Level C Data Package Deliverables

Wet Chemistry

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Wet Analysis Results for Method 314.0

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	314.0
Project ID:	JPL	Service ID:	31684	Collected by:	

Component Name: Perchlorate
CAS No:

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-1684-1	EB-9-2/17/03	Water	02/17/03	02/17/03	02/20/03	03W1610	μg/L	4	<4	U
03-1684-2	MW-23-1	Water	02/17/03	02/17/03	02/18/03	03W1560	μg/L	4	1.9	B
03-1684-3	MW-23-2	Water	02/17/03	02/17/03	02/18/03	03W1560	μg/L	4	2.4	B
03-1684-4	MW-23-3	Water	02/17/03	02/17/03	02/18/03	03W1560	μg/L	4	2.2	B
03-1684-6	MW-24-1	Water	02/17/03	02/17/03	02/20/03	03W1610	μg/L	20	257	
03-1684-7	MW-24-2	Water	02/17/03	02/17/03	02/20/03	03W1610	μg/L	8	106	
03-1684-8	MW-24-3	Water	02/17/03	02/17/03	02/19/03	03W1560	μg/L	4	1.6	B
03W1610-MB-01	03W1610-MB-01	Water	02/20/03	02/20/03	02/20/03	03W1610	μg/L	4	<4	U
03W1560-MB-01	03W1560-MB-01	Water	02/18/03	02/18/03	02/18/03	03W1560	μg/L	4	<4	U

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

Applied P & Ch Laboratory

Wet Analysis Results for Method 7196

Client Name:	GEOFON, Inc.	Project No:	04-4428.10	Anal. Method	7196
Project ID:	JPL	Service ID:	31684	Collected by:	

Component Name: Chromium (VI)
CAS No: 1333-82-0

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-1684-1	EB-9-2/17/03	Water	02/17/03	02/17/03	03/17/03	03W1552	mg/L	0.01	<0.01	U
03-1684-2	MW-23-1	Water	02/17/03	02/17/03	03/17/03	03W1552	mg/L	0.01	<0.01	U
03-1684-3	MW-23-2	Water	02/17/03	02/17/03	03/17/03	03W1552	mg/L	0.01	<0.01	U
03-1684-4	MW-23-3	Water	02/17/03	02/17/03	03/17/03	03W1552	mg/L	0.01	<0.01	U
03-1684-5	MW-23-4	Water	02/17/03	02/17/03	03/17/03	03W1552	mg/L	0.01	<0.01	U
03-1684-6	MW-24-1	Water	02/17/03	02/17/03	03/17/03	03W1552	mg/L	0.01	<0.01	U
03-1684-7	MW-24-2	Water	02/17/03	02/17/03	03/17/03	03W1552	mg/L	0.01	<0.01	U
03-1684-8	MW-24-3	Water	02/17/03	02/17/03	03/17/03	03W1552	mg/L	0.01	<0.01	U
03-1684-9	MW-24-4	Water	02/17/03	02/17/03	03/17/03	03W1552	mg/L	0.01	<0.01	U
03W1552-MB-01	03W1552-MB-01	Water	02/17/03	02/17/03	02/17/03	03W1552	mg/L	0.01	<0.01	U

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

FORM-3

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 314.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	31684
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W1610		
LCS Filename:	-	Date Analyzed:	022003	Time Analyzed:	12:00
LCSD Filename:	-	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
PERCHLORATE	μg/L	25	0	23.3	93	80-120
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 314.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	31684
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W1610		
MS Filename:	-	Date Analyzed:	022003	Time Analyzed:	19:06
MSD Filename:	-	Date Analyzed:	022003	Time Analyzed:	19:30
MS Sample No:	**MW-22-1**	Sample Lab ID:	03-1694-7		

Spiked Components	Unit	Spike Added	Concentration Unspiked	MS	MS Rec% #	QC Limit, % REC
PERCHLORATE	μg/L	50	0	42.3	85	75-125
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	REC
PERCHLORATE	μg/L	50	42.5	85	0	20	75-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 7196

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	31684
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W1552		
LCS Filename:	-	Date Analyzed:	021703	Time Analyzed:	14:44
LCSD Filename:	-	Date Analyzed:	021703	Time Analyzed:	14:44

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.236	94	80-115
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0.227	91	3	19	80-115
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 7196

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	31684
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W1552		
MS Filename:	-	Date Analyzed:	021703	Time Analyzed:	14:44
MSD Filename:	-	Date Analyzed:	021703	Time Analyzed:	14:44
MS Sample No:	**MW-23-3**	Sample Lab ID:	03-1684-4		

Spiked Components	Unit	Spike Added	Concentration Unspiked	MS	MS Rec% #	QC Limit, % REC
CHROMIUM (VI)	mg/L	0.25	0	0.238	95	78-115
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	REC
CHROMIUM (VI)	mg/L	0.25	0.234	94	1	19	78-115
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 314.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	31684
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W1560		
LCS Filename:	-	Date Analyzed:	021803	Time Analyzed:	10:16
LCSD Filename:	-	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
PERCHLORATE	μg/L	25	0	23.5	94	80-120
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 314.0

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	31684
Project ID:	JPL	Project No:	04-4428.10	Sample Matrix:	Water
		Batch No:	03W1560		
MS Filename:	-	Date Analyzed:	021903	Time Analyzed:	01:11
MSD Filename:	-	Date Analyzed:	021903	Time Analyzed:	01:35
MS Sample No:	**MW-23-3**	Sample Lab ID:	03-1684-4		

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
PERCHLORATE	μg/L	50	2.4	44.5	84	75-125
# of Out-of-control					0	

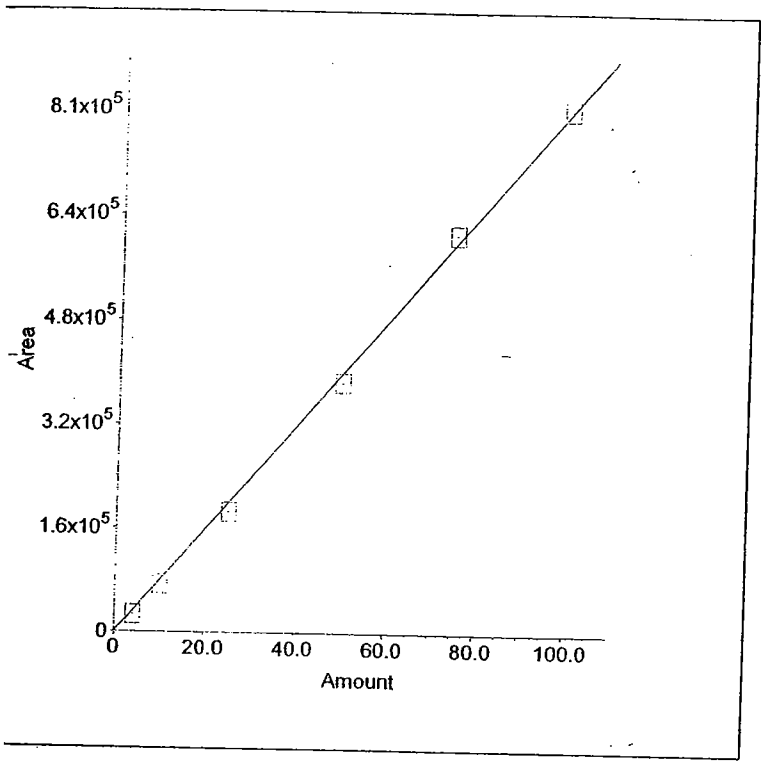
Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
PERCHLORATE	μg/L	50	44.7	85	1	20	75-125
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

1. Component:perchlorate
Standard:External Fit Type:Linear
Origin:Force Calibration:Area
r^2=0.998635
Amt=0.0001235*Resp+0



Analyst Wei Way
Date 07/31/02
Instrument Ic-1c

FORM-7

Applied P & Ch Laboratory

CCV Recovery for Wet Analysis

Client Name: GEOFON, Inc. Contract No.: Lab Code: APCL
Case No: SAS No.: Service ID: 31684
Project ID: JPL Project No.: 04-4428.10

#	Component Name	Method	Batch No.	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	Test Date
1	Perchlorate	314.0	03W1610	μg/L	50	49.9	100	0	√	85-115	02/20/2003
	Perchlorate	314.0	03W1610	μg/L	50	49.3	99	-1	√	85-115	02/20/2003
	Perchlorate	314.0	03W1610	μg/L	50	48.5	97	-3	√	85-115	02/20/2003
	Perchlorate	314.0	03W1610	μg/L	50	49.5	99	-1	√	85-115	02/20/2003
2	Chromium (VI)	7196	03W1552	mg/L	0.25	0.251	100	0	√	90-110	02/17/2003
	Chromium (VI)	7196	03W1552	mg/L	0.25	0.258	103	3	√	90-110	02/17/2003
3	Perchlorate	314.0	03W1560	μg/L	50	48.4	97	-3	√	85-115	02/18/2003
	Perchlorate	314.0	03W1560	μg/L	50	48.4	97	-3	√	85-115	02/18/2003
	Perchlorate	314.0	03W1560	μg/L	50	49.0	98	-2	√	85-115	02/18/2003
	Perchlorate	314.0	03W1560	μg/L	50	47.8	96	-4	√	85-115	02/18/2003
	Perchlorate	314.0	03W1560	μg/L	50	51.2	102	2	√	85-115	02/19/2003

e	Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Weight	Int. Std.
	mb	Sample		e314.0-9.met	mb_001.dxd	1	1	1	1
	std1 4ppb w7373a	Calibration	1	e314.0-9.met	std1_002.dxd	1	1	1	1
	std2 10ppb w7373b	Calibration	2	e314.0-9.met	std2_003.dxd	1	1	1	1
	std3 25ppb w7373c	Calibration	3	e314.0-9.met	std3_004.dxd	1	1	1	1
	std4 50ppb w7373d	Calibration	4	e314.0-9.met	std4_005.dxd	1	1	1	1
	std5 75ppb w7373e	Calibration	5	e314.0-9.met	std5_006.dxd	1	1	1	1
	std6 100ppb w7373f	Calibration	6	e314.0-9.met	std6_007.dxd	1	1	1	1
	icv 50ppb w7319c	Sample		e314.0-9.met	icv_a008.dxd	1	1	1	1
	icb	Sample		e314.0-9.met	icb	1	1	1	1
	3984-15 f=1	Sample		e314.0-9.met	3984-15	1	1	1	1
	3843-33 f=1	Sample		e314.0-9.met	3843-33	1	1	1	1
	3984-15 f=1	Sample		e314.0-9.met	3984-15a	1	1	1	1
	3843-33 f=1	Sample		e314.0-9.met	3843-33a	1	1	1	1
	3984-15 f=1	Sample		e314.0-9.met	3984-15b	1	1	1	1
	3843-33 f=1	Sample		e314.0-9.met	3843-33b	1	1	1	1

Analyst Wei Wang

Date 7/31/02

Instrument IC-K

ne	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
	##03w1560kw ipc 25ppb w7685b	Sample		e314.0-9.met	c:\data\03w1560k\w1560k ipc 25ppb	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	c:\data\03w1560k\w1560k q01	1	1
	ccb	Sample		e314.0-9.met	c:\data\03w1560k\w1560k ccb01	1	1
	lcs 25ppb w7373C	Sample		e314.0-9.met	c:\data\03w1560k\w1560k l01	1	1
	lcs 18ppb w7685D	Sample		e314.0-9.met	c:\data\03w1560k\w1560k j01	1	1
	ICCS 4ppb w7685a	Sample		e314.0-9.met	c:\data\03w1560k\w1560k iccs 4ppb	1	1
	mb	Sample		e314.0-9.met	c:\data\03w1560k\w1560k k01	1	1
	1268-07 PE f=1	Sample		e314.0-9.met	c:\data\03w1560k\1268-07 pe	1	1
	1267-33 PE f=1	Sample		e314.0-9.met	c:\data\03w1560k\1267-33 pe	1	1
	1267-33 PE f=1	Sample		e314.0-9.met	c:\data\03w1560k\1267-33 pe	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	c:\data\03w1560k\w1560k q02	1	1
	ccb	Sample		e314.0-9.met	c:\data\03w1560k\w1560k k02	1	1
	1657-01 f=10	Sample		e314.0-9.met	c:\data\03w1560k\1657-01	1	10
	1657-02 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1657-02	1	1
	1657-03 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1657-03	1	1
	1267-33 PE f=1	Sample		e314.0-9.met	c:\data\03w1560k\1267-33 pe	1	1
	1657-01 f=100	Sample		e314.0-9.met	c:\data\03w1560k\1657-01a_017.dxd	1	100
	1657-03 f=100	Sample		e314.0-9.met	c:\data\03w1560k\1657-03a_018.dxd	1	100
	1651-01 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1651-01_019.dxd	1	1
	1651-02 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1651-02_020.dxd	1	1
	1651-03 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1651-03_021.dxd	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	c:\data\03w1560k\w1560k q03_022.dxd	1	1
	ccb	Sample		e314.0-9.met	c:\data\03w1560k\w1560k k03_023.dxd	1	1
	1651-04 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1651-04_024.dxd	1	1
	1651-05 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1651-05_025.dxd	1	1
	1651-06 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1651-06_026.dxd	1	1
	1651-07 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1651-07_027.dxd	1	1
	1684-02 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1684-02_029.dxd	1	1
	1684-03 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1684-03_030.dxd	1	1
	1684-04 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1684-04_031.dxd	1	1
	1684-06 f=1 — for reference	Sample		e314.0-9.met	c:\data\03w1560k\1684-06_032.dxd	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	c:\data\03w1560k\w1560k q04_033.dxd	1	1
	ccb	Sample		e314.0-9.met	c:\data\03w1560k\w1560k k04_034.dxd	1	1
	1684-07 f=1 — for reference	Sample		e314.0-9.met	c:\data\03w1560k\1684-07_035.dxd	1	1
	1684-08 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1684-08_036.dxd	1	1
	1658-01 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1658-01_037.dxd	1	1
	1672-01 f=1	Sample		e314.0-9.met	c:\data\03w1560k\1672-01_038.dxd	1	1
	1684-04 ms f=1	Sample		e314.0-9.met	c:\data\03w1560k\w1560k m01_039.dxd	1	1
	1684-04 msd f=1	Sample		e314.0-9.met	c:\data\03w1560k\w1560k n01_040.dxd	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	c:\data\03w1560k\w1560k q05_041.dxd	1	1
	1267-33 PE f=1	Sample		e314.0-9.met	c:\data\03w1560k\1267-33 pe_042.dxd	1	1
	1267-33 PE f=1	Sample		e314.0-9.met	c:\data\03w1560k\1267-33 pe_043.dxd	1	1
	1267-33 PE f=1	Sample		e314.0-9.met	c:\data\03w1560k\1267-33 pe_044.dxd	1	1
	1267-33 PE f=1	Sample		e314.0-9.met	c:\data\03w1560k\1267-33 pe_045.dxd	1	1
		Sample		aastopcl.met		1	1

Analyst Wei Wang

Date 2/18-19/03

Instrument IC-K

ıe	Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Weight
	##03w1610kw ipc 25ppb w7685b	Sample		e314.0-9.met	w1610k ipc 25ppb	1	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	w1610k q01	1	1	1
	ccb	Sample		e314.0-9.met	w1610k ccb01	1	1	1
	lcs 25ppb w7373C	Sample		e314.0-9.met	w1610k l01	1	1	1
	lcs 18ppb w7685D	Sample		e314.0-9.met	w1610k j01	1	1	1
	ICCS 4ppb w7685a	Sample		e314.0-9.met	w1610k iccs 4ppb	1	1	1
	mb	Sample		e314.0-9.met	w1610k k01	1	1	1
	1684-01 f=1	Sample		e314.0-9.met	1684-01	1	1	1
	1684-06 f=5	Sample		e314.0-9.met	1684-06	1	5	1
	1684-07 f=2	Sample		e314.0-9.met	1684-07	1	2	1
	1724-01 f=1	Sample		e314.0-9.met	1724-01	1	1	1
	1700-01 f=1	Sample		e314.0-9.met	1700-01	1	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	w1610k q02	1	1	1
	ccb	Sample		e314.0-9.met	w1610k k02	1	1	1
	1694-01 f=1	Sample		e314.0-9.met	1694-01	1	1	1
	1694-03 f=1	Sample		e314.0-9.met	1694-03_017.dxd	1	1	1
	1694-04 f=1	Sample		e314.0-9.met	1694-04_018.dxd	1	1	1
	1694-05 f=1	Sample		e314.0-9.met	1694-05_019.dxd	1	1	1
	1694-06 f=1	Sample		e314.0-9.met	1694-06_020.dxd	1	1	1
	1694-07 f=1	Sample		e314.0-9.met	1694-07_021.dxd	1	1	1
	1694-07 ms f=1	Sample		e314.0-9.met	w1610k m01_022.dxd	1	1	1
	1694-07 msd f=1	Sample		e314.0-9.met	w1610k n01_023.dxd	1	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	w1610k q03_024.dxd	1	1	1
	ccb	Sample		e314.0-9.met	w1610k k03_025.dxd	1	1	1
	1694-08 f=1	Sample		e314.0-9.met	1694-08_026.dxd	1	1	1
	1694-09 f=1	Sample		e314.0-9.met	1694-09_027.dxd	1	1	1
	1651-02 f=1	Sample		e314.0-9.met	1651-02_028.dxd	1	1	1
	1658-01 f=1	Sample		e314.0-9.met	1658-01_029.dxd	1	1	1
	1694-02 f=1	Sample		e314.0-9.met	1694-02_030.dxd	1	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	w1610k q04_031.dxd	1	1	1
	ccv50ppb w7685c	Sample		e314.0-9.met	w1610k q05	1	1	1
	ccb	Sample		e314.0-9.met	w1610k k04	1	1	1
	1767-01 f=1	Sample		e314.0-9.met	1767-01	1	1	1
	1767-02 f=1	Sample		e314.0-9.met	1767-02	1	1	1
	1767-03 f=1	Sample		e314.0-9.met	1767-03	1	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	w1610k q06	1	1	1
	ccb	Sample		e314.0-9.met	w1610k k05_037.dxd	1	1	1
	1773-01 f=1	Sample		e314.0-9.met	1773-01_038.dxd	1	1	1
	ccv 50ppb w7685c	Sample		e314.0-9.met	w1610k q07_039.dxd	1	1	1

Analyst Wei Way

Date 2/20-21/03

Instrument ICP

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Chromium (VI) (7196) Worksheet

Batch # 03W1552 Matrix: Is

[Holding Time: 24 hours!!]

Test Date: 2/17/03 Analyst: [illegible]

Lot #: Reagent Water _____ Diphenylcazide solution _____

Test Time: 14:44

SOP: G-22

Calibration	STD Lot #	$C_{std} \times V_{std} / V_f = C_i$	A_i	$RF_i = A_i / C_i$	Calibration results	Note
STD-1	W-	× / = mg/L			Least Square [RF]=	Cal. Code:
STD-2	W-	× / = mg/L			Average $\bar{RF}$=	
STD-3	W-	× / = mg/L			C.C.=0.9997 (≥ 0.995)	
STD-4	W-	× / = mg/L			RSD= % (≤ 15%)	
STD-5	W-	× / = mg/L			Ref. page	
STD-6	W-	× / = mg/L			A=0.000+0.826 C	

Analysis Type	Sample ID or Lot #	Samp. Amnt X_0 (g or mL)	Dilu./Ext $X/X_0=f_1$	Treat. Ratio $V/X=f_2$	540 nm A	Concentration $C'=A/\bar{RF}$	C (Sample) $C=f_1\ f_2\ C'$	Anomaly Note
CCV	Lot: W-7191	Expected Conc.:	×	/ = 0.25 mg/L	0.210	0.25 mg/L	REC. %	90-110 %
Method Blank	Bl. Lot: T115		/X_0 = 1	95.0/ =	0.000	mg/L	0.00 ppm	
LCS1	Bl. Lot: "		/X_0 = 1	95.0/ =	0.197	mg/L	0.236 ppm	
Sample-1	1684-1		/X_0 =	95.0/ =	0.000	mg/L	0.00 ppm	
MS on S-1	"		/X_0 =	95.0/ =	0.199	mg/L	0.238 ppm	
MSD on S-1	"		/X_0 =	95.0/ =	0.196	mg/L	0.234 ppm	
Sample 2	2		/X_0 =	95.0/ =	0.003	mg/L	0.004 ppm	
Sample 3	3		/X_0 =	95.0/ =	0.003	mg/L	0.004 ppm	
Sample 4	4		/X_0 =	95.0/ =	0.004	mg/L	0.005 ppm	
Sample 5	5		/X_0 =	95.0/ =	0.002	mg/L	0.002 ppm	
Sample 6	6		/X_0 =	95.0/ =	0.003	mg/L	0.004 ppm	
Sample 7	7		/X_0 =	95.0/ =	0.004	mg/L	0.005 ppm	
Sample 8	8		/X_0 =	95.0/ =	0.004	mg/L	0.005 ppm	
Sample 9	9		/X_0 =	95.0/ =	0.002	mg/L	0.002 ppm	
Sample 10			/X_0 =	95.0/ =		mg/L	ppm	
Blank	Lot:		/X_0 =	95.0/ =		mg/L	ppm	
LCS2	Bl. Lot: T115		/X_0 = 1	95.0/ =	0.190	mg/L	0.227 ppm	
Sample 11			/X_0 =	95.0/ =		mg/L	ppm	
Sample 12			/X_0 =	95.0/ =		mg/L	ppm	
Sample 13			/X_0 =	95.0/ =		mg/L	ppm	
Sample 14			/X_0 =	95.0/ =		mg/L	ppm	
Sample 15			/X_0 =	95.0/ =		mg/L	ppm	
Sample 16			/X_0 =	95.0/ =		mg/L	ppm	
Sample 17			/X_0 =	95.0/ =		mg/L	ppm	
Sample 18			/X_0 =	95.0/ =		mg/L	ppm	
Sample 19			/X_0 =	95.0/ =		mg/L	ppm	
Sample 20			/X_0 =	95.0/ =		mg/L	ppm	
MTX Dup.	closing 0.25 mg/L		/X_0 =	95.0/ =	0.216	0.258 mg/L	ppm	

Type	STD Lot #	$C_{STD}(\mu g/mL) \times V_{STD}(mL) / X(g \text{ or } mL) = T$	Spike Rec.	Ctl Limit (W/S)
MS	W- 7191	× / = 0.25 ppm	%	80-120 %/80-120 %
MSD	W- "	× / = ppm	%	.. ..
LCS	W- 7757	× / = ppm	%	80-120 %/80-120 %
LCSD	W- "	× / = ppm	%	.. ..

PQL/MDL (in ppm)	
PQL(w)	0.01
PQL(s)	0.05
MDL(w)	0.005
MDL(s)	0.025

APCL form 5-155 May 08, 1996. Ver. 3.1 No pencil. Use blue pen for record. Use red pen for correction.
File:[CUST.DOC.WET]CR6.TEX Root-file: CR6_ROOT.TEX 1-Page-File: CR61.TEX
Control limits are subjected to change. The updated values are given in the latest version of APCL Technical Handbook Vol. 2

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Chromium (VI) (7196) Worksheet

Batch # 03W1295 Matrix: W [Holding Time: 24 hours!!] Test Date: 1/29/03 Analyst: BN

Lot #: Reagent Water _____ Diphenylcazide solution _____ Test Time: _____ SOP: G-22

Calibration	STD Lot #	$C_{std} \times V_{std} / V_f = C_i$	A_i	$RF_i = A_i / C_i$	Calibration results	Note
STD-1	W-7191	× / =0.000 mg/L	0.000		Least Square [RF]=	Cal. Code:
STD-2	W-	× / =0.025 mg/L	0.006		Average RF=	A=0.000+0.836C
STD-3	W-	× / =0.05 mg/L	0.041		C.C.=0.9977 (≥ 0.995)	
STD-4	W-	× / =0.125 mg/L	0.109		RSD= % (≤ 15%)	
STD-5	W-	× / =0.250 mg/L	0.214		Ref. page	
STD-6	W-	× / =0.50 mg/L	0.415		A=0.003+BN 1/29/03	

Analysis Type	Sample ID or Lot #	Samp. Amnt X_0 (g or mL)	Dilu./Ext $X/X_0=f_1$	Treat. Ratio $V/X=f_2$	540 nm A	Concentration $C'=A/RF$	C (Sample) $C=f_1\ f_2\ C'$	Anomaly Note
CCV	Lot: W-7076.	Expected Conc.:	×	/ = 0.25 mg/L	0.246	0.258 mg/L	REC. %	90-110 %
Method Blank	Bl. Lot: T1115		$/X_0$ = 1	95.0/ =	0.000	mg/L	0.00 ppm	
LCS1	Bl. Lot: "		$/X_0$ =	95.0/ =	0.204	mg/L	0.244 ppm	
Sample-1	1369-1		$/X_0$ =	95.0/ =	0.000	mg/L	0.00 ppm	
MS on S-1	6		$/X_0$ =	95.0/ =	0.223	mg/L	0.266 ppm	
MSD on S-1	6		$/X_0$ =	95.0/ =	0.230	mg/L	0.275 ppm	
Sample 2	2		$/X_0$ =	95.0/ =	0.004	mg/L	0.005 ppm	
Sample 3	3		$/X_0$ =	95.0/ =	0.002	mg/L	0.002 ppm	
Sample 4	4		$/X_0$ =	95.0/ =	0.001	mg/L	0.001 ppm	
Sample 5	5		$/X_0$ =	95.0/ =	0.002	mg/L	0.002 ppm	
Sample 6	6		$/X_0$ =	95.0/ =	0.004	mg/L	0.005 ppm	
Sample 7	-		$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 8			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 9			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 10			$/X_0$ =	95.0/ =		mg/L	ppm	
Blank	Lot:		$/X_0$ =	95.0/ =		mg/L	ppm	
LCS2	Bl. Lot: T1115		$/X_0$ = 1	95.0/ =	0.210	mg/L	0.251 ppm	
Sample 11			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 12			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 13			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 14			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 15			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 16			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 17			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 18			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 19			$/X_0$ =	95.0/ =		mg/L	ppm	
Sample 20			$/X_0$ =	95.0/ =		mg/L	ppm	
MTX Dup.	closing 0.25 mg/L		$/X_0$ =	95.0/ =	0.204	mg/L	0.244 ppm	

Type	STD Lot #	$C_{STD}(\mu g/mL) \times V_{STD}(mL) / X(g \text{ or } mL) = T$	Spike Rec.	Ctl Limit (W/S)
MS	W-7076	× / =0.25 ppm	%	80-120 %/80-120 %
MSD	W-	× / = ppm	%	.. ..
LCS	W-7191	× / = ppm	%	80-120 %/80-120 %
LCSD	W-	× / = ppm	%	.. ..

PQL/MDL (in ppm)	
PQL(w)	0.01
PQL(s)	0.05
MDL(w)	0.005
MDL(s)	0.025

APCL form 5-155 May 08, 1996. Ver. 3.1 No pencil. Use blue pen for record. Use red pen for correction.
File:[CUST.DOC.WET]CR6.TEX Root-file: CR6_ROOT.TEX 1-Page-File: CR61.TEX
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Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Leo Williamson
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-031858
Collected by:
Collected on: 02/17-24/03

Received: 02/17-24/03
Extracted: N/A
Tested: N/A
Reported: 04/02/03

Sample Description: Water
Project Description: 04-4428.10 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result DUPE-5-1Q03 03-01858-1	DUPE-6-1Q03 03-01858-2	EB-9-2/17/03 03-01858-3	EB-10-2/18/03 03-01858-4
CHROMIUM [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-5 03-01858-5	MW-6 03-01858-6	MW-7 03-01858-7	MW-8 03-01858-8
CHROMIUM [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-10 03-01858-9	MW-13 03-01858-10	MW-15 03-01858-11	MW-16 03-01858-12
CHROMIUM [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-11-1 03-01858-13	MW-11-2 03-01858-14	MW-11-3 03-01858-15	MW-22-1 03-01858-16
CHROMIUM [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-22-2 03-01858-17	MW-22-3 03-01858-18	MW-23-1 03-01858-19	MW-23-2 03-01858-20
CHROMIUM [a]							

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-3 03-01858-21	MW-23-4 03-01858-22	MW-24-1 03-01858-23
CHROMIUM [a]						

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-2 03-01858-24	MW-24-3 03-01858-25	MW-24-4 03-01858-26
CHROMIUM [a]						

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

[a] Subcontracted to Advanced Technology Laboratories Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

MW-24 0011

GEOFON's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Brad Shojaee	(909) 396-7662	(909) 396-1455	—	Kenny Chan	GEOFON, INC.

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY PHONE	LABORATORY FAX	RECIPIENT NAME
JPL GW Mon-1903	MW-24 (E. of Security Bldg.)	04-4428.10	(909) 590-1929	(909) 590-1498	Leo W. Williamson

PROJECT CONTACT	PROJECT PHONE NUMBER	PROJECT FAX	LABORATORY ADDRESS	ADDRESS
Leo W. Williamson	(714) 920-8729	(909) 396-1455	13760 Magnolia Ave	22632 Golden Springs Dr. #270

PROJECT ADDRESS	CITY, STATE AND ZIPCODE	CLIENT	CITY, STATE AND ZIPCODE	CITY, STATE AND ZIPCODE
4800 Oak Grove Dr.	Pasadena, CA	US NAVY SUPDIV	Chino, CA 91710	Diamond Bar, CA 91765

PROJECT MANAGER	PROJECT MANAGER'S PHONE	PROJECT MANAGER'S FAX
Asrar Faheem	(909) 396-7662	(909) 396-1455

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T	Analyses: 524.2 (VOCs)	314.0 (Perchlorates)	200.8 (Total Chromium)	7196 (Hex Chrome)					Comments
1	MW-24-4	H_2O	2/17/03	1120	HNO_3 NONE	2	III	NORMAL			X	X					
2	MW-24-3	↓	↓	1205	HCl HNO_3 NONE	3+1+1	↓	↓	X	X	X	X					1858
3	MW-24-2	↓	↓	1240	↓	↓	↓	↓	X	X	X	X					
4	MW-24-1	↓	↓	1315	↓	↓	↓	↓	X	X	X	X					
5																	
6																	
7																	
8																	
9																	
10																	

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	Barbara Stinson	2/17/03	1355	
Barbara Stinson	[illegible]	2/17/03	1440	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

GEOFON INCORPORATED

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CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

MW-23 ~~0009~~ 0010

GEOFON's LAB COORDINATOR: Brad Shojaee	LAB COORDINATOR'S PHONE: (909) 396-7662	LAB COORDINATOR'S FAX: (909) 396-1455	LABORATORY SERVICE ID: —	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON, INC.
PROJECT NAME: SPL GW Mon-1Q03	PROJECT LOCATION: MW-23 (N. of BLDG 233)	PROJECT NUMBER: 04-4428.10	LABORATORY PHONE: (909) 590-1828	LABORATORY FAX: (909) 590-1498	RECIPIENT NAME: Leo W. Williamson
PROJECT CONTACT: Leo W. Williamson	PROJECT PHONE NUMBER: (714) 920-8729	PROJECT FAX: (909) 396-1455	LABORATORY ADDRESS: 13760 Magnolia Ave		ADDRESS: 22632 Golden Springs Dr. #270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA.	CLIENT: US NAVY, SWDIV	CITY, STATE AND ZIPCODE: Chino, CA. 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA. 91765
PROJECT MANAGER: Asrar Faheem	PROJECT MANAGER'S PHONE: (909) 396-7662	PROJECT MANAGER'S FAX: (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: 524.2 (VOCs)	314.0 (Perchlorates)	200.8 (Total Chromium)	7196 (Hex Chrome)					Comments
1	MW-23-3	H_2O	2/17/03	845	HCl HNO_3 NONE	3+1+1	III	NORMAL	X	X	X	X					MS/MSD
2	MW-23-2	↓	↓	920	↓	↓	↓	↓	X	X	X	X					
3	MW-23-1	↓	↓	955	↓	↓	↓	↓	X	X	X	X					1858
4																	
5	EB-9-2/17/03	H_2O	2/17/03	925	HCl HNO_3 NONE	3+1+1	III	NORMAL	X	X	X	X					
6	TB-9-2/17/03	↓	N/A	N/A	HCl	2	↓	↓	X								
7																	
8	MW-23-4	H_2O	2/17/03	740	NONE HNO_3	2	III	NORMAL			X	X					
9																	
10																	

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	Richard Steiner	2/17/03	13:55	
Richard Steiner	[illegible]	2/17/03	14:40	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

MW-11 0013

GEOFON's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Brad Bhojgee	(909) 396-7662	(909) 396-1455	—	Kenny Chan	GEOFON, INC.

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY PHONE	LABORATORY FAX	RECIPIENT NAME
JPL GW Mon-1Q03	MW-11 (S. of Bldg. 277)	04-4428.10	(909) 590-1328	(909) 590-1499	Leo W. Williamson

PROJECT CONTACT	PROJECT PHONE NUMBER	PROJECT FAX	LABORATORY ADDRESS	ADDRESS
Leo W. Williamson	(714) 920-8729	(909) 396-1455	13760 Magnolia Ave	22632 Golden Springs Dr. #270

PROJECT ADDRESS	CITY, STATE AND ZIPCODE	CLIENT	CITY, STATE AND ZIPCODE	CITY, STATE AND ZIPCODE
4800 Oak Grove Dr.	Pasadena CA.	US NAVY SWDIV	Chino, CA. 91710	Diamond Bar, CA. 91765

PROJECT MANAGER	PROJECT MANAGER'S PHONE	PROJECT MANAGER'S FAX
Asrar Faheem	(909) 396-7662	(909) 396-1455

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	524.2 (VOCs)	314.0 (Perchlorates)	200.8 (Total Chromium)	7196 (Hex. Chrome)					Comments
1	MW-11-4	H_2O	2/18/03	1055	HCl HNO_3 None	3+1+1	III	NORMAL	X	X							
2	MW-11-3	↓	↓	1145	↓	↓	↓	↓	X	X	X	X					
3	MW-11-2	↓	↓	1220	↓	↓	↓	↓	X	X	X	X					
4	MW-11-1	↓	↓	1250	↓	↓	↓	↓	X	X	X	X					
5																	
6																	
7																	
8																	
9																	
10																	

1858

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	[illegible]	2/18/03	13:56	
[illegible]	[illegible]	2/18/03	1500	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

GEOFON INCORPORATED
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CHAIN-OF-CUSTODY RECORD

MW-22

LABORATORY COPY 0012

GEOFON's LAB COORDINATOR: Brad Shojaee	LAB COORDINATOR'S PHONE: (909) 396-7662	LAB COORDINATOR'S FAX: (909) 396-1455	LABORATORY SERVICE ID: —	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON, INC.
PROJECT NAME: JPL GW Mon-1903	PROJECT LOCATION: MW-22 (N. of Bl 06 180)	PROJECT NUMBER: 04-4428.10	LABORATORY PHONE: (909) 590-1828	LABORATORY FAX: (909) 590-1498	RECIPIENT NAME: Leo W. Williamson
PROJECT CONTACT: Leo W. Williamson	PROJECT PHONE NUMBER: (714) 920-8729	PROJECT FAX: (909) 396-1455	LABORATORY ADDRESS: 13760 Magnolia Ave		ADDRESS: 22632 Golden Springs Dr #220
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA.	CLIENT: US NAVY SWDIV	CITY, STATE AND ZIPCODE: Chino, CA. 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA. 91765
PROJECT MANAGER: Asrar Faheem	PROJECT MANAGER'S PHONE: (909) 396-7662	PROJECT MANAGER'S FAX: (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: 524.2 (VOCs)	314.0 (Perchlorates)	200.8 (Total Chromium)	7196 (Hex Chrome)					Comments
1	MW-22-3	H_2O	2/18/03	735	HCl HNO3 NONE	3+1+1	III	NORMAL	X	X	X	X					
2	MW-22-2	↓	↓	835	↓	↓	↓	↓	X	X	X	X					
3	MW-22-1	↓	↓	940	↓	↓	↓	↓	X	X	X	X					MS/MSD
4																	
5	TB-10-2/18/03	H_2O	N/A	N/A	HCl	3	III	NORMAL	X								
6	EB-10-2/18/03	↓	2/18/03	845	HCl HNO3 NONE	3+1+1	↓	↓	X	X	X	X					
7	DUPE-5-1Q03	↓	↓	N/A	↓	↓	IV	↓	X	X	X	X					DUPLICATE SAMPLE
8																	
9																	
10																	

1858

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	[signature]	2/18/03	13:55	
	[signature]	2/18/03	1500	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

GEOFON INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

SHALLOW WELLS

LABORATORY COPY 0014

GEOFON's LAB COORDINATOR: Brad Shojaee	LAB COORDINATOR'S PHONE: (909) 396-7662	LAB COORDINATOR'S FAX: (909) 396-1455	LABORATORY SERVICE ID: —	LABORATORY CONTACT: Kenny Chan	MAIL REPORT (COMPANY NAME): GEOFON, INC.
PROJECT NAME: JPL GW MON-1Q03	PROJECT LOCATION: Various Areas	PROJECT NUMBER: 04-4432.10	LABORATORY PHONE: (909) 590-1828	LABORATORY FAX: (909) 590-1498	RECIPIENT NAME: Leo W. Williamson
PROJECT CONTACT: Leo W. Williamson	PROJECT PHONE NUMBER: (714) 920-8729	PROJECT FAX: (909) 396-1455	LABORATORY ADDRESS: 13760 Magnolia Ave		ADDRESS: 22632 Golden Springs Dr. #270
PROJECT ADDRESS: 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE: Pasadena, CA.	CLIENT: US NAVY SWDIV	CITY, STATE AND ZIPCODE: Chino, CA. 91710		CITY, STATE AND ZIPCODE: Diamond Bar, CA. 91765
PROJECT MANAGER: Asrar Faheem	PROJECT MANAGER'S PHONE: (909) 396-7662	PROJECT MANAGER'S FAX: (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses: 524.2 (VOCs)	314.0 (Perchlorates)	200.8 (Total Chromium)	7196 (Hex Chrome)					Comments
1	MW-5	H_2O	2/19/03	840	HCl HNO3 NONE	3+1+1	III	NORMAL	X	X	X	X					
2																	
3	TB-12-2/19/03	H_2O	—	—	HCl	2	III	NORMAL	X								
4																	
5																	
6																	
7																	
8																	
9																	
10																	

1858

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	[illegible]	2/19/03	12:21	
	[illegible]	2/19/03	1300	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

GEOFON INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

SHALLOW WELLS

LABORATORY COPY 0015

GEOFON's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Brad Shojaee	(909) 396-7662	(909) 396-1455	—	Kenny Chan	GEOFON, INC.
PROJECT NAME:	**PROJECT LOCATION**	**PROJECT NUMBER**	**LABORATORY PHONE**	**LABORATORY FAX**	**RECIPIENT NAME**
JPL GW Mon - 1903	MW-13 / MW-6 / MW-10 / MW-15	04-4428.10	(909) 590-1828	(909) 590-1498	Leo W. Williamson
PROJECT CONTACT	**PROJECT PHONE NUMBER**	**PROJECT FAX**	**LABORATORY ADDRESS**		**ADDRESS**
Leo W. Williamson	(714) 920-8729	(909) 396-1455	13760 Magnolia Ave		22632 Golden Springs Dr. #270
PROJECT ADDRESS	**CITY, STATE AND ZIPCODE**	**CLIENT**	**CITY, STATE AND ZIPCODE**		**CITY, STATE AND ZIPCODE**
4800 Oak Grove Dr.	Pasadena, CA.	US NAVY, SWDIV	Chino, CA. 91710		Diamond Bar, CA. 91765
PROJECT MANAGER	**PROJECT MANAGER'S PHONE**	**PROJECT MANAGER'S FAX**			
Asrar Faheem	(909) 396-7662	(909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T	Analyses: 524.2 (VOCs)	314.0 (Perchlorates)	200.8 (Total Chromium)	7196 (Hex Chrome)					Comments
1	MW-13	H_2O	2/20/03	820	HCl HNO3 NONE	3+HI	III	NORMAL	X	X	X	X					
2	MW-6	↓	↓	1025	↓	↓	↓	↓	X	X	X	X					
3	MW-10	↓	↓	1210	↓	↓	↓	↓	X	X	X	X					
4	MW-15	↓	↓		↓	↓	↓	↓			X	X					
5																	
6	TB-12-2/20/03	H_2O	N/A	N/A	HCl	2	III	NORMAL	X								
7																	
8																	
9																	
10																	

1858

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	[illegible]	2/20/03	1500	
[illegible]	[illegible]	2/20/03	1615	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

GEOFON INCORPORATED
22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

SHALLOW WELLS

LABORATORY COPY 0016

GEOFON's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Brad Shojaee	(909) 396-7662	(909) 396-1455	—	Kenny Chan	GEOFON, INC.
PROJECT NAME: JPL GW Mon-1903	PROJECT LOCATION MW-8 / MW-16 / MW-7	PROJECT NUMBER 04-4428.10	LABORATORY PHONE (909) 590-1828	LABORATORY FAX (909) 590-1498	RECIPIENT NAME Leo W. Williamson
PROJECT CONTACT Leo W. Williamson	PROJECT PHONE NUMBER (714) 920-8729	PROJECT FAX (909) 396-1455	LABORATORY ADDRESS 13760 Magnolia Ave		ADDRESS 22632 Golden Springs Dr. #270
PROJECT ADDRESS 4800 Oak Grove Dr.	CITY, STATE AND ZIPCODE Pasadena, CA	CLIENT US NAVY, SWDIV	CITY, STATE AND ZIPCODE Chino, CA. 91710		CITY, STATE AND ZIPCODE Diamond Bar, CA. 91765
PROJECT MANAGER Asrar Faheem	PROJECT MANAGER'S PHONE (909) 396-7662	PROJECT MANAGER'S FAX (909) 396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	524.2 (VOCs)	314.0 (Perchlorates)	200.8 (Total Chromium)	7196 (Hex Chrome)					Comments
1	MW-8	H_2O	2/24/03	930	HCl HNO3 NONE	3+1+1	III	NORMAL	X	X	X	X					
2	MW-16	↓	↓	1150	↓	↓	↓	↓	X	X	X	X					MS/MSD
3	MW-7	↓	↓	1350	↓	↓	↓	↓	X	X	X	X					
4																	
5	DUPE-6-1903	H_2O	2/24/03	N/A	HCl HNO3 NONE	3+1+1	IV	NORMAL	X	X	X	X					
6	TB-13-2/24/03	↓	N/A	N/A	HCl	2	III	↓	X								1858
7																	
8																	
9																	
10																	

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	[illegible]	2/24/03	1410	
[illegible]	[illegible]	2/24/03	1942	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

APCL Project: #1858

ATL #: 062092

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Table of Contents:

ATL #: 062092
APCL #: **#1858**

Section	Pages
Case Narrative	003-004
Sample Receiving Items	005-007
EPA 200.8	008-110

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

April 01, 2003

Kenny Chan
Applied P & Ch Laboratories
13760 E. Magnolia Ave.
Chino, CA 91710
TEL: (909) 590-1828
FAX: (909) 590-1498

RE: #1858, JPL

Attention: Kenny Chan

ELAP No.: 1838
NELAP No.: 02107CA
Workorder No.: 062092

Enclosed are the results for sample(s) received on March 27, 2003 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

This cover letter is an integral part of this analytical report.

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

003

Advanced Technology Laboratories

Date: *17-Apr-03*

CLIENT: Applied P & Ch Laboratories
Project: #1858, JPL
Lab Order: 062092

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
062092-001A	MW-24-3		02/17/2003 12:05:00 PM	03/27/2003
062092-002A	MW-24-2		02/17/2003 12:40:00 PM	03/27/2003
062092-003A	MW-24-1		02/17/2003 1:15:00 PM	03/27/2003
062092-004A	MW-24-4		02/17/2003 11:20:00 AM	03/27/2003
062092-005A	MW-23-3		02/17/2003 8:45:00 AM	03/27/2003
062092-006A	MW-23-2		02/17/2003 9:20:00 AM	03/27/2003
062092-007A	MW-23-1		02/17/2003 9:55:00 AM	03/27/2003
062092-008A	EB-9-2/17/03		02/17/2003 9:25:00 AM	03/27/2003
062092-009A	MW-23-4		02/17/2003 7:40:00 AM	03/27/2003
062092-010A	MW-11-3		02/18/2003 11:45:00 AM	03/27/2003
062092-011A	MW-11-2		02/18/2003 12:20:00 PM	03/27/2003
062092-012A	MW-11-1		02/18/2003 12:50:00 PM	03/27/2003
062092-013A	MW-22-3		02/18/2003 7:35:00 AM	03/27/2003
062092-014A	MW-22-2		02/18/2003 8:35:00 AM	03/27/2003
062092-015A	MW-22-1		02/18/2003 9:40:00 AM	03/27/2003
062092-016A	EB-10-2/18/03		02/18/2003 8:45:00 AM	03/27/2003
062092-017A	Dupe-5-1Q03		02/18/2003	03/27/2003
062092-018A	MW-5		02/19/2003 8:40:00 AM	03/27/2003
062092-019A	MW-13		02/20/2003 8:20:00 AM	03/27/2003
062092-020A	MW-6		02/20/2003 10:25:00 AM	03/27/2003
062092-021A	MW-10		02/20/2003 12:10:00 PM	03/27/2003
062092-022A	MW-15		02/20/2003	03/27/2003
062092-023A	MW-8		02/24/2003 9:30:00 AM	03/27/2003
062092-024A	MW-16		02/24/2003 11:50:00 AM	03/27/2003
062092-025A	MW-7		02/24/2003 1:50:00 PM	03/27/2003
062092-026A	Dupe-6-1Q03		02/24/2003	03/27/2003

Advanced Technology Laboratories
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Sample Receiving Items

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen Page 1 of 2

Subcontract Lab: ATL Contact: Purz Tel #: (562) 989-4045 Fax #: (562) 989-4040
Address: 3275 Walnut Avenue City: Signal Hill State: CA Zip code: 90807
APCL Client: #1858 APCL Contact: Kenny Chan
Project Name/Code JPL Job # JPL
BILL TO APCL Sub Quotation #
Due Date: ☐regular ☐rush: ___ days ___ hours Sampled by:

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preser-vation	# of Containers	Analysis Items: Total Chromium (200.8)											Remarks
	MW-24-3	2/17/03	1205	W	HNO3	1	X											K.C 4
	MW-24-2		1240			1	X											Level ~~3~~ Package
	MW-24-1		1315			1	X											+ EDD
	MW-24-4		1120			1	X											
	MW-23-3		0845			2	X											MS/MSD
	MW-23-2		0920			1	X											
	MW-23-1		0955			1	X											
	EB-9-2/17/03		0925			1	X											
	MW-23-4		0740			1	X											
	MW-11-3	2/18/03	1145			1	X											
	MW-11-2		1220			1	X											
	MW-11-1		1250			1	X											
	MW-22-3		0735			1	X											
	MW-22-2		0835			1	X											
	MW-22-1		0940			2	X											MS/MSD

QC Requirement: ☐Regular; ☐QA/QC Report; ☐WIP; ☐Raw Data; ☐Extended Raw Data ☐CLP; ☐ACE ☐AFCEE ☐NEESA ___ (E, C or D); ☐Other _____ (Please specify)

Sample Disposal: ☐Return ☐Disposal by APCL ☐Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐Intact; ☐Broken. Cooler Seal: ☐Intact; ☐Broken; ☐ None . Tag # _____ Temperature: ☐ Room ☑Cold (5.4 °C).

Relinquished by Paul Kan Date/Time 3/25/03 / 1500 Received by [signature] Date/Time 3/27/03 / 10:00AM
Relinquished by [signature] Date/Time 3/27/03 / 1137 Received by [signature] Date/Time 032703 / 11:40am

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

APCL Form 4-101, Ver. 4.0, Jan. 17, 2003.

Root-file:[CUST.DATA.LAB]CHAIN-ROOT-sub.TEX File:[CUST.DATA.LAB]CHAIN6.TEX

006

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen

Subcontract Lab: ATL Contact: Puri Tel #: (562) 989-4045 Fax #: (562) 989-4040

Address: 3275 Walnut Avenue City: Signal Hill State: CA Zip code: 90807

APCL Client: #1858 APCL Contact: Kenny Chan

Project Name/Code JPL Job #

BILL TO APCL Sub Quotation #

Due Date: ☐regular ☐rush: ___ days ___ hours Sampled by:

Analysis Items

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preser-vation	# of Containers	Total Chromium (200.8)											Remarks
	EB-10-2/18/03	2/18/03	0845	W	HNO3	1	X											KU 4
	Dupe-5-1Q03	2/18/03				1	X											Level X Package
	MW-5	2/19/03	0840			1	X											+ EDD
	MW-13	2/20/03	0820			1	X											
	MW-6	2/20/03	1025			1	X											
	MW-10	2/20/03	1210			1	X											
	MW-15	2/20/03				1	X											
	MW-8	2/24/03	0930			1	X											
	MW-16	2/24/03	1150			2	X											MS/MSD
	MW-7	2/24/03	1350			1	X											
	Dupe-6-1Q03	2/24/03				1	X											

QC Requirement: ☐Regular; ☐QA/QC Report; ☐WIP; ☐Raw Data; ☐Extended Raw Data ☐CLP; ☐ACE ☐AFCEE ☐NEESA ___ (E, C or D); ☐Other _____ (Please specify)

Sample Disposal: ☐Return ☐Disposal by APCL ☐Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: ☐Intact; ☐Broken. Cooler Seal: ☐Intact; ☐Broken; ☐ None . Tag # _____ Temperature: ☐ Room ☑Cold (5.4 °C).

Relinquished by Paul Kou Date/Time 3/25/03 / 1500 Received by Richard Stanson Date/Time 3-27-03 / 10:00am

Relinquished by Richard Stanson Date/Time 3/27/03 / 1137 Received by [signature] Date/Time 032703 / 11:40am

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

INORGANICS COMPLETE INVENTORY SHEET

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: #1858

Laboratory Name: Advanced Technology Laboratories
Laboratory Address: 3275 Walnut Avenue, Signal Hill, CA 90807

ATL Number: 062092
Date Sampled: 02/17/03
Date Received: 03/27/03

Method 200.8 (Metals)

	Topic	Page(s)
Sample Data	Inorganic Data Result Sheet	009-015
Standards Data	Initial Calibration	016
	Initial Calibration Verification and Continuing Calibration Verification/External Reference Standard	017-019
	Tune File	020-021
	Internal Standard Table	022-023
Raw QC Data	Blank Report Sheet	024-026
	Spike Sample Recovery	027-028
	Laboratory Control Spike Report	029-030
	Duplicate Report Sheet	031-033
	Holding Times Summary Sheet	034-035
Miscellaneous Items	Preparation Log	036-037
	Analysis Run Log	038-039
	Standards Log	040-047
	List of Method Detection Limits	048
Raw Data Package	Standards Data Sample Data QC Data	049-110

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *01-Apr-03*

CLIENT: Applied P & Ch Laboratories
Project: #1858, JPL
Lab Order: 062092

Lab ID: 062092-001 **Collection Date:** 2/17/2003 12:05:00 PM
Client Sample ID: MW-24-3 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
EPA 200.8						
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	2.5	1.0		µg/L	1	3/28/2003

Lab ID: 062092-002 **Collection Date:** 2/17/2003 12:40:00 PM
Client Sample ID: MW-24-2 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
EPA 200.8						
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	2.4	1.0		µg/L	1	3/28/2003

Lab ID: 062092-003 **Collection Date:** 2/17/2003 1:15:00 PM
Client Sample ID: MW-24-1 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
EPA 200.8						
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	4.9	1.0		µg/L	1	3/28/2003

Lab ID: 062092-004 **Collection Date:** 2/17/2003 11:20:00 AM
Client Sample ID: MW-24-4 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
EPA 200.8						
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	1.5	1.0		µg/L	1	3/28/2003

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *01-Apr-03*

CLIENT: Applied P & Ch Laboratories
Project: #1858, JPL
Lab Order: 062092

Lab ID: 062092-005 **Collection Date:** 2/17/2003 8:45:00 AM
Client Sample ID: MW-23-3 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
EPA 200.8						
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	3.9	1.0		µg/L	1	3/28/2003

Lab ID: 062092-006 **Collection Date:** 2/17/2003 9:20:00 AM
Client Sample ID: MW-23-2 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
EPA 200.8						
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	3.8	1.0		µg/L	1	3/28/2003

Lab ID: 062092-007 **Collection Date:** 2/17/2003 9:55:00 AM
Client Sample ID: MW-23-1 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
EPA 200.8						
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	3.4	1.0		µg/L	1	3/28/2003

Lab ID: 062092-008 **Collection Date:** 2/17/2003 9:25:00 AM
Client Sample ID: EB-9-2/17/03 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
EPA 200.8						
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	ND	1.0		µg/L	1	3/28/2003

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *01-Apr-03*

CLIENT: Applied P & Ch Laboratories
Project: #1858, JPL
Lab Order: 062092

Lab ID: 062092-009 **Collection Date:** 2/17/2003 7:40:00 AM
Client Sample ID: MW-23-4 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	2.5	1.0		µg/L	1	3/28/2003

Lab ID: 062092-010 **Collection Date:** 2/18/2003 11:45:00 AM
Client Sample ID: MW-11-3 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	2.3	1.0		µg/L	1	3/28/2003

Lab ID: 062092-011 **Collection Date:** 2/18/2003 12:20:00 PM
Client Sample ID: MW-11-2 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	2.3	1.0		µg/L	1	3/28/2003

Lab ID: 062092-012 **Collection Date:** 2/18/2003 12:50:00 PM
Client Sample ID: MW-11-1 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	2.6	1.0		µg/L	1	3/28/2003

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *01-Apr-03*

CLIENT: Applied P & Ch Laboratories
Project: #1858, JPL
Lab Order: 062092

Lab ID: 062092-013 **Collection Date:** 2/18/2003 7:35:00 AM
Client Sample ID: MW-22-3 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C	QC Batch: R26260					Analyst: **NS**
Chromium	3.6	1.0		µg/L	1	3/28/2003

Lab ID: 062092-014 **Collection Date:** 2/18/2003 8:35:00 AM
Client Sample ID: MW-22-2 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C	QC Batch: R26260					Analyst: **NS**
Chromium	3.5	1.0		µg/L	1	3/28/2003

Lab ID: 062092-015 **Collection Date:** 2/18/2003 9:40:00 AM
Client Sample ID: MW-22-1 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C	QC Batch: R26260					Analyst: **NS**
Chromium	4.1	1.0		µg/L	1	3/28/2003

Lab ID: 062092-016 **Collection Date:** 2/18/2003 8:45:00 AM
Client Sample ID: EB-10-2/18/03 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C	QC Batch: R26260					Analyst: **NS**
Chromium	ND	1.0		µg/L	1	3/28/2003

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *01-Apr-03*

CLIENT: Applied P & Ch Laboratories
Project: #1858, JPL
Lab Order: 062092

Lab ID: 062092-017 **Collection Date:** 2/18/2003
Client Sample ID: Dupe-5-1Q03 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	3.2	1.0		µg/L	1	3/28/2003

Lab ID: 062092-018 **Collection Date:** 2/19/2003 8:40:00 AM
Client Sample ID: MW-5 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	6.8	1.0		µg/L	1	3/28/2003

Lab ID: 062092-019 **Collection Date:** 2/20/2003 8:20:00 AM
Client Sample ID: MW-13 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	90	5.0		µg/L	5	3/28/2003

Lab ID: 062092-020 **Collection Date:** 2/20/2003 10:25:00 AM
Client Sample ID: MW-6 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328C QC Batch: R26260						Analyst: **NS**
Chromium	6.4	1.0		µg/L	1	3/28/2003

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Advanced Technology Laboratories
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Advanced Technology Laboratories

Date: *01-Apr-03*

CLIENT: Applied P & Ch Laboratories
Project: #1858, JPL
Lab Order: 062092

Lab ID: 062092-021 **Collection Date:** 2/20/2003 12:10:00 PM
Client Sample ID: MW-10 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328D	QC Batch: R26261					Analyst: **NS**
Chromium	11	1.0		µg/L	1	3/28/2003

Lab ID: 062092-022 **Collection Date:** 2/20/2003
Client Sample ID: MW-15 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328D	QC Batch: R26261					Analyst: **NS**
Chromium	6.3	1.0		µg/L	1	3/28/2003

Lab ID: 062092-023 **Collection Date:** 2/24/2003 9:30:00 AM
Client Sample ID: MW-8 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328D	QC Batch: R26261					Analyst: **NS**
Chromium	9.4	1.0		µg/L	1	3/28/2003

Lab ID: 062092-024 **Collection Date:** 2/24/2003 11:50:00 AM
Client Sample ID: MW-16 **Matrix:** WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328D	QC Batch: R26261					Analyst: **NS**
Chromium	7.2	1.0		µg/L	1	3/28/2003

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Advanced Technology Laboratories
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Advanced Technology Laboratories

Date: *01-Apr-03*

CLIENT: Applied P & Ch Laboratories
Project: #1858, JPL
Lab Order: 062092

Lab ID: 062092-025
Collection Date: 2/24/2003 1:50:00 PM
Client Sample ID: MW-7
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328D	QC Batch: R26261					Analyst: **NS**
Chromium	7.4	1.0		µg/L	1	3/28/2003

Lab ID: 062092-026
Collection Date: 2/24/2003
Client Sample ID: Dupe-6-1Q03
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
				EPA 200.8		
RunID: ICP4_030328D	QC Batch: R26261					Analyst: **NS**
Chromium	7.3	1.0		µg/L	1	3/28/2003

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL
ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) - INITIAL CALIBRATION

Instrument ID: ICP4
Date(s) Analyzed: 03/28/03

Initial Calibration:

	INTENSITY				
COMPOUND	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	r2
Chromium	12024	52675	97295	184757	0.9999

Standard Concentration:	0.5 ppb	5 ppb	10 ppb	20 ppb
Standard ID:	MST030328K	MST030328J	MST030328I	MST030328H

Calibration Acceptance Criteria: > 0.995 Correlation

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Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL
ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) INITIAL AND CONTINUING CALIBRATION VERFICATION

(EXTERNAL REFERENCE STANDARD)

Instrument ID: ICP4

Date Analyzed: 03/28/2003

	Source:	Standard Code:
Initial Calibration Verification:	CPI (1FF002)	MST030328M
Continuing Calibration Verification:	CPI(1FF02)	MST030328M

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found CCV1	Continuing Calibration %R(1)	Continuing Calibration Found CCV2	Continuing Calibration %R(1)	M
Chromium	10.0	10.1	101	10.0	9.4	94	9.47	95	PM

ICV Limits: 90 -110%
CCV Limits: 85 -115%

017

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL
ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) INITIAL AND CONTINUING CALIBRATION VERFICATION

(EXTERNAL REFERENCE STANDARD)

Instrument ID: ICP4

Date Analyzed: 03/28/2003

	Source:	Standard Code:
Initial Calibration Verification:	CPI (1FF002)	MST030328M
Continuing Calibration Verification:	CPI(1FF02)	MST030328M

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found CCV3	Continuing Calibration %R(1)	Continuing Calibration Found CCV4	Continuing Calibration %R(1)	M
Chromium	10.0	10.1	101	10.0	9.4	94	9.44	94	PM

ICV Limits: 90 -110%

CCV Limits: 85 -115%

018

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL
ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) INITIAL AND CONTINUING CALIBRATION VERFICATION

(EXTERNAL REFERENCE STANDARD)

Instrument ID: ICP4

Date Analyzed: 03/28/2003

	Source:	Standard Code:
Initial Calibration Verification:	CPI (1FF002)	MST030328M
Continuing Calibration Verification:	CPI(1FF02)	MST030328M

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found CCV1	Continuing Calibration %R(1)	Continuing Calibration Found CCV2	Continuing Calibration %R(1)	M
Chromium	10.0	10.1	101	10.0	9.5	95	9.40	94	PM

ICV Limits: 90 -110%
CCV Limits: 85 -115%

019

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Instrument Tuning Report

File Name: 030328.tun
File Path: D:\ELAN\TUNING\2003\March

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Be	9.012	9.028	2052	2040	0.712	
Mg	23.985	23.978	5702	2020	0.694	
Rh	102.905	102.878	24978	1955	0.743	
Ce	139.905	139.929	33977	2010	0.764	
Pb	207.977	207.978	50417	2270	0.744	
U	238.050	238.024	57638	2435	0.772	

020

Daily Performance Report

Sample ID: 030328-daily
Sample Date/Time: Friday, March 28, 2003 10:16:42
Sample Description:
Method File: c:\elandata\Method\Daily.mth
Dataset File: d:\elan\daily performance\2003\march\030328-daily.018
Tuning File: c:\elandata\Tuning\default.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35
Current Dead Time (ns): 35

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Mg	24.0	18189.0	18189.041	309.568	1.7
	Rh	102.9	162617.0	162617.005	979.993	0.6
	In	114.9	201652.8	201652.760	1911.811	0.9
	Pb	208.0	104503.9	104503.858	710.728	0.7
⌈>	Ba	137.9	183734.5	183734.495	800.401	0.4
⌊	Ba++	69.0	4187.8	0.023	0.001	4.6
⌈>	Ce	139.9	222236.8	222236.831	802.290	0.4
⌊	CeO	155.9	5691.9	0.026	0.000	1.6
	Bkgd	220.0	4.8	4.833	0.808	16.7

Current Optimization File Data

Current Value	Description
0.88	Nebulizer Gas Flow
7.00	Lens Voltage
1100.00	ICP RF Power
-1850.00	Analog Stage Voltage
1425.00	Pulse Stage Voltage
85.00	Discriminator Threshold
-1.50	AC Rod Offset
60.00	Service DAC 1
0.00	Quadrupole Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	9	6.5	5258.0
Co	59	9	7.5	125591.6
In	115	9	8.5	301783.2

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL
ATL Number: 062092
Date Received: 03/27/03

Instrument ID: ICP4 Internal Standard ID: MST021022I

Date Analyzed: 03/28/2003 Standard Concentration: 50 ug/L

QC Batch: R26260

			Scandium		Terbium	
			Area	% Rec	Area	% Rec
Calibration Blank			585608	---	1118182	---
Lab ID	Sample Description	APCL Lab ID:				
MB-R26260	MB-R26260	---	555989	95	934058	84
LCS-R26260	LCS-R26260	---	545299	93	915952	82
062092-005AMS	MW-23-3		622730	106	952473	85
062092-005AMSD	MW-23-3		628065	107	960238	86
062092-005A	MW-23-3		617675	105	961338	86
062092-005ADUP	MW-23-3		617122	105	963455	86
062092-001A	MW-24-3		573238	98	937935	84
062092-002A	MW-24-2		609106	104	936469	84
062092-003A	MW-24-1		611480	104	959964	86
062092-004A	MW-24-4		576555	98	949446	85
062092-006A	MW-23-2		641937	110	912527	82
062092-007A	MW-23-1		649363	111	906079	81
062092-008A	EB-9-2/17/03		550193	94	952392	85
062092-009A	MW-23-4		593527	101	938466	84
062092-010A	MW-11-3		587424	100	941587	84
062092-011A	MW-11-2		590824	101	944623	84
062092-012A	MW-11-1		595271	102	941591	84
062092-013A	MW-22-3		596328	102	932032	83
062092-014A	MW-22-2		604937	103	932881	83
062092-015A	MW-22-1		641625	110	921031	82
062092-015ADUP	MW-22-1		643787	110	908141	81
062092-016A	EB-10-2/18/03		542395	93	939589	84
062092-017A	Dupe-5-1Q03		610021	104	916282	82
062092-018A	MW-5		596160	102	935393	84
062092-019A	MW-13		627678	107	911400	82
062092-020A	MW-6		633289	108	917669	82

* Outside Acceptance Criteria
Acceptance Criteria: 60 - 125%

022

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL
ATL Number: 062092
Date Received: 03/27/03

Instrument ID: ICP4 Internal Standard ID: MST021022I

Date Analyzed: 03/28/2003 Standard Concentration: 50 ug/L

QC Batch: R26261

			Scandium		Terbium	
			Area	% Rec	Area	% Rec
Calibration Blank			585608	---	1118182	---
Lab ID	Sample Description	APCL Lab ID:				
MB-R26261	MB-R26261	---	535718	91	892091	80
LCS-R26261	LCS-R26261	---	532968	91	901491	81
062092-024AMS	MW-16		610884	104	925390	83
062092-024AMSD	MW-16		620975	106	941668	84
062092-024A	MW-16		615076	105	938013	84
062092-024ADUP	MW-16		610165	104	936862	84
062092-021A	MW-10		640776	109	918507	82
062092-022A	MW-15		581787	99	921639	82
062092-023A	MW-8		589527	101	925757	83
062092-025A	MW-7		595608	102	934970	84
062092-026A	Dupe-6-1Q03		591596	98	933009	83
062092-019A 5X	MW-13		590581	101	986433	88

n23

* Outside Acceptance Criteria

Acceptance Criteria: 60-128%

Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) METHOD BLANKS *

Instrument ID: ICP 4
Date Digested: N/A
Digestion Method: N/A

Dilution Factor: 1
Matrix: Water
Date Analyzed: 03/28/2003

QC Batch Number: R26260

Analyte	DLR	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Chromium	5	0.111		0.219		0.208		0.240		0.139		PM

024

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) METHOD BLANKS *

Instrument ID: ICP 4
Date Digested: N/A
Digestion Method: N/A

Dilution Factor: 1
Matrix: Water
Date Analyzed: 03/28/2003

QC Batch Number: R26261

Analyte	DLR	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Chromium	5	0.111		0.285		0.281		0.237		0.241		PM

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) METHOD BLANKS *

Instrument ID: ICP 4
Date Digested: N/A
Digestion Method: N/A

Dilution Factor: 1
Matrix: Water
Date Analyzed: 03/28/2003

QC Batch Number: R26261

Analyte	DLR	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Chromium	5	0.111		0.295		0.237				0.241		PM

026

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) METALS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Sample ID: 062092-005A
APCL Lab ID: ---
Sample Description: MW-23-3

Date Sampled: 02/17/2003
Date Digested: N/A
Digestion Method: N/A
MS Spike Code: MST030328G

Concentration Units: ug/L
Dilution Factor: 1
Matrix: Water
Date Analyzed: 03/28/2003

Instrument ID: ICP4

QC Batch Number: R26260

Analyte	Sample Concentration	Spike Added	Spike Result	Spike Dup. Result	Spike % Rec.	Spike Dup. % Rec.	RPD	QC Limits RPD	QC Limits % Rec.
Chromium	3.89	10	11.7	11.62	78	77	1	20	80 - 120

* Values outside of QC limits

RPD:_____0____ out of _____1_____ outside limits

127

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) METALS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Sample ID: 062092-024A
APCL Lab ID: ---
Sample Description: MW-16

Date Sampled: 02/24/2003
Date Digested: N/A
Digestion Method: N/A
MS Spike Code: MST021125A

Concentration Units: ug/L
Dilution Factor: 1
Matrix: Water
Date Analyzed: 03/28/2003

Instrument ID: ICP4

QC Batch Number: R26261

Analyte	Sample Concentration	Spike Added	Spike Result	Spike Dup. Result	Spike % Rec.	Spike Dup % Rec.	RPD	QC Limits RPD	QC Limits % Rec.
Chromium	7.19	10	14.8	14.6	76	74	1	20	80 - 120

* Values outside of QC limits

RPD:_____0____ out of _____1_____ outside limits

028

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) LABORATORY CONTROL SAMPLE

Lab Sample ID: LCS-R26260

Concentration Units: ug/L
Dilution Factor: 1

Date Digested: N/A
Digestion Method: N/A

Matrix: Water
Date Analyzed: 03/28/2003
Instrument ID: ICP4

QC Batch Number: R26260

LCS Standard Code: MST030328L

Analyte	Aqueous (ug/L) Ref Value	True	Found	%R	Solid (ug/kg) True	Found	C	%R		Limits
Chromium	0	10	9.54	95.4						85-115

* Values outside of QC limits

Spike Recovery: ___0_____ out of ____1_____ outside limits

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) LABORATORY CONTROL SAMPLE

Lab Sample ID: LCS-R26261

Concentration Units: ug/L
Dilution Factor: 1

Date Digested: N/A
Digestion Method: N/A

Matrix: Water
Date Analyzed: 03/28/2003
Instrument ID: ICP4

QC Batch Number: R26261

LCS Standard Code: MST030328L

Analyte	Aqueous (ug/L) Ref Value	True	Found	%R	Solid (ug/kg) True	Found	C	%R		Limits
Chromium	0	10	9.35	93.5						85-115

* Values outside of QC limits

Spike Recovery: ___0_____ out of ____1_____ outside limits

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) SAMPLE DUPLICATE

Lab Sample ID: 062092-005A
APCL Lab ID: ---
Sample Description: MW-23-3

Date Sampled: 02/17/2003
Date Digested: N/A
Digestion Method: N/A

Concentration Units: ug/l
Dilution Factor: 1

Matrix: Water
Date Analyzed: 03/28/2003
Instrument ID: ICP 4

QC Batch Number: R26260

Analyte	DLR	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Chromium	5	3.89		3.91		0		

Acceptance Criteria: +/- 30%

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) SAMPLE DUPLICATE

Lab Sample ID: 062092-015A
APCL Lab ID: ---
Sample Description: MW-22-1

Date Sampled: 02/18/2003
Date Digested: N/A
Digestion Method: N/A

Concentration Units: ug/l
Dilution Factor: 1

Matrix: Water
Date Analyzed: 03/28/2003
Instrument ID: ICP 4

QC Batch Number: R26260

Analyte	DLR	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Chromium	5	4.06		3.75		2		

Acceptance Criteria: +/- 30%

032

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 062092
Date Received: 03/27/03

(EPA 200.8) SAMPLE DUPLICATE

Lab Sample ID: 062092-024A
APCL Lab ID: ---
Sample Description: MW-16

Date Sampled: 02/24/2003
Date Digested: N/A
Digestion Method: N/A

Concentration Units: ug/l
Dilution Factor: 1

Matrix: Water
Date Analyzed: 03/28/2003
Instrument ID: ICP 4

QC Batch Number: R26261

Analyte	DLR	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Chromium	5	7.19		7.43		1		

Acceptance Criteria: +/- 30%

033

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL
ATL Number: 062092
Date Received: 03/27/03

HOLDING TIME SUMMARY _ EPA 200.8

	Lab Sample ID	Client Sample ID	Sample Description	Date Sampled	Date Digested	Contract Holding Time
1	062092-001A	MW-24-3		02/17/2003	N/A	6 Months
2	062092-002A	MW-24-2		02/17/2003	N/A	6 Months
3	062092-003A	MW-24-1		02/17/2003	N/A	6 Months
4	062092-004A	MW-24-4		02/17/2003	N/A	6 Months
5	062092-005A	MW-23-3		02/17/2003	N/A	6 Months
6	062092-006A	MW-23-2		02/17/2003	N/A	6 Months
7	062092-007A	MW-23-1		02/17/2003	N/A	6 Months
8	062092-008A	EB-9-2/17/03		02/17/2003	N/A	6 Months
9	062092-009A	MW-23-4		02/17/2003	N/A	6 Months
10	062092-010A	MW-11-3		02/18/2003	N/A	6 Months
11	062092-011A	MW-11-2		02/18/2003	N/A	6 Months
12	062092-012A	MW-11-1		02/18/2003	N/A	6 Months
13	062092-013A	MW-22-3		02/18/2003	N/A	6 Months
14	062092-014A	MW-22-2		02/18/2003	N/A	6 Months
15	062092-015A	MW-22-1		02/18/2003	N/A	6 Months
16	062092-016A	EB-10-2/18/03		02/18/2003	N/A	6 Months
17	062092-017A	Dupe-5-1Q03		02/18/2003	N/A	6 Months
18	062092-018A	MW-5		02/19/2003	N/A	6 Months
19	062092-019A	MW-13		02/20/2003	N/A	6 Months
20	062092-020A	MW-6		02/20/2003	N/A	6 Months
21						

____0____ of __20___ sample(s) were outside of holding time.

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL
ATL Number: 062092
Date Received: 03/27/03

HOLDING TIME SUMMARY _ EPA 200.8

	Lab Sample ID	Client Sample ID	Sample Description	Date Sampled	Date Digested	Contract Holding Time
1	062092-021A	MW-10		02/20/2003	N/A	6 Months
2	062092-022A	MW-15		02/20/2003	N/A	6 Months
3	062092-023A	MW-8		02/24/2003	N/A	6 Months
4	062092-024A	MW-16		02/24/2003	N/A	6 Months
5	062092-025A	MW-7		02/24/2003	N/A	6 Months
6	062092-026A	Dupe-6-1Q03		02/24/2003	N/A	6 Months
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

____0____ of __6___ sample(s) were outside of holding time.

Advanced Technology Laboratories
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ICP-MS : Turbidity Check and Sample Preparation Log

QC Number: R26260 **Date Read / Digested:** 3/28/03

Method (Circle one):	Turb. Calibration	Matrix (Circle one):		Acid Lot #
1) (200.8)	100 NTU: 10 NTU	1) Drinking Water	4) Soil	Hydrochloric N/A
2) 3010A	Std Code: SCR-002	2) Ground Water	5) Solid	Nitric N/A
3) 3050B	Initials: RQ	3) Liquid	(6) Other water	
4) 3051				

	Sample ID	Turbidity Result *	Sample Wt./Vol.	Spike / LCS Amt. Added	Spike / LCS Conc. (ppm)	Spike Code	Final Vol (ml)	Initials	Comments
	MS 62092-5	0.27	10 ml	0.1 ml	1 ppm	RST030328G	10	NJ	
	MSD ↓	0.27	↓	↓	↓	↓	↓	↓	
	Method Blank	–	↓	–	–	–	↓	↓	
	LCS	–	↓	0.1	1 ppm	RST030328L	↓	↓	
	Blank MS								
	Blank MSD								
1	62092-1	0.09	10				10	NS	
2	2	0.11	↓				↓	↓	
3	3	0.06	↓				↓	↓	
4	4	0.93	↓				↓	↓	
5	5	0.27	↓				↓	↓	
6	6	0.16	↓				↓	↓	
7	7	0.30	↓				↓	↓	
8	8	0.06	↓				↓	↓	
9	9	0.18	↓				↓	↓	
10	10	0.09	↓				↓	↓	
11	11	0.13	↓				↓	↓	
12	12	0.32	↓				↓	↓	
13	13	0.16	↓				↓	↓	
14	14	0.28	↓				↓	↓	
15	15	0.21	↓				↓	↓	
16	16	0.21	↓				↓	↓	
17	17	0.09	↓				↓	↓	
18	18	0.19	↓				↓	↓	
19	19	0.18	↓				↓	↓	
20	20	0.40	↓				↓	↓	
DUP	62092-5 / 62092-15	0.27 / 0.29	↓				↓	↓	

* Turbidity <1 NTU **DOES NOT** need sample preparation.

Relinquished by / Date: _____

Received by / Date: _____

ICP-MS : Turbidity Check and Sample Preparation Log

QC Number: R26261 **Date Read / Digested:** 3/28/03

Method (Circle one):	Turb. Calibration	Matrix (Circle one):		Acid Lot #
1) (200.8)	100 NTU: 10 NTU	1) Drinking Water	4) Soil	Hydrochloric N/A
2) 3010A	Std Code: SCR-0022	2) Ground Water	5) Solid	Nitric N/A
3) 3050B	Initials: NS	3) Liquid	(6) Other water	
4) 3051				

Sample ID	Turbidity Result *	Sample Wt./Vol.	Spike / LCS Amt. Added	Spike / LCS Conc. (ppm)	Spike Code	Final Vol (ml)	Initials	Comments
MS 62092-24	0.23	10 ml	0.1 ml	1 ppm	MST030328G	10	NS	
MSD ↓	0.23	↓	↓	↓	↓	↓	↓	
Method Blank	–	↓	–	–	–	↓	↓	
LCS	–	↓	0.1	1 ppm	MST030328L	↓	↓	
Blank MS								
Blank MSD								
1 62092-21	0.10	10				10	NS	
2 -22	0.13	↓				↓	↓	
3 -23	0.79	↓				↓	↓	
4 -24	0.23	↓				↓	↓	
5 -25	0.09	↓				↓	↓	
6 -26	0.09	↓				↓	↓	
7 –								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
DUP 62092-24	0.23	10				10	NS	

* Turbidity <1 NTU **DOES NOT** need sample preparation.

Relinquished by / Date:

Received by / Date:

437