
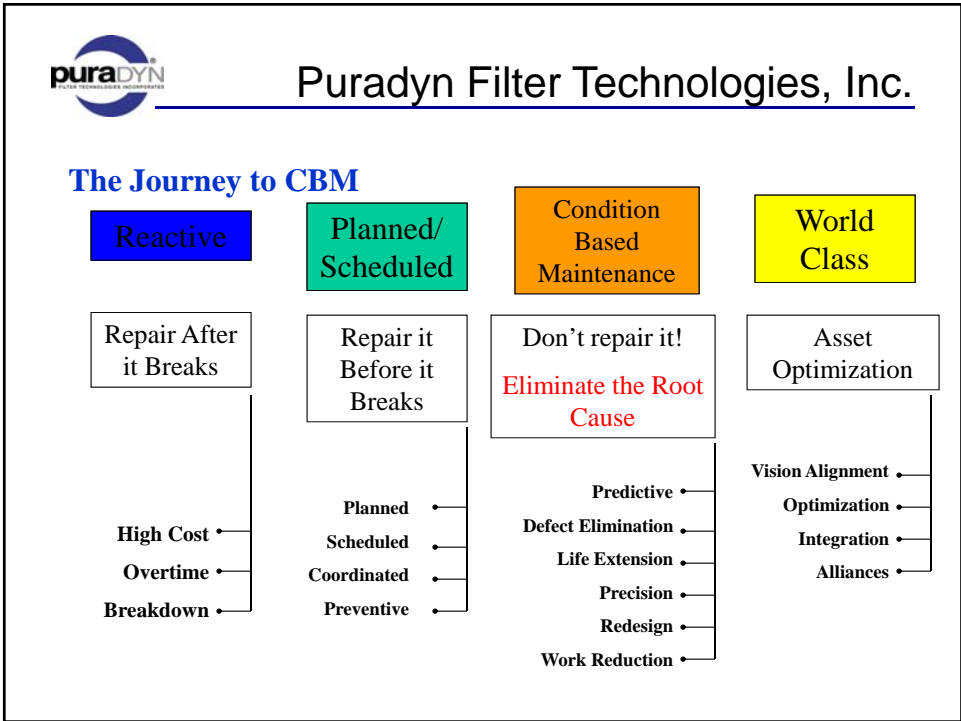
 Puradyn Filter Technologies, Inc.

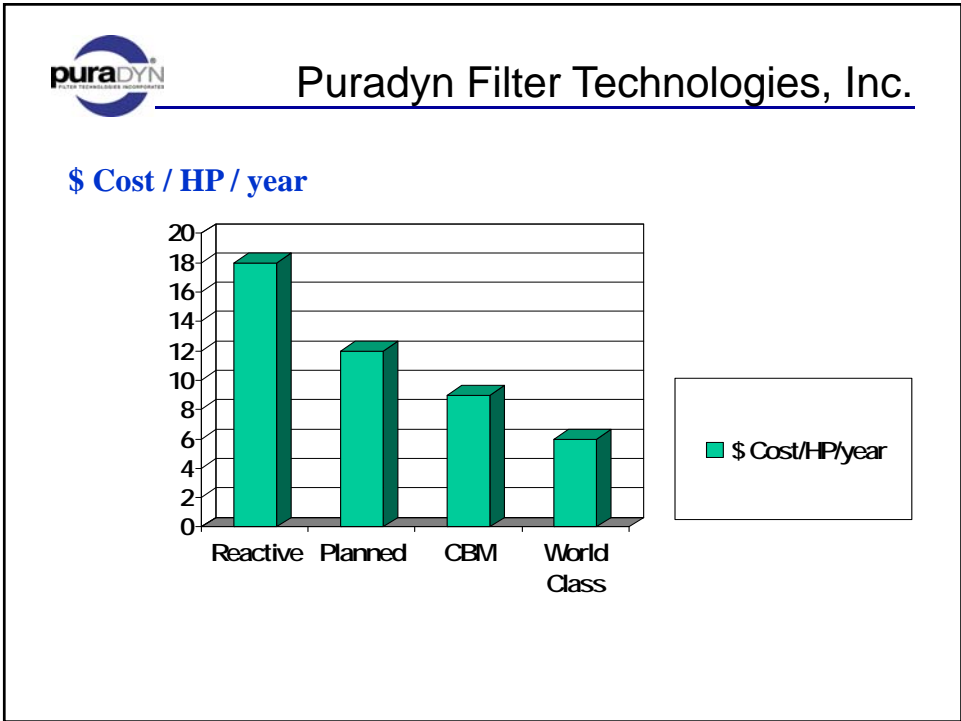
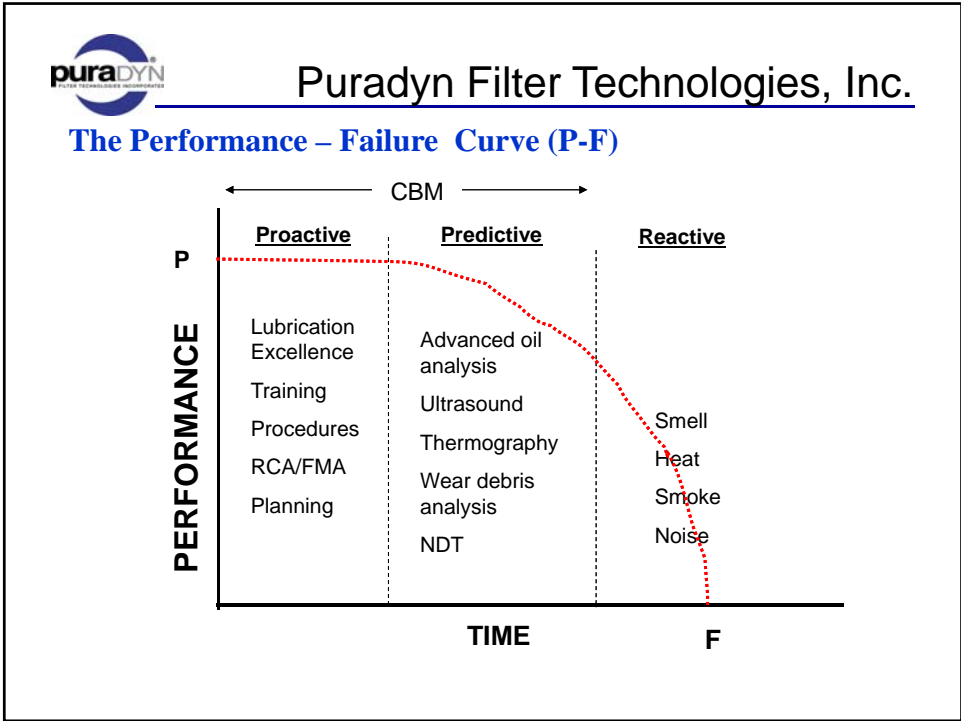
MINING DIESEL
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EMISSIONS COUNCIL


High Efficiency Bypass Oil Filtration Systems for
your Engine and Hydraulic Oil

Kevin Kroger (PuraDYN Filter Yechnologies)

MDEC 2007 







Puradyn Filter Technologies, Inc.

CONTAMINATION →


WEAR METALS →

ADDITIVES & PHYSICAL PROPERTIES →

Sample Date	04/01/03	08/01/03
Silicon	3.2	4.4
Potassium	0.0	0.6
Sodium	2.3	2.0
Fuel (%)	<2.0	<2.0
Glycol (%)	<0.02	<0.02
Water (%)	<0.1	<0.1
Soot (%)	0.1	0.3
Sulfation	23	50
Nitration	30	35

Sample Date	04/01/03	08/01/03
Iron	14	28
Nickel	0.1	0.9
Chromium	1.5	3.1
Titanium	0.1	0.4
Copper	0.7	1.4
Aluminum	1.2	1.2
Tin	0.0	0.0
Lead	1.5	2.6
Silver	0.0	0.0

Sample Date	04/01/03	08/01/03
Boron	0.2	2.9
Barium	0.0	0.0
Calcium	2721	2497
Magnesium	10	253
Molybdenum	0.0	0.7
Sodium	2.8	2.0
Phosphorus	980	1144
Sulfur	3965	4290
Zinc	1161	1289
Visc@40°C	---	---
Visc@100°C	10.53	11.28
Oxidation	---	53



Puradyn Filter Technologies, Inc.

Engine Oil Analysis

Company:		Comp. Descr.: ENGINE	Fuel Type: Diesel	CTC Lab:
Customer No:		Make:	Oil Brand: MOBIL	18419 EUCLID AVENUE
Unit No: FF800CX		Model:	Oil Type:	CLEVELAND, OH 44112-1016
		Equip. Make: JOHN DEERE	Fluid Grade: 15W40	(800)726-5400, FAX (216)383-9633
		Equip. Model: 800C	Ser.No:	End User:
				End Loc:

Lab No	Date Taken	Time on Oil	WEAR METALS (ppm)										ADDITIVES									
			Iron	Chromium	Lead	Copper	Tin	Aluminum	Nickel	Silver	Titanium	Vanadium	Sodium	Magnesium	Calcium	Barium	Phosphorus	Zinc	Molybdenum	Boron		
288258	11/19/04	4	6	0	4	2	0	3	0	0	0	0	0	0	7	11	4614	9	1046	1269	2	12
Normal	11/23/04	4																				

Lab No	CONTAMINATION										PHYSICAL PROPERTIES		
	Aluminum	Silicon	Sodium	Potassium	Water	Glycol	Fuel	Soot	Nitration	Sulfation	Visc100	Oxidation	TBN
288258	3	11	7	0	0	NEG	<1	0.01	8.0	5.0	13.55	3.0	10.41

Lab No	Brand	Product	Grade	Recommendation
288258				RESULTS OF TEST PERFORMED INDICATE NO CORRECTIVE ACTION REQUIRED.



Puradyn Filter Technologies, Inc.

Hydraulic Oil Analysis

Company:		Comp. Descr.: RIGHT SWING GEARBOX		Fuel Type:		CTC Lab:	
		Make:		Oil Brand: JOHN DEERE		18419 EUCLID AVENUE	
		Model:		Oil Type:		CLEVELAND, OH 44112-1016	
		Equip. Make: JOHN DEERE		Fluid Grade: 80W90		(800)726-5400, FAX (216)383-9633	
Customer No:		Equip. Model: 800C		Ser.No:		End User:	
Unit No: FF800CX.....						End Loc:	

Lab No	Date Taken	Time on Oil	WEAR METALS (ppm)										ADDITIVES													
			Iron	Chromium	Lead	Copper	Tin	Aluminum	Nickel	Silver	Titanium	Vanadium	Sodium	Magnesium	Calcium	Barium	Phosphorus	Zinc	Molybdenum	Boron						
296624	11/26/04	12	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	342	1	0	58
Normal	12/07/04	12																								

Lab No	CONTAMINATION						PHYSICAL PROPERTIES		
	Aluminum	Silicon	Sodium	Potassium	W-KF	Glycol	Visc40	Oxidation (Limit: 20)	TAN
296624	0	17	0	0	0.003%	N/A	188.0	5.0	0.89

Lab No	PARTICLE COUNT					
	ISO/RATING	PC: >4	PC: >6	PC: >14	PC: >23	PC: >50
296624	22/21/16	32373	15785	506	32	0

Lab No	Brand	Product	Grade	Recommendation
296624	JOHN DEERE		80W90	RESULTS OF TEST PERFORMED INDICATE NO CORRECTIVE ACTION REQUIRED.

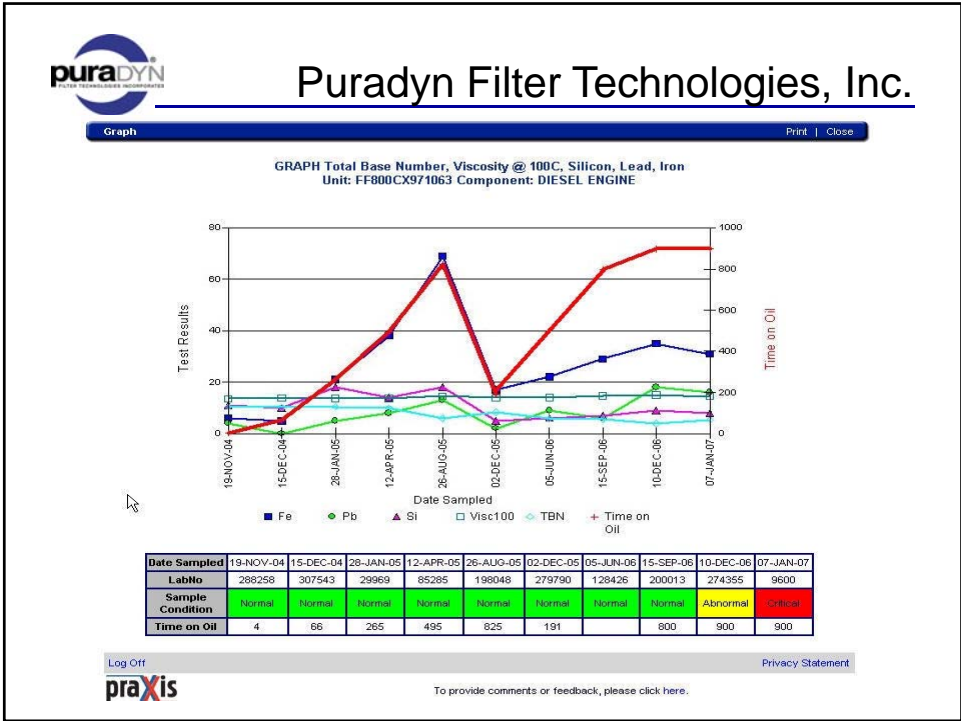


Puradyn Filter Technologies, Inc.

Company:		Comp. Descr.: ENGINE		Fuel Type: Diesel		Lab:	
THELEN SAND & GRAVEL				Oil Brand:		18419 EUCLID AVENUE	
28966 WEST 173				Oil Type:		CLEVELAND, OH 44112-1016	
ANTIOCH IL 60002				Fluid Grade: 15W40		(800)726-5400, FAX (216)383-9633	
Customer No: 20387417		Equip. Make: JOHN DEERE		End User:			
Unit No: FF800CX971063		Equip. Model: 800C		Ser.No: BH97		End Loc:	

Lab No	Date Taken	Time on Oil	WEAR METALS (ppm)										ADDITIVES															
			Iron	Chromium	Lead	Copper	Tin	Aluminum	Nickel	Silver	Titanium	Vanadium	Sodium	Magnesium	Calcium	Barium	Phosphorus	Zinc	Molybdenum	Boron								
279790	12/02/05	181	17	1	2	14	0	1	0	0	0	0	0	0	0	0	0	0	0	0	26	3019	0	1121	1431	8	9	
Normal	12/15/05	1063																										
198048	08/26/05	825	69	7	13	32	0	7	0	0	0	0	0	0	0	0	0	0	0	0	13	148	3992	0	1333	1666	14	86
Normal	08/31/05	825																										
85285	04/12/05	495	38	4	8	11	0	4	0	0	0	0	0	0	0	0	0	0	0	0	6	44	3932	4	1413	1549	11	45
Normal	04/15/05	495																										
29959	01/28/05	265	21	4	5	11	2	5	0	0	0	0	0	0	0	0	0	0	0	0	14	20	3928	0	1197	1241	12	35
Normal	02/08/05	265																										

Lab No	CONTAMINATION										PHYSICAL PROPERTIES		
	Aluminum	Silicon	Sodium	Potassium	Water	Coolant	Fuel	Soot	Nitration (Limit: 20)	Sulfation (Limit: 25)	Visc100	Oxidation (Limit: 20)	TBN
279790	1	5	0	0	0	NEG	<1	0.34	4.0	10.0	13.87	5.0	8.31
198048	7	18	13	0	0	NEG	<1	0.71	N/A	N/A	14.55	N/A	5.97
85285	4	14	6	0	0	NEG	<1	0.47	6.0	11.0	13.67	5.0	9.79
29959	5	18	14	0	0	NEG	<1	0.33	2.0	4.0	13.59	2.0	10.45




Puradyn Filter Technologies, Inc.

Society of Automotive Engineers (SAE) #660081

“Filtration of previously used oil to 5 microns had no significant effect on wear, but filtration to 1 micron had a substantial effect on wear.”

puradYN® Filter

“Filtration effectiveness – 0.5 to 1 micron”.





Puradyn Filter Technologies, Inc.

Oil Loses its Properties to do its Job

- It oxidizes during the combustion process
- It becomes contaminated due to high temperatures, soot, silica, acid, sulfur, metal particles, water, fuel and glycol
- Additives are depleted

A Bypass Filtration System Protects the Oil's Properties

- Removing **Solid** Contaminants to Below 1 Micron
- Remove **Harmful Liquid and Gaseous** Contaminants
- Replenishes the Base Additives (Engine Oil Only)

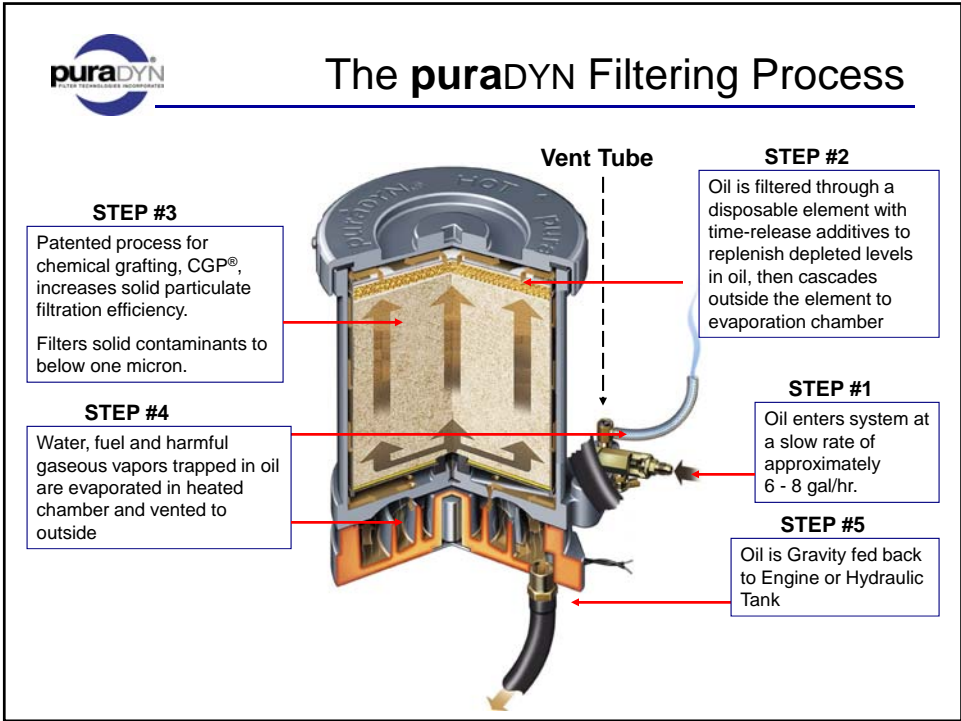


Puradyn Filter Technologies, Inc.

The **puraDYN**[®] Bypass Oil Filtration System

- Is a multi-stage highly efficient bypass oil filtration system
- Works with the oil in an engine or hydraulic system
- Cleans oil by removing solids & liquid contaminants
- Maintains proper lubricant viscosity
- Works in conjunction with the OEM filter
- Additive package maintains proper TBN levels in engine oil
- Process for chemical grafting, CGP[®], maximizes filtration capabilities
- Safely extends drain intervals





Puradyn Filter Technologies, Inc.

Independent Test Results

- **SAE HS 806-95 ISO Fine Dust Test** – 100% Efficiency over 200 Hrs.
- **SAE HS 806-95 SOFTC-2A** – Avg. 69% Efficiency over 100 Hrs.
- **Water Removal Efficiency** – 88% to 96%, 8 Hrs. to 20 Hrs. – Test Duration

Additive release rate validated through laboratory and actual field testing (Actual Rate is Proprietary)

- **US DOE at INEEL**
Test shows an average of 89% oil usage reduction



Selecting a **puradYN**® System

Size of the system depends on the application and engine's oil capacity.
 The table below assumes use of the CGP® Extended Life Filter with Additives.

General Guidelines:

puradYN® SYSTEM	OIL CAPACITY
PFT8	12 quarts
PFT12	20 quarts
PFT24	44 quarts
PFT40	100 quarts
PFT60	172 quarts
TF-240	300 quarts



Selecting a **puradYN**® System

Size of the system depends on the application and Hydraulic oil capacity.
 The table below assumes use of the CGP® Extended Life Filters.

General Guidelines:

puradYN® SYSTEM	OIL CAPACITY
PFT12	15 gallons
PFT24	40 gallons
PFT40	100 gallons
PFT60	500 gallons
TF-240	1,000 gallons





Puradyn Filter Technologies, Inc.

Bypass Filtration Benefits

- Up to 90% decrease in waste oil and disposal
- Less handling of oil and possible EPA problems
- Up to 90% reduction of new oil purchases
- Significantly extended engine life & efficiency
- Less down time / increased productivity
- Savings from replacement of worn engine parts
- Rapid payback - usually 6 to 10 oil changes
- Equipment constantly runs on clean oil



Puradyn Filter Technologies, Inc.

Summary

- Reduces waste oil generation and disposal costs.
- The only bypass oil filtration system certified by the California EPA as a 'Pollution Prevention Technology'
- Replenishes additives to the engine oil while in operation.
- Requires little maintenance, uses no tools.
- Reduces engine and equipment wear improving efficiency
- Only bypass system which addresses:
 - Removal of solid contaminants to below 1 micron
 - Removal of liquid and harmful gaseous contaminants
 - Maintains the engine oil's TBN





Puradyn Filter Technologies, Inc.

puraDYN provides Technical & Net support

- Installation training & Tech Manual
- Customer Service / Technical Support
- Oil analysis support
- Product development
- Confidence of never having an engine failure claim
- Leasing option to minimize cost expenditure



Setting the Standard in Oil Filtration

Keep It Clean!®