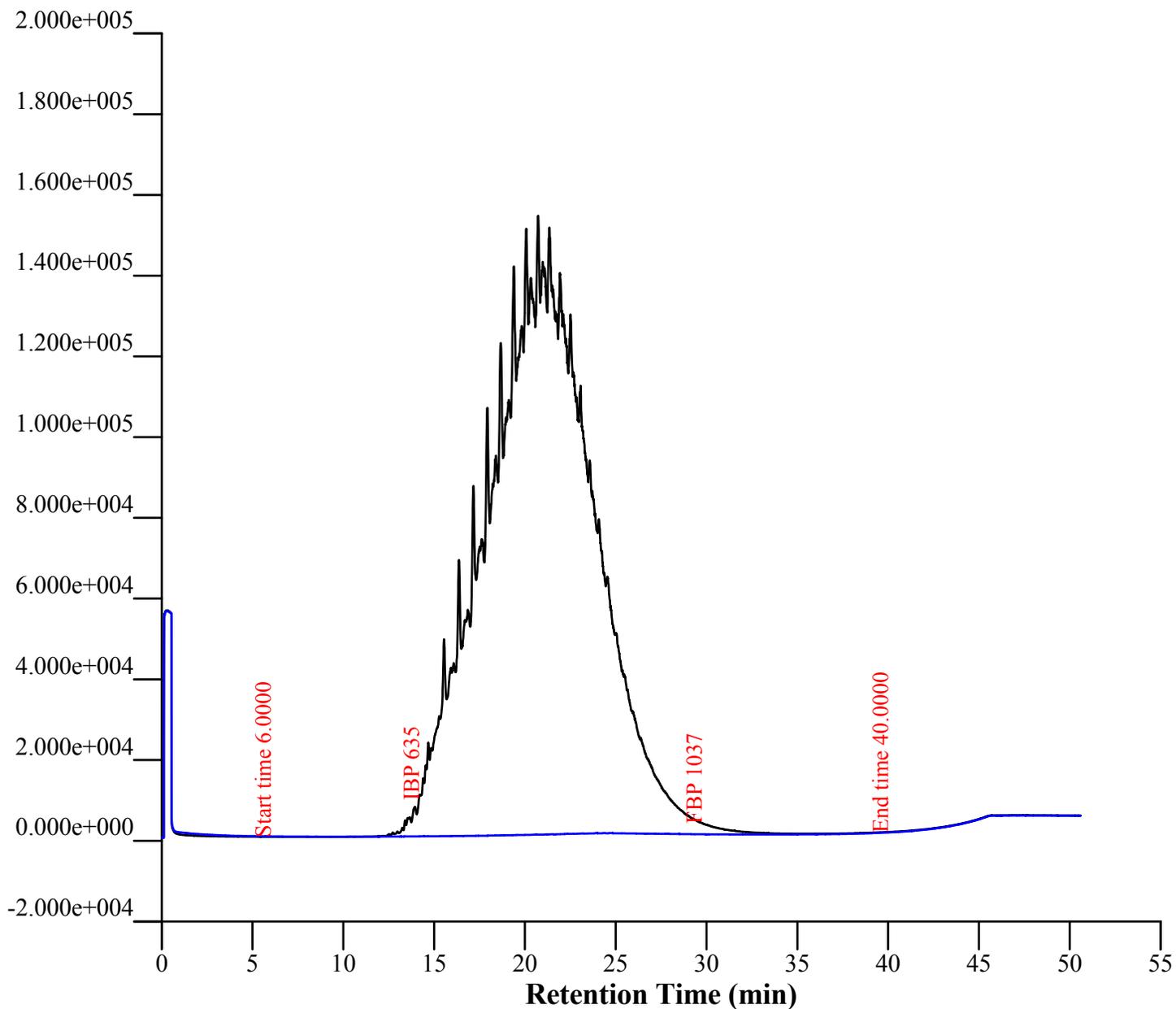
**BP Distribution table - cut points**

<b>BP</b> <b>°F</b>	<b>Recovered</b> <b>mass%</b>	<b>Fraction</b> <b>mass%</b>
480.0	0.0	0.0
650.0	2.6	2.6
750.0	32.9	30.3
800.0	56.2	23.3
900.0	91.7	35.5
1000.0	99.3	7.6
1100.0	99.9	0.6
1200.0	100.0	0.1

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (875-900F)	Vial	: 5
Acquired on	: 26-Apr-07, 20:20:47	Injection	: 1
Processed on	: 4/27/2007 3:15:19 PM	Sample (g)	: 0.0920
Sample type	: Crude	Solvent (g)	: 4.8875
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\005F0901.D



**HTSD3 ASTM High temperature****2**

Sample name	: Crude Cut (875-900F)	Vial	: 5
Acquired on	: 26-Apr-07, 20:20:47	Injection	: 1
Processed on	: 4/27/2007 3:15:19 PM		
Data File	: 0426A\005F0901.D		

**General Variables**

Used Blank	0426A\007F1101.D
Used BP calibrant	0426A\090F0101.D
Used Reference	0426A\095F0401.D
Solvent start	0.113
Solvent end	0.550
Quenching factor	2.4
Used Start elution (min)	6.000 set
Used End elution (min)	40.000 set
Total area	305376724
Found Recovery	99.9
Used Recovery	100.0
Response factor	6.0471e-011

**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	634.8	26.0	764.6	52.0	820.2	78.0	877.0
1.0	646.2	27.0	767.4	53.0	822.2	79.0	879.6
2.0	659.6	28.0	769.8	54.0	824.2	80.0	882.2
3.0	669.6	29.0	772.4	55.0	826.4	81.0	885.0
4.0	676.6	30.0	774.8	56.0	828.4	82.0	888.0
5.0	684.0	31.0	776.8	57.0	830.2	83.0	890.8
6.0	690.6	32.0	779.0	58.0	832.0	84.0	893.8
7.0	696.0	33.0	781.2	59.0	834.2	85.0	897.2
8.0	701.4	34.0	783.6	60.0	836.2	86.0	900.6
9.0	706.6	35.0	785.8	61.0	838.2	87.0	904.0
10.0	711.8	36.0	788.0	62.0	840.4	88.0	908.0
11.0	716.4	37.0	790.2	63.0	842.6	89.0	912.0
12.0	720.0	38.0	792.4	64.0	844.8	90.0	916.4
13.0	724.2	39.0	794.4	65.0	846.6	91.0	921.2
14.0	728.2	40.0	796.2	66.0	848.8	92.0	926.2
15.0	732.0	41.0	798.2	67.0	851.0	93.0	932.0
16.0	736.0	42.0	800.4	68.0	853.2	94.0	938.2
17.0	738.6	43.0	802.4	69.0	855.4	95.0	945.6
18.0	741.8	44.0	804.4	70.0	857.8	96.0	954.6
19.0	745.2	45.0	806.4	71.0	860.0	97.0	966.0
20.0	748.2	46.0	808.6	72.0	862.2	98.0	981.6
21.0	751.2	47.0	810.6	73.0	864.6	99.0	1008.4
22.0	754.2	48.0	812.4	74.0	867.0	FBP	1036.8
23.0	756.8	49.0	814.4	75.0	869.6		
24.0	759.2	50.0	816.4	76.0	872.2		
25.0	762.0	51.0	818.4	77.0	874.6		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (875-900F)		
Acquired on	: 26-Apr-07, 20:20:47	Vial	: 5
Processed on	: 4/27/2007 3:15:19 PM	Injection	: 1
Data File	: 0426A\005F0901.D		

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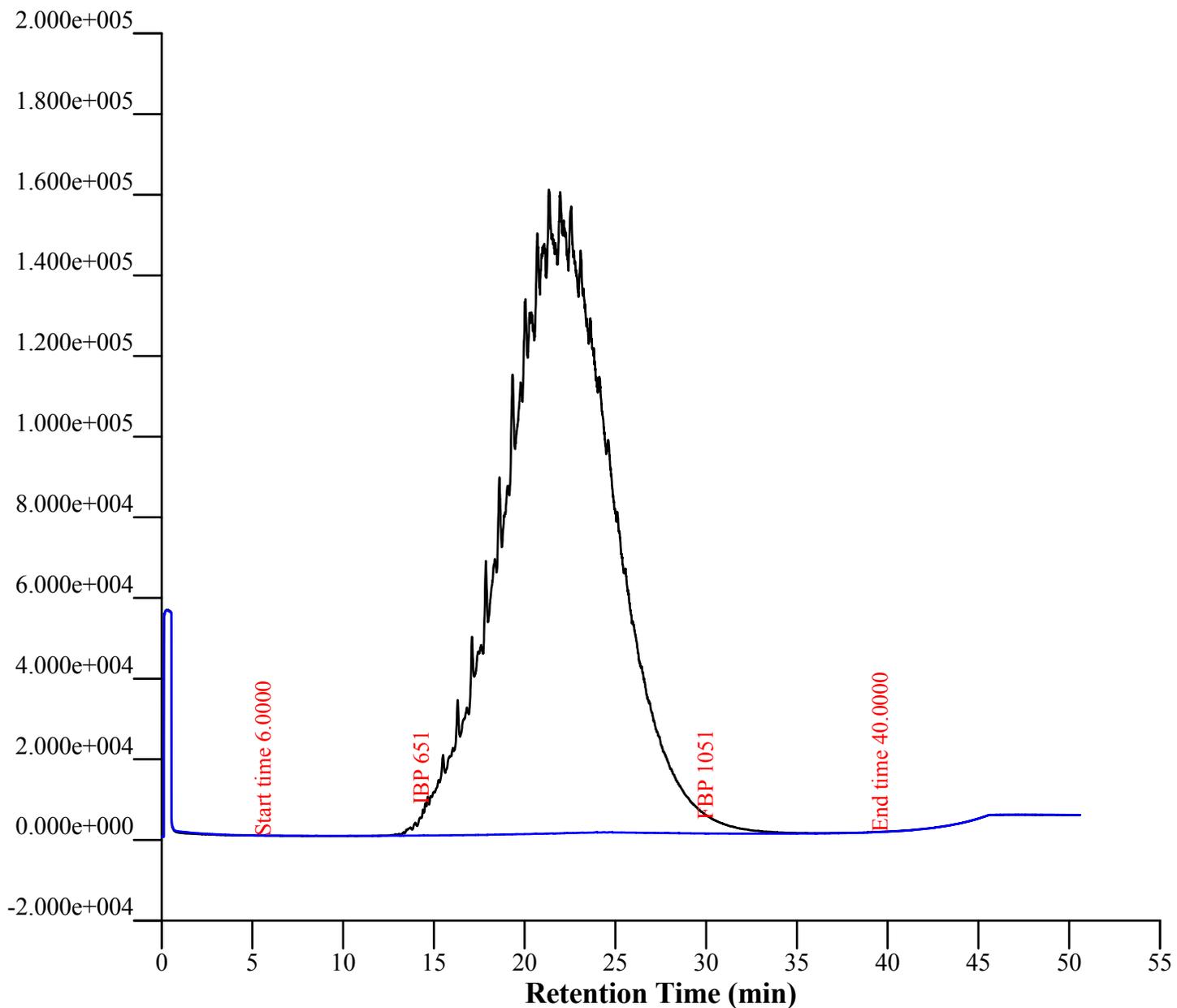
**BP Distribution table - cut points**

<b>BP</b> <b>°F</b>	<b>Recovered</b> <b>mass%</b>	<b>Fraction</b> <b>mass%</b>
480.0	0.0	0.0
650.0	1.3	1.3
750.0	20.6	19.4
800.0	41.9	21.2
900.0	85.8	44.0
1000.0	98.8	12.9
1100.0	99.9	1.1
1200.0	100.0	0.1

# HTSD3 ASTM High temperature

Sample name	: Crude Cut (900-925F)	Vial	: 8
Acquired on	: 26-Apr-07, 23:37:07	Injection	: 1
Processed on	: 4/27/2007 3:16:37 PM	Sample (g)	: 0.0966
Sample type	: Crude	Solvent (g)	: 4.8824
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\008F1201.D



**HTSD3 ASTM High temperature****2**

Sample name	: Crude Cut (900-925F)	Vial	: 8
Acquired on	: 26-Apr-07, 23:37:07	Injection	: 1
Processed on	: 4/27/2007 3:16:37 PM		
Data File	: 0426A\008F1201.D		

**General Variables**

Used Blank	0426A\007F1101.D
Used BP calibrant	0426A\090F0101.D
Used Reference	0426A\095F0401.D
Solvent start	0.113
Solvent end	0.550
Quenching factor	2.4
Used Start elution (min)	6.000 set
Used End elution (min)	40.000 set
Total area	321417724
Found Recovery	100.2
Used Recovery	100.0
Response factor	6.0471e-011

**BP Distribution table - Percent**

Recovered mass%	BP °F						
IBP	650.6	26.0	794.8	52.0	848.0	78.0	901.8
1.0	664.6	27.0	797.2	53.0	850.0	79.0	904.4
2.0	682.4	28.0	799.6	54.0	851.8	80.0	907.0
3.0	694.8	29.0	801.8	55.0	853.8	81.0	909.6
4.0	705.6	30.0	804.0	56.0	855.8	82.0	912.4
5.0	714.6	31.0	806.2	57.0	857.8	83.0	915.4
6.0	721.4	32.0	808.4	58.0	859.8	84.0	918.2
7.0	728.0	33.0	810.8	59.0	861.6	85.0	921.4
8.0	734.4	34.0	812.6	60.0	863.6	86.0	924.8
9.0	739.0	35.0	814.6	61.0	865.6	87.0	928.2
10.0	744.0	36.0	816.8	62.0	867.6	88.0	931.6
11.0	748.6	37.0	818.8	63.0	869.6	89.0	935.6
12.0	752.8	38.0	820.8	64.0	871.8	90.0	939.6
13.0	756.6	39.0	822.8	65.0	873.8	91.0	944.2
14.0	760.2	40.0	824.8	66.0	875.6	92.0	949.0
15.0	764.0	41.0	827.0	67.0	877.6	93.0	954.4
16.0	767.4	42.0	828.8	68.0	879.6	94.0	960.8
17.0	770.8	43.0	830.6	69.0	881.6	95.0	968.0
18.0	773.8	44.0	832.4	70.0	883.6	96.0	976.6
19.0	776.4	45.0	834.4	71.0	885.8	97.0	987.4
20.0	779.2	46.0	836.4	72.0	888.0	98.0	1002.2
21.0	782.2	47.0	838.4	73.0	890.2	99.0	1027.2
22.0	785.0	48.0	840.4	74.0	892.4	FBP	1051.0
23.0	787.6	49.0	842.4	75.0	894.6		
24.0	790.2	50.0	844.4	76.0	897.0		
25.0	792.6	51.0	846.2	77.0	899.4		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (900-925F)		
Acquired on	: 26-Apr-07, 23:37:07	Vial	: 8
Processed on	: 4/27/2007 3:16:37 PM	Injection	: 1
Data File	: 0426A\008F1201.D		

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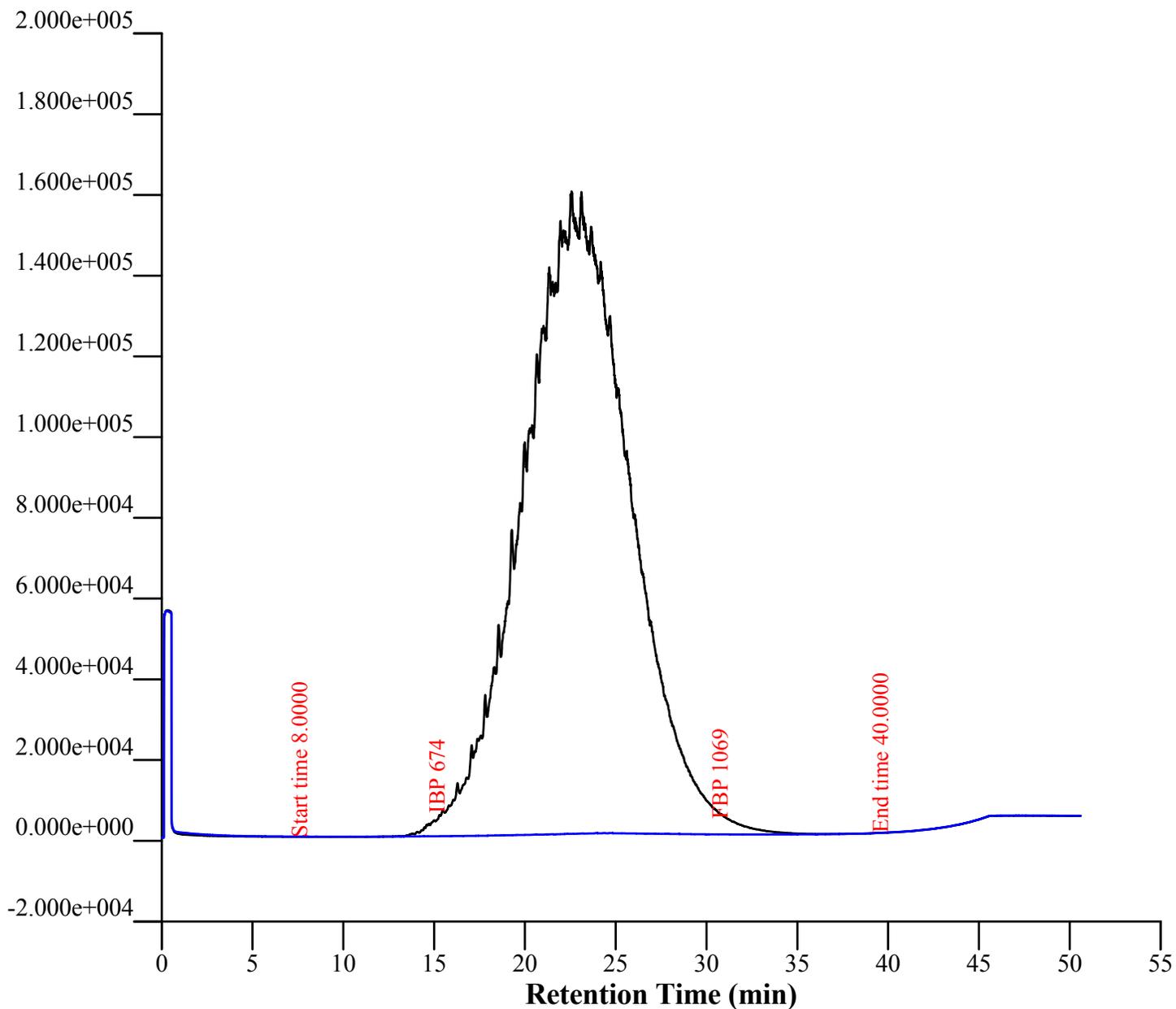
**BP Distribution table - cut points**

<b>BP</b> <b>°F</b>	<b>Recovered</b> <b>mass%</b>	<b>Fraction</b> <b>mass%</b>
480.0	0.0	0.0
650.0	0.5	0.5
750.0	11.4	10.9
800.0	28.3	16.9
900.0	77.3	49.0
1000.0	97.9	20.6
1100.0	99.9	2.0
1200.0	100.0	0.1

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (925-950F)	Vial	: 9
Acquired on	: 27-Apr-07, 00:42:41	Injection	: 1
Processed on	: 4/27/2007 3:17:45 PM	Sample (g)	: 0.0977
Sample type	: Crude	Solvent (g)	: 4.8847
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\009F1301.D



**HTSD3 ASTM High temperature****2**

Sample name	: Crude Cut (925-950F)	Vial	: 9
Acquired on	: 27-Apr-07, 00:42:41	Injection	: 1
Processed on	: 4/27/2007 3:17:45 PM		
Data File	: 0426A\009F1301.D		

**General Variables**

Used Blank	0426A\007F1101.D
Used BP calibrant	0426A\090F0101.D
Used Reference	0426A\095F0401.D
Solvent start	0.113
Solvent end	0.550
Quenching factor	2.4
Used Start elution (min)	8.000 set
Used End elution (min)	40.000 set
Total area	322494788
Found Recovery	99.5
Used Recovery	100.0
Response factor	6.0471e-011

**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	674.2	26.0	822.0	52.0	874.2	78.0	925.8
1.0	692.6	27.0	824.4	53.0	876.0	79.0	928.2
2.0	714.2	28.0	826.6	54.0	877.6	80.0	930.6
3.0	727.4	29.0	828.6	55.0	879.4	81.0	933.2
4.0	737.8	30.0	830.8	56.0	881.2	82.0	935.8
5.0	746.2	31.0	833.0	57.0	883.0	83.0	938.4
6.0	753.2	32.0	835.0	58.0	884.8	84.0	941.4
7.0	759.2	33.0	837.2	59.0	886.8	85.0	944.2
8.0	764.8	34.0	839.4	60.0	888.6	86.0	947.6
9.0	769.8	35.0	841.6	61.0	890.4	87.0	950.8
10.0	774.2	36.0	843.6	62.0	892.2	88.0	954.4
11.0	778.2	37.0	845.6	63.0	894.2	89.0	958.2
12.0	782.4	38.0	847.4	64.0	896.0	90.0	962.2
13.0	786.0	39.0	849.4	65.0	898.0	91.0	966.6
14.0	789.4	40.0	851.4	66.0	900.0	92.0	971.6
15.0	792.6	41.0	853.4	67.0	901.8	93.0	976.8
16.0	795.6	42.0	855.2	68.0	903.8	94.0	983.0
17.0	798.8	43.0	857.2	69.0	905.8	95.0	990.0
18.0	801.6	44.0	859.2	70.0	907.8	96.0	998.4
19.0	804.4	45.0	861.0	71.0	910.0	97.0	1008.8
20.0	807.4	46.0	862.8	72.0	912.2	98.0	1023.4
21.0	809.8	47.0	864.8	73.0	914.4	99.0	1046.8
22.0	812.4	48.0	866.6	74.0	916.4	FBP	1068.8
23.0	815.0	49.0	868.6	75.0	918.6		
24.0	817.4	50.0	870.6	76.0	920.8		
25.0	819.6	51.0	872.2	77.0	923.4		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (925-950F)	Vial	: 9
Acquired on	: 27-Apr-07, 00:42:41	Injection	: 1
Processed on	: 4/27/2007 3:17:45 PM		
Data File	: 0426A\009F1301.D		

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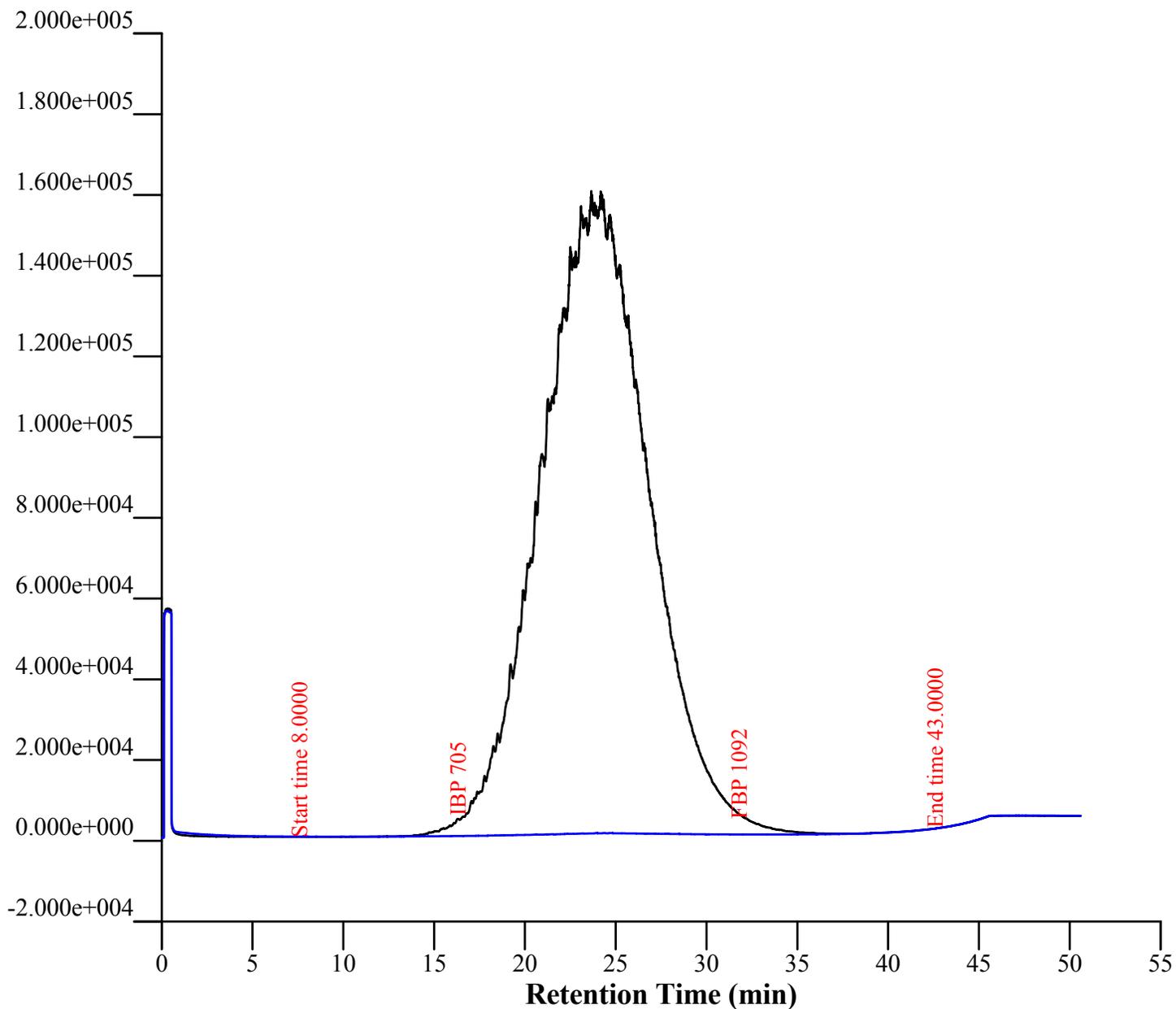
**BP Distribution table - cut points**

<b>BP °F</b>	<b>Recovered mass%</b>	<b>Fraction mass%</b>
480.0	0.0	0.0
650.0	0.1	0.1
750.0	5.6	5.4
800.0	17.5	11.9
900.0	66.1	48.6
1000.0	96.2	30.1
1100.0	99.8	3.6
1200.0	100.0	0.2

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (950-975F)	Vial	: 10
Acquired on	: 27-Apr-07, 01:48:11	Injection	: 1
Processed on	: 4/27/2007 3:19:00 PM	Sample (g)	: 0.0995
Sample type	: Crude	Solvent (g)	: 4.8967
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\010F1401.D



**HTSD3 ASTM High temperature****2**


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Sample name	: Crude Cut (950-975F)	Vial	: 10
Acquired on	: 27-Apr-07, 01:48:11	Injection	: 1
Processed on	: 4/27/2007 3:19:00 PM		
Data File	: 0426A\010F1401.D		

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**General Variables**

Used Blank	0426A\007F1101.D
Used BP calibrant	0426A\090F0101.D
Used Reference	0426A\095F0401.D
Solvent start	0.113
Solvent end	0.550
Quenching factor	2.4
Used Start elution (min)	8.000 set
Used End elution (min)	43.000 set
Total area	327450982
Found Recovery	99.4
Used Recovery	100.0
Response factor	6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F						
IBP	705.4	26.0	849.2	52.0	899.6	78.0	950.0
1.0	724.2	27.0	851.4	53.0	901.4	79.0	952.2
2.0	745.2	28.0	853.6	54.0	903.2	80.0	954.6
3.0	758.0	29.0	856.0	55.0	905.0	81.0	957.2
4.0	767.8	30.0	858.2	56.0	906.6	82.0	960.0
5.0	775.2	31.0	860.4	57.0	908.4	83.0	962.8
6.0	782.0	32.0	862.2	58.0	910.2	84.0	965.6
7.0	787.8	33.0	864.4	59.0	912.2	85.0	968.6
8.0	792.8	34.0	866.4	60.0	914.0	86.0	971.8
9.0	797.4	35.0	868.6	61.0	915.8	87.0	975.0
10.0	801.8	36.0	870.6	62.0	917.6	88.0	978.4
11.0	806.0	37.0	872.6	63.0	919.4	89.0	982.2
12.0	809.8	38.0	874.4	64.0	921.2	90.0	986.2
13.0	813.2	39.0	876.2	65.0	923.2	91.0	990.6
14.0	816.6	40.0	878.0	66.0	925.2	92.0	995.2
15.0	819.8	41.0	879.8	67.0	927.0	93.0	1000.6
16.0	822.8	42.0	881.8	68.0	929.0	94.0	1006.6
17.0	826.0	43.0	883.4	69.0	930.8	95.0	1013.6
18.0	828.6	44.0	885.4	70.0	932.8	96.0	1022.0
19.0	831.4	45.0	887.2	71.0	934.8	97.0	1032.8
20.0	834.2	46.0	889.0	72.0	936.8	98.0	1046.6
21.0	836.8	47.0	890.6	73.0	939.0	99.0	1069.8
22.0	839.6	48.0	892.4	74.0	941.0	FBP	1091.8
23.0	842.2	49.0	894.2	75.0	943.0		
24.0	844.4	50.0	896.0	76.0	945.2		
25.0	846.8	51.0	897.8	77.0	947.6		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (950-975F)		
Acquired on	: 27-Apr-07, 01:48:11	Vial	: 10
Processed on	: 4/27/2007 3:19:00 PM	Injection	: 1
Data File	: 0426A\010F1401.D		

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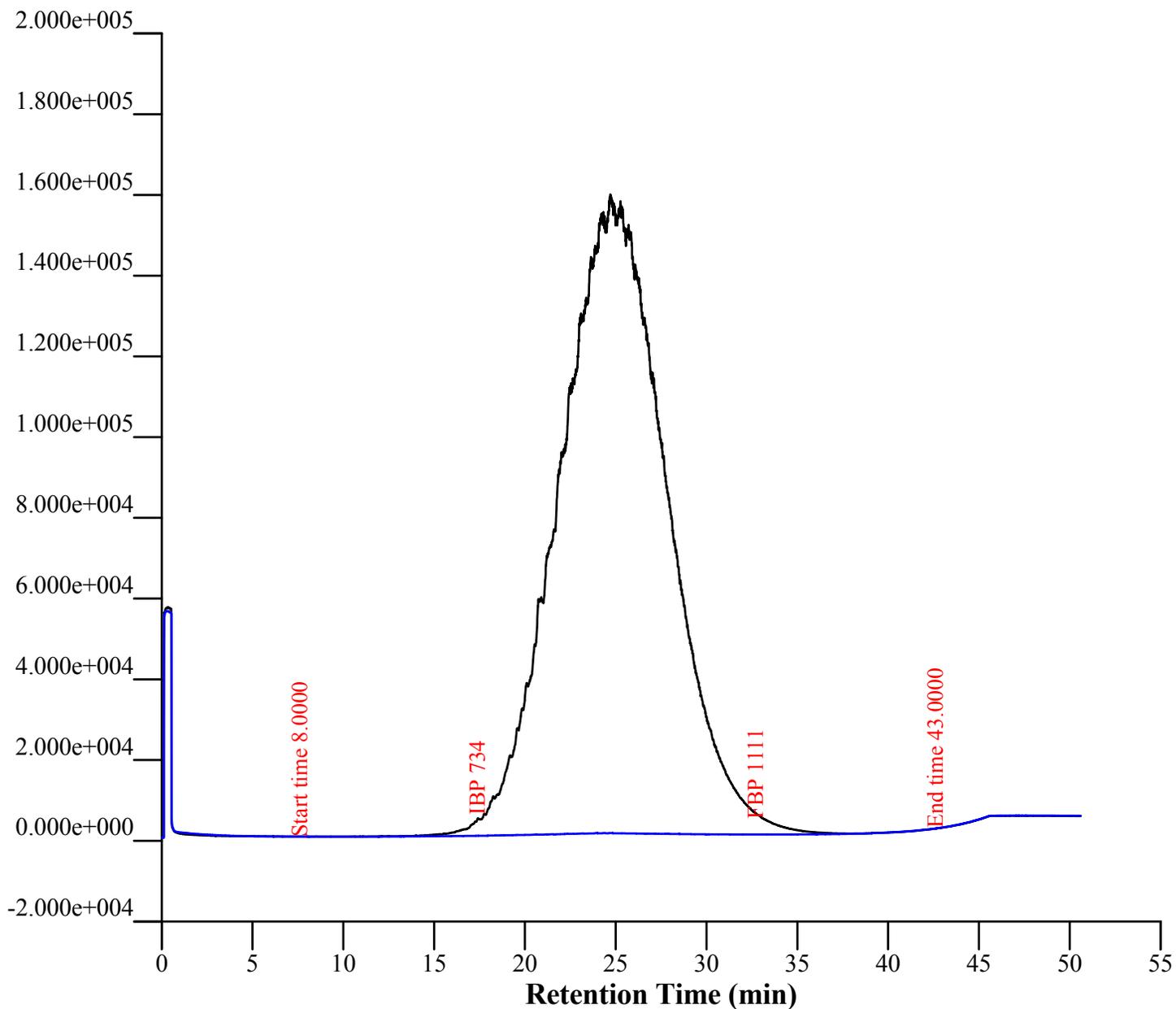
**BP Distribution table - cut points**

<b>BP</b> <b>°F</b>	<b>Recovered</b> <b>mass%</b>	<b>Fraction</b> <b>mass%</b>
480.0	0.0	0.0
650.0	0.0	0.0
750.0	2.4	2.3
800.0	9.6	7.2
900.0	52.3	42.7
1000.0	92.9	40.6
1100.0	99.6	6.7
1200.0	100.0	0.4

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (975-1000F)	Vial	: 11
Acquired on	: 27-Apr-07, 02:53:32	Injection	: 1
Processed on	: 4/27/2007 3:20:11 PM	Sample (g)	: 0.0988
Sample type	: Crude	Solvent (g)	: 4.8976
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\011F1501.D



**HTSD3 ASTM High temperature****2**


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Sample name	: Crude Cut (975-1000F)	Vial	: 11
Acquired on	: 27-Apr-07, 02:53:32	Injection	: 1
Processed on	: 4/27/2007 3:20:11 PM		
Data File	: 0426A\011F1501.D		

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**General Variables**

Used Blank	0426A\007F1101.D
Used BP calibrant	0426A\090F0101.D
Used Reference	0426A\095F0401.D
Solvent start	0.113
Solvent end	0.550
Quenching factor	2.4
Used Start elution (min)	8.000 set
Used End elution (min)	43.000 set
Total area	324461956
Found Recovery	99.2
Used Recovery	100.0
Response factor	6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	734.2	26.0	875.8	52.0	924.6	78.0	973.8
1.0	752.6	27.0	878.0	53.0	926.4	79.0	976.2
2.0	772.6	28.0	880.0	54.0	928.2	80.0	978.6
3.0	785.2	29.0	882.2	55.0	929.8	81.0	981.0
4.0	794.4	30.0	884.2	56.0	931.4	82.0	983.6
5.0	802.0	31.0	886.2	57.0	933.2	83.0	986.4
6.0	808.6	32.0	888.2	58.0	934.8	84.0	989.2
7.0	814.2	33.0	890.2	59.0	936.6	85.0	992.0
8.0	819.2	34.0	892.2	60.0	938.4	86.0	995.2
9.0	824.0	35.0	894.0	61.0	940.2	87.0	998.4
10.0	828.2	36.0	896.0	62.0	942.0	88.0	1001.8
11.0	832.2	37.0	897.8	63.0	943.8	89.0	1005.4
12.0	836.2	38.0	899.6	64.0	945.6	90.0	1009.6
13.0	840.0	39.0	901.6	65.0	947.2	91.0	1013.8
14.0	843.4	40.0	903.4	66.0	949.2	92.0	1018.6
15.0	846.6	41.0	905.2	67.0	951.0	93.0	1023.8
16.0	849.6	42.0	907.0	68.0	953.0	94.0	1029.8
17.0	852.6	43.0	908.8	69.0	954.8	95.0	1036.6
18.0	855.8	44.0	910.6	70.0	956.8	96.0	1044.6
19.0	858.6	45.0	912.4	71.0	958.8	97.0	1054.6
20.0	861.2	46.0	914.2	72.0	960.8	98.0	1068.2
21.0	863.8	47.0	916.0	73.0	962.8	99.0	1090.2
22.0	866.2	48.0	917.6	74.0	965.0	FBP	1111.4
23.0	868.8	49.0	919.4	75.0	967.2		
24.0	871.4	50.0	921.2	76.0	969.4		
25.0	873.6	51.0	922.8	77.0	971.6		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (975-1000F)	Vial	: 11
Acquired on	: 27-Apr-07, 02:53:32	Injection	: 1
Processed on	: 4/27/2007 3:20:11 PM		
Data File	: 0426A\011F1501.D		

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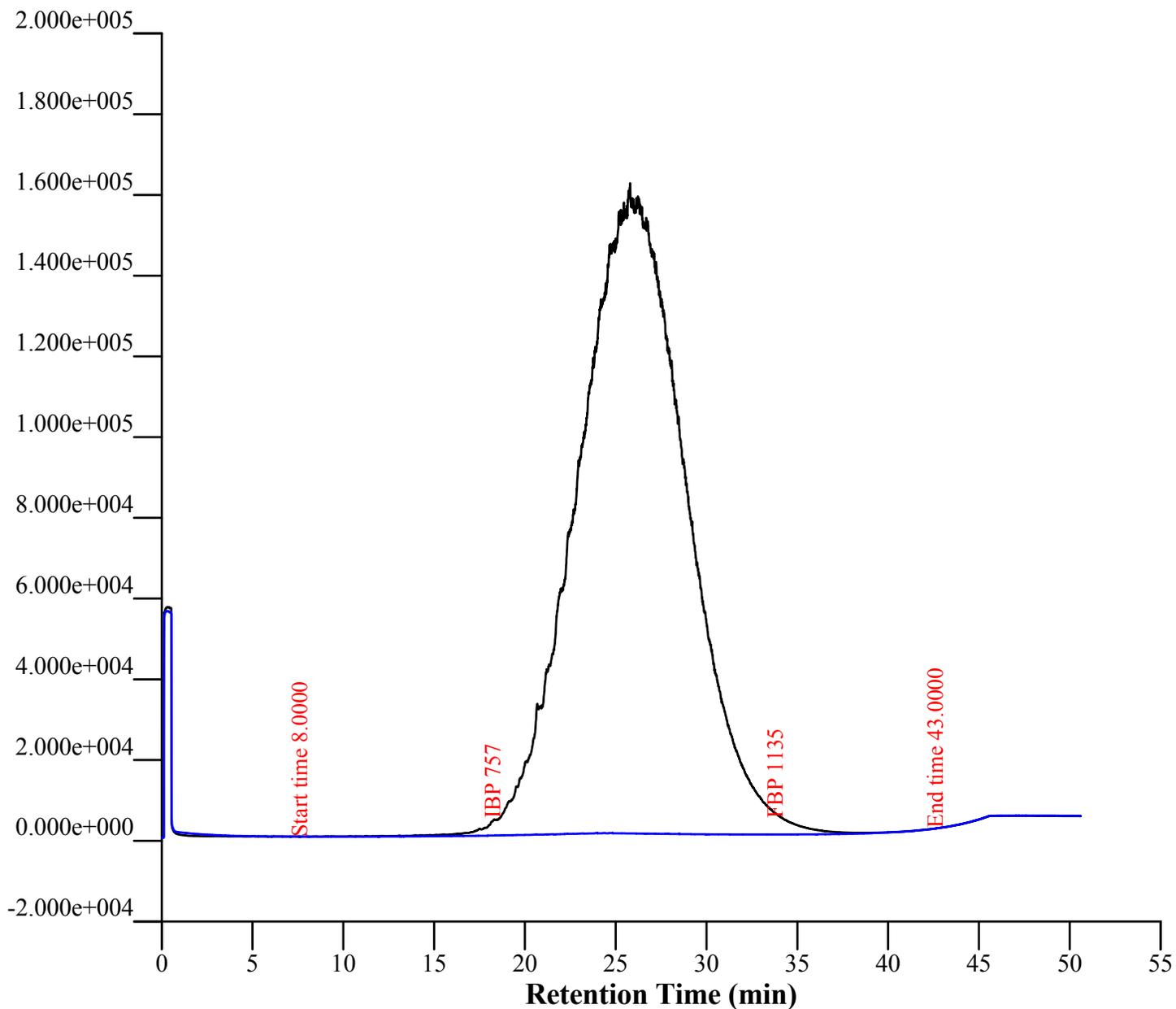
**BP Distribution table - cut points**

<b>BP</b> <b>°F</b>	<b>Recovered</b> <b>mass%</b>	<b>Fraction</b> <b>mass%</b>
480.0	0.0	0.0
650.0	0.0	0.0
750.0	0.9	0.9
800.0	4.7	3.8
900.0	38.2	33.4
1000.0	87.5	49.3
1100.0	99.3	11.8
1200.0	100.0	0.7

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (1000-1025F)	Vial	: 12
Acquired on	: 27-Apr-07, 03:58:49	Injection	: 1
Processed on	: 4/27/2007 3:21:23 PM	Sample (g)	: 0.1002
Sample type	: Crude	Solvent (g)	: 4.8841
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\012F1601.D



**HTSD3 ASTM High temperature****2**


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Sample name : Crude Cut (1000-1025F)  
 Acquired on : 27-Apr-07, 03:58:49 Vial : 12  
 Processed on : 4/27/2007 3:21:23 PM Injection : 1  
 Data File : 0426A\012F1601.D

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**General Variables**

Used Blank 0426A\007F1101.D  
 Used BP calibrant 0426A\090F0101.D  
 Used Reference 0426A\095F0401.D  
 Solvent start 0.113  
 Solvent end 0.550  
 Quenching factor 2.4  
 Used Start elution (min) 8.000 set  
 Used End elution (min) 43.000 set  
 Total area 330421123  
 Found Recovery 99.4  
 Used Recovery 100.0  
 Response factor 6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F						
IBP	756.8	26.0	901.6	52.0	949.6	78.0	998.4
1.0	777.2	27.0	903.6	53.0	951.2	79.0	1000.8
2.0	797.6	28.0	905.8	54.0	953.0	80.0	1003.2
3.0	810.6	29.0	908.0	55.0	954.8	81.0	1005.8
4.0	820.0	30.0	910.0	56.0	956.4	82.0	1008.2
5.0	827.8	31.0	912.0	57.0	958.2	83.0	1011.0
6.0	834.6	32.0	914.0	58.0	960.0	84.0	1013.8
7.0	840.6	33.0	916.0	59.0	961.6	85.0	1016.6
8.0	845.8	34.0	917.8	60.0	963.4	86.0	1019.8
9.0	850.6	35.0	919.8	61.0	965.2	87.0	1023.0
10.0	855.2	36.0	921.8	62.0	967.0	88.0	1026.4
11.0	859.2	37.0	923.6	63.0	968.8	89.0	1030.2
12.0	863.2	38.0	925.4	64.0	970.6	90.0	1034.2
13.0	866.8	39.0	927.2	65.0	972.4	91.0	1038.2
14.0	870.4	40.0	929.0	66.0	974.2	92.0	1042.8
15.0	873.6	41.0	930.8	67.0	976.0	93.0	1047.8
16.0	876.4	42.0	932.4	68.0	977.8	94.0	1053.6
17.0	879.4	43.0	934.2	69.0	979.8	95.0	1060.2
18.0	882.2	44.0	936.0	70.0	981.8	96.0	1068.0
19.0	884.8	45.0	937.6	71.0	983.6	97.0	1077.8
20.0	887.4	46.0	939.4	72.0	985.6	98.0	1091.4
21.0	890.0	47.0	941.2	73.0	987.6	99.0	1113.6
22.0	892.4	48.0	942.8	74.0	989.8	FBP	1134.8
23.0	894.8	49.0	944.4	75.0	991.8		
24.0	897.0	50.0	946.2	76.0	994.0		
25.0	899.4	51.0	948.0	77.0	996.2		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (1000-1025F)	Vial	: 12
Acquired on	: 27-Apr-07, 03:58:49	Injection	: 1
Processed on	: 4/27/2007 3:21:23 PM		
Data File	: 0426A\012F1601.D		

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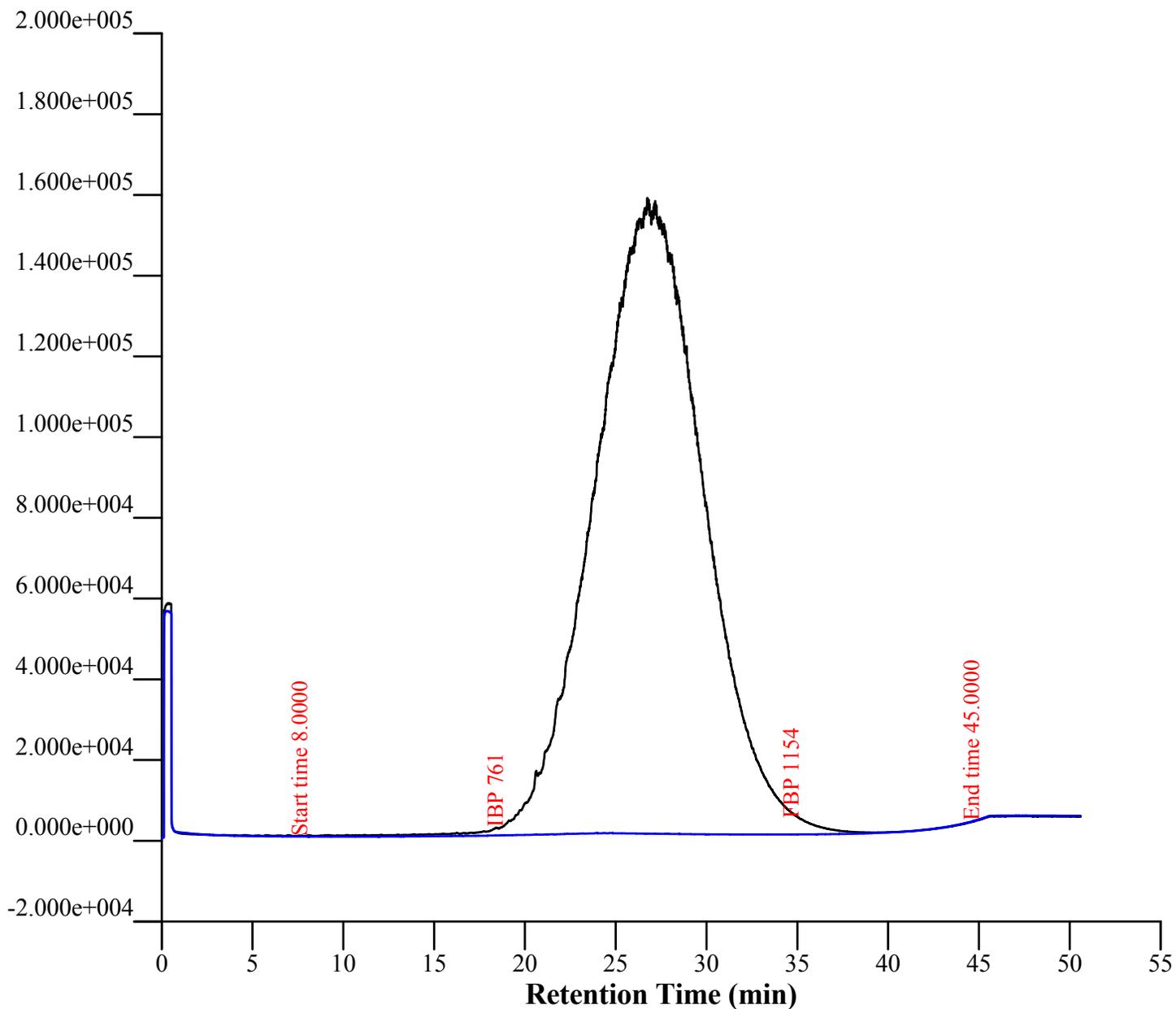
**BP Distribution table - cut points**

<b>BP</b> <b>°F</b>	<b>Recovered</b> <b>mass%</b>	<b>Fraction</b> <b>mass%</b>
480.0	0.0	0.0
650.0	0.1	0.1
750.0	0.4	0.3
800.0	2.2	1.8
900.0	25.3	23.2
1000.0	78.7	53.3
1100.0	98.5	19.8
1200.0	100.0	1.5

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (1025-1050F)	Vial	: 15
Acquired on	: 27-Apr-07, 07:13:54	Injection	: 1
Processed on	: 4/27/2007 3:22:36 PM	Sample (g)	: 0.0998
Sample type	: Crude	Solvent (g)	: 4.8883
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\015F1901.D



**HTSD3 ASTM High temperature****2**


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Sample name : Crude Cut (1025-1050F)  
 Acquired on : 27-Apr-07, 07:13:54 Vial : 15  
 Processed on : 4/27/2007 3:22:36 PM Injection : 1  
 Data File : 0426A\015F1901.D

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**General Variables**

Used Blank 0426A\007F1101.D  
 Used BP calibrant 0426A\090F0101.D  
 Used Reference 0426A\095F0401.D  
 Solvent start 0.113  
 Solvent end 0.550  
 Quenching factor 2.4  
 Used Start elution (min) 8.000 set  
 Used End elution (min) 45.000 set  
 Total area 327654067  
 Found Recovery 99.0  
 Used Recovery 100.0  
 Response factor 6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	760.8	26.0	925.2	52.0	972.6	78.0	1021.0
1.0	793.2	27.0	927.4	53.0	974.4	79.0	1023.4
2.0	818.0	28.0	929.4	54.0	976.0	80.0	1025.8
3.0	832.4	29.0	931.4	55.0	977.6	81.0	1028.2
4.0	842.8	30.0	933.4	56.0	979.4	82.0	1030.8
5.0	851.2	31.0	935.4	57.0	981.0	83.0	1033.6
6.0	858.2	32.0	937.4	58.0	982.8	84.0	1036.2
7.0	864.6	33.0	939.2	59.0	984.6	85.0	1039.0
8.0	870.0	34.0	941.0	60.0	986.2	86.0	1042.0
9.0	874.8	35.0	943.0	61.0	987.8	87.0	1045.0
10.0	879.0	36.0	944.8	62.0	989.6	88.0	1048.2
11.0	883.2	37.0	946.6	63.0	991.4	89.0	1051.8
12.0	887.0	38.0	948.4	64.0	993.2	90.0	1055.6
13.0	890.4	39.0	950.2	65.0	995.0	91.0	1059.6
14.0	893.8	40.0	952.0	66.0	996.8	92.0	1064.2
15.0	897.0	41.0	953.8	67.0	998.6	93.0	1069.2
16.0	900.0	42.0	955.4	68.0	1000.6	94.0	1074.8
17.0	902.8	43.0	957.2	69.0	1002.4	95.0	1081.2
18.0	905.6	44.0	959.0	70.0	1004.4	96.0	1088.8
19.0	908.4	45.0	960.8	71.0	1006.2	97.0	1098.6
20.0	911.0	46.0	962.4	72.0	1008.2	98.0	1111.8
21.0	913.4	47.0	964.2	73.0	1010.2	99.0	1133.4
22.0	916.0	48.0	965.8	74.0	1012.2	FBP	1153.6
23.0	918.4	49.0	967.6	75.0	1014.4		
24.0	920.8	50.0	969.2	76.0	1016.6		
25.0	923.0	51.0	971.0	77.0	1018.8		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (1025-1050F)	Vial	: 15
Acquired on	: 27-Apr-07, 07:13:54	Injection	: 1
Processed on	: 4/27/2007 3:22:36 PM		
Data File	: 0426A\015F1901.D		

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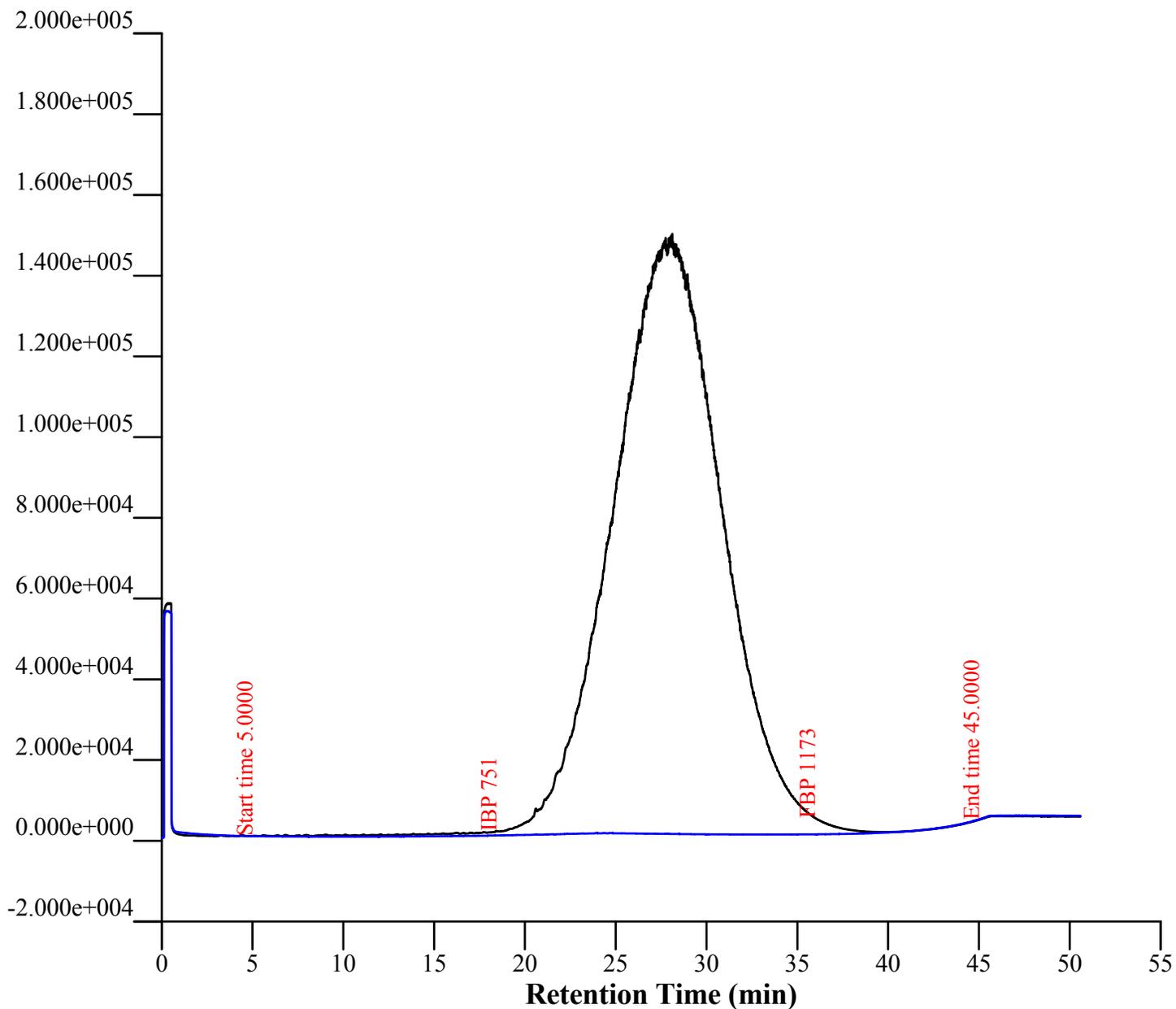
**BP Distribution table - cut points**

<b>BP °F</b>	<b>Recovered mass%</b>	<b>Fraction mass%</b>
480.0	0.0	0.0
650.0	0.2	0.2
750.0	0.4	0.2
800.0	1.2	0.8
900.0	16.1	14.9
1000.0	67.7	51.7
1100.0	97.1	29.4
1200.0	99.9	2.8

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (1050-1075F)	Vial	: 16
Acquired on	: 27-Apr-07, 08:19:01	Injection	: 1
Processed on	: 4/27/2007 3:23:43 PM	Sample (g)	: 0.0941
Sample type	: Crude	Solvent (g)	: 4.9084
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\016F2001.D



**HTSD3 ASTM High temperature****2**


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Sample name	: Crude Cut (1050-1075F)	Vial	: 16
Acquired on	: 27-Apr-07, 08:19:01	Injection	: 1
Processed on	: 4/27/2007 3:23:43 PM		
Data File	: 0426A\016F2001.D		

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**General Variables**

Used Blank	0426A\007F1101.D
Used BP calibrant	0426A\090F0101.D
Used Reference	0426A\095F0401.D
Solvent start	0.113
Solvent end	0.550
Quenching factor	2.4
Used Start elution (min)	5.000 set
Used End elution (min)	45.000 set
Total area	309228316
Found Recovery	99.4
Used Recovery	100.0
Response factor	6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	751.2	26.0	949.2	52.0	996.2	78.0	1044.0
1.0	809.8	27.0	951.2	53.0	998.0	79.0	1046.2
2.0	840.2	28.0	953.4	54.0	999.6	80.0	1048.4
3.0	856.0	29.0	955.4	55.0	1001.4	81.0	1050.8
4.0	867.2	30.0	957.4	56.0	1003.0	82.0	1053.4
5.0	875.8	31.0	959.4	57.0	1004.6	83.0	1055.8
6.0	882.8	32.0	961.4	58.0	1006.4	84.0	1058.4
7.0	888.6	33.0	963.2	59.0	1008.0	85.0	1061.2
8.0	894.0	34.0	965.2	60.0	1009.8	86.0	1064.2
9.0	898.8	35.0	967.0	61.0	1011.4	87.0	1067.2
10.0	903.2	36.0	968.8	62.0	1013.2	88.0	1070.4
11.0	907.4	37.0	970.6	63.0	1015.0	89.0	1073.8
12.0	911.2	38.0	972.6	64.0	1016.8	90.0	1077.4
13.0	914.8	39.0	974.2	65.0	1018.6	91.0	1081.6
14.0	918.2	40.0	976.0	66.0	1020.4	92.0	1086.0
15.0	921.4	41.0	977.8	67.0	1022.2	93.0	1090.8
16.0	924.6	42.0	979.4	68.0	1024.0	94.0	1096.2
17.0	927.4	43.0	981.2	69.0	1026.0	95.0	1102.6
18.0	930.2	44.0	982.8	70.0	1027.8	96.0	1110.2
19.0	932.8	45.0	984.6	71.0	1029.8	97.0	1119.8
20.0	935.4	46.0	986.2	72.0	1031.8	98.0	1132.6
21.0	937.8	47.0	987.8	73.0	1033.8	99.0	1153.4
22.0	940.2	48.0	989.6	74.0	1035.8	FBP	1172.6
23.0	942.6	49.0	991.2	75.0	1037.8		
24.0	944.8	50.0	993.0	76.0	1039.8		
25.0	947.0	51.0	994.6	77.0	1041.8		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (1050-1075F)	Vial	: 16
Acquired on	: 27-Apr-07, 08:19:01	Injection	: 1
Processed on	: 4/27/2007 3:23:43 PM		
Data File	: 0426A\016F2001.D		

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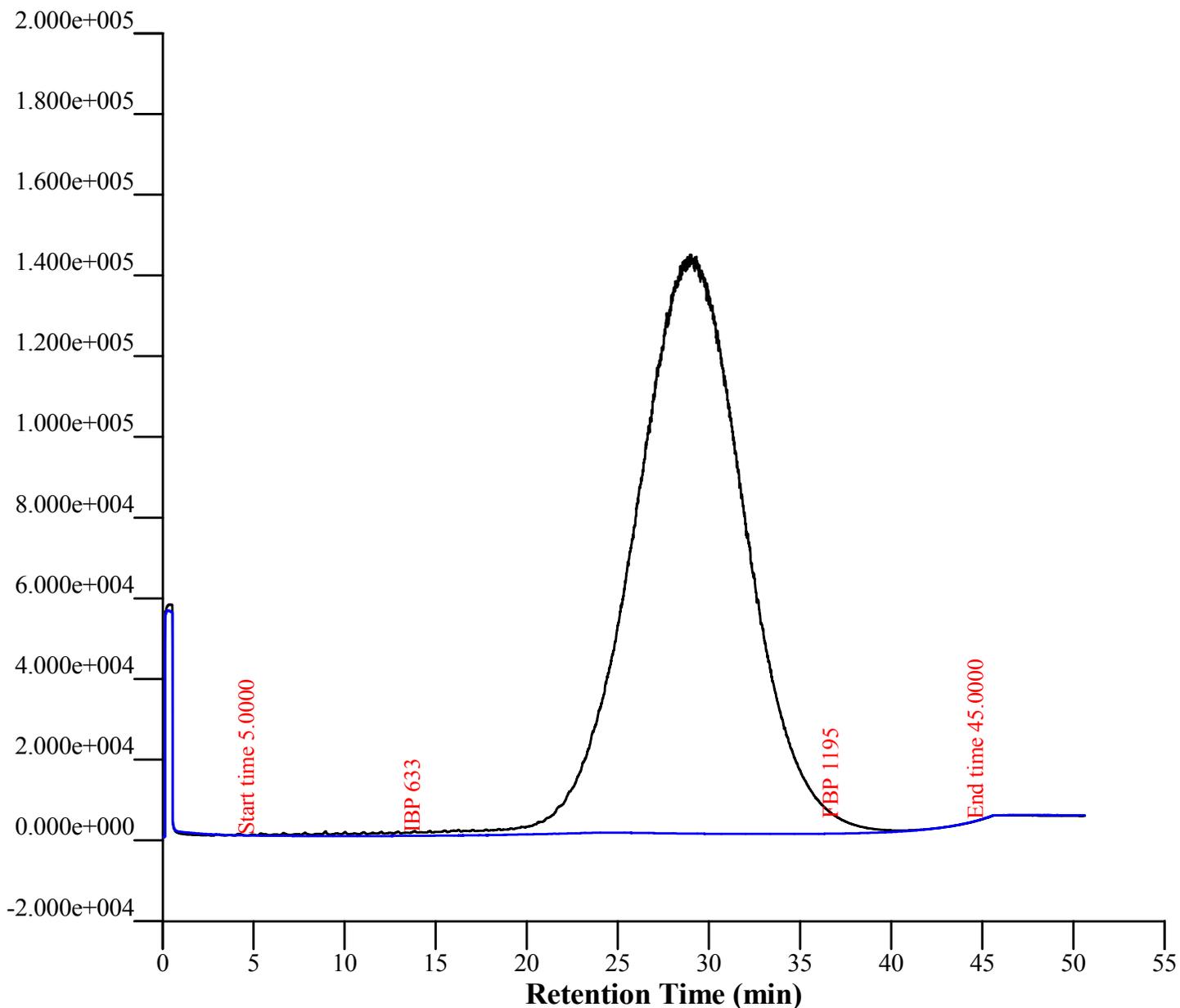
**BP Distribution table - cut points**

<b>BP °F</b>	<b>Recovered mass%</b>	<b>Fraction mass%</b>
480.0	0.1	0.1
650.0	0.3	0.2
750.0	0.5	0.2
800.0	0.8	0.3
900.0	9.3	8.5
1000.0	54.2	45.0
1100.0	94.6	40.4
1200.0	99.8	5.2

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (1075-1100F)	Vial	: 17
Acquired on	: 27-Apr-07, 09:23:55	Injection	: 1
Processed on	: 4/27/2007 3:27:11 PM	Sample (g)	: 0.0924
Sample type	: Crude	Solvent (g)	: 4.8965
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\017F2101.D



**HTSD3 ASTM High temperature****2**

Sample name : Crude Cut (1075-1100F)  
 Acquired on : 27-Apr-07, 09:23:55  
 Processed on : 4/27/2007 3:27:11 PM  
 Data File : 0426A\017F2101.D

Vial : 17  
 Injection : 1

**General Variables**

Used Blank 0426A\007F1101.D  
 Used BP calibrant 0426A\090F0101.D  
 Used Reference 0426A\095F0401.D  
 Solvent start 0.113  
 Solvent end 0.550  
 Quenching factor 2.4  
 Used Start elution (min) 5.000 set  
 Used End elution (min) 45.000 set  
 Total area 303481379  
 Found Recovery 99.1  
 Used Recovery 100.0  
 Response factor 6.0471e-011

**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	632.8	26.0	973.8	52.0	1021.0	78.0	1067.8
1.0	760.0	27.0	975.8	53.0	1022.6	79.0	1070.0
2.0	847.4	28.0	977.8	54.0	1024.4	80.0	1072.2
3.0	871.4	29.0	980.0	55.0	1026.0	81.0	1074.4
4.0	885.0	30.0	982.0	56.0	1027.8	82.0	1077.0
5.0	895.0	31.0	984.0	57.0	1029.4	83.0	1079.4
6.0	903.2	32.0	985.8	58.0	1031.2	84.0	1082.0
7.0	910.2	33.0	987.8	59.0	1033.0	85.0	1084.6
8.0	916.2	34.0	989.6	60.0	1034.6	86.0	1087.6
9.0	921.6	35.0	991.6	61.0	1036.2	87.0	1090.6
10.0	926.4	36.0	993.4	62.0	1037.8	88.0	1093.8
11.0	930.8	37.0	995.2	63.0	1039.6	89.0	1097.2
12.0	934.8	38.0	997.0	64.0	1041.2	90.0	1100.8
13.0	938.4	39.0	998.8	65.0	1043.0	91.0	1104.8
14.0	941.8	40.0	1000.6	66.0	1044.6	92.0	1109.2
15.0	945.2	41.0	1002.2	67.0	1046.4	93.0	1114.0
16.0	948.4	42.0	1004.0	68.0	1048.2	94.0	1119.4
17.0	951.2	43.0	1005.8	69.0	1050.0	95.0	1125.8
18.0	954.2	44.0	1007.4	70.0	1051.8	96.0	1133.2
19.0	956.8	45.0	1009.2	71.0	1053.6	97.0	1142.6
20.0	959.6	46.0	1010.8	72.0	1055.6	98.0	1155.4
21.0	962.0	47.0	1012.6	73.0	1057.6	99.0	1176.0
22.0	964.4	48.0	1014.2	74.0	1059.4	FBP	1195.0
23.0	967.0	49.0	1016.0	75.0	1061.4		
24.0	969.2	50.0	1017.6	76.0	1063.6		
25.0	971.4	51.0	1019.2	77.0	1065.6		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (1075-1100F)	Vial	: 17
Acquired on	: 27-Apr-07, 09:23:55	Injection	: 1
Processed on	: 4/27/2007 3:27:11 PM		
Data File	: 0426A\017F2101.D		

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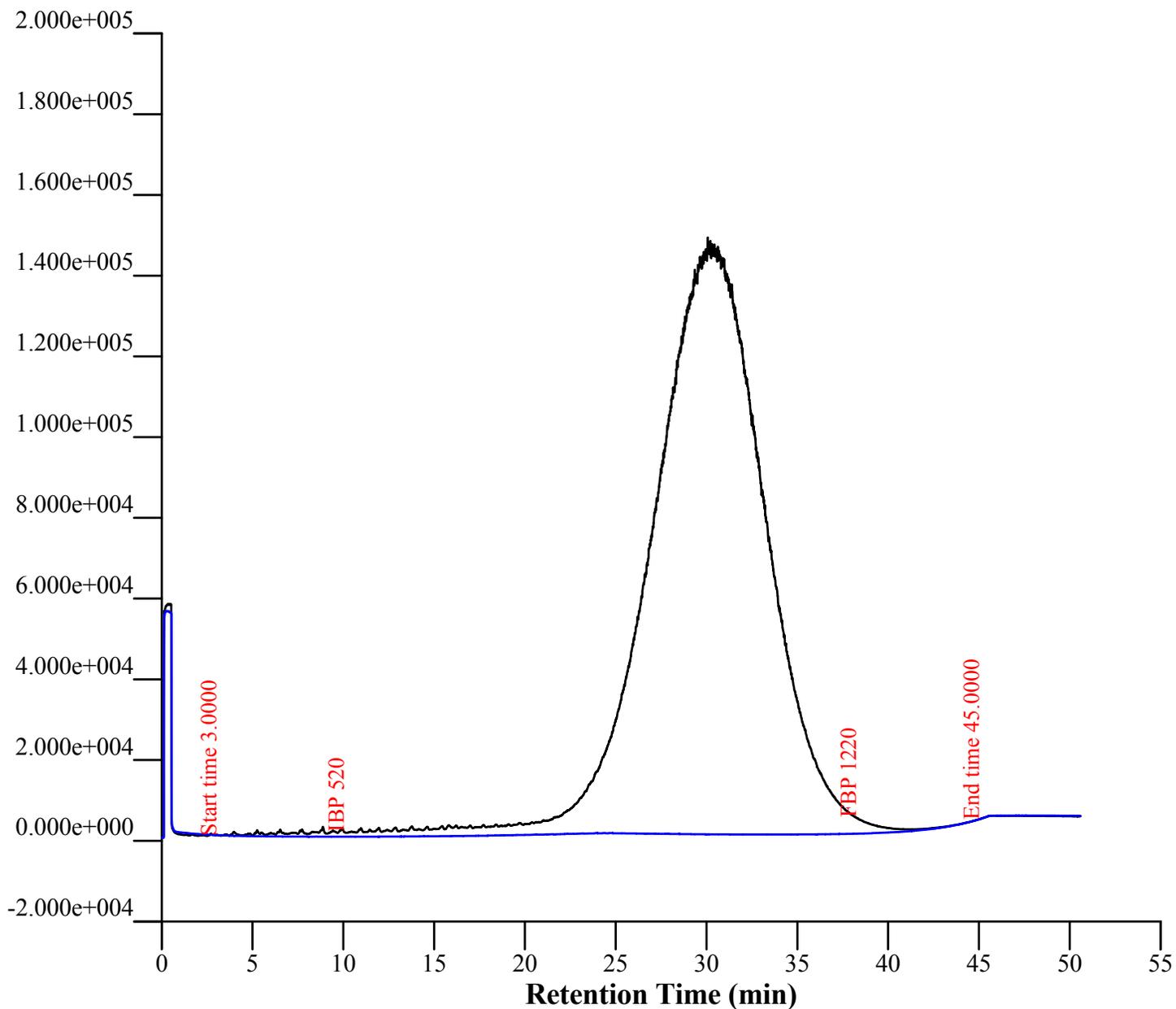
**BP Distribution table - cut points**

<b>BP °F</b>	<b>Recovered mass%</b>	<b>Fraction mass%</b>
480.0	0.1	0.1
650.0	0.6	0.4
750.0	1.0	0.4
800.0	1.2	0.3
900.0	5.6	4.4
1000.0	39.7	34.1
1100.0	89.8	50.1
1200.0	99.6	9.8

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (1100-1125F)	Vial	: 18
Acquired on	: 27-Apr-07, 10:29:08	Injection	: 1
Processed on	: 4/27/2007 3:28:17 PM	Sample (g)	: 0.0966
Sample type	: Crude	Solvent (g)	: 4.8911
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\018F2201.D



**HTSD3 ASTM High temperature****2**


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Sample name : Crude Cut (1100-1125F)  
 Acquired on : 27-Apr-07, 10:29:08 Vial : 18  
 Processed on : 4/27/2007 3:28:17 PM Injection : 1  
 Data File : 0426A\018F2201.D

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**General Variables**

Used Blank 0426A\007F1101.D  
 Used BP calibrant 0426A\090F0101.D  
 Used Reference 0426A\095F0401.D  
 Solvent start 0.113  
 Solvent end 0.550  
 Quenching factor 2.4  
 Used Start elution (min) 3.000 set  
 Used End elution (min) 45.000 set  
 Total area 317269108  
 Found Recovery 99.1  
 Used Recovery 100.0  
 Response factor 6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F	Recovered mass%	BP °F
IBP	520.4	26.0	999.6	52.0	1048.2	78.0	1094.2
1.0	623.2	27.0	1002.0	53.0	1049.8	79.0	1096.4
2.0	763.2	28.0	1004.2	54.0	1051.6	80.0	1098.6
3.0	851.6	29.0	1006.2	55.0	1053.2	81.0	1100.8
4.0	886.6	30.0	1008.4	56.0	1054.8	82.0	1103.4
5.0	904.8	31.0	1010.4	57.0	1056.4	83.0	1105.8
6.0	917.6	32.0	1012.6	58.0	1058.2	84.0	1108.2
7.0	927.4	33.0	1014.6	59.0	1059.8	85.0	1111.0
8.0	935.0	34.0	1016.6	60.0	1061.4	86.0	1113.8
9.0	941.6	35.0	1018.4	61.0	1063.2	87.0	1116.8
10.0	947.2	36.0	1020.4	62.0	1064.8	88.0	1120.0
11.0	952.4	37.0	1022.2	63.0	1066.6	89.0	1123.2
12.0	957.0	38.0	1024.2	64.0	1068.2	90.0	1126.8
13.0	961.4	39.0	1026.0	65.0	1069.8	91.0	1130.8
14.0	965.2	40.0	1027.8	66.0	1071.6	92.0	1135.0
15.0	969.0	41.0	1029.8	67.0	1073.4	93.0	1139.6
16.0	972.6	42.0	1031.6	68.0	1075.0	94.0	1145.0
17.0	975.8	43.0	1033.2	69.0	1076.8	95.0	1151.0
18.0	978.8	44.0	1035.0	70.0	1078.6	96.0	1158.2
19.0	981.8	45.0	1036.6	71.0	1080.4	97.0	1167.4
20.0	984.6	46.0	1038.4	72.0	1082.4	98.0	1179.8
21.0	987.4	47.0	1040.0	73.0	1084.2	99.0	1200.0
22.0	990.0	48.0	1041.6	74.0	1086.0	FBP	1219.6
23.0	992.6	49.0	1043.2	75.0	1088.0		
24.0	995.0	50.0	1045.0	76.0	1090.0		
25.0	997.4	51.0	1046.6	77.0	1092.2		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (1100-1125F)	Vial	: 18
Acquired on	: 27-Apr-07, 10:29:08	Injection	: 1
Processed on	: 4/27/2007 3:28:17 PM		
Data File	: 0426A\018F2201.D		

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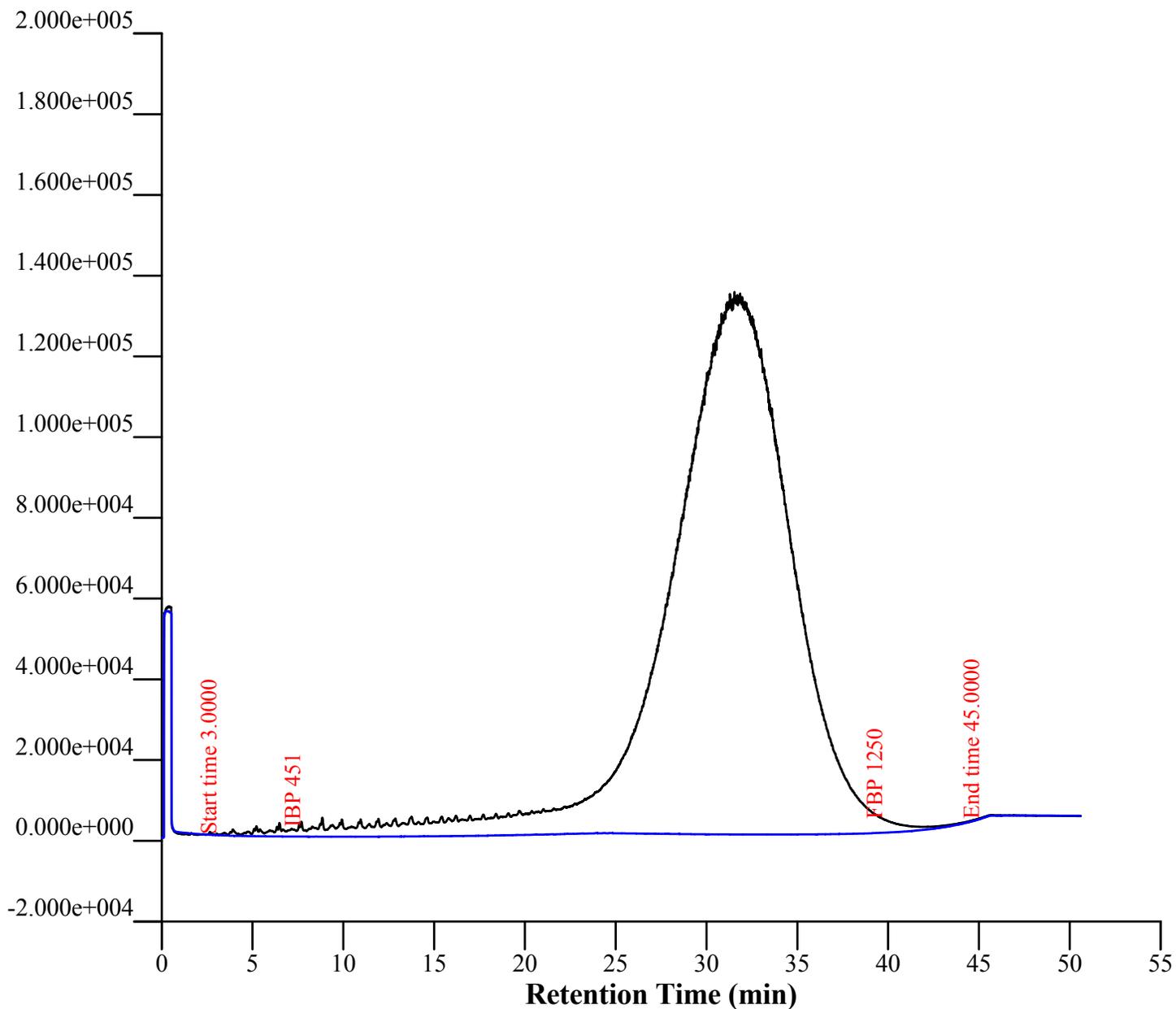
**BP Distribution table - cut points**

<b>BP</b> <b>°F</b>	<b>Recovered</b> <b>mass%</b>	<b>Fraction</b> <b>mass%</b>
360.0	0.0	0.0
480.0	0.3	0.3
650.0	1.2	0.8
750.0	1.9	0.7
800.0	2.3	0.5
900.0	4.7	2.4
1000.0	26.2	21.5
1100.0	80.6	54.5
1200.0	99.0	18.4

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (1125-1150F)	Vial	: 19
Acquired on	: 27-Apr-07, 11:34:20	Injection	: 1
Processed on	: 4/27/2007 3:29:41 PM	Sample (g)	: 0.0938
Sample type	: Crude	Solvent (g)	: 4.8830
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\019F2301.D



**HTSD3 ASTM High temperature****2**


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Sample name : Crude Cut (1125-1150F)  
 Acquired on : 27-Apr-07, 11:34:20 Vial : 19  
 Processed on : 4/27/2007 3:29:41 PM Injection : 1  
 Data File : 0426A\019F2301.D

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**General Variables**

Used Blank 0426A\007F1101.D  
 Used BP calibrant 0426A\090F0101.D  
 Used Reference 0426A\095F0401.D  
 Solvent start 0.113  
 Solvent end 0.550  
 Quenching factor 2.4  
 Used Start elution (min) 3.000 set  
 Used End elution (min) 45.000 set  
 Total area 310157838  
 Found Recovery 99.5  
 Used Recovery 100.0  
 Response factor 6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F						
IBP	451.2	26.0	1020.8	52.0	1074.2	78.0	1121.6
1.0	516.0	27.0	1023.6	53.0	1075.8	79.0	1123.8
2.0	616.2	28.0	1026.2	54.0	1077.6	80.0	1126.0
3.0	693.2	29.0	1028.8	55.0	1079.2	81.0	1128.4
4.0	758.6	30.0	1031.2	56.0	1081.0	82.0	1130.8
5.0	812.2	31.0	1033.6	57.0	1082.6	83.0	1133.4
6.0	858.0	32.0	1036.0	58.0	1084.4	84.0	1135.8
7.0	892.0	33.0	1038.2	59.0	1086.2	85.0	1138.6
8.0	915.2	34.0	1040.2	60.0	1087.8	86.0	1141.4
9.0	931.8	35.0	1042.4	61.0	1089.6	87.0	1144.2
10.0	944.0	36.0	1044.4	62.0	1091.4	88.0	1147.4
11.0	953.8	37.0	1046.4	63.0	1093.0	89.0	1150.6
12.0	962.0	38.0	1048.6	64.0	1094.8	90.0	1154.2
13.0	969.0	39.0	1050.4	65.0	1096.6	91.0	1158.0
14.0	975.2	40.0	1052.4	66.0	1098.4	92.0	1162.4
15.0	980.6	41.0	1054.2	67.0	1100.2	93.0	1167.0
16.0	985.6	42.0	1056.2	68.0	1102.0	94.0	1172.2
17.0	990.2	43.0	1058.2	69.0	1103.8	95.0	1178.4
18.0	994.4	44.0	1060.0	70.0	1105.6	96.0	1185.6
19.0	998.4	45.0	1061.8	71.0	1107.6	97.0	1194.6
20.0	1002.0	46.0	1063.6	72.0	1109.4	98.0	1207.2
21.0	1005.6	47.0	1065.4	73.0	1111.4	99.0	1228.4
22.0	1008.8	48.0	1067.2	74.0	1113.4	FBP	1250.2
23.0	1012.2	49.0	1069.0	75.0	1115.4		
24.0	1015.2	50.0	1070.6	76.0	1117.4		
25.0	1018.0	51.0	1072.4	77.0	1119.4		

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (1125-1150F)	Vial	: 19
Acquired on	: 27-Apr-07, 11:34:20	Injection	: 1
Processed on	: 4/27/2007 3:29:41 PM		
Data File	: 0426A\019F2301.D		

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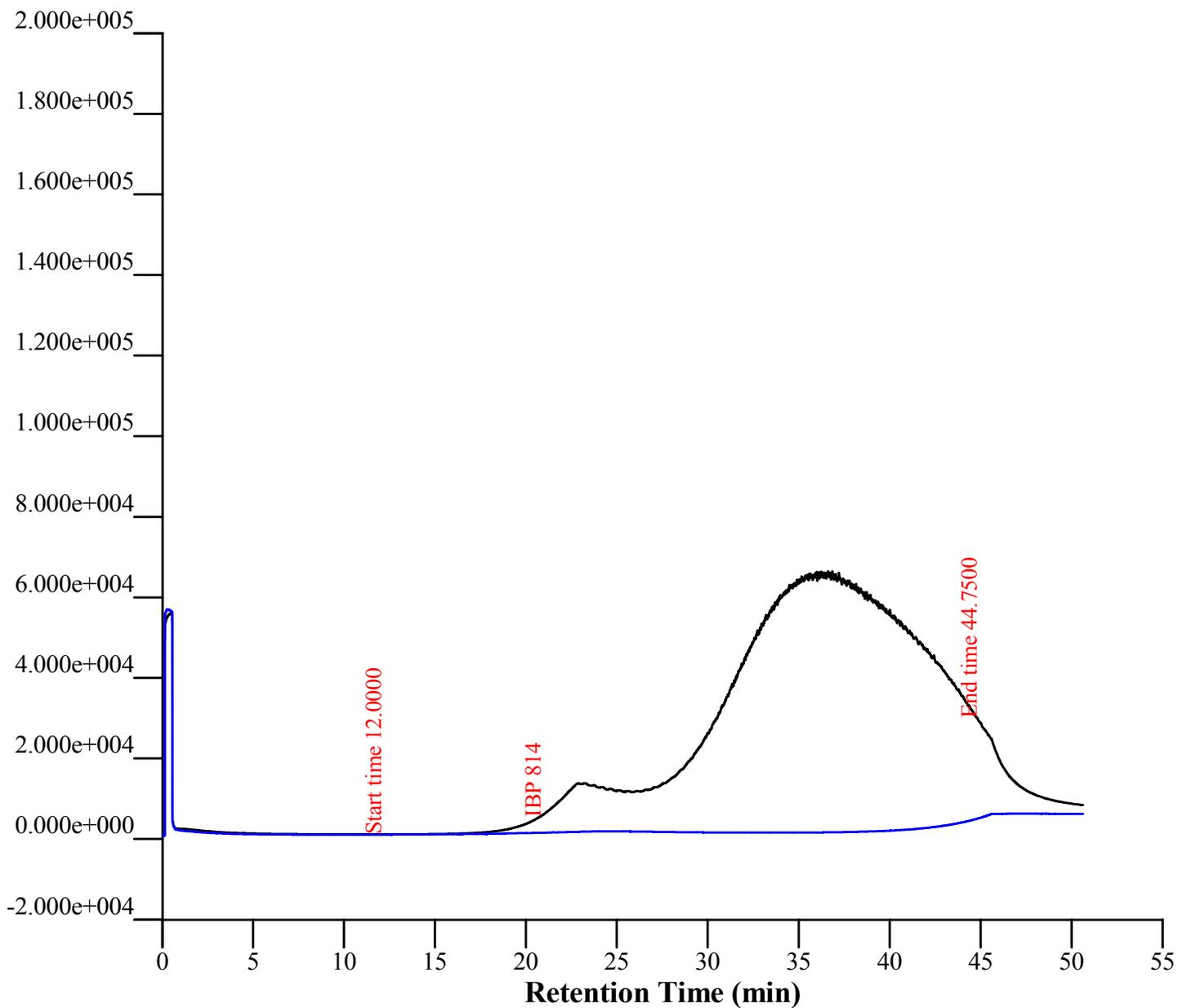
**BP Distribution table - cut points**

<b>BP °F</b>	<b>Recovered mass%</b>	<b>Fraction mass%</b>
360.0	0.1	0.1
480.0	0.7	0.6
650.0	2.4	1.7
750.0	3.9	1.4
800.0	4.8	0.9
900.0	7.3	2.6
1000.0	19.4	12.1
1100.0	66.9	47.5
1200.0	97.5	30.5

**HTSD3 ASTM High temperature****1**

Sample name	: Crude Cut (1150F+Btms)	Vial	: 30
Acquired on	: 27-Apr-07, 23:35:34	Injection	: 1
Processed on	: 4/30/2007 8:59:03 AM	Sample (g)	: 0.1005
Sample type	: Crude	Solvent (g)	: 4.8801
Method name	: ht750c	ISTD (g)	: 0.0000
Operator	: JCR		
Sequence name	: 0426A.S		

Data File : 0426A\030F3401.D



**HTSD3 ASTM High temperature**

2

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Sample name : Crude Cut (1150F+Btms)  
 Acquired on : 27-Apr-07, 23:35:34 Vial : 30  
 Processed on : 4/30/2007 8:59:03 AM Injection : 1  
 Data File : 0426A\030F3401.D

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**General Variables**

Used Blank 0426A\007F1101.D  
 Used BP calibrant 0426A\090F0101.D  
 Used Reference 0426A\095F0401.D  
 Solvent start 0.113  
 Solvent end 0.550  
 Quenching factor 2.4  
 Used Start elution (min) 12.000 set  
 Used End elution (min) 44.750 set  
 Total area 253084160  
 Found Recovery 75.8  
 Used Recovery 75.8  
 Response factor 6.0471e-011

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**BP Distribution table - Percent**

Recovered mass%	BP °F						
IBP	814.0	20.0	1106.4	40.0	1185.4	60.0	1265.4
1.0	840.4	21.0	1111.2	41.0	1189.0	61.0	1270.0
2.0	870.6	22.0	1115.8	42.0	1192.6	62.0	1275.0
3.0	894.6	23.0	1120.0	43.0	1196.2	63.0	1279.4
4.0	921.0	24.0	1124.4	44.0	1199.8	64.0	1284.0
5.0	948.2	25.0	1128.6	45.0	1203.6	65.0	1288.6
6.0	974.2	26.0	1132.8	46.0	1207.2	66.0	1293.2
7.0	996.2	27.0	1136.8	47.0	1211.0	67.0	1297.8
8.0	1013.8	28.0	1140.8	48.0	1214.8	68.0	1302.4
9.0	1028.2	29.0	1144.8	49.0	1218.6	69.0	1307.4
10.0	1039.8	30.0	1148.6	50.0	1222.6	70.0	1312.4
11.0	1049.6	31.0	1152.4	51.0	1226.4	71.0	1318.0
12.0	1058.4	32.0	1156.0	52.0	1230.4	72.0	1323.8
13.0	1066.2	33.0	1159.8	53.0	1234.6	73.0	1330.0
14.0	1073.0	34.0	1163.6	54.0	1238.8	74.0	1336.8
15.0	1079.4	35.0	1167.2	55.0	1243.0	75.0	1344.0
16.0	1085.4	36.0	1171.0	56.0	1247.2	75.8	1351.0
17.0	1091.0	37.0	1174.6	57.0	1251.6		
18.0	1096.4	38.0	1178.2	58.0	1256.2		
19.0	1101.4	39.0	1181.8	59.0	1260.8		

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**BP Distribution table - cut points**

BP °F	Recovered mass%	Fraction mass%
650.0	0.0	0.0

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**HTSD3 ASTM High temperature**

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**3**

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Sample name	: Crude Cut (1150F+Btms)	Vial	: 30
Acquired on	: 27-Apr-07, 23:35:34	Injection	: 1
Processed on	: 4/30/2007 8:59:03 AM		
Data File	: 0426A\030F3401.D		

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**BP Distribution table - cut points**

<b>BP</b> <b>°F</b>	<b>Recovered</b> <b>mass%</b>	<b>Fraction</b> <b>mass%</b>
750.0	0.1	0.1
800.0	0.3	0.3
900.0	3.2	2.9
1000.0	7.2	4.0
1100.0	18.7	11.5
1200.0	44.0	25.3