[Info on the Electric Excavator]

From: Colby Snyder
To: Jennifer higgins
Date: 6/15/01 10:06AM
Subject: conversion from diesel to electric

Jen,

70717

Stephen Stonehocker is the contact at the Caterpillar Aurora, IL facility. His phone number is 630 859-4951 and his e-mail address is:

Stonehocker_Stephen@cat.com

Attached is the fact sheet he sent me.
Thanks
Colby

From: Stephen Stonehocker <Stonehocker_Stephen@cat.com>
To: CSnyder <CSnyder@tamsconsultants.com>
Date: 6/14/01 2:32PM
Subject: Re: conversion from diesel to electric

Colby,

Attached is a preliminary spec sheet for the electric 375 material handler. I hope this helps you out. If you cannot open a Power Point file, let me know.

Regards,
Steve

Daniel G. Roley on 14Jun2001 09:32 AM

To: CSnyder@tamsconsultants.com @ INTERNET
cc: Stephen Stonehocker/0F/Caterpillar@Caterpillar
Subject: Re: conversion from diesel to electric
Retain Until: 07/14/2001 Retention Category: G90 - Information and Reports
Caterpillar Confidential: Green

Colby,

The 950F has 170 HP and thus will use approximately 5 gallons of fuel per hour.

If you would like more information on an electrical powered excavator, please contact Stephen Stonehocker at the Caterpillar Aurora, IL facility. His phone number is 630 859-4951 and his e-mail address is:

Stonehocker_Stephen@cat.com

Regards,
Dan Roley
Standards and Regulations, AB7150
Tel: 309 675-8737, FAX: 309 675-6181
e-mail: Roley_Daniel_G@cat.com

CSnyder@tamsconsultants.com on 5Jun2001 11:52 AM

To: Roley_Daniel_G@cat.com@INTERNET
cc: (bcc: Daniel G. Roley/0B/Caterpillar)
Subject: Re: conversion from diesel to electric
Retain Until: 07/05/2001 Retention Category: G90 - Information and Reports
Caterpillar Confidential: Green

Dan,
I got the model for the front end loader with a 4 cubic yrd bucket. It is

a 950 CAT F. Could you give me the HP and general fuel consmption for this as well?
Thanks!
Colby

>>> Daniel G Roley <Roley_Daniel_G@cat.com> 06/04/01 10:53AM >>>
Colby,

I am sending a copy of your e-mail to Greg Kaiser to respond to your request for an electrically powered excavator for the application that you described below.

A 375 excavator has 428 HP and a 345 excavator has 321 HP. You are right on the calculation method. I am not an expert on fuel consumption, but an estimated load factor for an excavator might be approximately 50 %. Thus, the 375 excavator would use approximately 428 times .50 divided by 17 gallons of fuel per hour.

Greg,

Can you contact Colby about an electrical conversion for Caterpillar excavators?

Regards,
Dan Roley
Standards and Regulations, AB7150
Tel: 309 675-8737, FAX: 309 675-6181
e-mail: Roley_Daniel_G@cat.com

CSnyder@tamsconsultants.com on 4Jun2001 08:42 AM

To: roley_daniel_g@cat.com@INTERNET
cc: (bcc: Daniel G. Roley/0B/Caterpillar)
Subject: conversion from diesel to electric
Retain Until: 07/04/2001 Retention Category: G90 - Information and Reports
Caterpillar Confidential: Green

Mr. Roley,
I'm apologize for the delay in sending this email. I was trying to dig up some additional information. Below is an explanation of what we are looking into. You had also given me a fuel consumption per hour rate for the excavator of 1 gallon/hr per 17hp at full capacity, to be sure I understand that means at full
capacity it would burn 2 gal/hr for 34hp? We are planning a cat 375 with a 4 cubic yard bucket, do you what the horse power would be for this machine? I am also trying to determine fuel consumption/hour for a front end loader with a 4 cubic yard bucket as well. Do you have some general numbers on this as well?

My number here is (973) 338 - 6680. Thank you very much for your help!

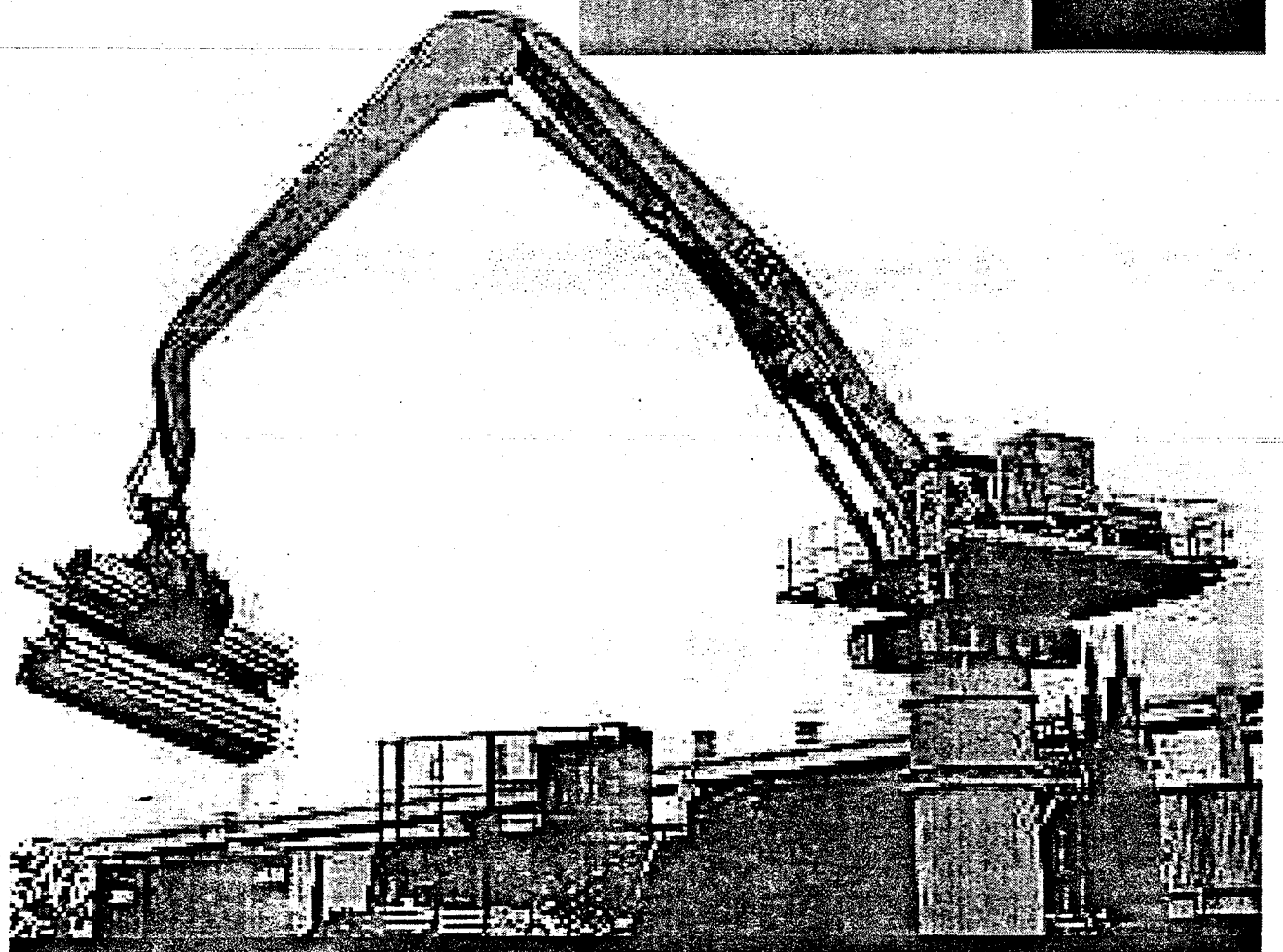
Sincerely,
Colby Snyder

Excavator Conversion:
We are going to be using an excavator to offload sediment from a barge at a materials processing facility. The 2 excavators we are planning on using are the CAT 375 with a 4 cubic yard bucket and the cat 345 with a 2 cubic yard bucket. We are looking into ways to minimize our diesel fuel consumption for this project which is why we'd like to explore converting the machine to electric power.

CC: Daniel G Roley <Roley_Daniel_G@cat.com>

375 MH

Material Handler on Electrified Pedestal

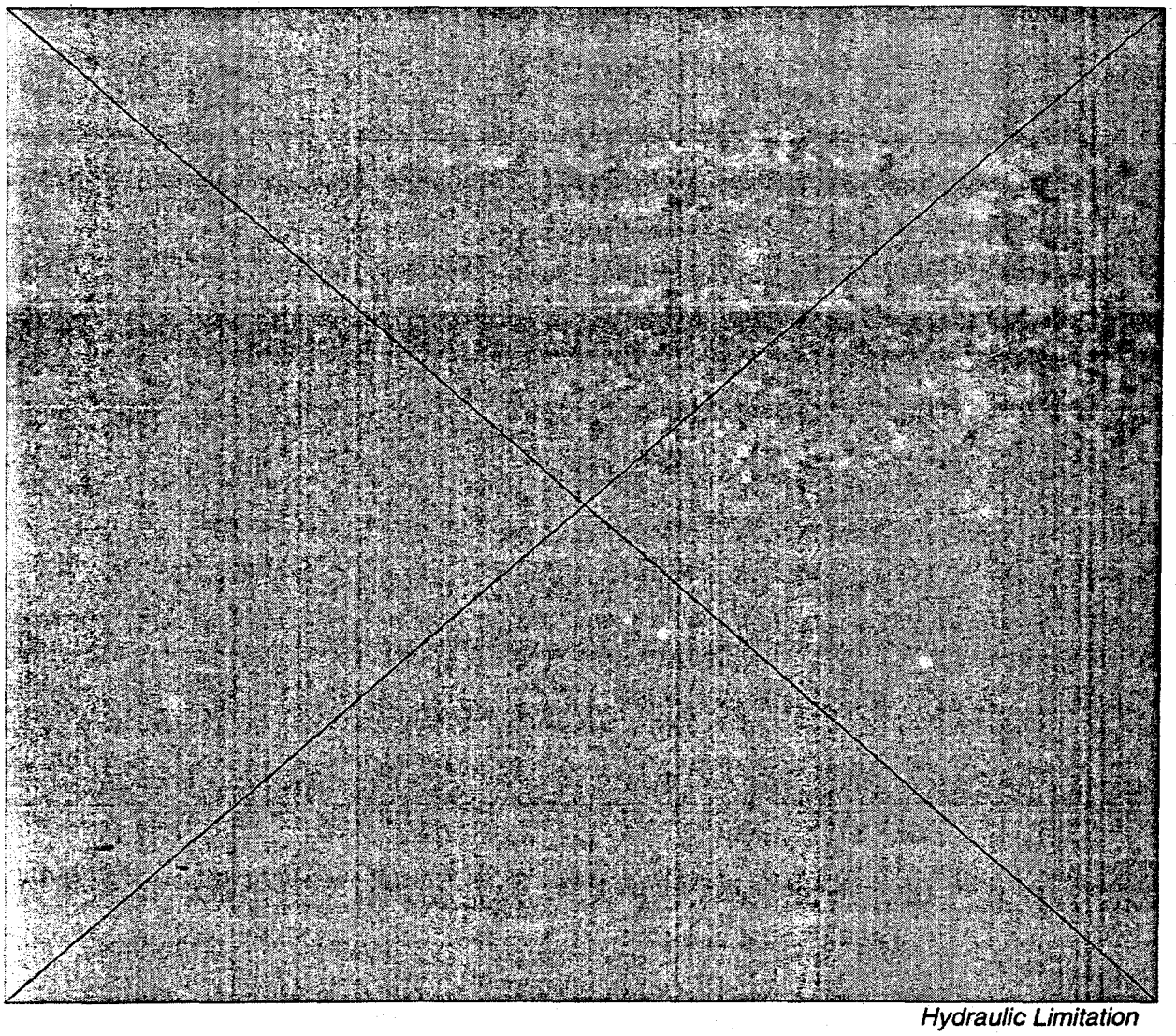


Baldor 400 hp TEFC 460/480 volt, 3 phase, 60Hz electric motor		
Operating Weight	52,480 kg	115,700 lb
Cat Cab Riser	1.9 m	77"
Hydraulic Pressures:		
Implement:	31,065 kPa	4,550 psi
Swing:	27,173 kPa	3,980 psi
Hydraulic Pumps:		
Implement:	430 x 2 L/min	114 x 2 gpm
Swing:	340 L/min	90 gpm

403528

Lift Chart

87% Hydraulic Limited



Hydraulic Limitation

Standard Equipment

77" Cab Riser
30,800 lb. Counterweight
Generator hydraulics
Grapple open-close / rotate hydraulics
High pressure grapple filter
Hydraulic tank heater
Right front oil cooler

Optional Equipment

40 kW Solid State Genset
Mounting Pedestal
68' Cat Material Handling Front
  69'3" Maximum Reach
  58'8" Maximum Height from swing bearing mounting
  Young 3 yd. Grapple
55' Pierce Pacific Barge unloading front
  Young 5 yd. grapple

Baldor 400 hp TEFC 460/480 volt, 3 phase, 60Hz electric motor		
Operating Weight	52,480 kg	115,700 lb
Cat Cab Riser	1.9 m	77"
Hydraulic Pressures:		
Implement:	31,065 kPa	4,550 psi
Swing:	27,173 kPa	3,980 psi
Hydraulic Pumps:		
Implement:	430 x 2 L/min	114 x 2 gpm
Swing:	340 L/min	90 gpm