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45473 Muelheim an der Ruhr

Kuwait Petroleum (Nederland) B.V.
Mr. Joris van der List
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Netherlands

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Our reference	QPI TEST/2016/372
Date	November 21, 2016

**Turbine Oil Approval according to Siemens TLV 901304 and TLV 901305
"Q8 van Gogh 32", "Q8 van Gogh 46", "Q8 van Gogh EP 32" and "Q8 van Gogh EP 46"**

Dear Mr. van der List,

We carried out approval testing on the products "Q8 van Gogh 32", "Q8 van Gogh 46", "Q8 van Gogh EP 32" and "Q8 van Gogh EP 46" according to Siemens turbine oil specification TLV 901304 and TLV 901305. The results are in accordance with these specifications. They are listed in the enclosed test certificates.

Herewith we give the formal approval for the products "Q8 van Gogh 32" and "Q8 van Gogh 46" for use in Siemens turbo sets without gearbox. Additionally we give the formal approval for the products "Q8 van Gogh EP 32" and "Q8 van Gogh EP 46" for use in Siemens turbo sets with and without gearbox.

The products will be published in the corresponding lists of approved turbine oils.

Sincerely yours,

Enclosure
4 Test Certificates



Dr. Ludger Quick

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Registered offices: Berlin and Munich, Germany; Commercial registries: Berlin Charlottenburg, HRB 12300, Munich, HRB 6684
WEEE-Reg.-No. DE 23691322

SIEMENS**Test Certificate**
Lube Oil Analysis**No. S4738**
30404

Code word:	Approval TLV901304 and TLV901305	Customer:	Mr. Joris van der List
Turbine type:		Department:	Kuwait Petroleum
Serial No:		Telephone:	
Oil type:	Q8 van Gogh 32	SAP account no:	70031713
Manufacturer/Supplier:	Q8 Oils	Date of receipt:	2016-11-09
Sampling date:		Sampling:	EL-4860

Test Results:

Air release at 50°C	DIN ISO 9120	1 min
Neutralization Number	DIN 51558-1	0.07 mg KOH/g
Water content	DIN 51777-1	< 0.01 %
Foaming tendency at 25°C	ISO 6247	20 ml
Foam stability at 25°C	ISO 6247	55 s
Rest after 600 s at 25°C	ISO 6247	0 ml
Water separability	DIN 51589-1	80 s
Viscosity at 40°C	DIN 51562-1	32.7 mm ² /s
Density at 15°C	DIN 51757	0.863 g/ml
Colour (ASTM scale)	DIN ISO 2049	0.5
Flash point (Cleveland open cup)	DIN EN ISO 2592	200 °C
Pour point	DIN ISO 3016	< -12 °C
Cleanliness code	ISO 4406	15/13/11
Corrosiveness to copper	DIN EN ISO 2160	passed

Comments:Elaborator: **Henrichs**Testing date: **2016-11-15**Counter-signature: **sgd. Quick**

SIEMENS**Test Certificate**

Lube Oil Analysis

No. S4739

30404

Code word:	Approval TLV901304 and TLV901305	Customer:	Mr. Joris van der List
Turbine type:		Department:	Kuwait Petroleum
Serial No:		Telephone:	
Oil type:	Q8 van Gogh 46	SAP account no:	70031713
Manufacturer/Supplier:	Q8 Oils	Date of receipt:	2016-11-09
Sampling date:		Sampling:	EL-4861

Test Results:

Air release at 50°C	DIN ISO 9120	2 min
Neutralization Number	DIN 51558-1	0.07 mg KOH/g
Water content	DIN 51777-1	< 0.01 %
Foaming tendency at 25°C	ISO 6247	10 ml
Foam stability at 25°C	ISO 6247	15 s
Rest after 600 s at 25°C	ISO 6247	0 ml
Water separability	DIN 51589-1	70 s
Viscosity at 40°C	DIN 51562-1	45.0 mm²/s
Density at 15°C	DIN 51757	0.868 g/ml
Colour (ASTM scale)	DIN ISO 2049	0.5
Flash point (Cleveland open cup)	DIN EN ISO 2592	212 °C
Pour point	DIN ISO 3016	< -12 °C
Cleanliness code	ISO 4406	15/13/10
Corrosiveness to copper	DIN EN ISO 2160	passed

Comments:Elaborator: **Henrichs**Testing date: **2016-11-15**Counter-signature: **sgd. Quick**

SIEMENS**Test Certificate**
Lube Oil Analysis**No. S4740**
30404

Code word:	Approval TLV901304 and TLV901305	Customer:	Mr. Joris van der List
Turbine type:		Department:	Kuwait Petroleum
Serial No:		Telephone:	
Oil type:	Q8 van Gogh EP 32	SAP account no:	70031713
Manufacturer/Supplier:	Q8 Oils	Date of receipt:	2016-11-09
Sampling date:		Sampling:	EL-4862

Test Results:

Air release at 50°C	DIN ISO 9120	1 min
Neutralization Number	DIN 51558-1	0.12 mg KOH/g
Water content	DIN 51777-1	< 0.01 %
Foaming tendency at 25°C	ISO 6247	20 ml
Foam stability at 25°C	ISO 6247	40 s
Rest after 600 s at 25°C	ISO 6247	0 ml
Water separability	DIN 51589-1	60 s
Viscosity at 40°C	DIN 51562-1	32.7 mm ² /s
Density at 15°C	DIN 51757	0.865 g/ml
Colour (ASTM scale)	DIN ISO 2049	0.5
Flash point (Cleveland open cup)	DIN EN ISO 2592	208 °C
Pour point	DIN ISO 3016	< -12 °C
Cleanliness code	ISO 4406	14/12/10
Corrosiveness to copper	DIN EN ISO 2160	passed

Comments:

Failure load stage (FZG test, DIN ISO 14635-1): 11 (test carried out by TÜV NORD Systems GmbH)

Elaborator: **Henrichs**Testing date: **2016-11-15**Counter-signature: **sgd. Quick**

SIEMENS**Test Certificate**
Lube Oil Analysis**No. S4741**
30404

Code word:	Approval TLV901304 and TLV901305	Customer:	Mr. Joris van der List
Turbine type:		Department:	Kuwait Petroleum
Serial No:		Telephone:	
Oil type:	Q8 van Gogh EP 46	SAP account no:	70031713
Manufacturer/Supplier:	Q8 Oils	Date of receipt:	2016-11-09
Sampling date:		Sampling:	EL-4863

Test Results:

Air release at 50°C	DIN ISO 9120	2 min
Neutralization Number	DIN 51558-1	0.14 mg KOH/g
Water content	DIN 51777-1	< 0.01 %
Foaming tendency at 25°C	ISO 6247	0 ml
Foam stability at 25°C	ISO 6247	0 s
Rest after 600 s at 25°C	ISO 6247	0 ml
Water separability	DIN 51589-1	50 s
Viscosity at 40°C	DIN 51562-1	46.3 mm ² /s
Density at 15°C	DIN 51757	0.868 g/ml
Colour (ASTM scale)	DIN ISO 2049	0.5
Flash point (Cleveland open cup)	DIN EN ISO 2592	210 °C
Pour point	DIN ISO 3016	< -12 °C
Cleanliness code	ISO 4406	14/12/11
Corrosiveness to copper	DIN EN ISO 2160	passed

Comments:

Failure load stage (FZG test, DIN ISO 14635-1): 10 (test carried out by TÜV NORD Systems GmbH)

Elaborator: **Henrichs**Testing date: **2016-11-15**Counter-signature: **sgd. Quick**