

BLACKSTONE OIL ANALYSIS  
MOBILE 1 20W50 VTWIN  
MERCURY 25W40  
MERCURSIER 496HO  
~GM GEN1 HP3

ENGINE		496HO STOCK		496 Gen1 HP3*				N/A		
HORSEPOWER		425HP		~525HP*				N/A		
COMPRESSION		-		170-175 PSI				N/A		
MI/HR ON OIL:		90		80		% DIFF IN WEAR		0 (virgin oil)		USED
MI/HR ON UNIT:		90		170		MOBIL 120W50vTWIN		N/A		VERSUS
SAMPLE DATE:		3/20/2006		11/20/2006		VERSUS		11/20/2006		VIRGIN
OIL MFG:		MERCURY		MOBIL1		MERC 20W40		MOBIL1		MOBIL1
OIL TYP:		25W40		20W50vTWIN		UNIVERSAL AVG		20W50vTWIN		20W50vTWIN
		BLACKSTONE	BLACKSTONE	BLACKSTONE	BLACKSTONE			BLACKSTONE	BLACKSTONE	
		UNIVERSAL	UNIVERSAL	UNIVERSAL	UNIVERSAL			UNIVERSAL	UNIVERSAL	
		AVERAGES	AVERAGES	AVERAGES	AVERAGES			AVERAGES	AVERAGES	
Pistons, bearings, cases (heads&blocks)	ALUMINIUM	6	6	6	15	250%	250%	1	1	1400%
Rings, trace element in steel.	CHROMIUM	2	1	2	4	400%	200%	0	0	400%
Cylinders, rotating shafts, valve train, etc.	IRON	47	48	46	89	185%	193%	1	0	8900%
Brass/bronze parts, copper bushings, bearings, oil coolers, etc.	COPPER	28	16	27	35	219%	130%	0	0	3500%
Bearings.	LEAD	49	4	46	10	250%	22%	0	1	900%
Bearings, bronze parts piston coatings.	TIN	4	1	3	2	200%	67%	0	0	200%
Anti-wear additive, ring coating (washes off on break in).	MOLYBDENUM	17	14	20	73			24	86	
Trace element in steel.	NICKEL	1	0	1	1			0	0	100%
Trace element, gasoline additive.	MANGANESE	4	0	4	2			0	0	200%
Trace element.	SILVER	0	0	0	0			0	0	
Trace element.	TITANIUM	0	0	0	0			0	0	
Antifreeze inhibitor, oil additive.	POTASSIUM	1	5	1	4			0	0	
Detergent/dispersant additive, antifreeze inhibitor.	BORON	50	99	52	108			77	192	
Airborn dirt, sealers, gaskets, antifreeze inhibitors.	SILICON	35	99	34	43			4	5	
Antifreeze inhibitor, oil additive.	SODIUM	52	8	49	16			2	5	
Detergent/dispersant additive.	CALCIUM	1680	548	1690	1743			2017	2239	
Detergent/dispersant additive.	MAGNESIUM	432	1205	399	196			162	10	
Anti-wear additive.	PHOSPHOROUS	1213	1205	1171	1145			903	1441	
Anti-wear additive.	ZINC	1089	1453	1069	1395			1033	1629	
Detergent/dispersant additive.	BARIUM	0	0	0	0			0	0	
		"25W40		"20W50				"20W50		
		should be:"		should be:"				should be:"		
TBN			4.7		4.2				10.4	
SUS VISC @210°F		68-78	62.7	68-78	76.2			81-102	102.7	
FLASHPOINT *F		>365	335	>365	365			>420	450	
FUEL%		<3.0	1.5	<3.0	1.0			<2.0	-	
ANTIFREEZE%		0.0	0.0	0.0	0.0			0.0	-	
WATER%		<.02	0.0	<.02	0.0			<0.1	0.0	
INSOLUBLES%		<0.6	0.3	<0.6	0.2			<0.7	0.0	

\*NOTE: REPLACED STOCK 496HO PARTS WITH HP3 HEADS, CAM & VALVE TRAIN, ONLY.