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NAS PENSACOLA
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INITIAL SEMI ANNUAL GROUNDWATER MONITORING FOR NATURAL ATTENUATION
LETTER REPORT FOR SITE 1140NW BRONSON FIELD NAS PENSACOLA FL
8/11/2000
TETRA TECH



TETRA TECH NUS, INC.

1401 Oven Park Drive • Suite 102 • Tallahassee, FL 32312
(850) 385-9899 • FAX (850) 385-9860 • www.tetrattech.com

August 11, 2000

Project Number 0380

Mr. Joe Fugitt, P.G.
Remedial Project Manager
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

**Reference: Clean Contract No. N62467-94-D0888
Contract Task Order No. 0106**

**Subject: Initial Semi-annual Groundwater Monitoring for Natural Attenuation Letter
Report: Site 1140NW, Outlying Landing Field Bronson, Pensacola, Florida**

Dear Mr. Fugitt:

This letter report presents the results of the initial semi-annual monitoring event of groundwater for Natural Attenuation completed by Tetra Tech NUS, Inc. (TtNUS) in response to the Florida Department of Environmental Protection (FDEP) response letter dated May 8, 2000 for the subject site. The response letter was issued by the FDEP based on their technical review of the Final Letter Report for Site 1140NW and the Contamination Assessment Report (CAR) Addendum dated November 1998. The FDEP approved the Natural Attenuation Monitoring Plan and proposed that monitoring wells MW-3, MW-8, and MW-9 be sampled for polynuclear aromatic hydrocarbons (PAHs) semi-annually for a period of two years. The letter also proposed analytical action levels and milestone objectives to be observed at the annual evaluation. A copy of the FDEP response letter is included as Attachment A.

The following text presents the results of the initial semi-annual monitoring activities and provides recommendations based on Chapter 62-770 of the Florida Administrative Code (FAC) and groundwater cleanup criteria as established in Chapter 62-777, FAC.

Groundwater Sampling

On May 25, 2000, TtNUS personnel collected groundwater samples from monitoring wells MW-3 MW-8 and MW-9. The monitoring well locations are shown on Figure 1, Attachment B. Groundwater samples were analyzed for PAHs by United States Environmental Protection Agency (US EPA) SW 846 Method 8310. Groundwater sampling activities were conducted in accordance with TtNUS's FDEP approved, Comprehensive Quality Assurance Plan (CQAP) No. 980038. An equipment rinsate blank was collected and analyzed for the same parameters to satisfy quality assurance and quality control requirements.

Prior to groundwater sampling, TtNUS personnel recorded water level measurements in the monitoring wells to be sampled to calculate well volumes for purging. Purging and sampling were performed using low flow sampling techniques with Teflon™ tubing and a peristaltic pump.

Following the collection of the groundwater samples, the sample bottles were packed on ice and shipped via overnight transport to Environmental Conservation Laboratories in Orlando, Florida for analysis. Groundwater sampling field forms are provided in Attachment C.

TiNUS personnel also collected water level measurements from all accessible monitoring wells (monitoring wells MW-4, MW-7, MW-10, and MW-15 could not be located) at the site. The depth-to-water measurements and top of casing elevations were later used to calculate groundwater elevations. The depth to groundwater on May 25, 2000 ranged from approximately 7.65 feet to 8.15 feet below land surface (bis). Groundwater elevations ranged from 22.07 feet mean sea level (MSL) to 22.35 feet MSL. The groundwater flow direction on March 25, 2000 was primarily in a westerly direction; similar to the direction previously reported in the CAR and CAR addendum. Depth to water measurements, top of casing elevations, and groundwater elevation data are provided in Table 1, Attachment D.

TiNUS personnel returned to the site on June 23, 2000 and using the method described above collected additional confirmatory groundwater samples from monitoring wells MW-3 and MW-8.

Groundwater Quality Results

The groundwater sampling analytical results for the May 25, 2000 sampling event are provided in Table 2, Attachment D. Review of the data indicates five analytes were detected in the groundwater samples at concentrations exceeding instrument detection limits. Three of the analytes: naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene were detected at concentrations exceeding FDEPs designated site-specific action levels. 1-methylnaphthalene and 2-methylnaphthalene were detected in the groundwater sample from source area monitoring well MW-3 at concentrations of 240 and 110 micrograms per liter ($\mu\text{g/L}$), respectively. The FDEP designated action level for each of these analytes in the source area is 200 $\mu\text{g/L}$ (see Attachment A). Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene were detected in site perimeter monitoring well MW-8 at concentrations of 37, 33, and 25 $\mu\text{g/L}$, respectively. The FDEP designated site-specific action level for each of these analytes in site perimeter monitoring wells is 20 $\mu\text{g/L}$ (Attachment A).

Based on the exceedance of the designated action levels, monitoring wells MW-3 and MW-8 were resampled for confirmation on June 23, 2000. The analytical results for the confirmation resampling along with historic analytical data are provided in Table 3, Attachment D. 1-methylnaphthalene (300 $\mu\text{g/L}$) was confirmed at a concentration exceeding action levels in source area monitoring well MW-3. And naphthalene (24 $\mu\text{g/L}$) and 1-methylnaphthalene (29 $\mu\text{g/L}$) were confirmed at concentrations exceeding action levels in site perimeter monitoring well MW-8.

A copy of the groundwater laboratory data report is provided as Attachment E.

Conclusion and Recommendations

Review of the CAR and CAR addendum indicate that contaminated soils were not identified at the site. Neither OVA field screening of soils or analytical results for soils collected from the excavation sidewalls during the tank removal indicated petroleum contamination. However, it is unknown if soil samples of the groundwater smear zone were collected. If PAHs were present in the smear zone they may act as a continuing source to groundwater that would not have been detected using OVA screening.

A review of groundwater analytical data, from the contamination assessment through the present sampling event (Table 3, Attachment D), indicates that detected concentrations of naphthalene

Mr. Joe Fugitt
FDEP
August 11, 2000 - Page 3

and 2-methylnaphthalene in the source area groundwater have decreased over time, however, 1-methylnaphthalene concentrations have not. In addition, concentrations of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene in the perimeter wells appear to have increased.

The initial semiannual groundwater sampling event and the confirmation sampling event both indicated exceedances of the FDEP site-specific action levels. When this occurs, 62-770 FAC is specific that the responsible party is required to submit a proposal to FDEP to either:

1. Perform a supplemental site assessment and submit a supplemental site assessment report pursuant to rule 62-770.600 FAC;
2. Perform additional monitoring; or
3. Prepare and submit a Remedial Action Plan pursuant to Rule 62-770.700 FAC.

Based on the comparison provided above, it is recommended that a supplemental site assessment be completed to determine if an additional continuing source area is present in the groundwater smear zone, if groundwater contaminant concentrations across the site have changed, and if upgradient sources are present. The supplemental site assessment should be conducted as a single sampling event and include approximately six soil borings to the water table in the area of the former UST location and collection of soil samples for PAH analysis. In addition, monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-8, MW-9, MW-11, DMW-12, and MW-13 should be sampled and analyzed for PAHs.

If you have any questions regarding this submittal, please contact me at (850) 385-9899.

Sincerely,
TETRA TECH NUS, INC.



Gerald A. Walker, P.G
Task Order Manager
Florida License No. PG-0001180

gw/gw

Enclosures (2)

c: B. Glover, Southern Division
G. Campbell, NAS Pensacola
Debbie Wroblewski (Cover Letter Only)
M. Perry/file (unbound)

ATTACHMENT A

**FDEP NATURAL ATTENUATION MONITORING APPROVAL LETTER FOR SITE 1140NW
OUTLYING FIELD (OLF) BRONSON, PENSACOLA, FLORIDA**



Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

May 8, 2000

Mr. Byas Glover
Code 18410
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

RE: Final Letter Report, Resampling of Monitoring Wells
MW-3 and MW-6, Site 1140NW, Outlying Landing Field
Bronson, Pensacola, Florida, DEP Facility # 179300938

Dear Mr. Glover:

I have completed the technical review of the Final Letter Report for Site 1140NW, OLF Bronson dated February 24, 2000 (received February 24, 2000). Based upon my review of this report and the previous Contamination Assessment Report Addendum dated November 1998, the enclosed Natural Attenuation Monitoring Approval Order was signed by Mr. Douglas A. Jones, Chief, Bureau of Waste Cleanup.

If I can be of any further assistance with this matter, please contact me at (850) 921-9989.

Sincerely,

Joseph F. Fugitt, P.G.
Remedial Project Manager

cc: Greg Campbell, NAS Pensacola
Gerry Walker, Tetra Tech NUS, Inc., Tallahassee
Charlie Goddard, FDEP Northwest District

TJB B

JJC BW

ESN BW



Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2800 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

May 8, 2000

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Byas Glover, Code 18410
Southern Division, Naval Facilities Engineering Command
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Subject: Natural Attenuation Monitoring Plan Approval Order
Site 1140NW
Outlying Landing Field (OLF) Bronson
Pensacola, Escambia County
FDEP Facility ID# 179300938

Dear Mr. Glover:

The Bureau of Waste Cleanup has completed the review of the Final Letter Report dated February 24, 2000 (received February 24, 2000), submitted for the petroleum product discharge discovered at this site. Pursuant to Rule 62-770.690, Florida Administrative Code (F.A.C.), the Department of Environmental Protection (Department) approves the Natural Attenuation Monitoring Plan. Pursuant to Rule 62-770.690(7), F.A.C., you are required to complete the monitoring program outlined below. The first sampling event should be performed within 60 days of receipt of this Natural Attenuation Monitoring Plan Approval Order (Order). Water-level measurements should be made immediately prior to each sampling event. The analytical results (laboratory report), chain of custody, cumulative summary table of the analytical results, site map(s) illustrating the most recent analytical results, and the water-level elevation information (cumulative summary table and most recent flow interpretation map), should be submitted to the Department within 60 days of sample collection.

The monitoring wells to be sampled, the sampling parameters, and the sampling frequency are as follows:

<u>Monitoring Wells</u>	<u>Contaminants of Concern</u>	<u>Frequency</u>	<u>Duration</u>
MW-3, MW-8 and MW-9	PAHs	Semi-annually	Two years

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Printed on recycled paper.

The approved Remedial Action by Natural Attenuation monitoring period is two years. The sampling frequency will be evaluated following the submittal of the first annual report to determine whether semiannual or annual sampling may be appropriate.

The following are the "milestone" objectives that will be used for annual evaluation of remediation progress by natural attenuation. An explanation of the progress relative to these milestone objectives, and the need for corrective action (if applicable), should be provided in the annual evaluation:

	<u>MW-3</u>	<u>MW-8</u>	<u>MW-9</u>
<u>1-Methylnaphthalene</u>			
End of year 1	110 µg/l	<20 µg/l	<20 µg/l
End of year 2	<20 µg/l	<20 µg/l	<20 µg/l
<u>2-Methylnaphthalene</u>			
End of year 1	80 µg/l	<20 µg/l	<20 µg/l
End of year 2	<20 µg/l	<20 µg/l	<20 µg/l
<u>Naphthalene</u>			
End of year 1	40 µg/l	<20 µg/l	<20 µg/l
End of year 2	<20 µg/l	<20 µg/l	<20 µg/l

If concentrations of contaminants of concern in any of the designated wells increase above the action levels listed below, the well or wells must be resampled no later than 30 days after the initial positive results are known. If the results of the resampling confirm the initial sampling results, then a proposal must be submitted to the Department, as described in Rule 62-770.690(7)(f), F.A.C.

Contaminated well:

MW-3: 200 µg/l 1-Methylnaphthalene; 200 µg/l 2-Methylnaphthalene; 200 µg/l Naphthalene.

Perimeter wells (temporary points of compliance):

MW-8 and MW-9: 20 µg/l 1-Methylnaphthalene; 20 µg/l 2-Methylnaphthalene; 20 µg/l Naphthalene.

If the applicable No Further Action criteria in Rule 62-770.680, F.A.C., are met at the end of the monitoring period, a Site Rehabilitation Completion Report, summarizing the monitoring program and containing documentation supporting the opinion that the cleanup objectives have been achieved, should be submitted as required in Rule 62-770.690(8), F.A.C. If the applicable No Further Action criteria in Rule 62-770.680, F.A.C., are not met following two years of

monitoring, then a report summarizing the monitoring program should be submitted, including a proposal as described in Rule 62-770.690(7)(g), F.A.C.

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative proceeding (hearing) is filed under Sections 120.569 and 120.57, Florida Statutes (F.S.), within 21 days of receipt of this Order. The procedures for petitioning for a hearing are set forth below.

Persons affected by this Order have the following options:

If you choose to accept the above decision by the Department about the Final Letter Report you do not have to do anything. This Order is final and effective as of the date on the top of the first page of this Order.

If you disagree with the decision, you may do one of the following:

- (1) File a petition for administrative hearing with the Department's Office of General Counsel within 21 days of receipt of this Order; or
- (2) File a request for an extension of time to file a petition for hearing with the Department's Office of General Counsel within 21 days of receipt of this Order. Such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for hearing.

Please be advised that mediation of this decision pursuant to Section 120.573, F.S., is not available.

How to Request an Extension of Time to File a Petition for Hearing

For good cause shown, pursuant to Rule 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for hearing. Such a request must be filed (received) in the Department's Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from Southern Division of Naval Facilities Engineering Command, shall mail a copy of the request to Southern Division of Naval Facilities Engineering Command at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for administrative hearing must be made.

How to File a Petition for Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative hearing under Sections 120.569 and 120.57, F.S. The petition must contain the

information set forth below and must be filed (received) in the Department's Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from Southern Division of Naval Facilities Engineering Command, shall mail a copy of the petition to Southern Division of Naval Facilities Engineering Command at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under Sections 120.569 and 120.57, F.S.

Pursuant to Section 120.54(5)(b)4.a., F.S. (1998, Supp.), and Rule 28-106.201, F.A.C., a petition for administrative hearing shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the name, address, and telephone number of the petitioner's representative, if any, the site owner's name and address, if different from the petitioner, the FDEP facility number, and the name and address of the facility;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by the petitioner, or a statement that there are no disputed facts;
- (e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

This Order is final and effective as of the date on the top of the first page of this Order. Timely filing a petition for administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an order responding to supplemental information provided pursuant to meetings with the Department.

Judicial Review

Any party to this Order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The

Mr. Byas Glover
May 8, 2000
Page Five

notice of appeal must be filed within 30 days after this Order is filed with the clerk of the Department (see below).

The FDEP Facility Number for this site is 179300938. Please use this identification on all future correspondence with the Department.

Questions

Any questions regarding the Department's review of your Final Letter Report should be directed to Joseph F. Fugitt, P.G. at (850) 921-9989. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 488-9314. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.

Sincerely,



Douglas A. Jones, Chief
Bureau of Waste Cleanup
Division of Waste Management

DAJ/jff

cc: Charlie Goddard, FDEP Northwest District Office
Greg Cambell, NAS Pensacola, Building 1754, 190 Radford Boulevard, Pensacola, Florida
32508-5000
Gerry Walker, Tetra Tech NUS, 1401 Oven Park Drive, Suite 102, Tallahassee, Florida
32308
File

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to
§120.52 Florida Statutes, with the
designated Department Clerk, receipt
of which is hereby acknowledged.


Clerk

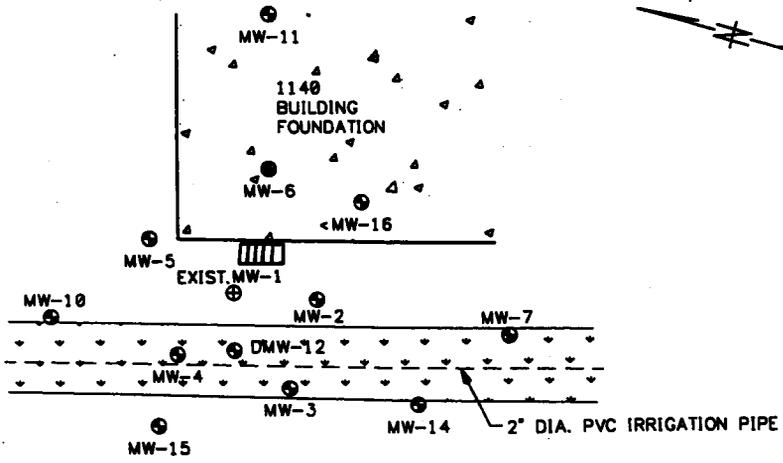
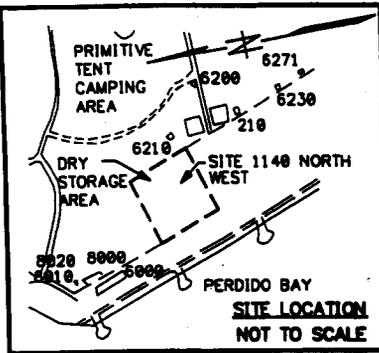
(or Deputy Clerk)

5/8/00
Date

ATTACHMENT B

**FIGURE 1
MONITORING WELL LOCATION MAP**

ACAD: 0396CM05.dwg 01/31/00 HJP



SITE PLAN

LEGEND

- ⊙ MONITORING WELL LOCATION
- ⊕ EXISTING MONITORING WELL LOCATION
- ▽ LANDSCAPE ISLAND

0 50 100
 APPROXIMATE SCALE IN FEET

DRAWN BY	DATE
HJP	1/28/00
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE	
AS NOTED	



MONITORING WELL LOCATION
 SITE 1140 NW
 OLF BRONSON
 PENSACOLA, FLORIDA

CONTRACT NO. 0380	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 1	REV. 0

ATTACHMENT C
GROUNDWATER SAMPLING FIELD FORMS



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page of

Project Site Name: OLF BRONSON 1140 NW
 Project No.: N 0380

Sample ID No.: 1140-GW-3
 Sample Location: 1140 - MW3
 Sampled By: JA, JB, LS
 C.O.C. No.:

- Domestic Well Data
- Monitoring Well Data
- Other Well Type:
- QA Sample Type:

- Type of Sample:
- Low Concentration
 - High Concentration

SAMPLING DATA:

Date:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
5/25/00	clear	6.04	.165	26.7	2	.46	0.00	
Time: 1340								
Method: pump								

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
5/25/00	initial	6.01	.254	24.6	96	.78	0.00	
Method: pump	1st	6.00	.249	24.4	52	.40	0.00	
Monitor Reading (ppm):	2nd	5.96	.249	24.1	63	.44	0.00	
Well Casing Diameter & Material Type: 1" PVC	3rd	6.97	.247	23.9	96	.33	0.00	
Total Well Depth (TD): 10.65'								
Static Water Level (WL): 7.82								
One Casing Volume (gal/L): .4								
Start Purge (hrs): 1.20 1.20								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	—	2 x 12 amber	

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD Duplicate ID No.:

Signature(s):



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page of

Project Site Name: OLF BRONSON SIK H40 NW Sample ID No.: 1140 GW8
 Project No.: 0380 Sample Location: 1140 - MW 8
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: Sampled By: JA, JB, LS
 QA Sample Type: C.O.C. No.:
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA:

Date:	<u>5/26/00</u>	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time:	<u>1300</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method:	<u>pump</u>	<u>clear</u>	<u>6.07</u>	<u>.178</u>	<u>26.1</u>	<u>7</u>	<u>1.42</u>	<u>0.00</u>	
PURGE DATA:									

Date:	<u>5/26/00</u>	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method:	<u>pump</u>	<u>initial</u>	<u>5.89</u>	<u>.219</u>	<u>25.5</u>	<u>109</u>	<u>1.72</u>	<u>0.00</u>	
Monitor Reading (ppm):	<u>-</u>	<u>1st</u>	<u>5.94</u>	<u>.175</u>	<u>26.5</u>	<u>21</u>	<u>1.81</u>	<u>0.00</u>	
Well Casing Diameter & Material	<u>2"</u>	<u>2nd</u>	<u>6.01</u>	<u>.181</u>	<u>26.0</u>	<u>15</u>	<u>1.26</u>	<u>0.00</u>	
Type:	<u>pvc</u>	<u>3rd</u>	<u>6.07</u>	<u>.178</u>	<u>26.1</u>	<u>7</u>	<u>1.42</u>	<u>0.00</u>	
Total Well Depth (TD):	<u>12.85'</u>								
Static Water Level (WL):	<u>7.66</u>								
One Casing Volume (gal/L):	<u>.83</u>								
Start Purge (hrs):	<u>1235</u>								
End Purge (hrs):	<u>134000</u>								
Total Purge Time (min):	<u>25</u>								
Total Vol. Purged (gal/L):	<u>.89</u>								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected

OBSERVATIONS / NOTES:

12.85 5.19
7.66 .18
5.19 .83

Circle if Applicable:

MS/MSD Duplicate ID No.:

Signature(s):

[Handwritten Signature]



Project Site Name: OLF Bronson site 1140NW
Project No.: 0380

Sample ID No.: 1140-GW9
Sample Location: 1140 - MW9
Sampled By: JA, JR, LS

- Domestic Well Data
- Monitoring Well Data
- Other Well Type: _____
- QA Sample Type: _____

- C.O.C. No.: _____
- Type of Sample:
- Low Concentration
 - High Concentration

SAMPLING DATA:

Date:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
5/25/00	clear	6.04	.165	25.7	2	.46	0.00	
Time: 1320								
Method: pump								

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
5/25/00	initial	5.92	.156	25.7	20	.71	0.00	
Method: pump	1st	6.06	.163	26.2	23	.78	0.00	
Monitor Reading (ppm): -	2nd	6.07	.164	25.8	32	.74	0.00	
Well Casing Diameter & Material	3rd	6.04	.165	25.7	2	.46	0.00	
Type: 2" PVC								
Total Well Depth (TD): 13.00								
Static Water Level (WL): 7.65								
One Casing Volume (gal/L): .86g								
Start Purge (hrs): 1258								
End Purge (hrs): 1322								
Total Purge Time (min): 24								
Total Vol. Purged (gal/L): .3g								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	—	2 x 1 L amber	

OBSERVATIONS / NOTES:

5.35
 .16
 86

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
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Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page of Project Site Name: 2, P. Bannan WalkProject No.: 20100Sample ID No.: 1140-EW-3Sample Location: 1140-MWSSampled By: J. D. T. S.C.O.C. No.:

- Domestic Well Data
 Monitoring Well Data
 Other Well Type:
 QA Sample Type:

Type of Sample:

- Low Concentration
 High Concentration

SAMPLING DATA:

Date: <u>6/22/00</u>	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Time: <u>14:50</u>								
Method: <u>grab</u>		<u>5.78</u>	<u>190</u>	<u>26.5</u>	<u>-10</u>	<u>0.75</u>		

PURGE DATA:

Date: <u>6/22/00</u>	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: <u>grab</u>	<u>1'</u>	<u>5.78</u>	<u>187</u>	<u>26.5</u>	<u>-10</u>	<u>1.40</u>		
Monitor Reading (ppm): <u> </u>	<u>2'</u>	<u>5.80</u>	<u>190</u>	<u>26.5</u>	<u>-10</u>	<u>0.38</u>		
Well Casing Diameter & Material	<u>3"</u>	<u>5.78</u>	<u>190</u>	<u>26.5</u>	<u>-10</u>	<u>0.75</u>		
Type: <u>1" PVC</u>								
Total Well Depth (TD): <u>12.85</u>								
Static Water Level (WL): <u>3.73</u>								
One Casing Volume (gal): <u>5.2</u>								
Start Purge (hrs): <u>14:05</u>								
End Purge (hrs): <u>14:45</u>								
Total Purge Time (min): <u>40</u>								
Total Vol. Purged (gal): <u>210</u>								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>PAH</u>	<u> </u>	<u>2 x 1L Amber</u>	

OBSERVATIONS / NOTES:

$$\begin{array}{r}
 12.85 \\
 - 3.73 \\
 \hline
 9.12 \\
 \end{array}
 \qquad
 \begin{array}{r}
 5.10 \\
 - 1.16 \\
 \hline
 3.94 \\
 \end{array}$$

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):



GROUNDWATER SAMPLE LOG SHEET

Project Site Name: OLF Emerson 1464W
Project No.: 1464

Sample ID No.: 1464-GW-3
Sample Location: 1464 MW3

- Domestic Well Data
- Monitoring Well Data
- Other Well Type: _____
- QA Sample Type: _____

Sampled By: SAO/TB
C.O.C. No.: _____
Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA:

Date:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
<u>6/23/00</u>		<u>5.97</u>	<u>237</u>	<u>25.0</u>	<u>-10</u>	<u>1.88</u>		
Time: <u>1444</u>								
Method: <u>comp</u>								

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>6/23/00</u>	<u>Initial</u>	<u>5.97</u>	<u>237</u>	<u>25.8</u>	<u>-10</u>	<u>1.34</u>		
Method: <u>comp</u>	<u>1st</u>	<u>5.95</u>	<u>234</u>	<u>25.6</u>	<u>-10</u>	<u>1.90</u>		
Monitor Reading (ppm):								
Well Casing Diameter & Material	<u>2"</u>	<u>5.94</u>	<u>234</u>	<u>26.1</u>	<u>-10</u>	<u>2.15</u>		
Type: <u>1" PVC</u>	<u>3"</u>	<u>5.91</u>	<u>234</u>	<u>26.0</u>	<u>-10</u>	<u>1.88</u>		
Total Well Depth (TD): <u>10.65'</u>								
Static Water Level (WL): <u>7.81</u>								
One Casing Volume (gal/L): <u>1.76</u>								
Start Purge (hrs): <u>1407</u>								
End Purge (hrs): <u>1442</u>								
Total Purge Time (min): <u>35</u>								
Total Vol. Purged (gal/L): <u>1.30</u>								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>PAH</u>	<u>-</u>	<u>2 x 1L Amber</u>	

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD Duplicate ID No.: _____

Signature(s): [Signature]

ATTACHMENT D

**TABLE 1
GROUNDWATER ELEVATIONS SITE 1140NW**

**TABLE 2
SUMMARY OF ANALYTES DETECTED IN SITE 1140NW GROUNDWATER SAMPLES
DURING THE INITIAL SEMIANNUAL SAMPLING EVENT**

**TABLE 3
HISTORIC SUMMARY OF ANALYTES DETECTED IN SITE 1140NW GROUNDWATER
SAMPLES**

TABLE 1
GROUNDWATER ELEVATIONS
SITE 1140NW
OUTLYING LANDING FIELD BRONSON
PENSACOLA, FLORIDA

Well No.	Total Depth of Well (ft)	Top of Casing Elevation, ft (MSL)	Date Measured	Depth to Free Product (BTOC)	Product Thickness, ft	Depth to Water, ft (BTOC)	Groundwater Elevation, ft (MSL)	Date Measured	Depth to Free Product (BTOC)	Product Thickness, ft	Depth to Water, ft (BTOC)	Groundwater Elevation, ft (MSL)
MW-1	14.6	30.00	11/18/99	ND	ND	7.78	22.22	5/25/00	ND	ND	7.80	22.20
MW-2	13	30.10	11/18/99	ND	ND	7.92	22.18	5/25/00	ND	ND	7.85	22.25
MW-3	10.6	NA	11/18/99	ND	ND	7.93	NA	5/25/00	ND	ND	7.82	NA
MW-4	12.8	30.03	11/18/99	ND	ND	7.90	22.13	5/25/00	ND	ND	NA	NA
MW-5	12.6	30.03	11/18/99	ND	ND	7.81	22.22	5/25/00	ND	ND	7.75	22.28
MW-6	12.7	30.26	11/18/99	ND	ND	8.00	22.26	5/25/00	ND	ND	7.91	22.35
MW-7	NM	30.02	NM	NA	NA	NA	NA	5/25/00	NA	NA	NA	NA
MW-8	12.8	29.80	11/18/99	ND	ND	7.72	22.08	5/25/00	ND	ND	7.66	22.14
MW-9	13.0	29.80	11/17/99	ND	ND	7.67	22.13	5/25/00	ND	ND	7.65	22.15
MW-10	NM	29.86	NM	NA	NA	NA	NA	5/25/00	NA	NA	NA	NA
MW-11	12.9	30.24	11/18/99	ND	ND	7.95	22.29	5/25/00	ND	ND	7.89	22.35
DMW-12	23.5	30.05	11/18/99	ND	ND	7.85	22.20	5/25/00	ND	ND	7.74	22.81
MW-13	12.9	29.73	11/18/99	ND	ND	7.70	22.03	5/25/00	ND	ND	7.66	22.07
MW-14	12.9	30.12	11/18/99	ND	ND	7.94	22.18	5/25/00	ND	ND	7.91	22.21
MW-15	12.9	29.87	11/18/99	ND	ND	7.88	21.99	5/25/00	ND	ND	NA	NA
MW-16	NM	30.23	11/18/99	NA	NA	NA	NA	5/25/00	NA	NA	8.15	22.08

Notes:
 Measurements for free-product were made in each well, but not detected
 MSL - Mean Sea Level
 BTOC - Below Top of Casing
 ft - feet
 ND - Not Detected
 NM - Not Measured
 NA - Not Available

TABLE 2

**SUMMARY OF ANALYTES DETECTED IN SITE 1140 NW
SAMPLES DURING THE INITIAL SEMIANNUAL SAMPLING EVENT
OUTLYING LANDING FIELD BRONSON
PENSACOLA, FLORIDA**

Sample No. Sample Location Collect Date	1140-MW-3 Monitoring Well No. 3 5/25/00 & 6/23/00	1140-GW-8 Monitoring Well No. 8 5/25/00 & 6/23/00	1140-MW-9 Monitoring Well No. 9 5/25/00 & 6/23/00	FDEP Site-specific		Florida Ground- water Guidance Concentration ⁽³⁾
				Natural Attenuation Criteria ⁽²⁾		
				Contaminated Well (MW- 3) Action Level / Milestone	Perimeter Well (Wells MW-8 & MW-9) Action Level/Milestone	
Polyaromatic Hydrocarbons ⁽¹⁾ (µg/L)						
Naphthalene	44 / 64	37 / 24	3.6 / NS	200 / 40	20 / <20	20
Acenaphthylene	ND / ND	6.5 / ND	ND / NS	none	none	210
1-Methylnaphthalene	240 / 300	33 / 29	1.6 / NS	200 / 110	20 / <20	20
2-Methylnaphthalene	110 / 190	25 / 11	3.2 / NS	200 / 80	20 / <20	20
Flourene	12 / 14	7 / 8.8	ND / NS	none	none	280
Phenanthrene	ND / ND	ND / 4.5	ND / NS	none	none	210
Anthracene	ND / ND	ND / 0.74	ND / NS	none	none	2100

⁽¹⁾ SW-846 8310 µg/L = micrograms per Liter

None of the analytes were detected above instrument detection limits in the associated equipment rinseate blanks.

⁽²⁾ As provided in Florida Department of Environmental Protection (FDEP) letter dated May 8, 2000.

⁽³⁾ As provided in Chapter 62-777, F.A.C

NS = Concentration exceeded action level.

ND = Monitoring well was not sampled. **ND** = Analyte was not detected.

Table 3

**HISTORIC SUMMARY OF ANALYTES DETECTED IN SITE 1140NW
GROUNDWATER SAMPLES
OUTLYING LAND FIELD BRONSON
PENSACOLA, FLORIDA**

Sample No. Sample Location Collect Date	1140-MW-3 Monitoring Well No. 3 4/96; 6/96; 7/96; 10/29/99; 5/25/00; 6/23/00		1140-GW-8 Monitoring Well No. 8 4/96; 6/96; 7/96; 5/25/00; 6/23/00		1140-MW-9 Monitoring Well No. 9 4/96; 6/96; 7/96; 5/25/00; 6/23/00		FDEP Site-specific Natural Attenuation Criteria ⁽²⁾ Perimeter Well (Wells MW-8 & MW-9) Action Level/Milestone		Florida Ground- water Guidance Concentration ⁽³⁾
	1140-MW-3 Monitoring Well No. 3 4/96; 6/96; 7/96; 10/29/99; 5/25/00; 6/23/00	1140-GW-8 Monitoring Well No. 8 4/96; 6/96; 7/96; 5/25/00; 6/23/00	1140-MW-9 Monitoring Well No. 9 4/96; 6/96; 7/96; 5/25/00; 6/23/00	Contaminated Well (MW- 8) Action Level / Milestone	Perimeter Well (Wells MW-8 & MW-9) Action Level/Milestone				
Polyaromatic Hydrocarbons ⁽¹⁾ (µg/L)									
Naphthalene	190/NS/NS/ 66/44/64 ND/NS/NS/ 1/ND/ND	NS/ND/NS/ 37/24 NS/ND/NS/ 6.5/ND	NS/ND/10/ 3.6/NS NS/ND/ND/ ND/NS	200 / 40 none	20 / <20 none	20			
Acenaphthylene	350/NS/NS/ 190/240/300	NS/8/NS/ 33/29	NS/ND/7/ 1.6/NS	200 / 110	20 / <20	210			
1-Methylnaphthalene	520/NS/NS/ 130/110/ 190	NS/ND/NS/ 25/11	NS/ND/18/ 3.2/NS	200 / 80	20 / <20	20			
2-Methylnaphthalene	ND/NS/NS/ 10/12/14	NS/ND/NS/ 7/ 8.8	NS/ND/ND/ ND/NS	none	none	280			
Flourene	33/NS/NS/ ND/ND	NS/ND/NS/ ND/4.5	NS/ND/ND/ ND/NS	none	none	210			
Phenanthrene	ND/NS/NS/ ND/ND	NS/ND/NS/ ND/0.74	NS/ND/ND/ ND/NS	none	none	2100			
Anthracene									

⁽¹⁾ SW-846 8310 µg/L = micrograms per Liter

⁽²⁾ As provided in the Florida Department of Environmental Protection Letter Dated May 8, 2000.

⁽³⁾ As provided in 62-777 FAC.

Bold = Concentration exceeded action level.

NS = Monitoring well was not sampled. ND = Analyte was not detected.

ATTACHMENT E
GROUNDWATER LABORATORY DATA REPORT

Environmental Conservation Laboratories, Inc.
10207 General Drive
Orlando, Florida 32824-8529
407 / 826-5314
Fax 407 / 850-6945
www.encolabs.com



DHRS Certification No. E83182

CLIENT : Tetra Tech NUS
ADDRESS : 1401 Oven Park Dr.
Suite 102
Tallahassee, FL 32312

REPORT # : ORL11189
DATE SUBMITTED: May 27, 2000
DATE REPORTED : June 5, 2000

PAGE 1 OF 22

ATTENTION: Gerry Walker

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: 03800000FG0060130

Bronson 1140,1162

05/25/00

#1	-	1140-GW-8	@	13:00
#2	-	1140-GW-9	@	13:20
#3	-	1140-GW-3	@	13:40
#4	-	1162-GW-7	@	14:55
#5	-	1162-GW-2	@	15:00
#6	-	1162-GW-1	@	15:20
#7	-	1162-EQB	@	14:45
#8	-	TRIP BLANK		

PROJECT MANAGER


David Vesey

ENCO LABORATORIES

REPORT # : ORL11189

DATE REPORTED: June 5, 2000

REFERENCE : 03800000FG0060130

PROJECT NAME : Bronson 1140,1162

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RESULTS OF ANALYSIS**EPA METHOD 8310 -
POLYAROMATIC HYDROCARBONS**

	<u>1140-GW-8</u>	<u>Units</u>
Naphthalene	37 D1	µg/L
Acenaphthylene	6.5 D1	µg/L
1-Methylnaphthalene	33 D1	µg/L
2-Methylnaphthalene	25 D1	µg/L
Acenaphthene	2.0 U D1	µg/L
Fluorene	7.0 D1	µg/L
Phenanthrene	5.0 U D1	µg/L
Anthracene	0.25 U D1	µg/L
Fluoranthene	0.50 U D1	µg/L
Pyrene	0.25 U D1	µg/L
Benzo (a) anthracene	0.25 U D1	µg/L
Chrysene	0.25 U D1	µg/L
Benzo (b) fluoranthene	0.50 U D1	µg/L
Benzo (k) fluoranthene	0.25 U D1	µg/L
Benzo (a) pyrene	0.25 U D1	µg/L
Dibenzo (a, h) anthracene	0.50 U D1	µg/L
Benzo (g, h, i) perylene	0.50 U D1	µg/L
Indeno (1, 2, 3-cd) pyrene	0.25 U D1	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-Terphenyl	52	39-148
Date Extracted	05/31/00	
Date Analyzed	06/01/00	

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES

REPORT # : ORL11189
 DATE REPORTED: June 5, 2000
 REFERENCE : 03800000FG0060130
 PROJECT NAME : Bronson 1140,1162

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RESULTS OF ANALYSIS

EPA METHOD 8310 -
POLYAROMATIC HYDROCARBONS

	<u>1140-GW-9</u>	<u>Units</u>
Naphthalene	3.6	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.6	µg/L
2-Methylnaphthalene	3.2	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo (a) anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo (b) fluoranthene	0.10 U	µg/L
Benzo (k) fluoranthene	0.050 U	µg/L
Benzo (a) pyrene	0.050 U	µg/L
Dibenzo (a, h) anthracene	0.10 U	µg/L
Benzo (g, h, i) perylene	0.10 U	µg/L
Indeno (1, 2, 3-cd) pyrene	0.050 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-Terphenyl	62	39-148
Date Extracted	05/31/00	
Date Analyzed	06/01/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL11189
 DATE REPORTED: June 5, 2000
 REFERENCE : 03800000FG0060130
 PROJECT NAME : Bronson 1140,1162

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RESULTS OF ANALYSIS

EPA METHOD 8310 -
POLYAROMATIC HYDROCARBONS

	<u>1140-GW-3</u>		<u>Units</u>
Naphthalene	44	D2	µg/L
Acenaphthylene	20 U	D2	µg/L
1-Methylnaphthalene	240	D2	µg/L
2-Methylnaphthalene	110	D2	µg/L
Acenaphthene	10 U	D2	µg/L
Fluorene	12	D2	µg/L
Phenanthrene	20 U	D2	µg/L
Anthracene	1.0 U	D2	µg/L
Fluoranthene	2.0 U	D2	µg/L
Pyrene	1.0 U	D2	µg/L
Benzo (a) anthracene	1.0 U	D2	µg/L
Chrysene	1.0 U	D2	µg/L
Benzo (b) fluoranthene	2.0 U	D2	µg/L
Benzo (k) fluoranthene	1.0 U	D2	µg/L
Benzo (a) pyrene	1.0 U	D2	µg/L
Dibenzo (a, h) anthracene	2.0 U	D2	µg/L
Benzo (g, h, i) perylene	2.0 U	D2	µg/L
Indeno (1, 2, 3-cd) pyrene	1.0 U	D2	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>		<u>LIMITS</u>
p-Terphenyl	51		39-148
Date Extracted	05/31/00		
Date Analyzed	06/01/00		

U = Compound was analyzed for but not detected to the level shown.
 D2 = Analyte value determined from a 1:20 dilution.

ENCO LABORATORIES

REPORT # : ORL11189
 DATE REPORTED: June 5, 2000
 REFERENCE : 03800000FG0060130
 PROJECT NAME : Bronson 1140,1162

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RESULTS OF ANALYSIS

EPA METHOD 8021 -
VOLATILE HALOGENS

	<u>1162-GW-7</u>	<u>Units</u>
Dichlorodifluoromethane	1.0 U	µg/L
Chloromethane	1.0 U	µg/L
Vinyl Chloride	1.0 U	µg/L
Bromomethane	1.0 U	µg/L
Chloroethane	1.0 U	µg/L
Trichlorofluoromethane	1.0 U	µg/L
1,1-Dichloroethene	1.0 U	µg/L
Methylene Chloride	3.0 U	µg/L
t-1,2-Dichloroethene	1.0 U	µg/L
1,1-Dichloroethane	1.0 U	µg/L
Chloroform	3.9	µg/L
c-1,2-Dichloroethene	1.0 U	µg/L
1,1,1-Trichloroethane	1.0 U	µg/L
Carbon Tetrachloride	1.0 U	µg/L
1,2-Dichloroethane	1.0 U	µg/L
Trichloroethene	1.0 U	µg/L
1,2-Dichloropropane	1.0 U	µg/L
Bromodichloromethane	1.0 U	µg/L
c-1,3-Dichloropropene	1.0 U	µg/L
t-1,3-Dichloropropene	1.0 U	µg/L
1,1,2-Trichloroethane	1.0 U	µg/L
Tetrachloroethene	1.0 U	µg/L
Dibromochloromethane	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Bromoform	1.0 U	µg/L
1,1,2,2-Tetrachloroethane	2.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	78	54-151
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL11189
DATE REPORTED: June 5, 2000
REFERENCE : 03800000FG0060130
PROJECT NAME : Bronson 1140,1162

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RESULTS OF ANALYSIS**EPA METHOD 8021 -
VOLATILE AROMATICS**

	<u>1162-GW-7</u>	<u>Units</u>
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	2.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	74	64-140
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL11189
 DATE REPORTED: June 5, 2000
 REFERENCE : 03800000FG0060130
 PROJECT NAME : Bronson 1140,1162

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RESULTS OF ANALYSIS

EPA METHOD 8310 -
POLYAROMATIC HYDROCARBONS

	<u>1162-GW-7</u>	<u>Units</u>
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo (a) anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo (b) fluoranthene	0.10 U	µg/L
Benzo (k) fluoranthene	0.050 U	µg/L
Benzo (a) pyrene	0.050 U	µg/L
Dibenzo (a, h) anthracene	0.10 U	µg/L
Benzo (g, h, i) perylene	0.10 U	µg/L
Indeno (1, 2, 3-cd) pyrene	0.050 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-Terphenyl	77	39-148
Date Extracted	05/31/00	
Date Analyzed	06/01/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL11189

DATE REPORTED: June 5, 2000

REFERENCE : 03800000FG0060130

PROJECT NAME : Bronson 1140,1162

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RESULTS OF ANALYSIS

EPA METHOD 8021 -
VOLATILE HALOGENS

	1162-GW-2	Units
Dichlorodifluoromethane	1.0 U	µg/L
Chloromethane	1.0 U	µg/L
Vinyl Chloride	1.0 U	µg/L
Bromomethane	1.0 U	µg/L
Chloroethane	1.0 U	µg/L
Trichlorofluoromethane	1.0 U	µg/L
1,1-Dichloroethene	1.0 U	µg/L
Methylene Chloride	3.0 U	µg/L
t-1,2-Dichloroethene	1.0 U	µg/L
1,1-Dichloroethane	1.0 U	µg/L
Chloroform	3.4 I	µg/L
c-1,2-Dichloroethene	1.0 U	µg/L
1,1,1-Trichloroethane	1.0 U	µg/L
Carbon Tetrachloride	1.0 U	µg/L
1,2-Dichloroethane	1.0 U	µg/L
Trichloroethene	1.0 U	µg/L
1,2-Dichloropropane	1.0 U	µg/L
Bromodichloromethane	1.0 U	µg/L
c-1,3-Dichloropropene	1.0 U	µg/L
t-1,3-Dichloropropene	1.0 U	µg/L
1,1,2-Trichloroethane	1.0 U	µg/L
Tetrachloroethene	1.0 U	µg/L
Dibromochloromethane	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Bromoform	1.0 U	µg/L
1,1,1,2-Tetrachloroethane	2.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate:	% RECOV	LIMITS
Bromofluorobenzene	74	54-151
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES

REPORT # : ORL11189
DATE REPORTED: June 5, 2000
REFERENCE : 03800000FG0060130
PROJECT NAME : Bronson 1140,1162

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RESULTS OF ANALYSIS

EPA METHOD 8021 -
VOLATILE AROMATICS

	<u>1162-GW-2</u>	<u>Units</u>
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	2.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	79	64-140
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL11189

DATE REPORTED: June 5, 2000

REFERENCE : 03800000FG0060130

PROJECT NAME : Bronson 1140,1162

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RESULTS OF ANALYSIS**EPA METHOD 8310 -****POLYAROMATIC HYDROCARBONS**

	<u>1162-GW-2</u>	<u>Units</u>
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo (a) anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo (b) fluoranthene	0.10 U	µg/L
Benzo (k) fluoranthene	0.050 U	µg/L
Benzo (a) pyrene	0.050 U	µg/L
Dibenzo (a, h) anthracene	0.10 U	µg/L
Benzo (g, h, i) perylene	0.10 U	µg/L
Indeno (1, 2, 3-cd) pyrene	0.050 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-Terphenyl	57	39-148
Date Extracted	05/31/00	
Date Analyzed	06/01/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL11189
 DATE REPORTED: June 5, 2000
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RESULTS OF ANALYSIS

<u>EPA METHOD 8021 - VOLATILE HALOGENS</u>	<u>1162-GW-1</u>	<u>Units</u>
Dichlorodifluoromethane	1.0 U	µg/L
Chloromethane	1.0 U	µg/L
Vinyl Chloride	1.0 U	µg/L
Bromomethane	1.0 U	µg/L
Chloroethane	1.0 U	µg/L
Trichlorofluoromethane	1.0 U	µg/L
1,1-Dichloroethene	1.0 U	µg/L
Methylene Chloride	3.0 U	µg/L
t-1,2-Dichloroethene	1.0 U	µg/L
1,1-Dichloroethane	1.0 U	µg/L
Chloroform	4.5	µg/L
c-1,2-Dichloroethene	1.0 U	µg/L
1,1,1-Trichloroethane	1.0 U	µg/L
Carbon Tetrachloride	1.0 U	µg/L
1,2-Dichloroethane	1.0 U	µg/L
Trichloroethene	1.0 U	µg/L
1,2-Dichloropropane	1.0 U	µg/L
Bromodichloromethane	1.0 U	µg/L
c-1,3-Dichloropropene	1.0 U	µg/L
t-1,3-Dichloropropene	1.0 U	µg/L
1,1,2-Trichloroethane	1.0 U	µg/L
Tetrachloroethene	1.0 U	µg/L
Dibromochloromethane	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Bromoform	1.0 U	µg/L
1,1,2,2-Tetrachloroethane	2.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	89	54-151
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

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DATE REPORTED: June 5, 2000

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RESULTS OF ANALYSIS**EPA METHOD 8021 -
VOLATILE AROMATICS**

	<u>1162-GW-1</u>	<u>Units</u>
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	2.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	88	64-140
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL11189
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RESULTS OF ANALYSIS

**EPA METHOD 8310 -
 POLYAROMATIC HYDROCARBONS**

	<u>1162-GW-1</u>	<u>Units</u>
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a) anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b) fluoranthene	0.10 U	µg/L
Benzo(k) fluoranthene	0.050 U	µg/L
Benzo(a) pyrene	0.050 U	µg/L
Dibenzo(a,h) anthracene	0.10 U	µg/L
Benzo(g,h,i) perylene	0.10 U	µg/L
Indeno(1,2,3-cd) pyrene	0.050 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-Terphenyl	72	39-148
Date Extracted	05/31/00	
Date Analyzed	06/01/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL11189
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RESULTS OF ANALYSIS

SPA METHOD 8021 -
VOLATILE HALOGENS

	<u>1162-EQB</u>	<u>Units</u>
Dichlorodifluoromethane	1.0 U	µg/L
Chloromethane	1.0 U	µg/L
Vinyl Chloride	1.0 U	µg/L
Bromomethane	1.0 U	µg/L
Chloroethane	1.0 U	µg/L
Trichlorofluoromethane	1.0 U	µg/L
1,1-Dichloroethene	1.0 U	µg/L
Methylene Chloride	3.0 U	µg/L
c-1,2-Dichloroethene	1.0 U	µg/L
1,1-Dichloroethane	1.0 U	µg/L
Chloroform	1.0 U	µg/L
c-1,2-Dichloroethene	1.0 U	µg/L
1,1,1-Trichloroethane	1.0 U	µg/L
Carbon Tetrachloride	1.0 U	µg/L
1,2-Dichloroethane	1.0 U	µg/L
Trichloroethene	1.0 U	µg/L
1,2-Dichloropropane	1.0 U	µg/L
Bromodichloromethane	1.0 U	µg/L
c-1,3-Dichloropropene	1.0 U	µg/L
t-1,3-Dichloropropene	1.0 U	µg/L
1,1,2-Trichloroethane	1.0 U	µg/L
Tetrachloroethene	1.0 U	µg/L
Dibromochloromethane	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Bromoform	1.0 U	µg/L
1,1,2,2-Tetrachloroethane	2.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	89	54-151
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

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RESULTS OF ANALYSIS**EPA METHOD 8021 -
VOLATILE AROMATICS**

	<u>1162-EQB</u>	<u>Units</u>
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	2.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	87	64-140
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

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REFERENCE : 03800000FG0060130
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RESULTS OF ANALYSIS**EPA METHOD 8310 -
POLYAROMATIC HYDROCARBONS**

	<u>1162-EQB</u>	<u>Units</u>
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo (a) anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo (b) fluoranthene	0.10 U	µg/L
Benzo (k) fluoranthene	0.050 U	µg/L
Benzo (a) pyrene	0.050 U	µg/L
Dibenzo (a, h) anthracene	0.10 U	µg/L
Benzo (g, h, i) perylene	0.10 U	µg/L
Indeno (1, 2, 3-cd) pyrene	0.050 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-Terphenyl	69	39-148
Date Extracted	05/31/00	
Date Analyzed	06/01/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

REPORT # : ORL11189
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RESULTS OF ANALYSIS

EPA METHOD 8021 -
VOLATILE HALOGENS

	<u>TRIP BLANK</u>	<u>Units</u>
Dichlorodifluoromethane	1.0 U	µg/L
Chloromethane	1.0 U	µg/L
Vinyl Chloride	1.0 U	µg/L
Bromomethane	1.0 U	µg/L
Chloroethane	1.0 U	µg/L
Trichlorofluoromethane	1.0 U	µg/L
1,1-Dichloroethene	1.0 U	µg/L
Methylene Chloride	3.0 U	µg/L
c-1,2-Dichloroethene	1.0 U	µg/L
1,1-Dichloroethane	1.0 U	µg/L
Chloroform	1.0 U	µg/L
c-1,2-Dichloroethene	1.0 U	µg/L
1,1,1-Trichloroethane	1.0 U	µg/L
Carbon Tetrachloride	1.0 U	µg/L
1,2-Dichloroethane	1.0 U	µg/L
Trichloroethene	1.0 U	µg/L
1,2-Dichloropropane	1.0 U	µg/L
Bromodichloromethane	1.0 U	µg/L
c-1,3-Dichloropropene	1.0 U	µg/L
t-1,3-Dichloropropene	1.0 U	µg/L
1,1,2-Trichloroethane	1.0 U	µg/L
Tetrachloroethene	1.0 U	µg/L
Dibromochloromethane	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Bromoform	1.0 U	µg/L
1,1,2,2-Tetrachloroethane	2.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	85	54-151
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

SPA METHOD 8021 -
VOLATILE AROMATICS

	<u>TRIP BLANK</u>	<u>Units</u>
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	2.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	81	64-140
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 8021 -
 VOLATILE HALOGENS

	LAB BLANK	Units
Dichlorodifluoromethane	1.0 U	µg/L
Chloromethane	1.0 U	µg/L
Vinyl Chloride	1.0 U	µg/L
Bromomethane	1.0 U	µg/L
Chloroethane	1.0 U	µg/L
Trichlorofluoromethane	1.0 U	µg/L
1,1-Dichloroethene	1.0 U	µg/L
Methylene Chloride	3.0 U	µg/L
t-1,2-Dichloroethene	1.0 U	µg/L
1,1-Dichloroethane	1.0 U	µg/L
Chloroform	1.0 U	µg/L
c-1,2-Dichloroethene	1.0 U	µg/L
1,1,1-Trichloroethane	1.0 U	µg/L
Carbon Tetrachloride	1.0 U	µg/L
1,2-Dichloroethane	1.0 U	µg/L
Trichloroethene	1.0 U	µg/L
1,2-Dichloropropane	1.0 U	µg/L
Bromodichloromethane	1.0 U	µg/L
c-1,3-Dichloropropene	1.0 U	µg/L
t-1,3-Dichloropropene	1.0 U	µg/L
1,1,2-Trichloroethane	1.0 U	µg/L
Tetrachloroethene	1.0 U	µg/L
Dibromochloromethane	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Bromoform	1.0 U	µg/L
1,1,2,2-Tetrachloroethane	2.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOVER</u>	<u>LIMITS</u>
Bromofluorobenzene	85	54-151
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

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RESULTS OF ANALYSIS**SPA METHOD 8021 -
VOLATILE AROMATICS**

	<u>LAB BLANK</u>	<u>Units</u>
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	2.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
Bromofluorobenzene	86	64-140
Date Analyzed	06/02/00	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

SP4 METHOD 8310 - <u>POLYAROMATIC HYDROCARBONS</u>	<u>LAB BLANK</u>	<u>Units</u>
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo (a) anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo (b) fluoranthene	0.10 U	µg/L
Benzo (k) fluoranthene	0.050 U	µg/L
Benzo (a) pyrene	0.050 U	µg/L
Dibenzo (a, h) anthracene	0.10 U	µg/L
Benzo (g, h, i) perylene	0.10 U	µg/L
Indeno (1, 2, 3-cd) pyrene	0.050 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-Terphenyl	61	39-148
Date Extracted	05/31/00	
Date Analyzed	06/01/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES

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QUALITY CONTROL DATA

<u>Parameter</u>	<u>% RECOVERY</u> <u>MS/MSD/LCS</u>	<u>ACCEPT</u> <u>LIMITS</u>	<u>% RPD</u> <u>MS/MSD</u>	<u>ACCEPT</u> <u>LIMITS</u>
<u>EPA Method 8021</u>				
Methylene Chloride	96/101/100	66-137	5	25
Chloroform	128/116/115	61-131	10	24
Carbon Tetrachloride	98/104/112	65-130	6	26
Trichloroethene	105/106/107	55-139	<1	26
Tetrachloroethene	107/110/110	60-135	3	23
Chlorobenzene	111/118/120	68-123	6	22
<u>EPA Method 8021</u>				
Benzene	93/100/ 94	72-134	7	20
Toluene	92/100/ 94	72-124	8	19
Ethylbenzene	94/106/ 98	67-129	12	21
o-Xylene	94/106/ 98	66-131	12	21
<u>EPA Method 8310</u>				
Naphthalene	81/ 96/ 62	22-130	17	20
Acenaphthene	91/100/ 72	14-163	9	19
Benzo(a)pyrene	93/ 94/ 58	33-137	1	36
Benzo(g,h,i)perylene	94/ 93/ 40	36-135	1	34

Environmental Conservation Laboratories Comprehensive QA Plan #960038

< = Less Than
 MS = Matrix Spike
 MSD = Matrix Spike Duplicate
 LCS = Laboratory Control Standard
 RPD = Relative Percent Difference

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ENVIRONMENTAL CONSERVATION LABORATORY

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ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE Benson 1140 1162		PROJECT NO. 03800000FG-0060130		MATRIX TYPE VOC PAH		REQUIRED ANALYSIS		PAGE / OF / /	
PROJECT LOC. FL		SAMPLER(S) NAME Jasen Bourgeois		PHONE 850-375-2877		FAX 850-375-9860		STANDARD DELIVERY <input checked="" type="checkbox"/>	
CLIENT NAME Tetry Tech Mus, Inc.		CLIENT PROJECT MANAGER Gerry Walker		GROUND WATER		WASTEWATER		PRESERVATIVE	
CLIENT ADDRESS (CITY, STATE, ZIP) Tallahassee FL 32312		SAMPLE ID		DATE		TIME		DATE DUE	
SAMPLER		DATE		TIME		GRAB		REMARKS	
1	5-25-00	1300	✓	1140-GW-8	✓			3	
2	1320	✓		1140-GW-9	✓			2	
3	1340	✓		1140-GW-3	✓			2	
4	1455	✓		1162-GW-7	✓			1	
5	1500	✓		1162-GW-2	✓			2	
6	1520	✓		1162-GW-1	✓			1	
7	1445	✓		1162-FQB	✓			1	Rinsate
8	5-19-00	—		Trip Block				2	
9									
10									
11									
12									
13									
14									

SAMPLE KIT PREPARED BY: B	DATE: 5/19/00	TIME: 12:00	RELINQUISHED BY: (SIGNATURE)	DATE: 5/19/00	TIME: 12:00	RECEIVED BY: (SIGNATURE)	DATE: 5/19/00	TIME: 12:00
CLACKSONVILLE	INFLANDO		Joao Buca			Joao Buca		
RELINQUISHED BY: (SIGNATURE)	DATE: 5/26/00	TIME: 10:00	RELINQUISHED BY: (SIGNATURE)	DATE: 5/26/00	TIME: 10:00	RECEIVED BY: (SIGNATURE)	DATE: 5/26/00	TIME: 10:00
Joao Buca								

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE: 5/26/00	TIME: 12:30pm	CUSTOMY INTRACT	ENCO LOG NO.	REMARKS
Joao Buca			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	2000-11189	

Environmental Conservation Laboratories, Inc.
10207 General Drive
Orlando, Florida 32824-8529
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DHRS Certification No. E83182

CLIENT : Tetra Tech NUS
ADDRESS: 1401 Oven Park Dr.
Suite 102
Tallahassee, FL 32312

REPORT # : ORL11532
DATE SUBMITTED: June 24, 2000
DATE REPORTED : July 3, 2000

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ATTENTION: Gerry Walker

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

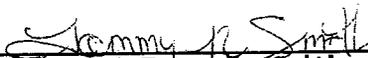
PROJECT #: 0380

OLF Bronson

06/23/00

#1 - 1140-EQB @ 15:57
#2 - 1140-GW-3 @ 14:44
#3 - 1140-GW-8 @ 14:52

PROJECT MANAGER



Tammy R. Smith

ENCO LABORATORIES

REPORT # : ORL11532
 DATE REPORTED: July 3, 2000
 REFERENCE : 0380
 PROJECT NAME : OLF Bronson

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RESULTS OF ANALYSIS

PA METHOD 8310 - OLYAROMATIC HYDROCARBONS	1140-EQB	1140-GW-3	Units
naphthalene	0.50 U	64 D1	µg/L
acenaphthylene	1.0 U	20 U D1	µg/L
1-Methylnaphthalene	1.0 U	300 D1	µg/L
2-Methylnaphthalene	1.0 U	190 D1	µg/L
acenaphthene	0.50 U	10 U D1	µg/L
fluorene	0.10 U	14 D1	µg/L
phenanthrene	1.0 U	20 U D1	µg/L
anthracene	0.050 U	1.0 U D1	µg/L
fluoranthene	0.10 U	2.0 U D1	µg/L
pyrene	0.050 U	1.0 U D1	µg/L
benzo (a) anthracene	0.050 U	1.0 U D1	µg/L
chrysene	0.050 U	1.0 U D1	µg/L
benzo (b) fluoranthene	0.10 U	2.0 U D1	µg/L
benzo (k) fluoranthene	0.050 U	1.0 U D1	µg/L
benzo (a) pyrene	0.050 U	1.0 U D1	µg/L
dibenzo (a, h) anthracene	0.10 U	2.0 U D1	µg/L
benzo (g, h, i) perylene	0.10 U	2.0 U D1	µg/L
indeno (1, 2, 3-cd) pyrene	0.050 U	1.0 U D1	µg/L
Surrogate:	% RECOV	% RECOV	LIMITS
p-Terphenyl	100	88	39-148
Date Prepared	06/28/00	06/28/00	
Date Analyzed	06/29/00	06/29/00	

U = Compound was analyzed for but not detected to the level shown.
 D1 = Analyte value determined from a 1:20 dilution.

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RESULTS OF ANALYSIS

<u>EPA METHOD 8310 - POLYAROMATIC HYDROCARBONS</u>	<u>1140-GW-8</u>	<u>LAB BLANK</u>	<u>Units</u>
Naphthalene	24 D2	0.50 U	µg/L
Acenaphthylene	2.0 U D2	1.0 U	µg/L
1-Methylnaphthalene	29 D2	1.0 U	µg/L
2-Methylnaphthalene	11 D2	1.0 U	µg/L
Acenaphthene	1.0 U D2	0.50 U	µg/L
Fluorene	8.8 D2	0.10 U	µg/L
Phenanthrene	4.5 D2	1.0 U	µg/L
Anthracene	0.74 D2	0.050 U	µg/L
Fluoranthene	0.20 U D2	0.10 U	µg/L
Pyrene	0.10 U D2	0.050 U	µg/L
Benzo(a)anthracene	0.10 U D2	0.050 U	µg/L
Chrysene	0.10 U D2	0.050 U	µg/L
Benzo(b)fluoranthene	0.20 U D2	0.10 U	µg/L
Benzo(k)fluoranthene	0.10 U D2	0.050 U	µg/L
Benzo(a)pyrene	0.10 U D2	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.20 U D2	0.10 U	µg/L
Benzo(g,h,i)perylene	0.20 U D2	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.10 U D2	0.050 U	µg/L
<u>Surrogate:</u>	<u>% RECOV</u>	<u>% RECOV</u>	<u>LIMITS</u>
p-Terphenyl	90	101	39-148
Date Prepared	06/28/00	06/28/00	
Date Analyzed	06/29/00	06/29/00	

U = Compound was analyzed for but not detected to the level shown.
 D2 = Analyte value determined from a 1:2 dilution.

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QUALITY CONTROL DATA

<u>Parameter</u>	<u>% RECOVERY</u> <u>MS/MSD/LCS</u>	<u>ACCEPT</u> <u>LIMITS</u>	<u>% RPD</u> <u>MS/MSD</u>	<u>ACCEPT</u> <u>LIMITS</u>
<u>EPA Method 8310</u>				
Naphthalene	82/ 84/108	22-130	2	20
Acenaphthene	94/102/112	14-163	8	19
Benzo(a)pyrene	89/100/101	33-137	12	36
Benzo(g,h,i)perylene	82/ 92/ 88	36-135	11	34

Environmental Conservation Laboratories Comprehensive QA Plan #960038

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

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