

## Victoria Boyne

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**Subject:** FW: Empire/CAT Materials from March 21st  
**Attachments:** Rosemont Equipment Emmissions\_USFS with HP.xls

**From:** Vogel, Mindy S -FS [<mailto:msvogel@fs.fed.us>]  
**Sent:** Friday, April 18, 2014 1:20 PM  
**To:** Chris Garrett; Victoria Boyne  
**Subject:** FW: Empire/CAT Materials from March 21st



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**From:** Kistner, James [<mailto:James.Kistner@empire-cat.com>]  
**Sent:** Friday, April 18, 2014 11:12 AM  
**To:** Vogel, Mindy S -FS  
**Cc:** Maracigan, Steve  
**Subject:** RE: Empire/CAT Materials from March 21st

Mindy,

Here is an updated sheet that now shows both units. Also, one of the items was missing data and it has been added. Please let me know if you need anything else on this. Thank you.

James K. Kistner  
Mining Applications Engineer  
Empire Southwest  
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[james.kistner@empire-cat.com](mailto:james.kistner@empire-cat.com)

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**From:** Vogel, Mindy S -FS [<mailto:msvogel@fs.fed.us>]  
**Sent:** Thursday, April 10, 2014 9:35 AM  
**To:** Kistner, James  
**Subject:** RE: Empire/CAT Materials from March 21st

OK – thanks!

The reason I asked for those units is because that was the format we got the data from someone (Roseomt, Cat, ????) back in 2011 so we just wanted to be able to compare apples to apples.



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**From:** Kistner, James [<mailto:James.Kistner@empire-cat.com>]  
**Sent:** Thursday, April 10, 2014 9:30 AM  
**To:** Vogel, Mindy S -FS  
**Cc:** Maracigan, Steve  
**Subject:** RE: Empire/CAT Materials from March 21st

Mindy,

I will ask our Technical team about this as all of the documentation and the standards themselves are in g/kw-hr. As soon as I hear back from them I will let you know. Thank you.

James K. Kistner  
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**From:** Vogel, Mindy S -FS [<mailto:msvogel@fs.fed.us>]  
**Sent:** Wednesday, April 09, 2014 2:38 PM  
**To:** Kistner, James  
**Subject:** RE: Empire/CAT Materials from March 21st

Thanks for the information and for the opportunity to visit the site and learn about the equipment.

In looking over the updated emission's list, it was discovered that many of the units are different than the values we were provided back in 2011 (only 4 pieces of equipment were the same). Would it be possible to get all the emission factors listed in "g/hp-hr" instead of "g/kw-hr"?

Either way, I'd appreciate a response.  
Thanks! ☺



	Machine Type/Use	Machine Model	Engine	Engine Family	Tier	Emissions Certification (g/kw-hr)			Example machine S/N	Emissions Certification (g/hp-hr)		
						NO <sub>x</sub> +HC	CO	PM		NO <sub>x</sub> +HC	CO	PM
1	Motor Graders	16M	C13	DCPXL12.5ESJ	Tier 4I	3.70	2.70	0.160	R9H00842	2.76	2.01	0.119
2	Hydraulic Excavator	390DL	C18	ACPXL18.1ESK	TIER 3*	4.00	2.40	0.150	WBT00302	2.98	1.79	0.112
3	Water Trucks - 30,000 gallons,	785DWT	3512C	ACPXL58.6T2E	Tier 2*	6.30	1.60	0.160	MSY00581	4.70	1.19	0.119
4	Backhoe/Loader - 2 yd <sup>3</sup> (1)	450F	C4.4	DPKXL04.4MK1	TIER 4I	2.60	0.10	0.003	HJR00230	1.94	0.07	0.002
5	Crawler Dozers	D8T	C15	DCPXL15.2HPA	TIER 4I	1.60	0.50	0.001	MLN01877	1.19	0.37	0.001
6	Front End Loaders	966K	C9.3	DCPXL09.3HPA	TIER 4I	1.66	0.20	0.004	TFS01073	1.24	0.15	0.003
7	Compactor	CS78B	C4.4	CPKXL04.4ML1	TIER 4I	2.50	0.20	0.004	L8C00150	1.86	0.15	0.003
8	Skid Steer Loaders	246D	C3.3B	DKBXL03.3EKD	TIER 4F	3.10	0.04	0.002	BYF00202	2.31	0.03	0.001
11	Rubber Tired Dozers	834K	C18	CCPXL18.1ESJ	TIER 4F	3.60	2.60	0.140	BTX01293	2.68	1.94	0.104
12	Front End Loaders - 5 yd <sup>3</sup>	930K	C6.6	DPKXL06.6BK1	TIER 4I	2.50	0.10	0.000	RHN01977	1.86	0.07	0.000
13	Front End Loaders - 6 yd <sup>3</sup>	980K	C13	DCPXL12.5HPB	TIER 4I	1.65	1.40	0.002	W7K01666	1.23	1.04	0.001
14	Crawler Dozers	D10T	C27	ACPXL27.0ESK	TIER 3*	3.70	2.80	0.160	RJG04763	2.76	2.09	0.119
15	Crawler Dozers	D11T	C32	CCPXL32.0HXA	TIER 4F	3.14	0.01	0.020	JEL00275	2.34	0.01	0.015
16	Fuel/Lube Trucks - 6,000 gallons	773GLT	C27	BCPXL27.0HXA	TIER 4F	3.23	0.10	0.020	JWS00210	2.41	0.07	0.015
17	Haulage Trucks - 250 tons	793F	C175-16	ACPXL106.T2M	TIER 2*	6.10	2.30	0.190	SSP00939	4.55	1.72	0.142
18	CABLE REELER	988K	C18	ACPXL18.1ESK	Tier 4F	4.00	2.40	0.150	BXY05547	2.98	1.79	0.112
19	LOADER	994H	3516B	ACPXL78.1E2W	Tier 2*	8.30	1.40	0.180	DWC00337	6.19	1.04	0.134
20	TRANSPORTER	789D	3516B	ACPXL78.1E2W	Tier 2*	8.30	1.40	0.180	SPD00539	6.19	1.04	0.134
	Front End Loader	950K	C7.1	CPKXL7.01BL1	Tier 4I	1.92	0.20	0.005	R4A01230	1.43	0.15	0.004
	Pipe Layer	PL87	C15	ACPXL15.2ESW	Tier 3*	3.70	3.40	0.180	KKJ00181	2.76	2.54	0.134

\* These machines are Certified Tier 4I under Flex provisions

**Cell:** E11

**Comment:** Sutherland, Andy:  
CCPXL18.1ESJ is Engine family for 834H. 834K information not yet available.

**Cell:** F11

**Comment:** Sutherland, Andy:  
834K will be Tier 4F.  
834H was Tier 4I

**Cell:** G11

**Comment:** Sutherland, Andy:  
Value is for 834H. 834K values not available

**Cell:** H11

**Comment:** Sutherland, Andy:  
Value is for 834H. 834K values are not available

**Cell:** I11

**Comment:** Sutherland, Andy:  
Value is for 834H. 834K values not available

**Cell:** C18

**Comment:** Sutherland, Andy:  
Must order 988K but none built yet.

**Cell:** E18

**Comment:** Sutherland, Andy:  
ACPXL18.1ESK is for 988H. Info for 988K not available.

**Cell:** F18

**Comment:** Sutherland, Andy:  
988H is Tier 3. 988K will be Tier 4 final.

**Cell:** G18

**Comment:** Sutherland, Andy:  
Value is for 988H. 988K values not yet available.

**Cell:** H18

**Comment:** Sutherland, Andy:  
Value is for 988H. 988K values not yet available.

**Cell:** I18

**Comment:** Sutherland, Andy:  
Value is for 988H. 988K values not yet available.