

```

%_mprintto;
options notes nosource;
proc datasets lib=work nolist memtype=data kill; quit;
%put NOTE:
=====;
%put NOTE: Covance Study Number : 000000106326;
%put NOTE: Client Protocol ID   : ZRHM-PK-05-JP;
%put NOTE: Program Name        : f_co2.sas;
%put NOTE: Purpose              : Figure of exhaled CO Group-2;
%put NOTE: ;
%put NOTE: Input Data           : ADAM.ADBX;
%put NOTE: Output               : f_15_1_2_8_2(co);
%put NOTE: Macros Called        : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by       : cvn_jhardman;
%put NOTE: Creation Date        : 2014-04-17;
%put NOTE: SAS Version          : 9.3;
%put NOTE: ;
%put NOTE: == Latest Run
=====;
%put NOTE: Run by               : &sysuserid;
%put NOTE: Date/Time            :
%sysfunc(putn(%sysfunc(date()),e8601da.))T%sysfunc(putn(%sysfunc(time()),
e86011z.));
%put NOTE: ;
%put NOTE: == Modification History
=====;
%put NOTE: Date      Initials   No. Reason;
%put NOTE: 06Jun2014   JR        1) Amended as per MW comment;
%put NOTE: 10Jun2014   JR        2) Amended title;
%put NOTE: 10Jun2014   JR        3) Amended title;
%put NOTE: 12Aug2014   JMH       4) Applied formatting updates to be
consistent with PK-02;
%put NOTE: 14Aug2014   JMH       5) Removed ANL01FL from where
statement;
%put NOTE: 14Aug2014   JMH       6) Added proc printto;
%put NOTE: 22Sept14    CK        7) Output excel file ;
%put NOTE: 22Sept14    CK        8) move title and footnotes outside
graph;
%put NOTE: 23Sep2014   JMH       9) Amended y axis limit;
%put NOTE: ;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;

*=====;
* START OF PROGRAM CODE                                     ;
*=====;

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/* Standard - just change the number to match the listing you're working
on. Also change the letters in the*/
/* bracket, eg ccb = current cigarette brands. Make sure to do this at
the top of the code too. */
%let tflno=F_15_01_02_08_02(co);

/* Standard - leave this */
%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));

/* Standard - leave this */
data _null_;
    tmp="%TFL_Part";
    if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");
    call symput('TFLpath', compress("&_SASPROGRAMFILE",""));
run;

```

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/* Example of basic GTL syntax */
ods _all_ close;
%let temp=/cvn/projects/prj/development/000000106326/dev/macro/;

/* Ensure ODS listing, html etc is turned off to prevent */
/* temporary or junk image files being produced */
options notes source source2 nofullstimer validvarname=upcase
nonumber nodate orientation=portrait papersize=&p_pgsz missing=' ';
ods graphics on; /* As we are effectively using ODS graphics we need to
ensure that it is turned on */
ods graphics / height=12cm width=16cm noborder; /* Removes border around
the image */
ods path reset;
/* please include styles template */
%include "&temp.figtmpplt.sas";

ods rtf toc_data
file="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part/&tflno..rtf"
style=tl06326_g startpage=yes headery=1440 footery=1440 ;

ods exclude all;

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proc sort data = adam.adbx(where=(analgr1 = "Group-2" and paramcd = "CO"
and avisit in ('Day 1' 'Day 3') and pprotfl='Y' /*and anl01fl='Y'*/ and
anl02fl='Y')) out = coh01; /* 5) JMH 14Aug2014 */
    by param avalu trtan trta atptn atpt;
run;

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proc means data=coh01 mean alpha = 0.05 NOPRINT;
    var aval;
    by param avalu trtan trta atptn atpt;
    output out=coh02 mean=mean lclm = lclm uclm = uclm std=std n=n;
run;

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data coh03;
    set coh02;

```

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attrib tpt label = "Time post-product (h)" format = best.;

if atpt = "15 min < T0" then tpt = 0;
else if atpt = "12:00-01:30 PM" then tpt = 4;
else if atpt = "04:00-05:30 PM" then tpt = 8;
else if atpt = "08:00-09:30 PM" then tpt = 12;
else put "WAR" "NING: Unexpected value " atpt=;

run;

/* 7) START CK 22Sep2014 */
PROC SQL;
CREATE TABLE COHB04 AS
SELECT PARAM, TRTA, ATPT, MEAN, LCLM, UCLM
FROM COHB03;
QUIT;

PROC EXPORT
DATA=COHB04
DBMS=XLSX
OUTFILE="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part./&tflno..xlsx"
REPLACE;
SHEET=Sheet1;
/* 7) END CK 22Sep2014 */
proc format;
    value xaxis
                                0="15 min < T0"
                                4="12:00-01:30 PM"
                                8="04:00-05:30 PM"
                                12="08:00-09:30 PM";

run;

title;
footnote;

data paging; /* paging is derived normally as with RTF type TFL */

    set coh03 end=last;
    page = 1;
    if last then call symput("maxpage", compress(page));

run;

%macro graph();

%do i=1 %to &maxpage; /* paging can either be done through a do loop or
multiple macro calls */

    data plot;
        set paging;
        where page = &i;

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        call symput("unit",strip(avalu));
run;

proc template;
    define statgraph splot /store = work.templat;
        begingraph /;
            /* 8) CK 22Sept14 */
/*
            entrytitle halign=left "Figure 15.1.2.8.2 Exhaled CO
(&unit) Profiles During Single Use Arithmetic Mean and 95% CI - Group-2
PK Population" /*;*/
            /*entrytitle halign=left "Figure 15.1.2.8.1 Exhaled CO
(&unit) Profiles During Single Use Day Arithmetic Mean and 95% CI â€"
Group-1 PK Population" /*;*/ /* 1) JR 06Jun2014 */
/*entrytitle halign=left "Figure 15.1.2.8.2 Exhaled CO (&unit) Profiles
During Single Use Day Arithmetic Mean and 95% CI â€" Group-1 PK
Population" /*;*/ /* 2) JR 10Jun2014 */
/* entrytitle halign=left "Figure 15.1.2.8.2 Exhaled CO (&unit) Profiles
During Single Use Day Arithmetic Mean and 95% CI â€" Group-2 PK
Population" /*;*/ /* 3) JR 10Jun2014 */

/*
            entrytitle halign=left " " /*;*/
            layout overlay / border=false
xaxisopts=(linearopts=(tickvaluesequence=(start=0 end=12 increment=4))
label="Time post-product (h)")
yaxisopts=(linearopts=(tickvaluesequence=(start=0 end=7/*5*/ increment=1)
viewmin=0 viewmax=7/*5*/)) label="Exhaled CO (&unit)") cycleattrs=false;
/* 9) JMH 23Sep2014 */
            seriesplot x=tpt y=mean / index=trtan primary=true
group=trta display=(markers) legendlabel="mean" name="series";
            /*referenceline y=0.5 / ;*/ /*This would be the BLOQ
value*/
            scatterplot x=tpt y=mean / index=trtan group=trta
yerrorlower=lclm yerrorupper=uclm
            legendlabel="mean" name="scatter" ;
            discretelegend "series";
        endlayout;
        /* footnotes work using the same option as the entrytitle
statement */
/*
            entryfootnote halign=left " "; */
/*
            entryfootnote halign=left "Note: NRT gum = Nicotine
replacement therapy gum; THS = Tobacco Heating System."/*;*/
/*
            ENTRYFOOTNOTE HALIGN=LEFT "Note: NRT gum = Nicotine
Replacement Therapy gum; THS = Tobacco Heating System."/*; */ /* 4) JMH
12Aug2014 */
/*
            entryfootnote halign=left " "; */
/*
            entryfootnote halign=left "Appendix 15.2.4.10.1,
15.3.3.5"/*;*/
/*
            ENTRYFOOTNOTE HALIGN=LEFT "Appendix 15.2.4.10.1"; /* 4)
JMH 12Aug2014 */
/*
            entryfootnote halign=left "Path: &TFLpath."
halign=right "(Page &i of &maxpage)"; */
/*
            entryfootnote halign=left "Program Run: &sysdate
&sysuserid Program Status: &status"; */
        endgraph;

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        end;
run;

ods select all;
/* 8 START CK 22Sep2014 */
ODS ESCAPECHAR='^';
ODS RTF PREPAGE="^S={outputwidth=100% just=1 font_size=12pt
font_weight=bold background=white foreground=black
font_face=arial}^R/RTF'\QL' Figure 15.1.2.8.2 Exhaled CO (&unit) Profiles
During Single Use Day Arithmetic Mean and 95% CI â€" Group-2 PK
Population";
/* 8) END CK 22Sep2014 */
proc sgrender data=plot template=splot; /* applies the above
template to the specified data */
    format tpt xaxis.;
run;

/* 8) START CK 22Sep2014 */
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL'";
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Note: NRT gum= Nicotine
Replacement Therapy gum; THS = Tobacco Heating System.";
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL'";
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Appendix 15.2.4.10.1";
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Path: &TFLpath.
(Page &i of &maxpage)";
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Program Run: &sysdate
&sysuserid Program Status: &status";
/* 8) END CK 22Sep2014 */

%end;
%mend graph;
%graph;

PROC PRINTTO; RUN; /* 6) JMH 14Aug2014 */

ods exclude all;
ods _all_ close;
ods graphics / reset;

```