API RP 13C (ISO 13501) SHALE SHAKER SCREEN ANALYSIS

FINAL REPORT

Prepared for

SHAANXI AIPU MACHINERY MANUFACTURE COMPANY, LTD.

By

Intertek Westport Technology Center
6700 Portwest Drive
Houston, Texas 77024
(713) 479-8400 (Phone)
(713) 864-9357 (Fax)
www.westport1.com

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Sample Analysis

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INTRODUCTION

At the request of Shaanxi Aipu Machinery Manufacture Company, LTD, API RP 13C shaker screen sieve and conductance testing was conducted 10 flat shale shaker screen provided by a representative of Shaanxi Aipu Machinery Manufacture Company. The non-blanked area was also estimate for the 10 screens.

EXPERIMENTAL

API RP 13C SHAKER SCREEN SIEVE AND CONDUCTANCE TESTING

API RP 13C Shaker Screen Sieve and Conductance Testing was conducted the 10 shale shale shaker screen submitted.

ESTIMATED NON-BLANKED AREA DETERMINATION

The non-blanked area for the flat shale shaker screens submitted was estimated by measuring the area of each of the rectangles, triangles, and trapezoids contained within the screen using a Fowler Sylvac Euro-cal Mark III digital micrometer.

RESULTS AND DISCUSSION

A summary of the results of the API RP 13C Shaker Screen Sieve and Conductance Testing and non-blanked area determinations is presented in Table 1. The shaker screen sieve test results for the 10 screens submitted are presented in Tables 2-11. The shaker screen conductance test results for the 10 screens submitted are presented in Figures 1-10.

TABLE 1
API RP 13C SHAKER SCREEN SIEVE AND CONDUCTANCE TEST RESULTS

		Screen	Estimated
	API Screen	Conductance	Non-Blanked Area
Label	Designation	(Kd/mm)	(m^2)
50-MESH-APAXC50	40	9.54	0.48
80-MESH-APAXC80	60	6.01	0.52
100-MESH-APAXC100	80	3.71	0.51
120-MESH-APAXC120	120	2.69	0.52
140-MESH-APAXC140	120	2.63	0.51
160-MESH-APAXC160	120	2.47	0.51
180-MESH-APAXC180	140	2.01	0.50
200-MESH-APAXC200	140	1.65	0.51
230-MESH-APAXC230	200	1.18	0.48
300-MESH-APAXC300	270	0.80	0.48

TABLE 2
API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 50-MESH-APAXC50

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
35.00	500.00	1.00	1.03	0.74	0.92	0.92	2.30	2.30
40.00	425.00	9.74	9.99	9.73	9.82	10.74	24.50	26.81
50-MESH-APXC50	0.00	1.45	1.20	1.29	1.31	12.06	3.28	30.08
45.00	355.00	8.21	7.75	8.20	8.05	20.11	20.09	50.18
50.00	300.00	9.61	9.80	10.02	9.81	29.92	24.48	74.66
60.00	250.00	9.69	9.70	9.75	9.71	39.63	24.24	98.89
pan	pan	0.50	0.40	0.43	0.44	40.08	1.11	100.00
				Total	**40.08**			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.1338x + 67.612			
(#)	**(µm)**	**(g)**						
40.00	425.00	10.74						
50-MESH-APXC50	415.21	12.06		**50-MESH-APXC50**	= API 40			
45.00	355.00	20.11		**API 40**	> 390 µm > 462.5 µm			

TABLE 3
API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 80-MESH-APAXC80

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
50.00	300.00	0.19	0.23	0.11	0.18	0.18	0.88	0.88
60.00	250.00	5.05	5.09	5.09	5.08	5.25	25.36	26.24
80-MESH-APAXC80	0.00	1.95	1.83	1.65	1.81	7.06	9.04	35.28
70.00	212.00	2.76	3.01	2.81	2.86	9.92	14.29	49.57
80.00	180.00	4.96	4.88	4.77	4.87	14.79	24.33	73.89
100.00	150.00	4.72	4.70	4.60	4.67	19.47	23.34	97.24
pan	pan	0.52	0.59	0.55	0.55	20.02	2.76	100.00
					20.02			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.1229x + 35.977			
(#)	**(µm)**	**(g)**						
60.00	250.00	5.25						
80-MESH-APAXC80	235.26	7.06		**80-MESH-APAXC80**	= API 60			
70.00	212.00	9.92		**API 60**	> 231 µm > 275 µm			

TABLE 4

API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 100-MESH-APAXC100

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
60.00	250.00	0.26	0.55	0.31	0.37	0.37	1.85	1.85
70.00	212.00	4.83	4.55	4.79	4.72	5.10	23.46	25.32
100-MESH-APAXC100	0.00	3.60	3.51	3.46	3.52	8.62	17.50	42.82
80.00	180.00	1.46	1.84	1.77	1.69	10.31	8.40	51.22
100.00	150.00	4.48	4.55	4.66	4.56	14.87	22.67	73.89
120.00	125.00	4.91	4.97	5.02	4.97	19.84	24.67	98.56
pan	pan	0.25	0.30	0.32	0.29	20.13	1.44	100.00
					20.13			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.1629x + 39.635			
(#)	**(µm)**	**(g)**						
70.00	212.00	5.10						
100-MESH-APAXC100	190.39	8.62		**100-MESH-APAXC100**	= API 80			
80.00	180.00	10.31		**API 80**	> 165 µm < 196 µm			

TABLE 5
API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 120-MESH-APAXC120

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
80.00	180.00	0.15	0.19	0.16	0.17	0.17	2.13	2.13
100.00	150.00	4.86	4.92	4.89	4.89	5.06	23.37	25.51
120-MESH-APAXC120	0.00	4.86	4.84	4.88	4.86	9.92	9.15	34.66
120.00	125.00	0.89	1.10	0.97	0.99	10.90	12.75	47.42
140.00	106.00	4.46	4.36	4.32	4.38	15.28	26.74	74.16
170.00	90.00	4.13	4.14	4.10	4.12	19.41	24.71	98.87
pan	pan	0.57	0.63	0.58	0.59	20.00	1.13	100.00
					20.00			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.2339x + 40.137			
(#)	**(µm)**	**(g)**						
100.00	150.00	5.06						
120-MESH-APAXC120	129.20	9.92		**120-MESH-APAXC120**	= API 120			
120.00	125.00	10.90		**API 120**	> 116.5 µm < 137.5 µm			

TABLE 6

API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 140-MESH-APAXC140

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
80.00	180.00	0.15	0.19	0.16	0.17	0.17	0.86	0.86
100.00	150.00	4.86	4.92	4.89	4.89	5.06	25.29	26.16
140-MESH-APAXC140	0.00	4.86	4.84	4.88	4.86	9.92	25.14	51.29
120.00	125.00	0.89	1.10	0.97	0.99	10.90	5.10	56.40
140.00	106.00	4.46	4.36	4.32	4.38	15.28	22.66	79.05
170.00	90.00	4.13	2.14	4.10	3.46	18.74	17.88	96.93
pan	pan	0.57	0.63	0.58	0.59	19.33	3.07	100.02
					19.33			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.3212x + 50.604			
(#)	**(µm)**	**(g)**						
100.00	150.00	5.06						
140-MESH-APAXC140	126.67	9.92		**140-MESH-APAXC140**	= API 120			
120.00	125.00	10.90		**API 120**	> 116.5 µm < 137.5 µm			

TABLE 7

API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 160-MESH-APAXC160

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
100.00	150.00	1.10	1.15	1.17	1.14	1.14	2.85	2.85
120.00	125.00	8.67	9.37	9.89	9.31	10.45	23.31	26.16
160-MESH-APAXC160	0.00	1.33	0.91	0.73	0.99	11.44	2.48	28.64
140.00	106.00	6.79	4.81	3.74	5.11	16.55	12.80	41.45
170.00	90.00	10.31	10.23	8.99	9.84	26.40	24.65	66.09
200.00	75.00	11.00	12.10	13.10	12.07	38.46	30.21	96.30
pan	pan	0.83	1.31	2.29	1.48	39.94	3.70	100.00
					39.94			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.3212x + 50.604			
(#)	**(µm)**	**(g)**						
120.00	125.00	10.45						
160-MESH-APAXC160	121.93	11.44		**160-MESH-APAXC160**	= API 120			
140.00	106.00	16.55		**API 120**	> 116.5 µm < 137.5 µm			

TABLE 8
API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 180-MESH-APAXC180

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
120.00	125.00	0.91	0.52	0.63	0.69	0.69	3.43	3.43
140.00	106.00	2.70	3.50	3.71	3.30	3.99	16.51	19.95
180-MESH-APAXC180	0.00	0.73	0.27	0.23	0.41	4.40	2.05	22.00
170.00	90.00	3.93	4.34	4.00	4.09	8.49	20.45	42.44
200.00	75.00	6.30	5.72	5.93	5.98	14.47	29.91	72.35
230.00	63.00	4.73	4.41	4.52	4.55	19.03	22.76	95.12
pan	pan	1.13	0.79	1.01	0.98	20.00	4.88	100.00
					20.00			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.2813x + 33.803			
(#)	**(µm)**	**(g)**						
140.00	106.00	3.99						
180-MESH-APAXC180	104.53	4.40		**180-MESH-APAXC180**	= API 140			
170.00	90.00	8.49		**API 140**	> 98 µm < 116.5 µm			

TABLE 9
API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 200-MESH-APAXC200

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
120.00	125.00	0.77	0.39	0.41	0.52	0.52	2.13	2.13
140.00	106.00	4.58	4.81	4.78	4.72	5.25	23.37	25.51
200-MESH-APAXC200	0.00	1.32	1.32	1.33	1.32	6.57	9.15	34.66
170.00	90.00	2.79	3.12	3.33	3.08	9.65	12.75	47.42
200.00	75.00	5.22	5.30	5.16	5.23	14.88	26.74	74.16
230.00	63.00	4.34	4.42	4.46	4.41	19.28	24.71	98.87
pan	pan	0.72	0.81	0.71	0.75	20.03	1.13	100.00
					20.03			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.2752x + 34.419			
(#)	**(µm)**	**(g)**						
140.00	106.00	5.25						
200-MESH-APAXC200	101.20	6.57		**200-MESH-APAXC200**	= API 140			
170.00	90.00	9.65		**API 140**	> 98 µm < 116.5 µm			

TABLE 10
API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 230-MESH-APAXC230

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
170.00	90.00	1.12	1.00	0.95	1.02	1.02	5.10	5.10
200.00	75.00	4.33	4.39	4.43	4.38	5.41	21.85	26.95
230-MESH-APAXC230	0.00	2.02	1.48	1.45	1.65	7.06	8.22	35.17
230.00	63.00	2.93	3.63	3.23	3.26	10.32	16.27	51.44
270.00	53.00	4.36	4.16	4.28	4.27	14.59	21.27	72.70
325.00	45.00	4.47	4.31	4.68	4.49	19.07	22.36	95.07
pan	pan	0.99	0.98	1.00	0.99	20.06	4.93	100.00
					20.06			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.4094x + 36.115			
(#)	**(µm)**	**(g)**						
200.00	75.00	5.41						
230-MESH-APAXC230	70.98	7.06		**230-MESH-APAXC230**	= API 200			
230.00	63.00	10.32		**API 200**	> 69 µm < 82.5 µm			

TABLE 11
API RP 13C SHAKER SCREEN SIEVE TEST RESULTS FOR THE SCREEN LABELED 300-MESH-APAXC300

					Test	Test Average	Average	Cumulative
Sieve	**Sieve**	**Test 1**	**Test 2**	**Test 3**	**Average**	**Cumulative**	**Retained**	**Retained**
(#)	**(µm)**	**(g)**	**(g)**	**(g)**	**(g)**	**(g)**	**(%)**	**(%)**
230.00	63.00	0.46	0.59	0.56	0.54	0.54	2.66	2.66
270.00	53.00	4.29	4.20	4.37	4.29	4.82	21.22	23.88
300-MESH-APAXC300	0.00	0.90	0.65	0.69	0.75	5.57	3.70	27.58
325.00	45.00	4.00	4.11	4.13	4.08	9.65	20.20	47.78
400.00	38.00	5.52	5.49	5.57	5.53	15.18	27.36	75.14
500.00	25.00	4.32	4.80	4.48	4.53	19.71	22.45	97.59
pan	pan	0.51	0.36	0.59	0.49	20.20	2.41	100.02
					20.20			
Sieve	**Sieve**	**Average Al_2O_3**		**Line equation**	y = -0.6033x + 36.8			
(#)	**(µm)**	**(g)**						
270.00	53.00	4.82						
300-MESH-APAXC300	51.77	5.57		**300-MESH-APAXC300**	= API 270			
325.00	45.00	9.65		**API 270**	> 49 µm < 58 µm			

FIGURE 1

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 50-MESH-APAXC50

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.64 cm**	**5.37 inches**
Screen ID:	**50-MESH-APAXC50**	**Screen Thickness:**	**0.067 cm**	**0.026 inches**
LIMS #:	**202450**	**Area of Screen:**	**146.15 cm^2**	**22.65 in^2**
Test Date:	**9/19/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	66.48	0.8572	140.4	0.00210	13.19	256	11.71
Run 2	2.00	69.02	0.8564	129.5	0.00421	22.73	442	9.32
Run 3	3.00	71.30	0.8557	120.6	0.00630	29.80	580	7.60

Average Conductance, kD/mm **9.54**

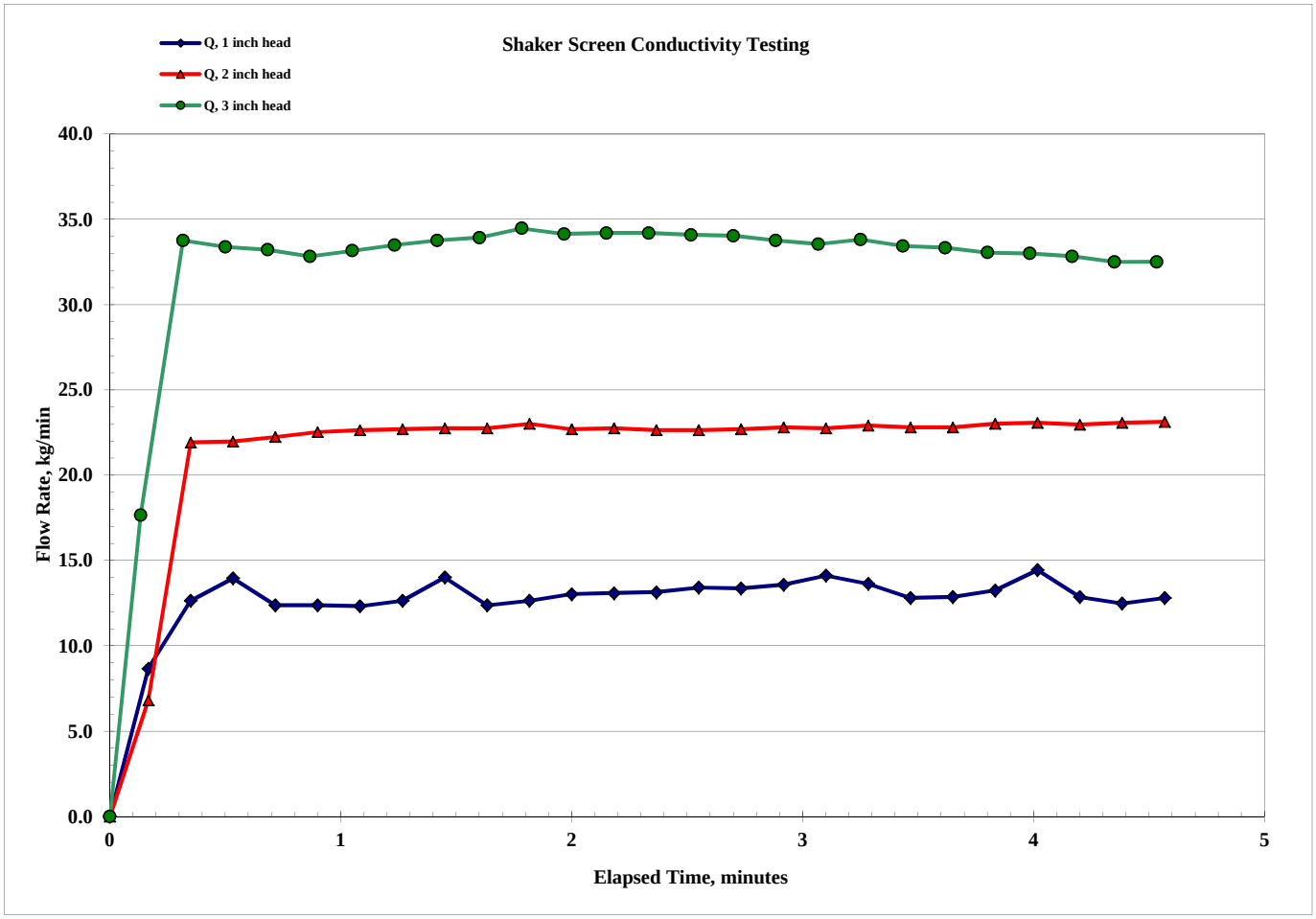

FIGURE 2

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 80-MESH-APAXC80

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.60 cm**	**5.36 inches**
Screen ID:	**80-MESH-APAXC80**	**Screen Thickness:**	**0.065 cm**	**0.026 inches**
LIMS #:	**202452**	**Area of Screen:**	**145.30 cm^2**	**22.52 in^2**
Test Date:	**9/19/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	73.30	0.8551	113.4	0.00210	9.49	185	6.88
Run 2	2.00	74.59	0.8547	109.1	0.00420	17.05	332	5.95
Run 3	3.00	75.83	0.8544	105.2	0.00629	23.24	453	5.22

Average Conductance, kD/mm **6.01**

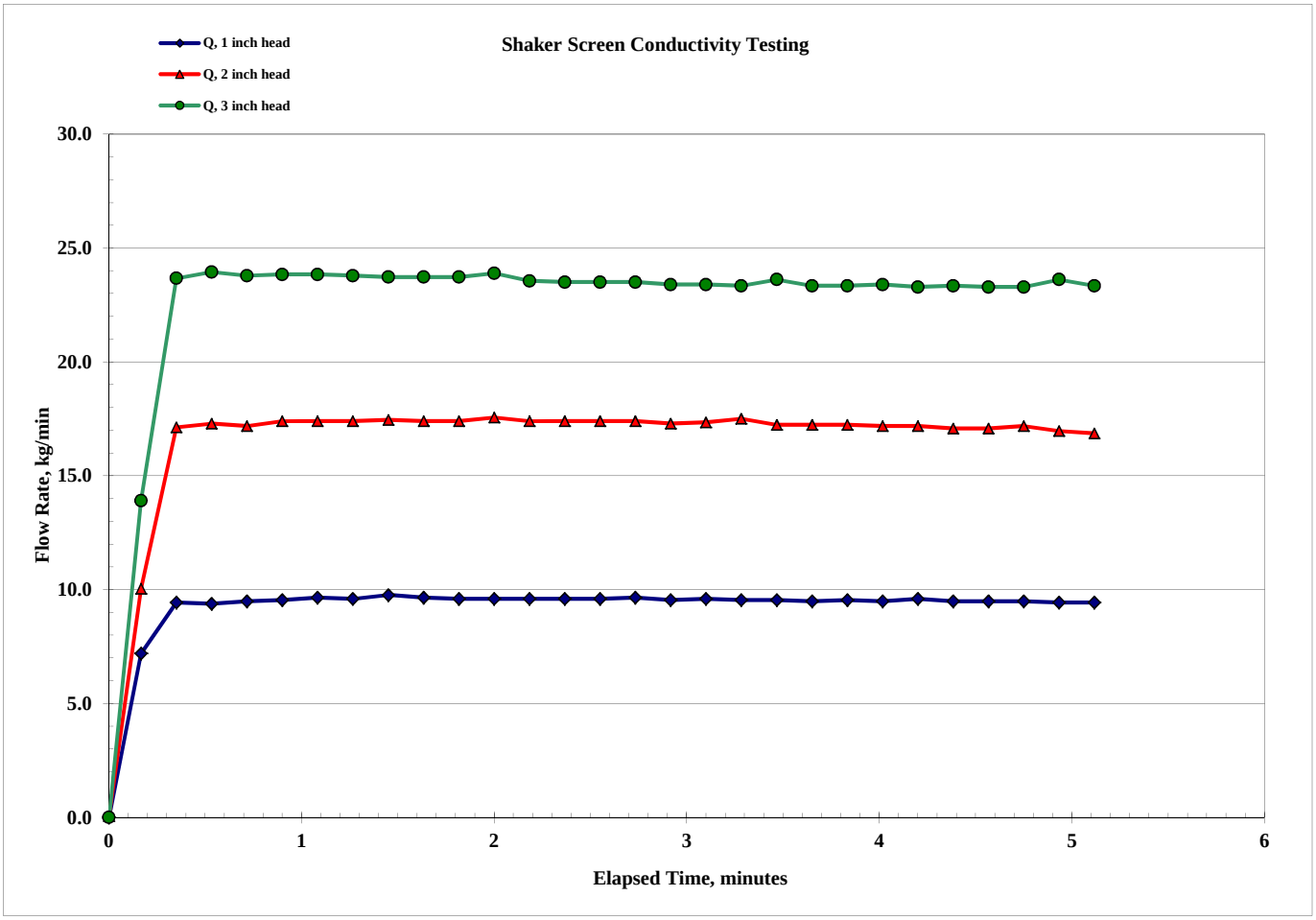

FIGURE 3

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 100-MESH-APAXC100

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.28 cm**	**5.23 inches**
Screen ID:	**100-MESH-APAXC100**	**Screen Thickness:**	**0.067 cm**	**0.026 inches**
LIMS #:	**202454**	**Area of Screen:**	**138.44 cm^2**	**21.46 in^2**
Test Date:	**9/19/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	73.92	0.8549	111.3	0.00210	5.10	99	3.81
Run 2	2.00	76.16	0.8543	104.2	0.00419	10.58	206	3.70
Run 3	3.00	76.90	0.8540	102.0	0.00629	15.89	310	3.63

Average Conductance, kD/mm **3.71**

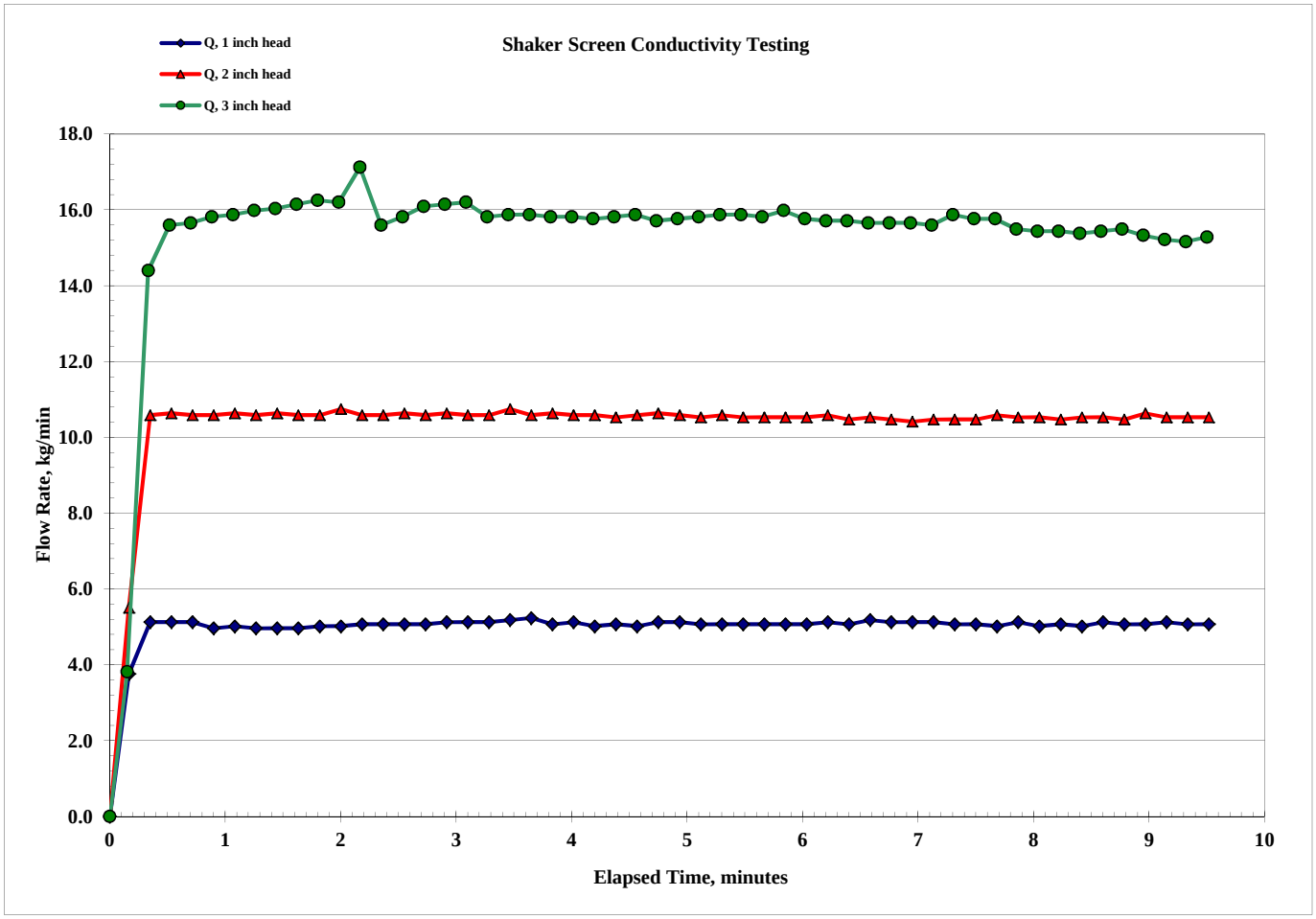

FIGURE 4

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 120-MESH-APAXC120

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.62 cm**	**5.36 inches**
Screen ID:	**120-MESH-APAXC120**	**Screen Thickness:**	**0.069 cm**	**0.027 inches**
LIMS #:	**202456**	**Area of Screen:**	**145.63 cm^2**	**22.57 in^2**
Test Date:	**9/25/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	73.96	0.8549	111.2	0.00210	3.79	74	2.69
Run 2	2.00	71.58	0.8556	119.5	0.00420	7.51	146	2.86
Run 3	3.00	72.84	0.8552	115.0	0.00630	10.36	202	2.53

Average Conductance, kD/mm **2.69**

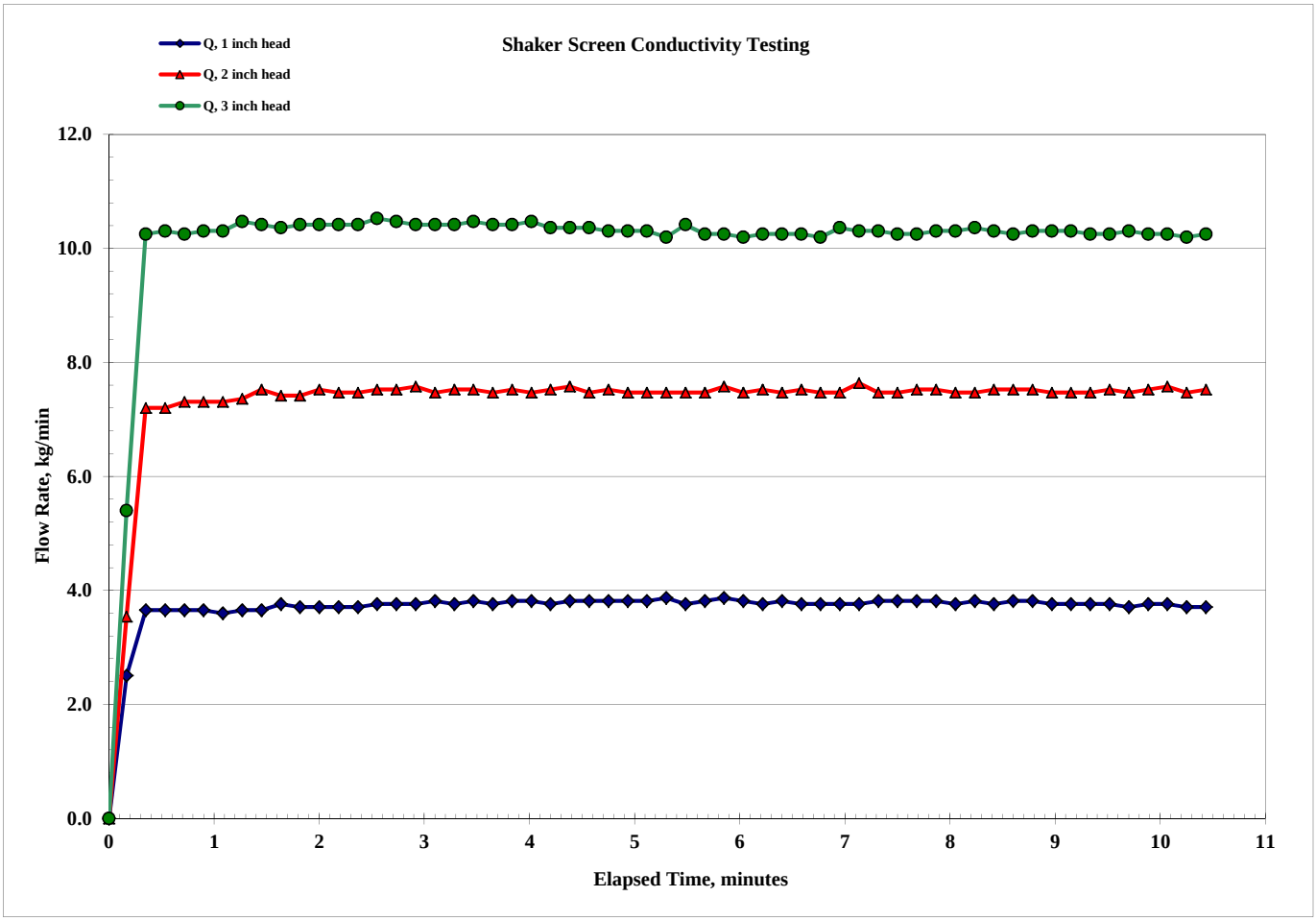

FIGURE 5

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 140-MESH-APAXC140

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.05 cm**	**5.14 inches**
Screen ID:	**140-MESH-APAXC140**	**Screen Thickness:**	**0.071 cm**	**0.028 inches**
LIMS #:	**202458**	**Area of Screen:**	**133.79 cm^2**	**20.74 in^2**
Test Date:	**9/26/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	69.81	0.8562	126.4	0.00210	3.17	62	2.77
Run 2	2.00	68.95	0.8564	129.8	0.00421	5.83	113	2.62
Run 3	3.00	67.44	0.8569	136.2	0.00631	8.02	156	2.52

Average Conductance, kD/mm **2.63**

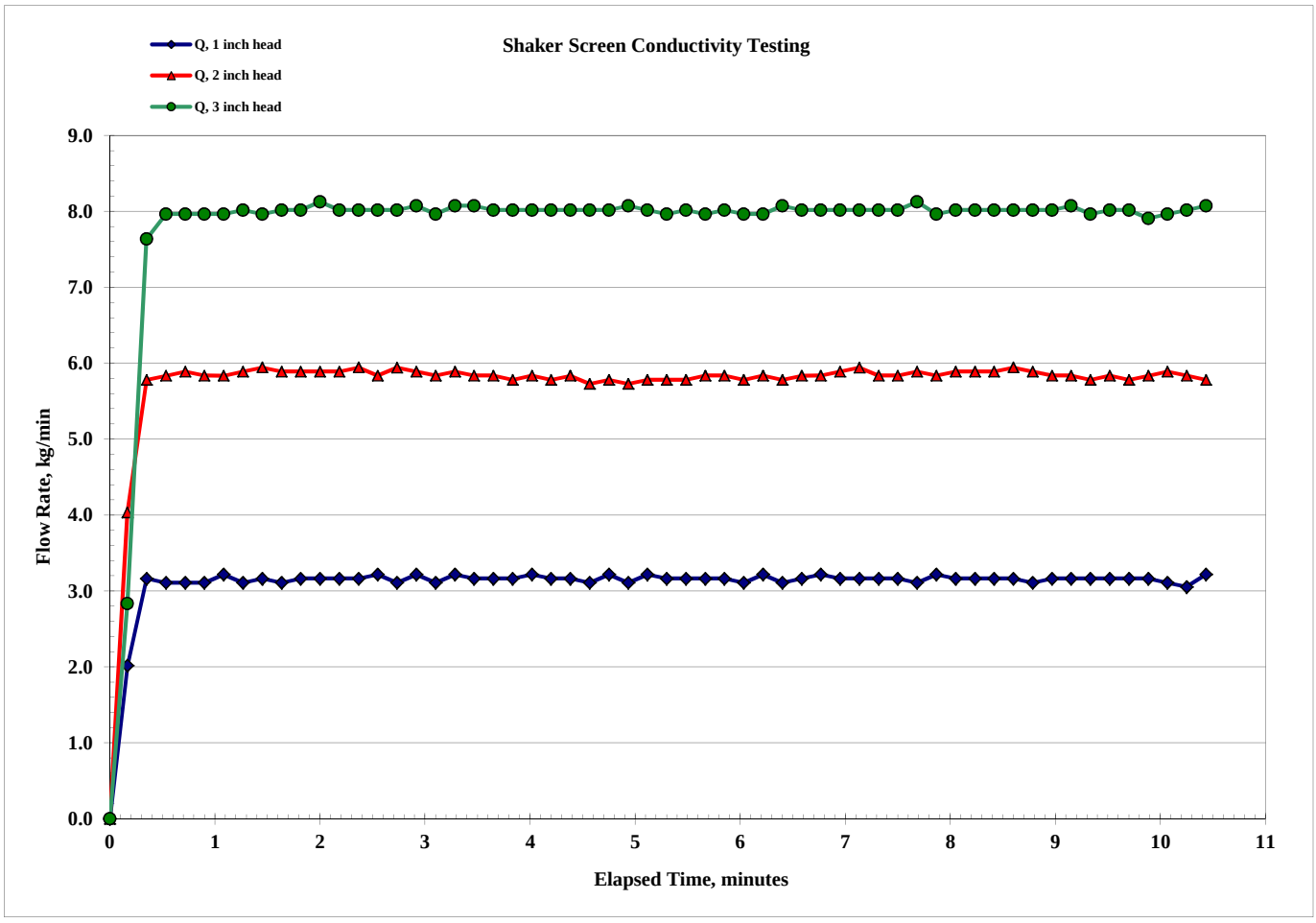

FIGURE 6

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 160-MESH-APAXC160

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.12 cm**	**5.16 inches**
Screen ID:	**160-MESH-APAXC160**	**Screen Thickness:**	**0.076 cm**	**0.030 inches**
LIMS #:	**202460**	**Area of Screen:**	**135.12 cm^2**	**20.94 in^2**
Test Date:	**9/26/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	72.93	0.8552	114.7	0.00210	3.36	65	2.64
Run 2	2.00	72.29	0.8554	116.9	0.00420	5.94	116	2.39
Run 3	3.00	70.98	0.8558	121.8	0.00630	8.54	166	2.38

Average Conductance, kD/mm **2.47**

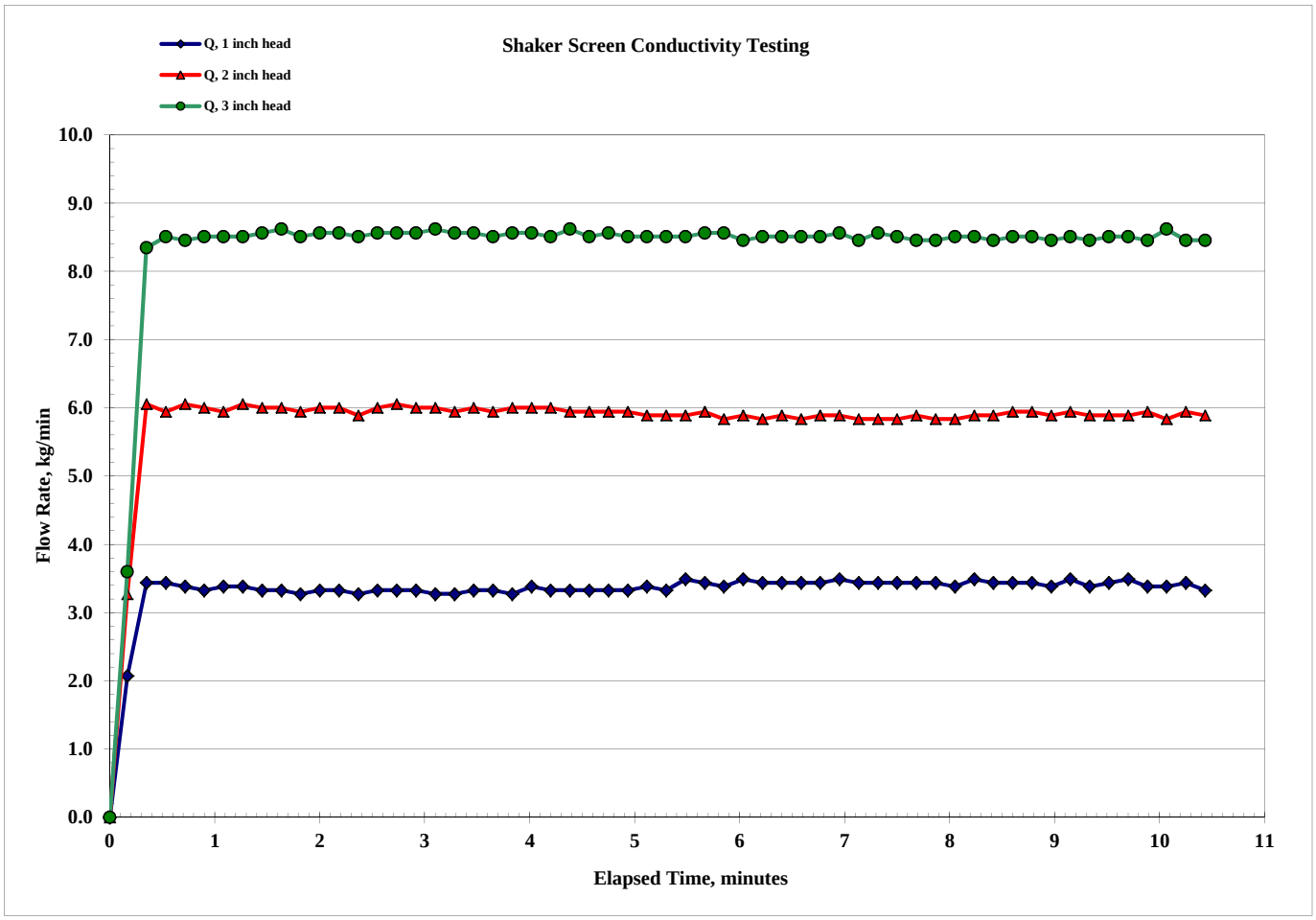

FIGURE 7

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 180-MESH-APAXC180

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.20 cm**	**5.20 inches**
Screen ID:	**180-MESH-APAXC180**	**Screen Thickness:**	**0.065 cm**	**0.025 inches**
LIMS #:	**202462**	**Area of Screen:**	**136.75 cm^2**	**21.20 in^2**
Test Date:	**9/26/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	75.36	0.8545	106.6	0.00210	3.09	60	2.24
Run 2	2.00	75.52	0.8544	106.1	0.00420	5.28	103	1.91
Run 3	3.00	73.37	0.8551	113.2	0.00630	7.38	144	1.89

Average Conductance, kD/mm **2.01**

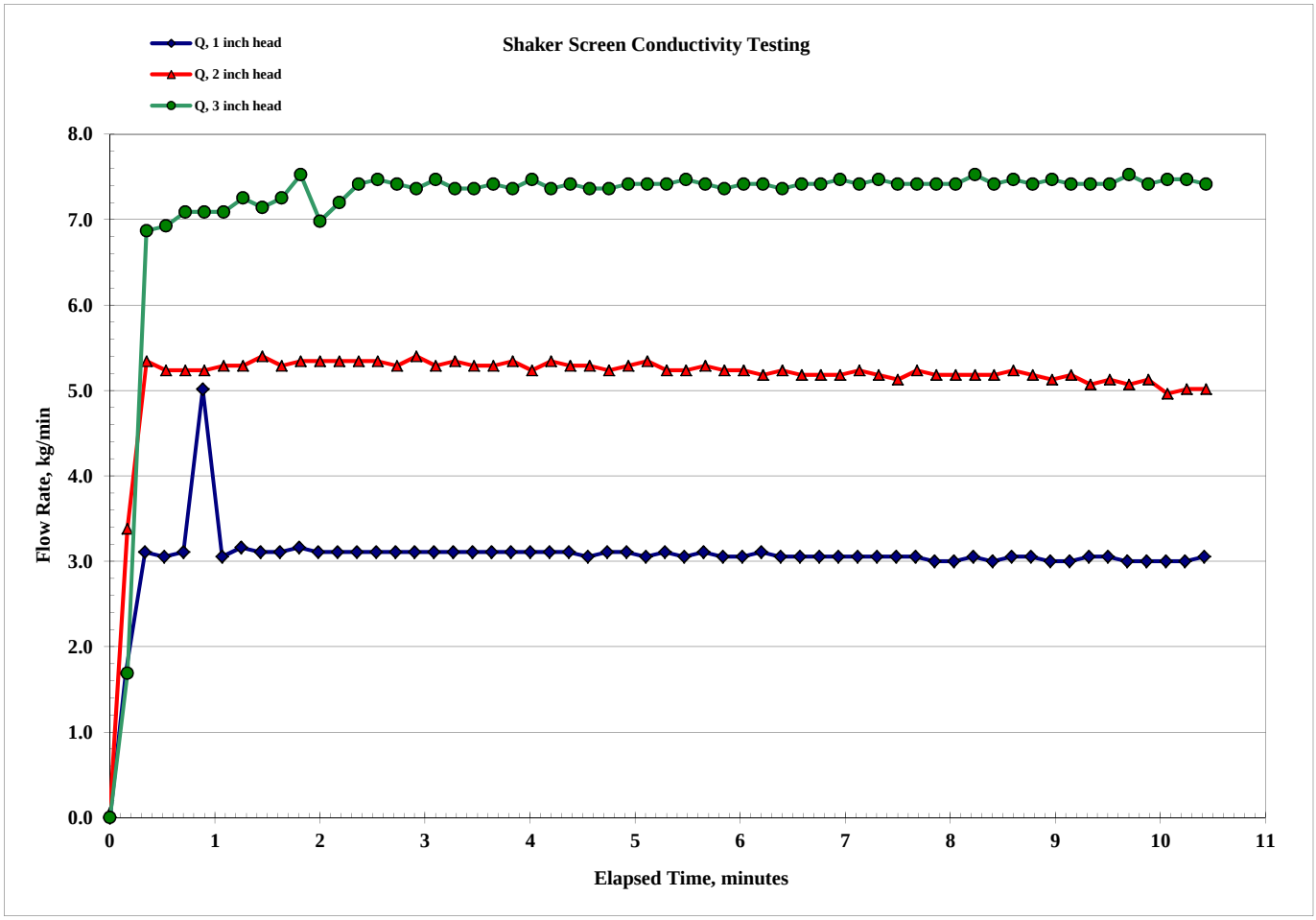

FIGURE 8

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 200-MESH-APAXC200

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.13 cm**	**5.17 inches**
Screen ID:	**200-MESH-APAXC200**	**Screen Thickness:**	**0.066 cm**	**0.026 inches**
LIMS #:	**202464**	**Area of Screen:**	**135.38 cm^2**	**20.98 in^2**
Test Date:	**9/26/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	75.61	0.8544	105.8	0.00210	2.55	50	1.85
Run 2	2.00	75.65	0.8544	105.7	0.00420	4.15	81	1.51
Run 3	3.00	75.12	0.8546	107.4	0.00629	6.51	127	1.60

Average Conductance, kD/mm **1.65**

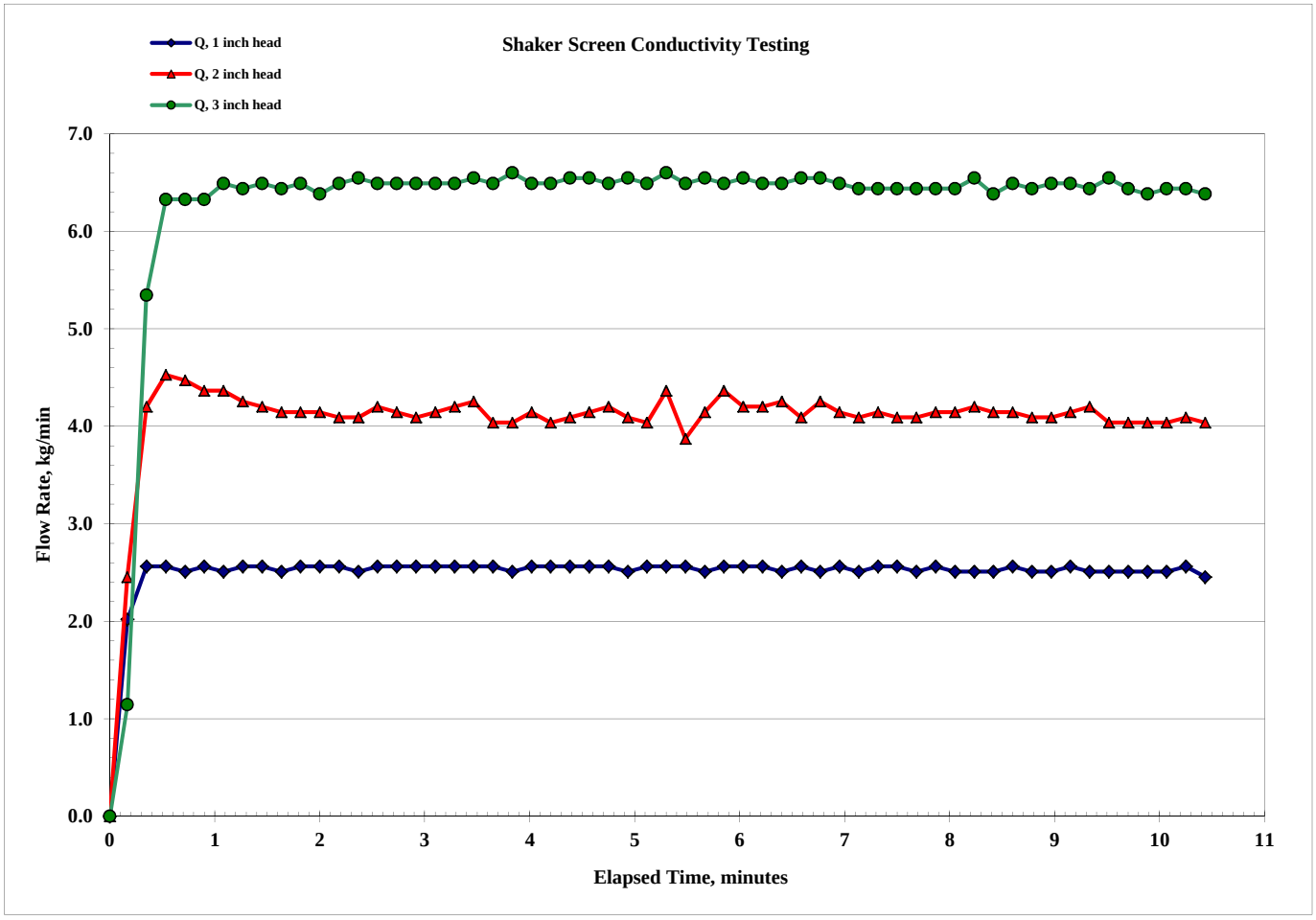

FIGURE 9

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 230-MESH-APAXC230

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.03 cm**	**5.13 inches**
Screen ID:	**230-MESH-APAXC230**	**Screen Thickness:**	**0.069 cm**	**0.027 inches**
LIMS #:	**202466**	**Area of Screen:**	**133.25 cm^2**	**20.65 in^2**
Test Date:	**9/25/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	67.43	0.8569	136.2	0.00210	1.54	30	1.45
Run 2	2.00	75.18	0.8545	107.2	0.00420	2.91	57	1.09
Run 3	3.00	73.62	0.8550	112.3	0.00630	3.88	76	1.01

Average Conductance, kD/mm **1.18**

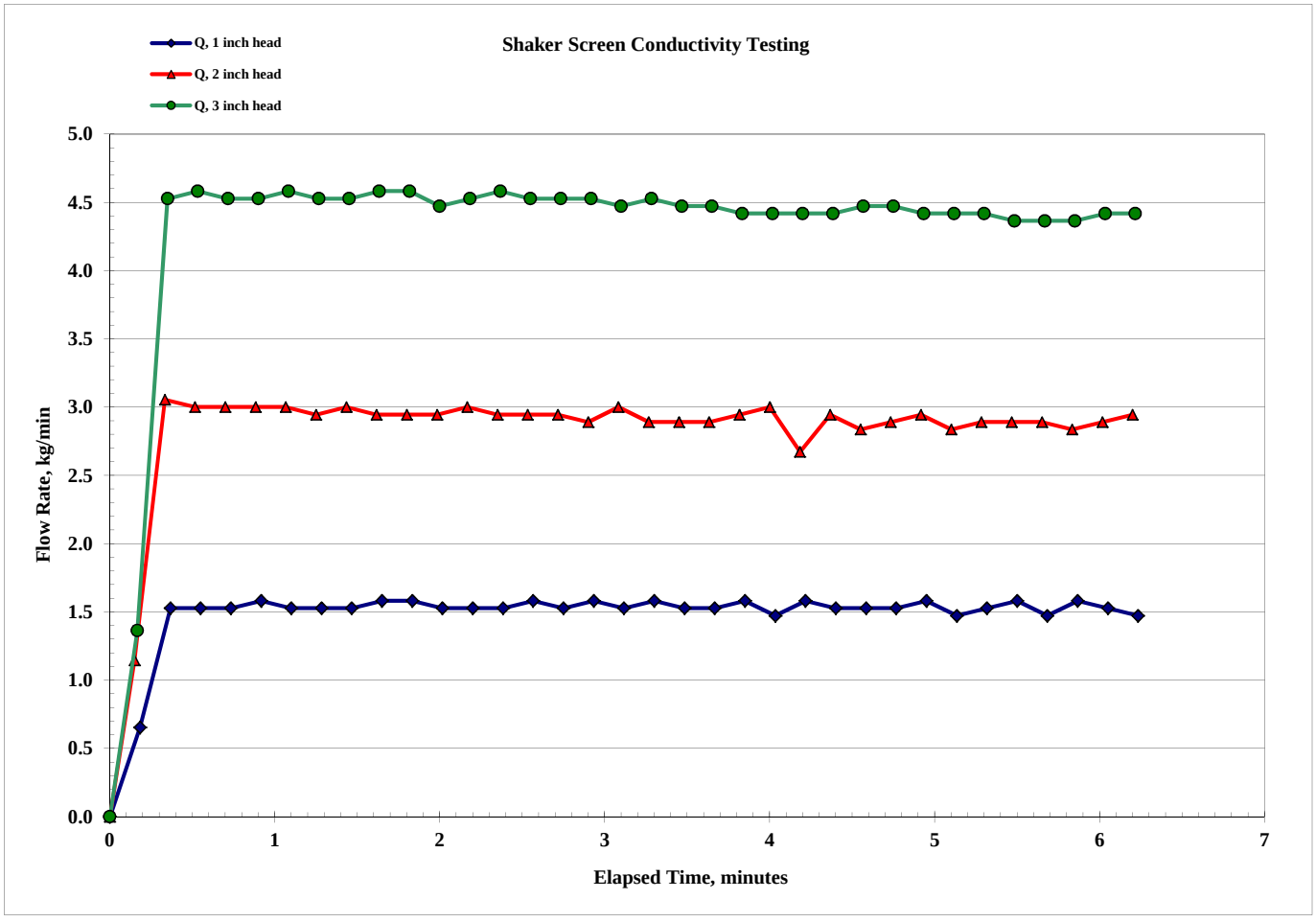

FIGURE 10

API RP 13C SHAKER SCREEN CONDUCTANCE TEST RESULTS FOR THE SCREEN LABELED 300-MESH-APAXC300

Manufacturer:	**Shaanxi Aipu Machinery Manufacture Co., Ltd**	**Screen Diameter:**	**13.50 cm**	**5.32 inches**
Screen ID:	**300-MESH-APAXC300**	**Screen Thickness:**	**0.063 cm**	**0.025 inches**
LIMS #:	**202468**	**Area of Screen:**	**143.14 cm^2**	**22.19 in^2**
Test Date:	**9/25/2014**			

	Oil Height (inches)	Avg. Temp. (°F)	Oil Density (g/cm^3)	Oil Viscosity (cP)	Pressure Drop (atm)	Mass Flow (kg/min)	Volume Flow Rate (cm^3/sec)	Screen Conductance (kD/mm)
Run 1	1.00	70.63	0.8559	123.1	0.00210	1.14	22	0.91
Run 2	2.00	71.29	0.8557	120.6	0.00420	2.04	40	0.80
Run 3	3.00	72.12	0.8555	117.6	0.00630	2.77	54	0.70

Average Conductance, kD/mm **0.80**