

CAPLINE SYSTEM

CRUDE OIL PROPERTIES AND QUALITY INDICATORS

Approved Crude List - 4th Quarter, 2002

03/10/03

Section I. Crudes Approved, Moved and Capline Assay Reported																						
Mnmn	Foot- notes	Crude Name	Product Code	Country	Assay Date	Density (API@60)	RVP (psia)	Sulfur (%)	a) Pour (degF)	Carbon Residue (%)	Viscosity (SSU)			H2S (ppm)	Metals (ppm)				TAN E (mg KOH/g)	SALT (lb/MB)	Organic Chlorides (ppm)	
											@60 F	@80 F	@100 F		Vanadium Whole	Nickel Pitch	Vanadium Whole	Nickel Pitch			Whole	Naphtha
Sweet - Low Metals Group																						
BNL		BONNY LIGHT	82337	Nigeria	08/12/02	32.9	3.8	0.17	32.0	1.1	60.2	46.0	41.2	<1	1.2	3.8	6.4	39.0	0.26	15	<1	<1
BSR		BRASS RIVER	82325	Nigeria	07/11/01	40.8	6.3	0.20	<-27.4	0.7	38.1	35.6	34.1	<1	1.8	19.0	1.4	6.0	0.23	15	<1	1.1
BRN		BRENT	82288	U. K.	01/06/01	39.5	6.3	0.32	10.4	1.6	47.0	42.4	36.7	<1	4.9	43.0	0.9	8.3	0.05	21	<1	<1
CAB	X	CABINDA	82345	Angola	06/25/02	32.3	3.1	0.14	75.2	3.3	-	-	71.3	<1	1.8	5.6	16.0	56.0	0.16	13	<1	<1
COCO		COCODRIE CONDENSATE	82921	USA	07/27/01	48.8	6.5	0.12	<-27.4	0.2	32.5			<1	0.6		0.5		0.16	93	<1	<1
CUS	X	CUSIANA	82419	Columbia	09/19/02	42.6	8.9	0.15	32.0	0.7	39.7	34.6	32.9	<1	2.6	27.0	0.8	7.0	0.13	73	<1	<1
DJEN	X	DJENO	82602	Congo	07/05/97	27.0	2.5	0.47	32.0	5.3	695.1	284.3	173.9	<1	6.7	22.0	12.3	62.0	0.82	10	<1	2.4
DRAUG		DRAUGEN	82575	Norway	04/26/02	39.1	7.3	0.16	<-27.4	0.7	42.1	39.2	35.5	<1	1.1	16.0	1.0	13.0	0.18	29	<1	<1
EKO		EKOFISK	82307	Norway	06/06/02	37.3	3.9	0.23	26.6	0.9		46.0	40.8	<1	1.4	9.7	2.2	16.0	0.10	4	<1	<1
ESC		ESCRAVOS	82338	Nigeria	07/21/01	36.4	5.2	0.18	42.8	1.3	68.0	44.1	39.1	<1	1.4	13.0	3.6	33.0	0.16	6	<1	<1
FON	X	FOINAVEN	82424	U. K.	06/12/00	26.6	0.6	0.40	42.8	2.0	478.5	188.6	110.6	<1	4.6	18.8	2.7	10.3	0.16	8	<1	2.0
FOR		FORCADOS	82331	Nigeria	08/08/02	30.1	2.5	0.24	-0.4	1.3	69.1	57.3	46.1	<1	3.6	14.0	8.7	33.0	0.39	30	<1	<1
GFAX		GULLFAKS	82270	Norway	07/23/01	36.9	4.4	0.30	5.0	1.3	48.8	44.5	38.6	<1	2.8	27.0	1.5	14.0	0.08	10	<1	<1
HLS		HEAVY LA SWEET	82720	USA	09/17/02	32.5	2.3	0.36	<-27.4	1.9	72.9	55.6	48.9	<1	2.1	11.0	3.2	15.0	0.93	129	<1	<1
JSB		JAY COND/LT MS SR BLEND (90/10)	82773	USA	02/21/01	49.0	6.2	0.45	<-27.4	0.7	32.2	31.2	30.6	<1	1.2	22.0	0.3	4.1	0.25	39	<1	<1
KIT	X	KITINA	82580	Congo	09/21/02	36.4	4.2	0.11	59.0	2.3		56.8	48.5	<1	1.0	4.7	9.1	38.0	0.10	4	<1	<1
LMS	X	LA MISSISSIPPI SWEET	82723	USA	01/30/03	40.2	4.5	0.55	<-27.4	2.0	43.2	39.4	38.5	<1	1.6	15.0	1.3	14.0	0.12	13	<1	<1
LLS		LIGHT LOUISIANA SWEET	82722	USA	08/12/02	37.6	3.7	0.34	-22.0	1.1	46.6	42.8	38.7	<1	1.3	6.7	1.0	7.6	0.37	15	<1	2.2
NAK		NAPHTHA - KOCH	82161	USA	08/03/02	57.8	3.1	0.11	<-27.4	0.2	<32.0	<32.0	<32.0	<1	1.2		0.4		0.11	10	<1	<1
NBA		NEMBA	82255	Angola	06/27/00	38.6	6.2	0.19	-11.2	1.4	45.3	42.2	38.7	<1	2.3	18.0	2.0	15.0	0.07	106	<1	<1
NKS	X	N'KOSSA	82135	Congo	03/23/00	47.5	8.8	0.12	<-27.4	0.2	36.1	34.2	33.7	<1	1.5	21.0	0.7	8.7	0.04	8	<1	<1
NOR		NORNE	82430	Norway	03/18/02	32.4	1.5	0.17	21.2	0.8		65.4	48.5	<1	0.7	4.8	0.9	3.8	0.11	134	<1	<1
OSB		OSEBERG	82271	Norway	06/08/99	36.8	5.0	0.25	10.4	1.9	49.2	41.5	31.0	<1	1.3	8.6	1.1	6.9	0.14	17	<1	<1
OSO	X	OSO CONDENSATE	82403	Nigeria	09/16/02	45.7	8.9	0.06	64.4	0.3	38.2	32.6	<32.0	<1	<0.1		0.7		0.11	10	<1	<1
KWI	X	QUA IBOE	82339	Nigeria	04/15/02	36.6	4.3	0.16	42.8	1.1		41.6	36.7	<1	1.2	15.6	4.2	61.0	0.28	4	<1	<1
SAH		SAHARA BLEND	82298	Middle East	10/06/02	44.7	7.4	0.08	<-27.4	0.7	37.4	35.3	33.6	<1	0.2	3.1	0.1	1.7	0.02	3	<1	<1
SCH	X	SCHIEHALLION	82441	Scotland	02/12/01	26.5	0.9	0.48	26.6	2.6	238.7	140.5	88.7	<1	6.3	33.0	3.8	18.0	0.30	3	<1	1.7
TROL	X	TROLL EXPORT	82421	Norway	08/23/02	27.4	1.7	0.27	<-27.4	1.7	123.2	84.8	64.1	<1	1.4	10.0	1.0	7.7	1.20	15	<1	<1
WSB		WILLIAMS SUGARLAND BLEND	82573	USA	07/14/01	40.9	6.4	0.20	37.4	0.7	38.5	36.4	34.3	<1	1.2	22.0	0.8	19.0	0.19	39	<1	1.1
ZUASW		ZUATA SWEET	82576	Venezuela	08/13/02	32.0	3.4	0.26	<-27.4	0.1	53.9	46.5	41.0	<1	0.7	37.0	0.4	21.0	0.10	8	<1	1.9
Intermediate Group																						
BS	X	BONITO SOUR	82743	USA	08/12/02	37.3	5.4	0.85	<-27.4	1.7	49.6	44.7	40.0	<1	6.4	34.0	2.4	14.0	0.47	>300	<1	1.0
EIC		EUGENE ISLAND	82725	USA	08/09/02	36.2	5.0	0.88	-22.0	2.0	54.5	46.6	41.1	<1	10.0	47.0	4.2	20.0	0.61	60	<1	<1
OMA		OLMECA	82385	Mexico	02/18/02	37.3	6.2	0.84	10.4	2.4	48.6	43.1	39.5	<1	11.0	66.0	5.0	26.0	0.15	10	<1	1.9
ORI		ORIENTE	82388	Ecuador	09/10/01	25.7	2.8	0.38	-11.0	8.6	436.9	250.0	139.6	<1	116.0	315.0	35.0	82.0	0.31	106	<1	1.2
STB		SANTA BARBARA	82251	Venezuela	11/27/00	38.1	5.0	0.52	<-27.4	0.6	43.1	38.8	36.4	2.0	3.1	30.0	0.9	8.5	0.14	6	<1	<1
Sour Group																						
AXL		ARABIAN EXTRA LIGHT	82375	Saudi Arabia	02/15/02	38.1	5.5	1.20	-27.4	2.3	50.0	43.4	40.1	<1	4.9	31.0	1.8	11.0	0.24	17	<1	3.0
ABL	X	ARABIAN LIGHT	82376	Saudi Arabia	02/12/02	33.2	7.6	1.85	-27.4	4.3	67.1	53.0	46.5	<1	16.0	96.0	6.6	29.0	0.14	19	<1	<1
BASLI		BASRAH LT/MESA 30 BLEND (35/65)	82671	Iraq/USA	02/08/01	30.5	3.5	1.63	<-27.4	5.0	92.8	75.5	54.2	<1	39.0	181.0	9.6	43.0	0.09	4	<1	<1
EMX	X	EAST MS MIX	82521	USA	02/26/02	32.3	2.8	1.99	5.0	6.6	93.7	65.7	53.3	23	8.4	36.0	5.5	24.0	0.11	56	<1	<1
FUR		FURRIAL	82374	Venezuela	03/19/02	30.0	2.8	1.06	<-27.4	4.3	93.5	69.0	53.6	<1	38.0	179.0	8.2	35.0	0.09	3	<1	<1
MARS		MARS BLEND	82745	USA	08/12/02	31.2	5.6	1.83	<-27.4	4.6	93.5	67.3	55.8	<1	38.0	273.0	15.0	112.0	0.52	294	<1	<1
MMB		MARS/MESA BLEND (40/60)	82428	Loop	09/08/00	30.1	3.1	1.65	-22.0	5.1	100.0	70.9	57.6	<1	48.0	156.0	14.0	49.0	0.27	85	<1	<1
MSA		MESA 30	82369	Venezuela	09/08/02	30.1	2.9	1.06	<-27.4	4.1	90.1	66.6	56.8	<1	29.0	216.0	5.5	48.0	0.06	6	<1	<1
PSD		POSEIDON	82749	USA	08/11/02	32.8	4.2	1.44	<-27.4	3.2	75.7	61.1	50.3	<1	23.0	120.0	8.9	47.0	0.90	155	<1	1.3
URA		URALS	82370	C.I.S. Euro	05/23/02	32.6	4.7	1.09	-11.2	3.1	88.2	61.4	52.1	<1	42.0	202.0	13.0	63.0	0.66	7	<1	1.4
VAS	X	VASCONIA	82237	Colombia	02/09/02	24.5	1.9	1.01	37.4	6.0	440.8	229.5	130.6	<1	144.0	349.0	67.0	171.0	0.78	6	<1	<1

CAPLINE SYSTEM

CRUDE OIL PROPERTIES AND QUALITY INDICATORS

Approved Crude List - 4th Quarter, 2002

03/10/03

Short Name	Foot-notes	Crude Name	Product Code	Country	Assay Date	Density (API@60)	RVP (psia)	Sulfur (%)	a) Pour (degF)	Carbon Residue (%)	Viscosity (SSU)			H2S (ppm)	Metals (ppm)				TAN E (mg KOH/g)	SALT (lb/MB)	Organic Chlorides (ppm)	
											@60 F	@80 F	@100 F		Vanadium		Nickel				Whole	Naphtha
															Whole	Pitch	Whole	Pitch				
High Sulfur Sour Group																						
ABH		ARABIAN HEAVY	82378	Saudi Arabia	05/19/01	27.7	4.3	2.87	<-27.4	7.8	226.2	145.8	99.6	<1	49.0	181.0	15.0	59.0	<0.10	6	<1	<1
ABM	X	ARABIAN MEDIUM	82377	Saudi Arabia	02/12/02	30.9	4.2	2.23	-11.2	5.7	96.1	62.2	58.0	<1	29.0	102.0	11.0	39.0	0.35	33	1.1	5.1
BAS		BASRAH LIGHT	82383	Iraq	07/13/01	31.8	4.3	2.50	<-27.4	5.6	87.3	67.4	56.5	<1	29.0	150.0	8.9	46.0	0.02	11	<1	3.2
KIR		KIRKUK	82384	IRAQ	01/30/02	34.8	5.1	2.01	<-27.4	4.0	57.1	48.4	43.0	<1	46.0	266.0	19.0	118.0	0.20	6	<1	<1
KUW		KUWAIT	82380	Kuwait	04/15/02	30.4	5.1	2.76	-22.0	5.8	138.6	77.9	61.6	<1	31.0	141.0	10.0	44.0	0.14	91	<1	<1
MOB		MAYA/OLMECA BLEND	82626	Mexico/US	04/14/00	26.5	3.2	2.64	<-27.4	8.9	279.1	175.2	108.3	<1	154.0	495.0	16.0	85.0	0.19	26	<1	3.2
Section II. Crudes Approved, Moved, Pending Capline Assay																						
Sweet - Low Metals Group																						
LLC		CUSIANA/LLS BLEND	82756	Colombia	05/15/00	39.9	5.8	0.23	23.9	0.8	42.2	38.2	35.8	<1	1.0	17.2	0.4	5.2	0.17	44	<1	<1
FOT		FORTIES	82308	U.K.	12/01/01	43.4	5.5	0.20	5.0	1.0	37.4	35.1	32.8	<1	<2	15.0	<2	10.0	0.10	46		
GIR		GIRASSOL	82583	Angola	11/03/02	31.3	2.6	0.34	-22.0	2.8	110.2	77.1	59.4	<1	4.2	20.0	10.0	48.0	0.33	10	<1	<1
MARB		MARIB LIGHT (ALIF)	82352	North Yem	05/12/98	48.9	8.6	0.07	-22.0	0.6	32.1	31.4	30.4	<1	1.0	<1	1.0	<1	0.16	<1	<1	<1
ODU		ODUDU	82110	Nigeria	11/27/98	30.5	3.3	0.15	<-27.4		60.8	51.1	44.0	<1	1.2	8.9	6.7	59.0	0.77	65	8.0	<1
PSOYO		PALANCA/SOYO	82460	Angola	01/01/99	37.8	7.8	0.16	45.0	1.5	48.7	42.7	40.5	<1	1.7	15.4	1.5	13.1	0.05	27	<1	<1
WHSW		WEST HACKBERRY SWEET	82267	USA	10/10/00	37.0	5.3	0.29	-2.0	1.9	51.6	43.6	38.9	<2	4.0	35.0	2.6	23.0	0.09	45		
Sweet - High Metals Group																						
ZFR		ZAFIRO	82252	Eq. New G	10/15/97	29.9	4.9	0.28	-22.0	2.9	90.3	66.6	53.7	<1	1.6	25.0	9.6	84.4	1.00	40	<1	<1
Sour Group																						
BCSR	X	BAYOU CHOCTAW - SOUR	82174	USA	05/01/98	32.2	3.6	1.43	11.0	4.0	76.8	57.0	47.3	100.0	40.3	240.0	11.1	66.0	0.13	<50	<0.1	
ITM		ISTHMUS	82387	Mexico	07/01/97	33.8	3.7	1.30	-33.0	4.0	71.6	56.1	48.2	<1	37.0	129.0	7.7	27.0	0.33	2	<1	<1
SEG11		LOOP SEGREGATION NO.11	82209	Loop	08/07/96	24.0	3.2	1.80	-22.0	7.5	686.3	253.6	147.6	<1	108.0	457.0	28.0	126.0	0.66	15	<1	<1
SEG17		LOOP SEGREGATION NO.17	82226	Loop	06/04/97	31.0	4.6	2.50	-22.0	6.0	110.2	78.8	60.6	<1	34.0	148.0	9.3	38.2	0.27	2	<1	<1
Section III. Crudes Approved, Not Moved																						
Sweet - Low Metals Group																						
OKON	X	OKONO	82584	Nigeria	02/09/02	41.9	7.7	0.06	64.4	0.4	39.0	35.0	33.0	-	<2	4.0	2.0	57.0	0.34	13	-	-

CAPLINE SYSTEM

CRUDE OIL PROPERTIES AND QUALITY INDICATORS Approved Crude List - 4th Quarter, 2002

03/10/03

HYDROCARBON	FOOTNOTES
ARABIAN LIGHT	The RVP for this batch is higher than expected. Will monitor.
ARABIUM MEDIUM	Will monitor Organic Chlorides on next batches.
BAYOU CHOCTAW - SOUR	!! Due to Hydrogen Sulfide results- Take safety precautions !!
BONITO SOUR	Salt very high for Bonito Sour. Retest confirms.
CABINDA	Must be pour point depressed !
CUSIANA	Must be pour point depressed . Salt higher than usual.
DJENO	Must be pour point depressed.
EAST MS MIX	!! Due to Hydrogen Sulfide results- Take safety precautions !!
FOINAVEN	Must be pour point depressed.
KITINA	Must be pour point depressed.
LOUISIANA MISSISSIPPI SWEET	Several parameters are not consistent with LMS. Carriers have been notified and stream should change soon.
NKOSSA	Due to RVP - ONLY move in winter months
OKONO	Must be pour point depressed.
OSO CONDENSATE	Due to RVP, must be shipped on a case by case basis and approved prior to each nomination.
QUA IBOE	Must be pour point depressed.
SCHIEHALLION	Must be pour point depressed.
TROLL EXPORT	The acid number on Troll Export continues to be higher than usual. Will continue to move with Sweet Low Metals group and will monitor acid number on future batches.
VASCONIA	Must be pour point depressed.

NOTES

CRITERIA FOR GROUPING CRUDES ON CAPLINE

Group	Criteria			
	Sulfur %w	Ni + V ppm	TAN mg KOH/g	Salt lb/1000 bbl
Sweet - Low Metals	< 0.5	<= 100	<= 1.0	<= 75
Sweet - High Metals	< 0.5	<= 250	<= 1.0	<= 75
Intermediate	0.5 - 1.0	<= 550	<= 1.0	<= 75
Sour	>1.0 - 2.0	<= 1200	<= 1.5	<= 75
High Sulfur Sour	> 2.0	<= 1200	<= 2.0	<= 75

POUR POINT REQUIREMENTS

Summer	Start on or after April 1 and Clear of system by September 30 <= +55I
Winter	Start October 1 - March 31 <= +35F

RVP LIMITATIONS

Year-Round	RVP of <= 8.6 psi accepted year-round
Winter	Start on or after October 1 and Clear of system by April 30 <= 9.6 NOTE: Winter RVP > 9.6 Subject to Management Approval

CRUDES REMOVED AS OF THIS LISTING:

Crude	Assay or Approval Date
Cabinda Forcados Blend (40/60)	9/26/1999
Statfjord	10/19/1999

Crudes not moved within three (3) years will be removed from the list.

Newly approved crudes that have not moved within six (6) months will be removed from the list.

a) POUR POINT may have been depressed in the sample taken for this assay.