		Data	Notes	Reference ID
Origin: China				
Synonyms: Daqing				
Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".				
API Gravity				
		31.0		ESD 92
		33.0		OGJ 99
Equation(s) for Predicting Evaporation				
%Ev = (-0.11 + 0.013T)sqrt(t) Where %Ev = weight percent evaporated; T = surface temperature (°C); t = time (minutes)				ESD 98
Sulphur (weight %)				
		0.11		ESD 93
		0.08		OGJ 99
Water Content (weight %)				
		0.2		ESD 98
Flash Point (°C)				
		23		ESD 92
Density (g/mL)				
	Temperature (°C)			
	0	0.8880		ESD 92
	15	0.8700		ESD 92
Pour Point (°C)				
		38		ESD 92
		35		OGJ 99
Dynamic Viscosity (mPa·s or cP)				
	Temperature (°C)			
	0	NM		ESD 92
	15	5,138,000	*(a)*	ESD 92
(a) shear rate = 0.1/s				
Emulsion Formation				
	Visual stability	none		ESD 98
	Water content (wt %)	4		ESD 98
Chemical Dispersibility (volume %)				
	Corexit 9500	9		ESD 98
Hydrocarbon Groups (weight %)				
	Saturates	74		ESD 95
	Aromatics	12		ESD 95
	Resins	9		ESD 95
	Asphaltenes	6		ESD 97
	Waxes	23		ESD 98

Taching

	Data	Notes	Reference ID
Adhesion (g/m²)			
Very waxy oil; difficult to measure.			
	103	*SD = 20*	ESD 96
Volatile Organic Compounds (ppm)			
Benzene	90		ESD 94
Toluene	280		ESD 94
Ethylbenzene	90		ESD 94
Xylenes	640		ESD 94
C3-benzenes	1,010		ESD 94
Total BTEX	1,100		ESD 94
Total VOCs	2,110		ESD 94
Surface Tension (mN/m or dynes/cm)			
Temperature (°C)			
0	NM		ESD 92
15	NM		ESD 92
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)			
Temperature (°C)			
0	NM		ESD 92
15	NM		ESD 92
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)			
Temperature (°C)			
0	NM		ESD 92
15	NM		ESD 92

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
	Boiling Point (°C)			
	80	1		ESD 94
	100	3		ESD 94
	120	4		ESD 94
	140	5		ESD 94
	160	7		ESD 94
	180	9		ESD 94
	200	10		ESD 94
	250	15		ESD 94
	300	21		ESD 94
	350	29		ESD 94
	400	38		ESD 94
	450	48		ESD 94
	500	56		ESD 94
	550	63		ESD 94
	600	71		ESD 94
	650	79		ESD 94
	700	85		ESD 94
Yield on Crude (volume %)				
	Boiling Range (°C)			
	Light ends (IBP-71)	2		OGJ 99
	Light naphtha (71-143)	5		OGJ 99
	Heavy naphtha (143-199)	6		OGJ 99
	Kerosene (199-260)	8		OGJ 99
	Diesel (260-335)	7		OGJ 99
	Light gas oil (335-413)	16		OGJ 99
	Heavy gas oil (413-500)	19		OGJ 99
	Bottoms (>500)	37		OGJ 99

Taching

		Data	Notes	Reference ID
Metals (ppm)				
	Aluminum	< 5		Cao 92
	Barium	< 0.3		Cao 92
	Cadmium	< 0.5		Cao 92
	Calcium	55		Cao 92
	Chromium	< 2		Cao 92
	Cobalt	< 1		Cao 92
	Copper	< 0.6		Cao 92
	Iron	11		Cao 92
	Lead	< 3		Cao 92
	Magnesium	2		Cao 92
	Manganese	< 0.3		Cao 92
	Mercury	< 15		Cao 92
	Molybdenum	< 0.6		Cao 92
	Nickel	3		Cao 92
	Selenium	< 15		Cao 92
	Strontium	< 0.2		Cao 92
	Tin	< 15		Cao 92
	Titanium	< 0.6		Cao 92
	Vanadium	< 0.6		Cao 92
	Zinc	< 0.6		Cao 92
Acute Toxicity of Water Soluble Fraction (mg/L)				
	Test Organism			
48h LC50	Daphnia magna	> 1	*(a)*	Harris 94

(a) results based on GC headspace analysis

Origin: Angola		**Data**	**Notes**	**Reference ID**
API Gravity				
Evaporation (volume %)				
		32.2		ESD 92
Equation(s) for Predicting Evaporation				
%Ev = (1.95 + 0.045T)ln(t) Where %Ev = weight percent evaporated; T = surface temperature (°C); t = time (minutes)				ESD 96
Sulphur (weight %)				
Evaporation (volume %)				
0		0.18		ESD 93
11		0.15		ESD 93
18		0.13		ESD 93
Water Content (weight %)				
Evaporation (volume %)				
0		0.1		ESD 98
8		< 0.1		ESD 98
16		< 0.1		ESD 98
Flash Point (°C)				
Evaporation (volume %)				
0		-7		ESD 92
11		41		ESD 92
18		> 90		ESD 92
Density (g/mL)				
Evaporation (volume %)	Temperature (°C)			
0	0	0.8782		ESD 92
	15	0.8637		ESD 92
11	0	0.8996		ESD 92
	15	0.8860		ESD 92
18	0	0.9142		ESD 92
	15	0.8961		ESD 92
Pour Point (°C)				
Evaporation (volume %)				
0		15		ESD 92
11		19		ESD 92
18		26		ESD 92

Takula

		Data	Notes	Reference ID
Dynamic Viscosity (mPa·s or cP)				
Evaporation (volume %)	Temperature (°C)			
0	0	12,630	*(a)*	ESD 92
		44,370	*(b)*	ESD 92
	15	110		ESD 92
11	0	7,070	*(a)*	ESD 92
		47,270	*(b)*	ESD 92
	15	844	*(a)*	ESD 92
		3,683	*(b)*	ESD 92
18	0	NM		ESD 92
	15	3,148	*(a)*	ESD 92
		17,150	*(b)*	ESD 92
Shear rate = (a) 10/s; (b) 1/s				
Emulsion Formation				
Evaporation (volume %)				
0	Visual stability	stable		ESD 98
	Viscosity (mPa·s)	45,000		ESD 98
	Complex modulus (mPa)	950,000		ESD 98
	Water content (wt %)	85		ESD 98
8	Visual stability	stable		ESD 98
	Viscosity (mPa·s)	83,000		ESD 98
	Complex modulus (mPa)	1,200,000		ESD 98
	Water content (wt %)	81		ESD 98
16	Visual stability	stable		ESD 98
	Viscosity (mPa·s)	110,000		ESD 98
	Complex modulus (mPa)	1,200,000		ESD 98
	Water content (wt %)	75		ESD 98
Chemical Dispersibility (volume %)				
Evaporation (volume %)				
0	Corexit 9500	14		ESD 94
	Corexit 9527	5		ESD 92
	Dasic LTS	0		ESD 92
	Enersperse 700	5		ESD 92
11	Corexit 9500	9		ESD 98
18		6		ESD 98

		Data	Notes	Reference ID
Hydrocarbon Groups (weight %)				
Evaporation (volume %)				
0	Saturates	65		ESD 97
	Aromatics	22		ESD 97
	Resins	8		ESD 97
	Asphaltenes	2		ESD 97
	Waxes	8		ESD 97
11	Saturates	62		ESD 97
	Aromatics	24		ESD 97
	Resins	10		ESD 97
	Asphaltenes	4		ESD 97
	Waxes	8		ESD 97
18	Saturates	60		ESD 97
	Aromatics	25		ESD 97
	Resins	11		ESD 97
	Asphaltenes	4		ESD 97
	Waxes	9		ESD 97
Adhesion (g/m²)				
Evaporation (volume %)				
0		70	*SD = 11*	ESD 96
11		78	*SD = 7*	ESD 96
18		232	*SD = 24*	ESD 96

Takula

		Data	Notes	Reference ID
Volatile Organic Compounds (ppm)				
Evaporation (volume %)				
0	Benzene	250		ESD 94
	Toluene	690		ESD 94
	Ethylbenzene	200		ESD 94
	Xylenes	1,670		ESD 94
	C3-benzenes	2,320		ESD 94
	Total BTEX	2,810		ESD 94
	Total VOCs	5,120		ESD 94
11	Benzene	100		ESD 94
	Toluene	500		ESD 94
	Ethylbenzene	200		ESD 94
	Xylenes	1,490		ESD 94
	C3-benzenes	2,440		ESD 94
	Total BTEX	2,290		ESD 94
	Total VOCs	4,730		ESD 94
18	Benzene	0		ESD 94
	Toluene	0		ESD 94
	Ethylbenzene	0		ESD 94
	Xylenes	110		ESD 94
	C3-benzenes	1,140		ESD 94
	Total BTEX	110		ESD 94
	Total VOCs	1,250		ESD 94
Surface Tension (mN/m or dynes/cm)				
Evaporation (volume %)	Temperature (°C)			
0	0	NM		ESD 92
	15	30.6		ESD 92
11	0	NM		ESD 92
	15	NM		ESD 92
18	0	NM		ESD 92
	15	NM		ESD 92
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (volume %)	Temperature (°C)			
0	0	NM		ESD 92
	15	28.1		ESD 92
11	0	NM		ESD 92
	15	NM		ESD 92
18	0	NM		ESD 92
	15	NM		ESD 92

		Data	Notes	Reference ID
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (volume %)	Temperature (°C)			
0	0	NM		ESD 92
	15	31.5		ESD 92
11	0	NM		ESD 92
	15	NM		ESD 92
18	0	NM		ESD 92
	15	NM		ESD 92

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (volume %)	Boiling Point (°C)			
0	40	2		ESD 94
	60	2		ESD 94
	80	4		ESD 94
	100	6		ESD 94
	120	8		ESD 94
	140	10		ESD 94
	160	12		ESD 94
	180	15		ESD 94
	200	17		ESD 94
	250	24		ESD 94
	300	32		ESD 94
	350	41		ESD 94
	400	49		ESD 94
	450	59		ESD 94
	500	67		ESD 94
	550	74		ESD 94
	600	80		ESD 94
	650	85		ESD 94
	700	89		ESD 94
11	60	1		ESD 96
	80	1		ESD 96
	100	2		ESD 96
	120	3		ESD 96
	140	4		ESD 96
	160	6		ESD 96
	180	9		ESD 96
	200	11		ESD 96
	250	19		ESD 96
	300	27		ESD 96
	350	37		ESD 96
	400	46		ESD 96
	450	57		ESD 96
	500	66		ESD 96
	550	73		ESD 96
	600	79		ESD 96
	650	85		ESD 96
	700	90		ESD 96
18	160	1		ESD 96
	180	2		ESD 96
	200	4		ESD 96
	250	12		ESD 96

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (volume %)	Boiling Point (°C)			
18	300	21		ESD 96
	350	32		ESD 96
	400	42		ESD 96
	450	54		ESD 96
	500	63		ESD 96
	550	72		ESD 96
	600	79		ESD 96
	650	85		ESD 96
	700	90		ESD 96

Tapis

		Data	Notes	Reference ID
Origin: Malaysia				
Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".				
API Gravity				
		44.3		OGJ 99
Sulphur (weight %)				
		0.02		OGJ 99
Reid Vapour Pressure (kPa)				
		17		OGJ 99
Pour Point (°C)				
		4		OGJ 99
Kinematic Viscosity (mm²/s or cSt)				
	Temperature (°C)			
	21	3		OGJ 99
Hydrocarbon Groups (weight %)				
	Asphaltenes	0		OGJ 99
	Waxes	6		OGJ 99
Yield on Crude (volume %)				
	Boiling Range (°C)			
	C1-C4	1		OGJ 99
	Light gasoline (C5-63)	3		OGJ 99
	Heavy naphtha (63-166)	23		OGJ 99
	Kerosene (166-232)	21		OGJ 99
	Light distillate (232-343)	34		OGJ 99
	Residue (>343)	18		OGJ 99
Metals (ppm)				
	Nickel	0.2		OGJ 99
	Vanadium	< 0.002		OGJ 99
Other Elements (weight %)				
	Nitrogen	0.01		OGJ 99

Origin: Malaysia		**Data**	**Notes**	**Reference ID**
API Gravity				
		45.9		OGJ 92
		44.9		ESD 98
Equation(s) for Predicting Evaporation				
%Ev = (3.04 + 0.045T)ln(t) Where %Ev = weight percent evaporated; T = surface temperature (°C); t = time (minutes)				ESD 97
Sulphur (weight %)				
Evaporation (weight %)				
0		0.06		ESD 97
		0.03		OGJ 92
14		0.03		ESD 97
29		0.03		ESD 97
43		0.04		ESD 97
Water Content (weight %)				
Evaporation (weight %)				
0		1.1		ESD 98
14		< 0.1		ESD 98
29		< 0.1		ESD 98
43		< 0.1		ESD 98
Flash Point (°C)				
Evaporation (weight %)				
0		-26		ESD 96
14		17		ESD 96
29		68		ESD 96
43		> 95		ESD 96
Density (g/mL)				
Evaporation (weight %)	Temperature (°C)			
0	0	0.8170		ESD 96
	15	0.8020		ESD 96
14	0	0.8388		ESD 96
	15	0.8237		ESD 96
29	0	0.8552		ESD 96
	15	0.8396		ESD 96
43	0	0.8720		ESD 96
	15	0.8552		ESD 96

Tapis Blend

		Data	Notes	Reference ID
Pour Point (°C)				
Evaporation (weight %)				
0		6		OGJ 92
		18		ESD 96
14		28		ESD 96
29		31		ESD 96
43		34		ESD 96
Dynamic Viscosity (mPa·s or cP)				
Evaporation (weight %)	Temperature (°C)			
0	0	250	*(a)*	ESD 96
		2,840	*(b)*	ESD 96
		51,300	*(c)*	ESD 96
	15	8		ESD 96
14	0	2,220	*(a)*	ESD 96
		6,000	*(b)*	ESD 96
		47,500	*(c)*	ESD 96
	15	57	*(d)*	ESD 96
29	0	10,500	*(b)*	ESD 96
		127,300	*(c)*	ESD 96
	15	800	*(a)*	ESD 96
		6,140	*(b)*	ESD 96
		27,000	*(c)*	ESD 96
43	0	NM		ESD 96
	15	1,440	*(a)*	ESD 96
		15,640	*(b)*	ESD 96
		53,900	*(c)*	ESD 96
Shear rate = (a) 100/s; (b) 10/s; (c) 1/s (d) slightly non-newtonian				
Kinematic Viscosity (mm²/s or cSt)				
	Temperature (°C)			
	15	3		OGJ 92
Emulsion Formation				
Evaporation (weight%)				
0	Visual stability	none		ESD 98
	Water content (wt %)	16		ESD 98
14	Visual stability	none		ESD 98
	Water content (wt %)	23		ESD 98
29	Visual stability	none		ESD 98
	Water content (wt %)	9		ESD 98
43	Visual stability	none		ESD 98
	Water content (wt %)	8		ESD 98

		Data	Notes	Reference ID
Chemical Dispersibility (volume %)				
Evaporation (weight %)				
0	Corexit 9500	63		ESD 98
14		69		ESD 98
29		56		ESD 98
43		44		ESD 98
Hydrocarbon Groups (weight %)				
Evaporation (weight %)				
0	Saturates	81		ESD 98
	Aromatics	15		ESD 98
	Resins	2		ESD 98
	Asphaltenes	2		ESD 98
14	Saturates	77		ESD 98
	Aromatics	19		ESD 98
	Resins	3		ESD 98
	Asphaltenes	1		ESD 98
29	Saturates	80		ESD 98
	Aromatics	16		ESD 98
	Resins	3		ESD 98
	Asphaltenes	2		ESD 98
43	Saturates	79		ESD 98
	Aromatics	14		ESD 98
	Resins	4		ESD 98
	Asphaltenes	3		ESD 98
Adhesion (g/m²)				
Evaporation (weight %)				
0		7	*SD = 1*	ESD 96
14		34	*SD = 3*	ESD 96
29		55	*SD = 5*	ESD 96
43		8	*SD = 2 (a)*	ESD 96

(a) very waxy sample; very little oil stuck to test needle

Tapis Blend

		Data	Notes	Reference ID
Volatile Organic Compounds (ppm)				
Evaporation (weight %)				
0	Benzene	1,253		ESD 97
	Toluene	7,451		ESD 97
	Ethylbenzene	1,370		ESD 97
	Xylenes	18,591		ESD 97
	C3-benzenes	17,967		ESD 97
	Total BTEX	28,665		ESD 97
	Total VOCs	46,632		ESD 97
13	Benzene	364		ESD 97
	Toluene	5,438		ESD 97
	Ethylbenzene	1,334		ESD 97
	Xylenes	18,700		ESD 97
	C3-benzenes	19,962		ESD 97
	Total BTEX	25,837		ESD 97
	Total VOCs	45,799		ESD 97
29	Benzene	0		ESD 97
	Toluene	90		ESD 97
	Ethylbenzene	265		ESD 97
	Xylenes	5,132		ESD 97
	C3-benzenes	14,673		ESD 97
	Total BTEX	5,488		ESD 97
	Total VOCs	20,162		ESD 97
43	Benzene	0		ESD 97
	Toluene	3		ESD 97
	Ethylbenzene	1		ESD 97
	Xylenes	7		ESD 97
	C3-benzenes	22		ESD 97
	Total BTEX	10		ESD 97
	Total VOCs	32		ESD 97
Surface Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	DNF		ESD 96
	15	27.1		ESD 96
14	0	DNF		ESD 96
	15	31.1		ESD 96
29	0	DNF		ESD 96
	15	DNF		ESD 96
43	0	DNF		ESD 96
	15	DNF		ESD 96

		Data	Notes	Reference ID
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	DNF		ESD 96
	15	21.2		ESD 96
14	0	DNF		ESD 96
	15	NM		ESD 96
29	0	DNF		ESD 96
	15	DNF		ESD 96
43	0	DNF		ESD 96
	15	DNF		ESD 96
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	DNF		ESD 96
	15	25.0		ESD 96
14	0	DNF		ESD 96
	15	NM		ESD 96
29	0	DNF		ESD 96
	15	DNF		ESD 96
43	0	DNF		ESD 96
	15	DNF		ESD 96

Tapis Blend

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (weight %)	Boiling Point (°C)			
0	40	5		ESD 96
	60	5		ESD 96
	80	7		ESD 96
	100	11		ESD 96
	120	17		ESD 96
	140	22		ESD 96
	160	27		ESD 96
	180	32		ESD 96
	200	37		ESD 96
	250	49		ESD 96
	300	62		ESD 96
	350	74		ESD 96
	400	83		ESD 96
	450	91		ESD 96
	500	96		ESD 96
	550	98		ESD 96
	600	99		ESD 96
14	80	1		ESD 96
	100	2		ESD 96
	120	7		ESD 96
	140	11		ESD 96
	160	17		ESD 96
	180	23		ESD 96
	200	28		ESD 96
	250	42		ESD 96
	300	57		ESD 96
	350	71		ESD 96
	400	81		ESD 96
	450	90		ESD 96
	500	95		ESD 96
	550	97		ESD 96
	600	99		ESD 96
29	140	1		ESD 96
	160	4		ESD 96
	180	9		ESD 96
	200	14		ESD 96
	250	31		ESD 96
	300	48		ESD 96
	350	65		ESD 96
	400	77		ESD 96
	450	88		ESD 96

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (weight %)	Boiling Point (°C)			
29	500	94		ESD 96
	550	97		ESD 96
	600	98		ESD 96
43	200	1		ESD 96
	250	14		ESD 96
	300	35		ESD 96
	350	55		ESD 96
	400	70		ESD 96
	450	84		ESD 96
	500	92		ESD 96
	550	95		ESD 96
	600	97		ESD 96
	650	99		ESD 96
Yield on Crude				
	Boiling Range (°C)			
Weight %	C1-C5	3		OGJ 92
Volume %	20-175	33		OGJ 92
	175-295	33		OGJ 92
	295-343	10		OGJ 92
	343-565	19		OGJ 92
	565-816	3		OGJ 92
Other Elements (weight %)				
	Nitrogen	0.02		OGJ 92

Tarsiut

Origin: Beaufort Sea, Canada		Data	Notes	Reference ID
API Gravity				
		30.1		EETD 84
Flash Point (°C)				
		65		EETD 84
Reid Vapour Pressure (kPa)				
		1		EETD 84
Density (g/mL)				
Evaporation (weight %)	Temperature (°C)			
0	0	0.8840		EETD 84
	15	0.8750		EETD 84
12	0	0.8998		EETD 85
	15	0.8900		EETD 85
16	0	0.9021		EETD 85
	15	0.8922		EETD 85
Dynamic Viscosity (mPa·s or cP)				
Evaporation (weight %)	Temperature (°C)			
0	15	7		EETD 84
12	0	27		EETD 85
	15	13		EETD 85
16	0	29		EETD 85
	15	14		EETD 85
Chemical Dispersibility				
	Corexit 9527	55		EETD 87
Hydrocarbon Groups (weight %)				
	Saturates	92		EETD 86
	Aromatics	7		EETD 86
	Resins	0		EETD 86
	Asphaltenes	0		EETD 86
Surface Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	28.0		EETD 84
	15	26.5		EETD 84
12	0	30.7		EETD 85
	15	29.1		EETD 85
16	0	30.8		EETD 85
	15	27.7		EETD 85

		Data	Notes	Reference ID
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	16.6		EETD 85
	15	14.1		EETD 85
12	0	18.0		EETD 85
	15	13.9		EETD 85
16	0	16.3		EETD 85
	15	14.3		EETD 85
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	20.0		EETD 84
	15	18.4		EETD 85
12	0	19.1		EETD 85
	15	17.9		EETD 85
16	0	18.5		EETD 85
	15	17.8		EETD 85
Aqueous Solubility (mg/L)				
	Temperature (°C)			
	20 (approx.)	8	*(a)*	MacLean 89
	22	2	*(a)*	Suntio 86
	20 (approx.)	7	*(b)*	MacLean 89
(a) fresh water; (b) salt water				
Acute Toxicity of Water Soluble Fraction (mg/L)				
	Test Organism			
24h EC50	Artemia spp.	> 7	*(b)*	MacLean 89
		> 2	*(c)*	EETD 89
48h EC50	Daphnia magna	3	*(b)*	MacLean 89
		0.9	*(c)*	EETD 89
24h LC50	Artemia spp.	> 7	*(b)*	MacLean 89
		> 2	*(c)*	EETD 89
48h LC50	Daphnia magna	6	*(b)*	MacLean 89
		2	*(c)*	EETD 89

(b) results based on fluorescence spectroscopy; (c) results based on GC purge-and-trap analysis

Tartan

	Data	Notes	Reference ID
Origin: North Sea, UK			
Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".			
API Gravity			
	41.7		OGJ 99
Sulphur (weight %)			
	0.56		OGJ 99
Reid Vapour Pressure (kPa)			
	70		OGJ 99
Pour Point (°C)			
	-9		OGJ 99
Kinematic Viscosity (mm²/s or cSt)			
Temperature (°C)			
4	12		OGJ 99
Yield on Crude (volume %)			
Boiling Range (°C)			
C1-C4	4		OGJ 99
Naphtha (C5-65)	6		OGJ 99
Naphtha (65-150)	20		OGJ 99
Naphtha (150-180)	7		OGJ 99
Kerosene (180-235)	11		OGJ 99
Gas oil (235-300)	12		OGJ 99
Gas oil (300-343)	8		OGJ 99
Residue (>343)	32		OGJ 99

Origin: Gabon		**Data**	**Notes**	**Reference ID**
Chemical Dispersibility (volume %)				
Evaporation (weight %)				
0	Corexit 9500	40		ESD 00
19		25		ESD 00
38		14		ESD 00

Tembungo

	Data	Notes	Reference ID
Origin: Malaysia			
Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".			
API Gravity			
	37.4		OGJ 99
Sulphur (weight %)			
	0.04		OGJ 99
Reid Vapour Pressure (kPa)			
	19		OGJ 99
Pour Point (°C)			
	-4		OGJ 99
Kinematic Viscosity (mm²/s or cSt)			
Temperature (°C)			
38	2		OGJ 99
Yield on Crude (volume %)			
Boiling Range (°C)			
Light naphtha (C5-71)	2		OGJ 99
Heavy naphtha (71-149)	18		OGJ 99
Light distillate (149-266)	36		OGJ 99
Heavy distillate (266-343)	29		OGJ 99
Residue (>343)	14		OGJ 99

Origin: Newfoundland, Canada		**Data**	**Notes**	**Reference ID**
API Gravity				
		33.7		EETD 89
Reid Vapour Pressure (kPa)				
		37		EETD 89
Density (g/mL)				
	Temperature (°C)			
	0	0.8713		EETD 89
	10	0.8500	*(a)*	Buist 89
	15	0.8560		EETD 89
	20	0.8420	*(a)*	Buist 89
	30	0.8340	*(a)*	Buist 89
	10	0.8500	*(a)*	Buist 89
	20	0.8420	*(a)*	Buist 89
	30	0.8340	*(a)*	Buist 89
(a) sample K-08				
Pour Point (°C)				
		27	*(a)*	Buist 89
(a) sample K-08				
Dynamic Viscosity (mPa·s or cP)				
	Temperature (°C)			
	0	69		EETD 89
	15	22		EETD 89
Chemical Dispersibility (volume %)				
	Corexit 9527	30		EETD 89
	Dasic LTS	20		EETD 89
	Enersperse 700	20		EETD 89
Hydrocarbon Groups (weight %)				
	Asphaltenes	8	*(a)*	Buist 89
		1		ESD 97
	Waxes	12	*(a)*	Buist 89
		9		ESD 97
	Asphaltenes	8	*(a)*	Buist 89
	Waxes	12	*(a)*	Buist 89
(a) sample K-08				

		Data	Notes	Reference ID
Volatile Organic Compounds (ppm)				
	Benzene	850		ESD 94
	Toluene	3,550		ESD 94
	Ethylbenzene	950		ESD 94
	Xylenes	3,600		ESD 94
	C3-benzenes	4,640		ESD 94
	Total BTEX	8,960		ESD 94
	Total VOCs	13,600		ESD 94
Surface Tension (mN/m or dynes/cm)				
	Temperature (°C)			
	0	27.9		EETD 89
	15	27.2		EETD 89
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
	Temperature (°C)			
	0	29.4		EETD 89
	15	28.8		EETD 89
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)				
	Temperature (°C)			
	0	29.2		EETD 89
	15	28.7		EETD 89
Metals (ppm)				
	Aluminum	< 5		Cao 92
	Barium	< 0.3		Cao 92
	Cadmium	< 0.5		Cao 92
	Calcium	46		Cao 92
	Chromium	< 2		Cao 92
	Cobalt	< 1		Cao 92
	Copper	< 0.6		Cao 92
	Iron	5		Cao 92
	Lead	< 3		Cao 92
	Magnesium	< 1		Cao 92
	Manganese	< 0.3		Cao 92
	Mercury	< 15		Cao 92
	Molybdenum	< 0.6		Cao 92
	Nickel	1		Cao 92
	Selenium	< 15		Cao 92
	Strontium	< 0.2		Cao 92
	Tin	< 15		Cao 92
	Titanium	0.7		Cao 92
	Vanadium	< 0.6		Cao 92
	Zinc	< 0.6		Cao 92

		Data	Notes	Reference ID
Aqueous Solubility (mg/L)				
	Room temperature	32	*(a)*	ESD 91

(a) fresh water

Terra Nova (1994)

		Data	Notes	Reference ID
Origin: Newfoundland, Canada				
This oil is the same as Terra Nova (SOCSEX), except that the evaporated oils were produced by ESD using rotary evaporation.				ESD 94
API Gravity				
		35.7		ESD 94
Equation(s) for Predicting Evaporation				
%Ev = (1.36 + 0.045T)ln(t) Where %Ev = weight percent evaporated; T = surface temperature (°C); t = time (minutes)				ESD 96
Sulphur (weight %)				
Evaporation (weight %)				
0		0.43		ESD 97
12		0.42		ESD 97
25		0.47		ESD 97
34		0.55		ESD 97
Flash Point				
Evaporation (weight %)				
0		-22		ESD 95
12		34		ESD 95
24		85		ESD 95
34		> 95		ESD 95
Density				
Evaporation (weight %)	Temperature (°C)			
0	0	0.8595		ESD 94
	15	0.8457		ESD 94
12	0	0.8862		ESD 95
	15	0.8727		ESD 95
24	0	0.9038		ESD 95
	15	0.8909		ESD 95
34	0	0.9162		ESD 95
	15	0.9033		ESD 95
Pour Point				
Evaporation (weight %)				
0		5		ESD 95
12		17		ESD 95
24		22		ESD 95
34		26		ESD 95

		Data	Notes	Reference ID
Dynamic Viscosity				
Evaporation (weight %)	Temperature (°C)			
0	0	39		ESD 94
	5	27		ESD 94
	10	18		ESD 94
	15	11		ESD 94
12	0	133	*(a)*	ESD 95
	15	28	*(a)*	ESD 95
24	0	2,561	*(b)*	ESD 95
		14,010	*(c)*	ESD 95
	15	167	*(a)*	ESD 95
34	0	12,590	*(b)*	ESD 95
		59,240	*(c)*	ESD 95
	15	515	*(a)*	ESD 95
(a) slightly non-newtonian shear rate = (b) 10/s; (c) 1/s				
Chemical Dispersibility				
	Corexit 9500	14		ESD 95
Hydrocarbon Groups				
Evaporation (weight %)				
0	Saturates	62		ESD 95
	Aromatics	31		ESD 95
	Resins	6		ESD 95
	Asphaltenes	2		ESD 95
	Waxes	9		ESD 98
12	Saturates	60		ESD 96
	Aromatics	31		ESD 96
	Resins	7		ESD 96
	Asphaltenes	2		ESD 96
	Waxes	8		ESD 98
24	Saturates	58		ESD 96
	Aromatics	31		ESD 96
	Resins	9		ESD 96
	Asphaltenes	2		ESD 96
	Waxes	10		ESD 98
34	Saturates	51		ESD 96
	Aromatics	35		ESD 96
	Resins	11		ESD 96
	Asphaltenes	2		ESD 96
	Waxes	10		ESD 98

Terra Nova (1994)

		Data	Notes	Reference ID
Adhesion				
Evaporation (weight %)				
0		10	*SD = 3*	ESD 95
12		19	*SD = 3*	ESD 96
24		38	*SD = 5*	ESD 96
34		80	*SD = 10*	ESD 96
Volatile Organic Compounds (ppm)				
Evaporation (weight %)				
0	Benzene	380		ESD 96
	Toluene	7,280		ESD 96
	Ethylbenzene	1,730		ESD 96
	Xylenes	7,200		ESD 96
	C3-benzenes	8,080		ESD 96
	Total BTEX	16,590		ESD 96
	Total VOCs	24,670		ESD 96
12	Benzene	0		ESD 96
	Toluene	4,420		ESD 96
	Ethylbenzene	1,540		ESD 96
	Xylenes	6,820		ESD 96
	C3-benzenes	8,620		ESD 96
	Total BTEX	12,780		ESD 96
	Total VOCs	21,400		ESD 96
24	Benzene	0		ESD 96
	Toluene	30		ESD 96
	Ethylbenzene	110		ESD 96
	Xylenes	800		ESD 96
	C3-benzenes	3,820		ESD 96
	Total BTEX	950		ESD 96
	Total VOCs	4,770		ESD 96
34	Benzene	0		ESD 96
	Toluene	10		ESD 96
	Ethylbenzene	0		ESD 96
	Xylenes	0		ESD 96
	C3-benzenes	0		ESD 96
	Total BTEX	10		ESD 96
	Total VOCs	10		ESD 96

		Data	Notes	Reference ID
Surface Tension				
Evaporation (weight %)	Temperature (°C)			
0	0	31.8		ESD 95
	15	26.9		ESD 95
12	0	DNF		ESD 95
	15	28.6		ESD 95
24	0	DNF		ESD 95
	15	30.1		ESD 95
34	0	DNF		ESD 95
	15	32.3		ESD 95
Oil/Salt Water Interfacial Tension				
Evaporation (weight %)	Temperature (°C)			
0	0	NM		ESD 95
	15	21.5		ESD 95
12	0	DNF		ESD 95
	15	22.9		ESD 95
24	0	DNF		ESD 95
	15	23.3		ESD 95
34	0	DNF		ESD 95
	15	23.8		ESD 95
Oil/Fresh Water Interfacial Tension				
Evaporation (weight %)	Temperature (°C)			
0	0	NM		ESD 95
	15	21.8		ESD 95
12	0	DNF		ESD 95
	15	23.4		ESD 95
24	0	DNF		ESD 95
	15	22.6		ESD 95
34	0	DNF		ESD 95
	15	26.4		ESD 95

Terra Nova (1994)

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (weight %)	Boiling Point (°C)			
0	40	3		ESD 94
	60	4		ESD 94
	80	7		ESD 94
	100	11		ESD 94
	120	14		ESD 94
	140	17		ESD 94
	160	20		ESD 94
	180	24		ESD 94
	200	27		ESD 94
	250	36		ESD 94
	300	45		ESD 94
	350	54		ESD 94
	400	63		ESD 94
	450	72		ESD 94
	500	79		ESD 94
	550	85		ESD 94
	600	90		ESD 94
	650	94		ESD 94
	700	97		ESD 94
12	100	2		ESD 95
	120	3		ESD 95
	140	6		ESD 95
	160	10		ESD 95
	180	14		ESD 95
	200	17		ESD 95
	250	27		ESD 95
	300	37		ESD 95
	350	48		ESD 95
	400	57		ESD 95
	450	67		ESD 95
	500	75		ESD 95
	550	81		ESD 95
	600	86		ESD 95
	650	91		ESD 95
	700	94		ESD 95
24	160	1		ESD 95
	180	3		ESD 95
	200	6		ESD 95
	250	17		ESD 95
	300	29		ESD 95
	350	41		ESD 95

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (weight %)	Boiling Point (°C)			
24	400	52		ESD 95
	450	64		ESD 95
	500	73		ESD 95
	550	81		ESD 95
	600	87		ESD 95
	650	92		ESD 95
	700	96		ESD 95
34	250	6		ESD 95
	300	18		ESD 95
	350	32		ESD 95
	400	45		ESD 95
	450	58		ESD 95
	500	69		ESD 95
	550	78		ESD 95
	600	85		ESD 95
	650	91		ESD 95
	700	96		ESD 95

Terra Nova (Petawawa)

		Data	Notes	Reference ID
Origin: Newfoundland, Canada				
This oil was used during the May 1993 airborne oil spill sensor test program carried out at Canadian Forces Base Petawawa. The program was sponsored by the Emergencies Science Division of Environment Canada and the Marine Spill Response Corporation, Washington, D.C.. Six aircraft from across North America participated in the program.				Brown 94
API Gravity				
		32.5		ESD 93
Sulphur (weight %)				
		0.52		ESD 93
Flash Point (°C)				
		4		ESD 93
Density (g/mL)				
	Temperature (°C)			
	0	0.8768		ESD 93
	15	0.8624		ESD 93
Pour Point (°C)				
		15		ESD 93
Dynamic Viscosity (mPa·s or cP)				
	Temperature (°C)			
	0	1,463	*(a)*	ESD 93
		8,935	*(b)*	ESD 93
	15	30		ESD 93
Shear rate = (a) 10/s; (b) 1/s				
Hydrocarbon Groups (weight %)				
	Asphaltenes	2		ESD 93
	Waxes	13		ESD 93
Surface Tension (mN/m or dynes/cm)				
	Temperature (°C)			
	0	DNF		ESD 93
	15	27.4		ESD 93
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
	Temperature (°C)			
	0	DNF		ESD 93
	15	27.1		ESD 93
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)				
	Temperature (°C)			
	0	DNF		ESD 93
	15	27.4		ESD 93

	Data	Notes	Reference ID
Boiling Point Distribution (weight %)			
Boiling Point (°C)			
40	1		ESD 94
60	2		ESD 94
80	5		ESD 94
100	8		ESD 94
120	11		ESD 94
140	11		ESD 94
160	13		ESD 94
180	16		ESD 94
200	19		ESD 94
250	28		ESD 94
300	38		ESD 94
350	48		ESD 94
400	57		ESD 94
450	67		ESD 94
500	76		ESD 94
550	83		ESD 94
600	89		ESD 94
650	94		ESD 94
700	98		ESD 94

Terra Nova (SOCSEX)

		Data	Notes	Reference ID
Origin: Newfoundland, Canada				
This oil was used in the 1994/95 Subsurface Oil in Coarse Sediments Experiment (SOCSEX). The evaporated oils were produced by Coastal and Ocean Resources, using air stripping.				Harper 95
API Gravity				
		35.7		ESD 94
Density (g/mL)				
Evaporation (volume %)	Temperature (°C)			
0	0	0.8595		ESD 94
	15	0.9457		ESD 94
18	0	0.8885		ESD 95
	15	0.8750		ESD 95
26	0	0.8978		ESD 95
	15	0.8849		ESD 95

		Data	Notes	Reference ID
Dynamic Viscosity (mPa·s or cP)				
Evaporation (volume %)	Temperature (°C)			
0	0	39		ESD 94
	5	27		ESD 94
	10	18		ESD 94
	15	11		ESD 94
18	0	396	*(a)*	ESD 95
		2,572	*(b)*	ESD 95
		31,870	*(c)*	ESD 95
	5	220	*(a)*	ESD 95
		1,388	*(b)*	ESD 95
		19,930	*(c)*	ESD 95
	10	122	*(a)*	ESD 95
		719	*(b)*	ESD 95
		6,866	*(c)*	ESD 95
	15	80	*(a)*	ESD 95
		463	*(b)*	ESD 95
		4,003	*(c)*	ESD 95
26	0	866	*(a)*	ESD 95
		6,939	*(b)*	ESD 95
		41,060	*(c)*	ESD 95
	5	468	*(a)*	ESD 95
		1,934	*(b)*	ESD 95
		32,780	*(c)*	ESD 95
	10	272	*(a)*	ESD 95
		1,304	*(b)*	ESD 95
		8,590	*(c)*	ESD 95
	15	161	*(a)*	ESD 95
		568	*(b)*	ESD 95
		5,864	*(c)*	ESD 95
Shear rate = (a) 100/s; (b) 10/s; (c) 1/s				
Chemical Dispersibility				
	Corexit 9527	5		ESD 93
	Dasic LTS	5		ESD 93
	Enersperse 700	10		ESD 93

Terra Nova (SOCSEX)

		Data	Notes	Reference ID
Hydrocarbon Groups (weight %)				
Evaporation (volume %)				
0	Saturates	62		ESD 95
	Aromatics	31		ESD 95
	Resins	6		ESD 95
	Asphaltenes	2		ESD 95
	Waxes	8		ESD 95
18	Saturates	59		ESD 95
	Aromatics	33		ESD 95
	Resins	6		ESD 95
	Asphaltenes	2		ESD 95
26	Saturates	58		ESD 95
	Aromatics	34		ESD 95
	Resins	6		ESD 95
	Asphaltenes	2		ESD 95
Adhesion (g/m²)				
Evaporation (volume %)				
0		10	*SD = 3*	ESD 95
18		26	*SD = 2*	ESD 95
26		34	*SD = 2*	ESD 95

		Data	Notes	Reference ID
Volatile Organic Compounds (ppm)				
Evaporation (volume %)				
0	Benzene	2,450		ESD 95
	Toluene	5,950		ESD 95
	Ethylbenzene	2,050		ESD 95
	Xylenes	8,500		ESD 95
	C3-benzenes	8,770		ESD 95
	Total BTEX	18,950		ESD 95
	Total VOCs	27,730		ESD 95
18	Benzene	110		ESD 95
	Toluene	1,760		ESD 95
	Ethylbenzene	1,760		ESD 95
	Xylenes	7,270		ESD 95
	C3-benzenes	9,430		ESD 95
	Total BTEX	10,910		ESD 95
	Total VOCs	20,340		ESD 95
26	Benzene	0		ESD 95
	Toluene	40		ESD 95
	Ethylbenzene	420		ESD 95
	Xylenes	2,450		ESD 95
	C3-benzenes	7,020		ESD 95
	Total BTEX	2,910		ESD 95
	Total VOCs	9,930		ESD 95

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (volume %)	Boiling Point (°C)			
0	40	3		ESD 94
	60	4		ESD 94
	80	7		ESD 94
	100	11		ESD 94
	120	14		ESD 94
	140	17		ESD 94
	160	20		ESD 94
	180	24		ESD 94
	200	27		ESD 94
	250	36		ESD 94
	300	45		ESD 94
	350	54		ESD 94
	400	63		ESD 94
	450	72		ESD 94
	500	79		ESD 94
	550	85		ESD 94
	600	90		ESD 94
	650	94		ESD 94
	700	97		ESD 94
18	100	1		ESD 95
	120	2		ESD 95
	140	5		ESD 95
	160	8		ESD 95
	180	12		ESD 95
	200	16		ESD 95
	250	25		ESD 95
	300	35		ESD 95
	350	45		ESD 95
	400	55		ESD 95
	450	64		ESD 95
	500	72		ESD 95
	550	79		ESD 95
	600	84		ESD 95
	650	89		ESD 95
	700	92		ESD 95
26	140	1		ESD 95
	160	3		ESD 95
	180	6		ESD 95
	200	10		ESD 95
	250	20		ESD 95
	300	31		ESD 95

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (volume %)	Boiling Point (°C)			
26	350	43		ESD 95
	400	53		ESD 95
	450	65		ESD 95
	500	73		ESD 95
	550	81		ESD 95
	600	87		ESD 95
	650	92		ESD 95
	700	96		ESD 95

Thevenard Island

Origin: Australia		Data	Notes	Reference ID
API Gravity				
		48.6		ESD 93
Equation(s) for Predicting Evaporation				
%Ev = (5.74 + 0.045T)ln(t) Where %Ev = weight percent evaporated; T = surface temperature (°C); t = time (minutes)				ESD 99
Sulphur (weight %)				
Evaporation (weight %)				
0		0.01		ESD 97
23		0.01		ESD 97
44		0.01		ESD 97
59		0.03		ESD 97
Water Content (weight %)				
Evaporation (weight %)				
0		< 0.1		ESD 99
23		< 0.1		ESD 99
44		< 0.1		ESD 99
59		< 0.1		ESD 99
Flash Point (°C)				
Evaporation (weight %)				
0		< -30		ESD 94
23		43		ESD 95
44		79		ESD 95
59		> 95		ESD 95
Density (g/mL)				
Evaporation (weight %)	Temperature (°C)			
0	0	0.7971		ESD 93
	15	0.7855		ESD 93
23	0	0.8409		ESD 95
	15	0.8301		ESD 95
44	0	0.8472		ESD 95
	15	0.8352		ESD 95
59	0	0.8622		ESD 95
	15	0.8498		ESD 95
Pour Point (°C)				
Evaporation (weight %)				
0		< -70		ESD 93
23		-12		ESD 95
44		6		ESD 95
59		7		ESD 95

		Data	Notes	Reference ID
Dynamic Viscosity (mPa·s or cP)				
Evaporation (weight %)	Temperature (°C)			
0	0	2		ESD 93
	15	1		ESD 93
23	0	5		ESD 95
	15	3		ESD 95
44	0	23		ESD 95
	15	5		ESD 95
59	0	39	*(a)*	ESD 95
		148	*(b)*	ESD 95
		845	*(c)*	ESD 95
	15	9		ESD 95
Shear rate = (a) 500/s; (b) 10/s; (c) 1/s				
Chemical Dispersibility (volume %)				
	Corexit 9500	77		ESD 98
	Corexit 9527	55		ESD 95
	Dasic LTS	20		ESD 92
	Enersperse 700	30		ESD 92
Hydrocarbon Groups (weight %)				
Evaporation (weight %)				
0	Saturates	85		ESD 96
	Aromatics	13		ESD 96
	Resins	2		ESD 96
	Asphaltenes	0		ESD 96
	Waxes	1		ESD 93
23	Saturates	79		ESD 96
	Aromatics	19		ESD 96
	Resins	2		ESD 96
	Asphaltenes	0		ESD 96
	Waxes	5		ESD 98
44	Saturates	79		ESD 96
	Aromatics	19		ESD 96
	Resins	2		ESD 96
	Asphaltenes	0		ESD 96
	Waxes	7		ESD 98
59	Saturates	75		ESD 96
	Aromatics	22		ESD 96
	Resins	3		ESD 96
	Asphaltenes	0		ESD 96
	Waxes	9		ESD 98

Thevenard Island

		Data	Notes	Reference ID
Adhesion (g/m²)				
Evaporation (weight %)				
0		6	*SD = 3*	ESD 95
23		7	*SD = 0*	ESD 95
44		12	*SD = 1*	ESD 95
59		14	*SD = 5*	ESD 95
Volatile Organic Compounds (ppm)				
Evaporation (weight %)				
0	Benzene	140		ESD 94
	Toluene	1,320		ESD 94
	Ethylbenzene	360		ESD 94
	Xylenes	4,000		ESD 94
	C3-benzenes	6,450		ESD 94
	Total BTEX	5,820		ESD 94
	Total VOCs	12,270		ESD 94
23	Benzene	0		ESD 96
	Toluene	570		ESD 96
	Ethylbenzene	320		ESD 96
	Xylenes	3,470		ESD 96
	C3-benzenes	6,430		ESD 96
	Total BTEX	4,360		ESD 96
	Total VOCs	10,780		ESD 96
44	Benzene	0		ESD 96
	Toluene	0		ESD 96
	Ethylbenzene	0		ESD 96
	Xylenes	90		ESD 96
	C3-benzenes	2,140		ESD 96
	Total BTEX	90		ESD 96
	Total VOCs	2,230		ESD 96
59	Benzene	0		ESD 96
	Toluene	0		ESD 96
	Ethylbenzene	0		ESD 96
	Xylenes	0		ESD 96
	C3-benzenes	0		ESD 96
	Total BTEX	0		ESD 96
	Total VOCs	0		ESD 96

		Data	Notes	Reference ID
Surface Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	25.2		ESD 94
	15	23.8		ESD 94
23	0	27.8		ESD 95
	15	25.5		ESD 95
44	0	28.9		ESD 95
	15	28.1		ESD 95
59	0	27.1		ESD 95
	15	29.1		ESD 95
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	17.7		ESD 94
	15	17.2		ESD 94
23	0	12.2		ESD 95
	15	10.8		ESD 95
44	0	16.0		ESD 95
	15	15.2		ESD 95
59	0	19.7		ESD 95
	15	14.6		ESD 95
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	19.3		ESD 94
	15	19.6		ESD 94
23	0	15.3		ESD 95
	15	13.8		ESD 95
44	0	18.2		ESD 95
	15	16.9		ESD 95
59	0	23.1		ESD 95
	15	17.1		ESD 95

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (weight %)	Boiling Point (°C)			
0	80	7		ESD 94
	100	15		ESD 94
	120	21		ESD 94
	140	27		ESD 94
	160	34		ESD 94
	180	42		ESD 94
	200	49		ESD 94
	250	66		ESD 94
	300	80		ESD 94
	350	89		ESD 94
	400	94		ESD 94
	450	97		ESD 94
	500	98		ESD 94
	550	99		ESD 94
	600	100		ESD 94
23	100	1		ESD 95
	120	3		ESD 95
	140	7		ESD 95
	160	14		ESD 95
	180	23		ESD 95
	200	32		ESD 95
	250	54		ESD 95
	300	73		ESD 95
	350	86		ESD 95
	400	93		ESD 95
	450	97		ESD 95
	500	99		ESD 95
44	160	1		ESD 95
	180	6		ESD 95
	200	14		ESD 95
	250	42		ESD 95
	300	67		ESD 95
	350	83		ESD 95
	400	93		ESD 95
	450	98		ESD 95
	500	99		ESD 95
59	200	1		ESD 95
	250	21		ESD 95
	300	53		ESD 95
	350	76		ESD 95
	400	89		ESD 95

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (weight %)	Boiling Point (°C)			
59	450	96		ESD 95
	500	99		ESD 95

Thistle

Origin: North Sea, UK

Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".

		Data	Notes	Reference ID
API Gravity				
		37.0		OGJ 99
Sulphur (weight %)				
		0.31		OGJ 99
Reid Vapour Pressure (kPa)				
		52		OGJ 99
Hydrogen Sulphide (weight %)				
		< 0		OGJ 99
Pour Point (°C)				
		12		OGJ 99
Kinematic Viscosity (mm²/s or cSt)				
	Temperature (°C)			
	20	6		OGJ 99
	38	4		OGJ 99
Hydrocarbon Groups (weight %)				
	Asphaltenes	0		OGJ 99
	Waxes	8		OGJ 99
Yield on Crude (weight %)				
	Boiling Range (°C)			
	Light ends	1		OGJ 99
	Gasoline (C5-85)	6		OGJ 99
	Naphtha (85-165)	15		OGJ 99
	Kerosene (165-235)	12		OGJ 99
	Light gas oil (235-300)	13		OGJ 99
	Heavy gas oil (300-350)	10		OGJ 99
	Residue (>350)	44		OGJ 99

		Data	Notes	Reference ID
Origin: Venezuela				
Synonyms: Tia Juana Pesado				
Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".				
API Gravity				
		12.1		OGJ 99
Sulphur (weight %)				
		2.70		OGJ 99
Pour Point (°C)				
		-1		OGJ 99
Kinematic Viscosity (mm²/s or cSt)				
	Temperature (°C)			
	50	2,983		OGJ 99
Yield on Crude (volume %)				
	Boiling Range (°C)			
	Heavy naphtha (93-149)	1		OGJ 99
	Naphtha (149-177)	1		OGJ 99
	Kerosene (177-204)	1		OGJ 99
	Gas oil (204-260)	5		OGJ 99
	Gas oil (260-288)	3		OGJ 99
	Gas oil (288-343)	8		OGJ 99
	Residue (>343)	82		OGJ 99

Tia Juana Light

Origin: Venezuela

Data from OGJ 99 were originally published in 1983 as part of a series entitled "Guide to Export Crudes for the '80s".

		Data	Notes	Reference ID
API Gravity				
		32.1		OGJ 99
Sulphur (weight %)				
		1.10		OGJ 99
Pour Point (°C)				
		-43		OGJ 99
Saybolt Viscosity (SUS)				
	Temperature (°C)			
	38	60		OGJ 99
Yield on Crude (volume %)				
	Boiling Range (°C)			
	Light ends	2		OGJ 99
	Light naphtha (28-93)	5		OGJ 99
	Heavy naphtha (93-149)	11		OGJ 99
	Naphtha (149-177)	5		OGJ 99
	Kerosene (177-204)	5		OGJ 99
	Gas oil (204-260)	10		OGJ 99
	Gas oil (260-288)	5		OGJ 99
	Gas oil (288-343)	9		OGJ 99
	Residue (>343)	48		OGJ 99

		Data	Notes	Reference ID
Origin: St. Amable, Quebec, Canada				
Samples were collected from a tire fire in May 1990.				ESD 90
Volatile Organic Compounds (ppm)				
	Benzene	730		ESD 94
	Toluene	2,150		ESD 94
	Ethylbenzene	1,510		ESD 94
	Xylenes	1,640		ESD 94
	C3-benzenes	2,880		ESD 94
	Total BTEX	6,030		ESD 94
	Total VOCs	8,900		ESD 94
Metals (ppm)				
	Barium	< 0.3		Cao 92
	Chromium	< 2		Cao 92
	Copper	< 0.6		Cao 92
	Iron	25		Cao 92
	Lead	< 4		Cao 92
	Magnesium	< 1		Cao 92
	Molybdenum	< 0.6		Cao 92
	Nickel	< 1		Cao 92
	Titanium	< 0.6		Cao 92
	Vanadium	< 0.6		Cao 92
	Zinc	266		Cao 92

Trading Bay

		Data	Notes	Reference ID
Origin: Cook Inlet, Alaska, USA				
Synonyms: Cook Inlet				
This oil was analyzed as part of a project entitled "Assessment of the Freshwater Biodegradation Potential of Oils Commonly Transported in Alaska". The sample was collected at the Trading Bay production facility, Cook Inlet.				Blenkinsopp 97
API Gravity				
		32.8		ESD 96
Equation(s) for Predicting Evaporation				
%Ev = (3.15 + 0.045T)ln(t) Where %Ev = weight percent evaporated; T = surface temperature (°C); t = time (minutes)				ESD 96
Sulphur (weight %)				
Evaporation (weight %)				
0		0.13		ESD 97
33		0.15		ESD 97
Water Content (weight %)				
Evaporation (weight %)				
0		0.1		ESD 98
33		< 0.1		ESD 98
Flash Point (°C)				
Evaporation (weight %)				
0		-17		ESD 96
33		> 95		ESD 96
Density (g/mL)				
Evaporation (weight %)	Temperature (°C)			
0	0	0.8712		ESD 96
	15	0.8602		ESD 96
33	0	0.9367		ESD 96
	15	0.9242		ESD 96
Pour Point (°C)				
Evaporation (weight %)				
0		-34		ESD 96
33		2		ESD 96
Dynamic Viscosity (mPa·s or cP)				
Evaporation (weight %)	Temperature (°C)			
0	0	24		ESD 96
	15	10		ESD 96
33	0	3,233	*(a)*	ESD 96
		5,971	*(b)*	ESD 96
		57,180	*(c)*	ESD 96
	15	278	*(d)*	ESD 96

Shear rate = (a) 50/s; (b) 10/s; (c) 1/s
(d) slightly non-newtonian

		Data	Notes	Reference ID
Emulsion Formation				
Evaporation (weight%)				
0	Visual stability	meso		ESD 98
33		meso		ESD 98
	Viscosity (mPa·s)	24,000		ESD 98
	Complex modulus (mPa)	450,000		ESD 98
	Water content (wt %)	76		ESD 98
Chemical Dispersibility (volume %)				
Evaporation (weight %)				
0	Corexit 9500	47		ESD 98
	Corexit 9527	39		ESD 98
	Dasic LTS	5		ESD 98
	Enersperse 700	18		ESD 98
33	Corexit 9500	9		ESD 98
Hydrocarbon Groups (weight %)				
Evaporation (weight %)				
0	Saturates	62		ESD 97
	Aromatics	26		ESD 97
	Resins	7		ESD 97
	Asphaltenes	5		ESD 97
33	Saturates	51		ESD 97
	Aromatics	32		ESD 97
	Resins	9		ESD 97
	Asphaltenes	8		ESD 97
Adhesion (g/m²)				
Evaporation (weight %)				
0		16	*SD = 2*	ESD 96
33		38	*SD = 8*	ESD 96

		Data	Notes	Reference ID
Volatile Organic Compounds (ppm)				
Evaporation (weight %)				
0	Benzene	1,086		ESD 97
	Toluene	2,346		ESD 97
	Ethylbenzene	973		ESD 97
	Xylenes	3,941		ESD 97
	C3-benzenes	5,728		ESD 97
	Total BTEX	8,346		ESD 97
	Total VOCs	14,074		ESD 97
33	Benzene	23		ESD 97
	Toluene	6		ESD 97
	Ethylbenzene	3		ESD 97
	Xylenes	6		ESD 97
	C3-benzenes	4		ESD 97
	Total BTEX	36		ESD 97
	Total VOCs	41		ESD 97
Surface Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	27.8		ESD 96
	15	26.5		ESD 96
33	0	DNF		ESD 96
	15	31.0		ESD 96
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	21.5		ESD 96
	15	20.6		ESD 96
33	0	DNF		ESD 96
	15	18.5		ESD 96
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (weight %)	Temperature (°C)			
0	0	22.9		ESD 96
	15	22.0		ESD 96
33	0	DNF		ESD 96
	15	21.9		ESD 96

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
Evaporation (weight %)	Boiling Point (°C)			
0	40	3		ESD 96
	60	3		ESD 96
	80	5		ESD 96
	100	9		ESD 96
	120	12		ESD 96
	140	16		ESD 96
	160	19		ESD 96
	180	23		ESD 96
	200	27		ESD 96
	250	36		ESD 96
	300	46		ESD 96
	350	57		ESD 96
	400	66		ESD 96
	450	75		ESD 96
	500	82		ESD 96
	550	88		ESD 96
	600	92		ESD 96
	650	96		ESD 96
	700	98		ESD 96
33	250	8		ESD 96
	300	21		ESD 96
	350	37		ESD 96
	400	50		ESD 96
	450	64		ESD 96
	500	74		ESD 96
	550	83		ESD 96
	600	89		ESD 96
	650	94		ESD 96
	700	97		ESD 96

Transmountain Blend

Origin: Alberta, Canada

		Data	Notes	Reference ID
API Gravity				
		33.8		EETD 84
Sulphur (weight %)				
		0.79		EETD 89
Flash Point (°C)				
		-2		EETD 85
Reid Vapour Pressure (kPa)				
		46		EETD 84
Density (g/mL)				
Evaporation (volume %)	Temperature (°C)			
0	0	0.8650		EETD 84
	15	0.8550		EETD 84
19	0	0.9107		EETD 85
	15	0.8989		EETD 85
29	0	0.9250		EETD 85
	15	0.9127		EETD 85
Pour Point (°C)				
Evaporation (volume %)				
0		2		EETD 85
19		8		EETD 85
29		18		EETD 85
Dynamic Viscosity (mPa·s or cP)				
Evaporation (volume %)	Temperature (°C)			
0	0	650		EETD 85
	15	11		EETD 85
19	0	> 10,000		EETD 85
	15	142		EETD 85
29	0	> 10,000		EETD 85
	15	577		EETD 85
Chemical Dispersibility (volume %)				
	Corexit 9527	15		EETD 89
	Dasic LTS	10		EETD 89
	Enersperse 700	15		EETD 89
Hydrocarbon Groups (weight %)				
	Saturates	81		EETD 86
	Aromatics	14		EETD 86
	Resins	2		EETD 86
	Asphaltenes	4		ESD 91
	Waxes	7		ESD 91

		Data	Notes	Reference ID
Volatile Organic Compounds (ppm)				
	Benzene	330		ESD 94
	Toluene	1,100		ESD 94
	Ethylbenzene	670		ESD 94
	Xylenes	2,150		ESD 94
	C3-benzenes	5,500		ESD 94
	Total BTEX	4,260		ESD 94
	Total VOCs	9,760		ESD 94
Surface Tension (mN/m or dynes/cm)				
Evaporation (volume %)	Temperature (°C)			
0	0	28.8		EETD 85
	15	25.0		EETD 84
19	0	NM		EETD 85
	15	29.1		EETD 85
29	0	NM		EETD 85
	15	NM		EETD 85
Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (volume %)	Temperature (°C)			
0	0	19.9		EETD 85
	15	19.3		EETD 84
19	0	NM		EETD 85
	15	25.1		EETD 85
29	0	NM		EETD 85
	15	NM		EETD 85
Oil/Fresh Water Interfacial Tension (mN/m or dynes/cm)				
Evaporation (volume %)	Temperature (°C)			
0	0	20.5		EETD 85
	15	19.3		EETD 84
19	0	NM		EETD 85
	15	26.5		EETD 85
29	0	NM		EETD 85
	15	NM		EETD 85

Transmountain Blend

		Data	Notes	Reference ID
Boiling Point Distribution (weight %)				
	Boiling Point (°C)			
	40	1		ESD 94
	60	1		ESD 94
	80	3		ESD 94
	100	6		ESD 94
	120	9		ESD 94
	140	12		ESD 94
	160	15		ESD 94
	180	18		ESD 94
	200	21		ESD 94
	250	30		ESD 94
	300	40		ESD 94
	350	50		ESD 94
	400	60		ESD 94
	450	69		ESD 94
	500	78		ESD 94
	550	85		ESD 94
	600	91		ESD 94
	650	95		ESD 94
	700	98		ESD 94
Metals (ppm)				
	Aluminum	< 5		Cao 92
	Barium	0.4		Cao 92
	Cadmium	< 0.5		Cao 92
	Calcium	59		Cao 92
	Chromium	< 2		Cao 92
	Cobalt	< 1		Cao 92
	Copper	< 0.6		Cao 92
	Iron	5		Cao 92
	Lead	< 3		Cao 92
	Magnesium	3		Cao 92
	Manganese	< 0.3		Cao 92
	Mercury	< 15		Cao 92
	Molybdenum	< 0.6		Cao 92
	Nickel	8		Cao 92
	Selenium	< 15		Cao 92
	Strontium	0.4		Cao 92
	Tin	< 15		Cao 92
	Titanium	< 0.6		Cao 92
	Vanadium	6		Cao 92
	Zinc	< 0.6		Cao 92

		Data	Notes	Reference ID
Aqueous Solubility (mg/L)				
	Temperature (°C)			
	20 (approx.)	8	*(a)*	MacLean 89
	22	16	*(a)*	Suntio 86
	20 (approx.)	6	*(b)*	MacLean 89
(a) fresh water; (b) salt water				
Acute Toxicity of Water Soluble Fraction (mg/L)				
	Test Organism			
24h EC50	Artemia spp.	4	*(a)*	MacLean 89
		8	*(b)*	EETD 89
48h EC50	Daphnia magna	1	*(a)*	MacLean 89
		2	*(b)*	EETD 89
24h LC50	Artemia spp.	> 6	*(a)*	MacLean 89
		> 12	*(b)*	EETD 89
48h LC50	Daphnia magna	4	*(a)*	MacLean 89
		8	*(b)*	EETD 89

(a) results based on fluorescence spectroscopy; (b) results based on GC purge-and-trap analysis

Transoil #10

		Data	Notes	Reference ID
Origin: Alberta, Canada				
An oil-in-water dispersion (65% oil, 35% water) transported by AEC Pipelines, Edmonton, Alberta, Canada.				
Density (g/mL)				
	Temperature (°C)			
	0	1.0019		EETD 89
	15	0.9955		EETD 89
Volatile Organic Compounds (ppm)				
	Benzene	40		ESD 94
	Toluene	50		ESD 94
	Ethylbenzene	0		ESD 94
	Xylenes	90		ESD 94
	C3-benzenes	90		ESD 94
	Total BTEX	180		ESD 94
	Total VOCs	270		ESD 94
Metals (ppm)				
	Barium	< 0.3		Cao 92
	Chromium	< 2		Cao 92
	Copper	< 0.6		Cao 92
	Iron	13		Cao 92
	Lead	< 3		Cao 92
	Magnesium	14		Cao 92
	Molybdenum	4		Cao 92
	Nickel	48		Cao 92
	Titanium	2		Cao 92
	Vanadium	127		Cao 92
	Zinc	0.6		Cao 92