

**NM1 - \_\_\_\_\_ 10 B \_\_\_\_\_**

**APPROVALS**

**YEAR(S):**

**\_\_\_\_\_ 2011 - 2012 \_\_\_\_\_**

State of New Mexico  
Energy, Minerals and Natural Resources Department

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**Susana Martinez**  
Governor

**John Bemis**  
Cabinet Secretary

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey**  
Division Director  
Oil Conservation Division



November 6, 2012

Ms. Marcella Marquez  
JFJ Landfarm, L.L.C.  
Industrial Ecosystems Inc.  
Soil Reclamation Center  
P.O. Box 2043  
Farmington, New Mexico 87499

**RE: Request for Approval of On-Site Disposition of Remediated Soils**  
**JFJ Landfarm, LLC - Industrial Ecosystems Inc.**  
**JFJ Landfarm – Permit # NM1-010-B**  
**Location: NW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,**  
**San Juan County, New Mexico**

Dear Ms. Marquez:

The Oil Conservation Division (OCD) has reviewed JFJ Landfarm, LLC's (JFJ) email request, dated November 6, 2012, for on-site disposition of remediated soils from the OCD permitted landfarm (Surface Waste Management Facility Permit # NM-1-0010B) to be utilized to build up the area along the eastern boundary of and within the existing permitted facility property, located in NW/4 SE/4 of Section 2, Township 29 North, Range 12 West NMPM, San Juan County, New Mexico. OCD has reviewed the analytical results to reuse the remediated soils from the following biopile(s):

*Pile # 563      Pile # 791      Pile # 815*

Based upon the information provided, the above-referenced biopiles are hereby approved for reuse with the following understandings and conditions:

1. JFJ has demonstrated that the proposed soils for reuse satisfy the TPH, BTEX, and Benzene concentrations specified in Condition 17 of the Landfarm and Composting Operations section of your February 3, 2004 surface waste management facility permit (NM1-010-B);
2. JFJ shall obtain legal authority from the surface owner prior to placement of the remediated soils for reuse;

Ms. Marquez  
JFJ Landfarm, LLC  
Permit NM1-010-B  
November 6, 2012  
Page 2 of 2

3. JFJ shall ensure that remediated soils are reused in a manner that prevents the contamination of ground water and surface water, and protects human health and the environment; and
4. If JFJ reuses the remediated soils within the surface waste management facility permitted boundary, as proposed and considered in this approval, at closure JFJ shall comply with Conditions 2d and 2f of the Closure section of your February 3, 2004 surface waste management facility permit (NM1-010-B).

Please be advised that approval of this request does not relieve JFJ of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve JFJ of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Mr. Brad A. Jones of my staff at (505) 476-3487 or [brad.a.jones@state.nm.us](mailto:brad.a.jones@state.nm.us).

Sincerely,



Jami Bailey  
Director

JB/baj

cc: OCD District III Office, Aztec



**Industrial Ecosystems Inc.  
Soil Reclamation Center**

P.O. Box 2043  
Farmington, NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec, NM 87410

---

November 6, 2012

Brad Jones, Environmental Engineer  
NM Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: JFJ Landfarm Permit # NM01-0010B  
Disposition of Treated Soils

Dear Brad:

This letter is being submitted to you as a request to reuse/recycle treated soils. We are requesting approval to reuse/recycle treated soils within our property boundaries. The treated soils would be utilized to "build up" the East portion of the property (see attached map).

Attached you will find the analytical reports showing the treated soils have reached acceptable permit levels for the following biopiles:

- Pile 563
- Pile 791 (DRO passed 09/28/12, GRO/BTEX/Chloride passed 07/25/12)
- Pile 815

Respectfully Submitted,

A handwritten signature in cursive script that reads "Marcella Marquez".

Marcella Marquez  
HSE Administrator

Enclosures-Analytical Reports, Map



**Jones, Brad A., EMNRD**

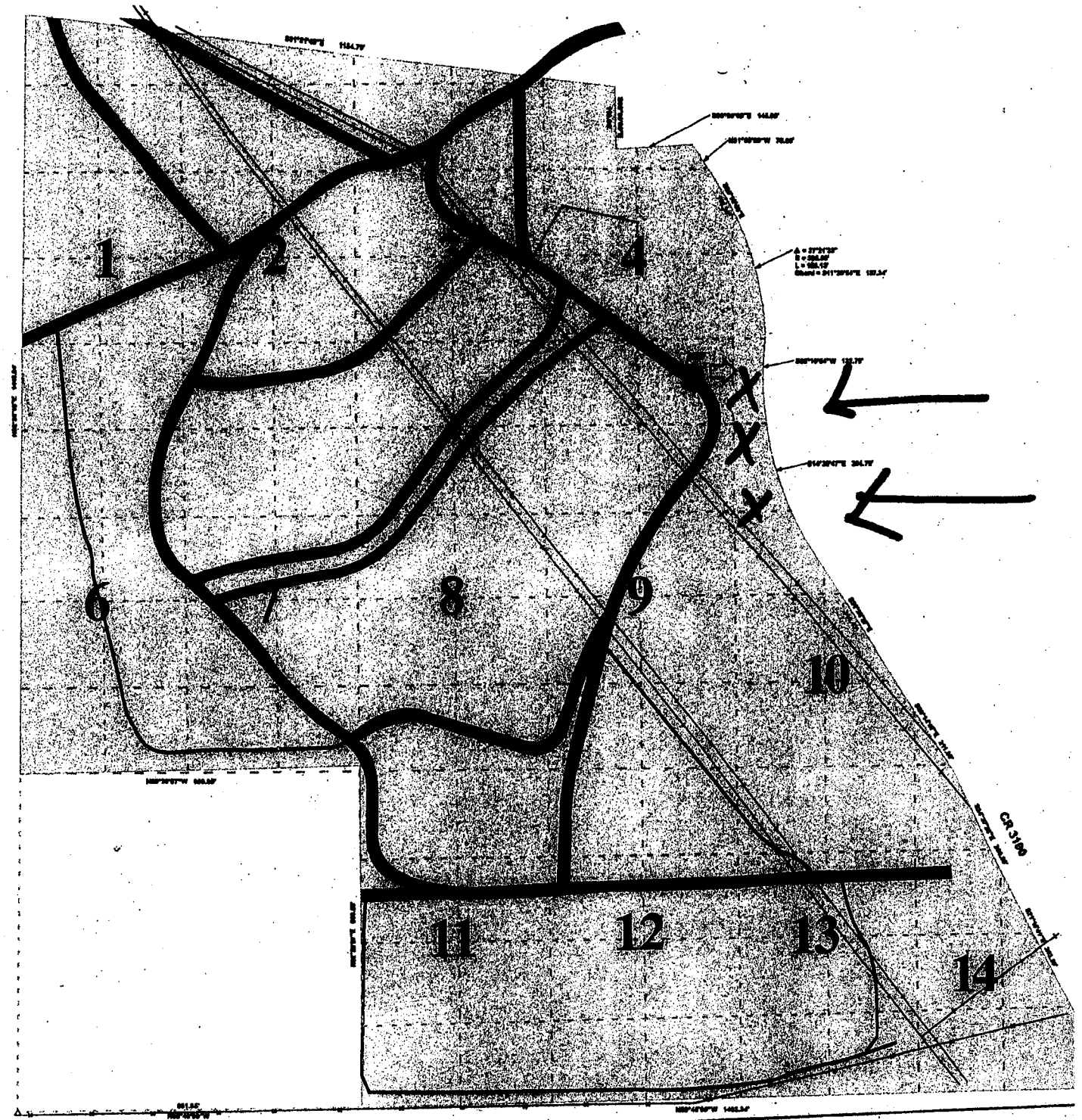
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**From:** Marcella Marquez <marcella@industrialecosystems.com>  
**Sent:** Monday, November 05, 2012 2:30 PM  
**To:** Jones, Brad A., EMNRD  
**Attachments:** Letter to request reuse of treated soils on facility.doc; 4021\_0001.pdf

Brad:

Please see attached letter to spread remediated soils, along with the analytical reports and map of area where the soils will be spread.

*Thanks,*  
*Marcella Marquez, HSE Administrator*  
*Industrial Ecosystems, Inc.*  
*Phone: (505) 632-1782*  
*Fax: (505) 632-1876 or (505) 334-1003*





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 860  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876Reported:  
28-Sep-12 12:36**PILE 563**  
**H202330-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	32.0	16.0	mg/kg	4	2092803	HM	28-Sep-12	4500-Cl-B
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**Organic Compounds**

GRO C6-C10	ND	10.0	mg/kg	1	2092601	MS	26-Sep-12	8015M
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DRO >C10-C28	ND	10.0	mg/kg	1	2092601	MS	26-Sep-12	8015M
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Surrogate: 1-Chlorooctane	86.1 %	65.2-140		2092601	MS	26-Sep-12	8015M
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Surrogate: 1-Chlorooctadecane	92.1 %	63.6-154		2092601	MS	26-Sep-12	8015M
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**Volatile Organic Compounds by EPA Method 8021**

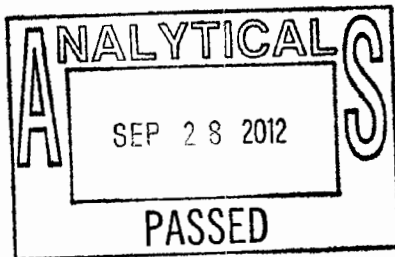
Benzene*	ND	0.050	mg/kg	50	2092605	AP	26-Sep-12	8021B
----------	----	-------	-------	----	---------	----	-----------	-------

Toluene*	ND	0.050	mg/kg	50	2092605	AP	26-Sep-12	8021B
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Ethylbenzene*	ND	0.050	mg/kg	50	2092605	AP	26-Sep-12	8021B
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Total Xylenes*	ND	0.150	mg/kg	50	2092605	AP	26-Sep-12	8021B
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Surrogate: 4-Bromofluorobenzene (PID)	100 %	89.5-126		2092605	AP	26-Sep-12	8021B
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Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

September 28, 2012

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 09/25/12 10:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

09/28/12 10:17 AM



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE 563	H202330-01	Soil	24-Sep-12 10:10	25-Sep-12 10:30
PILE 752	H202330-02	Soil	24-Sep-12 10:30	25-Sep-12 10:30
PILE 755	H202330-03	Soil	24-Sep-12 10:35	25-Sep-12 10:30
PILE 761	H202330-04	Soil	24-Sep-12 10:50	25-Sep-12 10:30
PILE 789	H202330-05	Soil	24-Sep-12 11:20	25-Sep-12 10:30
PILE 791	H202330-06	Soil	24-Sep-12 11:35	25-Sep-12 10:30
PILE 792	H202330-07	Soil	24-Sep-12 11:50	25-Sep-12 10:30
PILE 795	H202330-08	Soil	24-Sep-12 13:15	25-Sep-12 10:30
PILE 814	H202330-09	Soil	24-Sep-12 13:30	25-Sep-12 10:30
PILE 815	H202330-10	Soil	24-Sep-12 13:55	25-Sep-12 10:30

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

28-Sep-12 12:36



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

**Inorganic Compounds - Quality Control**  
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2092803 - 1:4 DI Water</b>										
<b>Blank (2092803-BLK1)</b>				<b>Prepared &amp; Analyzed: 28-Sep-12</b>						
Chloride	ND	16.0	mg/kg							
<b>LCS (2092803-BS1)</b>				<b>Prepared &amp; Analyzed: 28-Sep-12</b>						
Chloride	400	16.0	mg/kg	400		100	80-120			
<b>LCS Dup (2092803-BSD1)</b>				<b>Prepared &amp; Analyzed: 28-Sep-12</b>						
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	

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\*=Accredited Analyte

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28-Sep-12 12:36



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### Analytical Results For:

INDUSTRIAL ECOSYSTEMS 49 CR 3150 AZTEC NM, 87410	Project: JFJ Project Number: 860 Project Manager: MARCELLA MARQUEZ Fax To: (505) 632-1876	Reported: 28-Sep-12 12:36
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### Organic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 2092601 - General Prep - Organics

##### Blank (2092601-BLK1)

Prepared & Analyzed: 26-Sep-12

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	45.9		mg/kg	50.0		91.7	65.2-140			
Surrogate: 1-Chlorooctadecane	47.8		mg/kg	50.0		94.7	63.6-154			

##### LCS (2092601-BS1)

Prepared & Analyzed: 26-Sep-12

GRO C6-C10	190	10.0	mg/kg	200		95.1	66.4-124		23.4	
DRO >C10-C28	192	10.0	mg/kg	200		95.8	61.6-132		23.1	
Surrogate: 1-Chlorooctane	46.5		mg/kg	50.0		92.9	65.2-140			
Surrogate: 1-Chlorooctadecane	45.6		mg/kg	50.0		90.3	63.6-154			

##### LCS Dup (2092601-BS1)

Prepared & Analyzed: 26-Sep-12

GRO C6-C10	178	10.0	mg/kg	200		88.8	66.4-124	6.93	23.4	
DRO >C10-C28	158	10.0	mg/kg	200		79.1	61.6-132	19.1	23.1	
Surrogate: 1-Chlorooctane	43.4		mg/kg	50.0		86.8	65.2-140			
Surrogate: 1-Chlorooctadecane	41.7		mg/kg	50.0		82.6	63.6-154			

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*Celestine D. Keene*

Celestine D. Keene, Lab Director/Quality Manager

28-Sep-12 12:36



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2092605 - Volatiles</b>										
<b>Blank (2092605-BLK1)</b>				Prepared & Analyzed: 26-Sep-12						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0500		mg/kg	0.0500		100	89.5-126			
<b>LCS (2092605-BS1)</b>				Prepared & Analyzed: 26-Sep-12						
Benzene	1.70	0.050	mg/kg	2.00		85.2	80.7-116			
Toluene	1.88	0.050	mg/kg	2.00		94.0	89.7-121			
Ethylbenzene	1.87	0.050	mg/kg	2.00		93.4	91.4-124			
Total Xylenes	5.67	0.150	mg/kg	6.00		94.6	93.4-130			
Surrogate: 4-Bromofluorobenzene (PID)	0.0498		mg/kg	0.0500		99.6	89.5-126			
<b>LCS Dup (2092605-BSD1)</b>				Prepared & Analyzed: 26-Sep-12						
Benzene	2.03	0.050	mg/kg	2.00		102	80.7-116	17.7	16.4	
Toluene	2.25	0.050	mg/kg	2.00		112	89.7-121	17.9	16.6	
Ethylbenzene	2.23	0.050	mg/kg	2.00		111	91.4-124	17.6	16.1	
Total Xylenes	6.76	0.150	mg/kg	6.00		113	93.4-130	17.5	15.8	
Surrogate: 4-Bromofluorobenzene (PID)	0.0498		mg/kg	0.0500		99.6	89.5-126			

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\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager

SEP 28 2012 12:36





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### Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

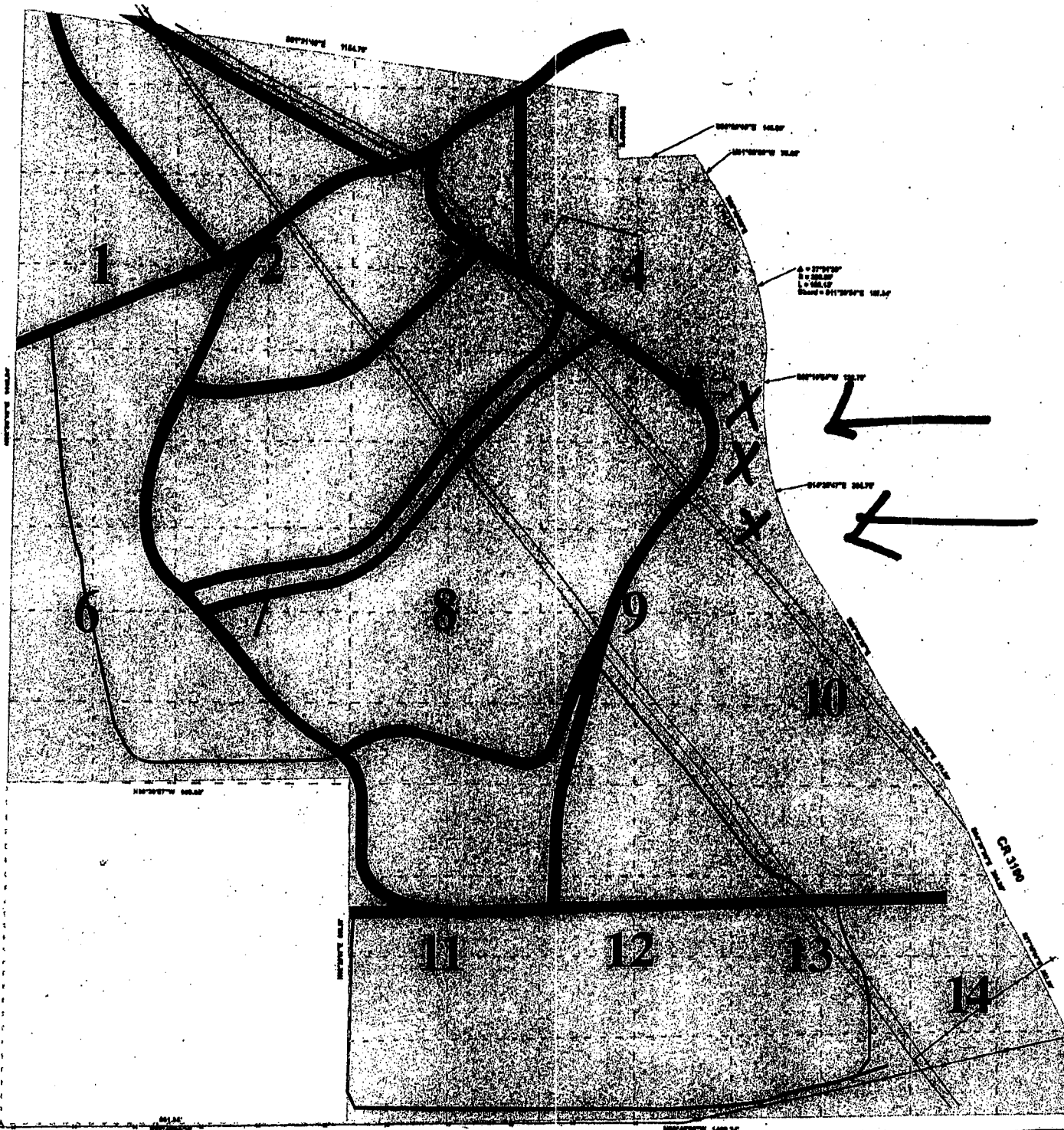
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Celey D. Keene, Lab Director/Quality Manager









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September 28, 2012

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 09/25/12 10:30.

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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager





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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

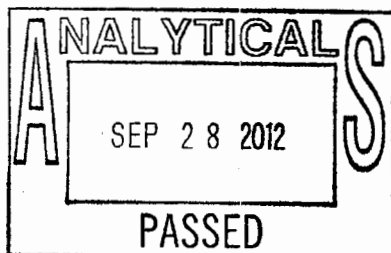
**PILE 791  
H202330-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Organic Compounds**

DRO >C10-C28	93.8	10.0	mg/kg	1	2092601	MS	26-Sep-12	8015M	
Surrogate: 1-Chlorooctane		88.3 %	65.2-140		2092601	MS	26-Sep-12	8015M	
Surrogate: 1-Chlorooctadecane		95.5 %	63.6-154		2092601	MS	26-Sep-12	8015M	



Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE 563	H202330-01	Soil	24-Sep-12 10:10	25-Sep-12 10:30
PILE 752	H202330-02	Soil	24-Sep-12 10:30	25-Sep-12 10:30
PILE 755	H202330-03	Soil	24-Sep-12 10:35	25-Sep-12 10:30
PILE 761	H202330-04	Soil	24-Sep-12 10:50	25-Sep-12 10:30
PILE 789	H202330-05	Soil	24-Sep-12 11:20	25-Sep-12 10:30
PILE 791	H202330-06	Soil	24-Sep-12 11:35	25-Sep-12 10:30
PILE 792	H202330-07	Soil	24-Sep-12 11:50	25-Sep-12 10:30
PILE 795	H202330-08	Soil	24-Sep-12 13:15	25-Sep-12 10:30
PILE 814	H202330-09	Soil	24-Sep-12 13:30	25-Sep-12 10:30
PILE 815	H202330-10	Soil	24-Sep-12 13:55	25-Sep-12 10:30

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

**Inorganic Compounds - Quality Control**

**Cardinal Laboratories**

Analytic	Result	Reporting Limit	Units	Spik: Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2092803 - 1:4 DI Water</b>										
<b>Blank (2092803-BLK1)</b>										
Chloride	ND	16.0	mg/kg							Prepared & Analyzed: 28-Sep-12
<b>LCS (2092803-BS1)</b>										
Chloride	400	16.0	mg/kg	400		100	80-120			Prepared & Analyzed: 28-Sep-12
<b>LCS Dup (2092803-BS1)</b>										
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	

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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 860  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
28-Sep-12 12:36**Organic Compounds - Quality Control**  
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2092601 - General Prep - Organics</b>										
<b>Blank (2092601-BLK1)</b>				Prepared & Analyzed: 26-Sep-12						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	45.9		mg/kg	50.0		91.7	65.2-140			
Surrogate: 1-Chlorooctadecane	47.8		mg/kg	50.5		94.7	63.6-154			
<b>LCS (2092601-BS1)</b>				Prepared & Analyzed: 26-Sep-12						
GRO C6-C10	190	10.0	mg/kg	200		95.1	66.4-124		23.4	
DRO >C10-C28	192	10.0	mg/kg	200		95.8	61.6-132		23.1	
Surrogate: 1-Chlorooctane	46.5		mg/kg	50.0		92.9	65.2-140			
Surrogate: 1-Chlorooctadecane	45.6		mg/kg	50.5		90.3	63.6-154			
<b>LCS Dup (2092601-BSD1)</b>				Prepared & Analyzed: 26-Sep-12						
GRO C6-C10	178	10.0	mg/kg	200		88.8	66.4-124	6.93	23.4	
DRO >C10-C28	158	10.0	mg/kg	200		79.1	61.6-132	19.1	23.1	
Surrogate: 1-Chlorooctane	43.4		mg/kg	50.0		86.8	65.2-140			
Surrogate: 1-Chlorooctadecane	41.7		mg/kg	50.5		82.6	63.6-154			

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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2092605 - Volatiles</b>									
<b>Blank (2092605-BLK1)</b>									
Prepared & Analyzed: 26-Sep-12									
Benzene	ND	0.050	mg/kg						
Toluene	ND	0.050	mg/kg						
Ethylbenzene	ND	0.050	mg/kg						
Total Xylenes	ND	0.150	mg/kg						
Surrogate: 4-Bromofluorobenzene (PID)	0.0500		mg/kg	0.0500		100	89.5-126		
<b>LCS (2092605-BS1)</b>									
Prepared & Analyzed: 26-Sep-12									
Benzene	1.70	0.050	mg/kg	2.00		85.2	80.7-116		
Toluene	1.88	0.050	mg/kg	2.00		94.0	89.7-121		
Ethylbenzene	1.87	0.050	mg/kg	2.00		93.4	91.4-124		
Total Xylenes	5.67	0.150	mg/kg	6.00		94.6	93.4-130		
Surrogate: 4-Bromofluorobenzene (PID)	0.0498		mg/kg	0.0500		99.6	89.5-126		
<b>LCS Dup (2092605-BS1)</b>									
Prepared & Analyzed: 26-Sep-12									
Benzene	2.03	0.050	mg/kg	2.00		102	80.7-116	17.7	16.4
Toluene	2.25	0.050	mg/kg	2.00		112	89.7-121	17.9	16.6
Ethylbenzene	2.23	0.050	mg/kg	2.00		111	91.4-124	17.6	16.1
Total Xylenes	6.76	0.150	mg/kg	6.00		113	93.4-130	17.5	15.8
Surrogate: 4-Bromofluorobenzene (PID)	0.0498		mg/kg	0.0500		99.6	89.5-126		

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*Coley D. Keene*

Coley D. Keene, Lab Director/Quality Manager

20120928150117



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### Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit  
RPD Relative Percent Difference  
\*\* Samples not received at proper temperature of 6°C or below.  
\*\*\* Insufficient time to reach temperature.  
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



Analytical  
Laboratories

# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Industrial Ecosystems

Contact: Marcella

Address: 49 CR 3150

Artec NM8746

Phone Number: 505-632-1782

FAX Number: 505-632-1876

Table 1 - Matrix Type  
1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinseate, 5 = Oil  
6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY  
GAL JOB # \_\_\_\_\_

Samplers Signature: [Signature]

Project Name: ATJ

Sample ID	Collection		Miscellaneous				Preservative(s)				Analyses Required	Comments	
	Date	Time	Collected by (init)	Matrix Type (From Table 1)	No. of Containers	Sample Filtered ? Y/N	Unpreserved (See Only)	HNO3	H2SO4	NaOH			Other (Specify)
1 H202330	09/24/12	10:10	SA	3	1	N						✓ DRO 8015M	Laboratory
2 Pile 563		10:30										✓ BTEX 8001B	
3 Pile 752		10:35										✓ CHLORIDE 300.0	
4 Pile 755		10:50											
5 Pile 761		11:20											
6 Pile 789		11:35											
7 Pile 791		11:50											
8 Pile 792		1:15											
9 Pile 795		1:30											
10 Pile 814		1:55											
Relinquished by: <u>[Signature]</u>													
Relinquished by: <u>[Signature]</u>													
Received by: <u>[Signature]</u>											Date: <u>9/24/12</u>	Time: <u>2:10</u>	
Received by: <u>[Signature]</u>											Date: <u>9/24/12</u>	Time: <u>2:40</u>	

\* Sample Reject: ☐ Return ☒ Dispose ☐ Store (30 Days)

Paul Henderson 9/25/12 #26



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-Jul-12 10:20

**PILE 791  
H201672-09 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	656	16.0	mg/kg	4	2072304	HM	23-Jul-12	4500-Cl-B	
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**Organic Compounds**

GRO C6-C10	ND	10.0	mg/kg	1	2072306	MS	24-Jul-12	8015M	
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DRO >C10-C28	455	10.0	mg/kg	1	2072306	MS	24-Jul-12	8015M	
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Surrogate: 1-Chlorooctane	82.9 %	65.2-140			2072306	MS	24-Jul-12	8015M	
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Surrogate: 1-Chlorooctadecane	120 %	63.6-154			2072306	MS	24-Jul-12	8015M	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	0.053	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B	
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Toluene*	0.086	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B	
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Ethylbenzene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B	
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Total Xylenes*	0.287	0.150	mg/kg	50	2072403	AP	24-Jul-12	8021B	
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Surrogate: 4-Bromofluorobenzene (PID)	103 %	89.4-126			2072403	AP	24-Jul-12	8021B	
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Celey D. Keene, Lab Director/Quality Manager



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July 25, 2012

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 07/20/12 10:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager





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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-Jul-12 10:20

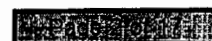
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE 13	H201672-01	Soil	19-Jul-12 06:40	20-Jul-12 10:35
PILE 14	H201672-02	Soil	19-Jul-12 07:10	20-Jul-12 10:35
PILE 603	H201672-03	Soil	19-Jul-12 07:35	20-Jul-12 10:35
PILE 633	H201672-04	Soil	19-Jul-12 07:40	20-Jul-12 10:35
PILE 752	H201672-05	Soil	19-Jul-12 08:20	20-Jul-12 10:35
PILE 755	H201672-06	Soil	19-Jul-12 09:00	20-Jul-12 10:35
PILE 761	H201672-07	Soil	19-Jul-12 09:40	20-Jul-12 10:35
PILE 790	H201672-08	Soil	19-Jul-12 10:15	20-Jul-12 10:35
PILE 791	H201672-09	Soil	19-Jul-12 10:30	20-Jul-12 10:35
PILE 814	H201672-10	Soil	19-Jul-12 11:10	20-Jul-12 10:35

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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-Jul-12 10:20

**Inorganic Compounds - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spice Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2072304 - 1:4 DI Water</b>									
<b>Blank (2072304-BLK1)</b>					Prepared & Analyzed: 23-Jul-12				
Chloride	ND	16.0	mg/kg						
<b>LCS (2072304-BS1)</b>					Prepared & Analyzed: 23-Jul-12				
Chloride	432	16.0	mg/kg	400	108	80-120			
<b>LCS Dup (2072304-BSD1)</b>					Prepared & Analyzed: 23-Jul-12				
Chloride	432	16.0	mg/kg	400	108	80-120	0.00	20	

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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
25-Jul-12 10:20**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2072306 - General Prep - Organics</b>										
<b>Blank (2072306-BLK1)</b>				<b>Prepared &amp; Analyzed: 23-Jul-12</b>						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	38.6		mg/kg	50.0		77.2	65.2-140			
Surrogate: 1-Chlorooctadecane	51.3		mg/kg	50.0		103	63.6-154			
<b>LCS (2072306-BS1)</b>				<b>Prepared &amp; Analyzed: 23-Jul-12</b>						
GRO C6-C10	169	10.0	mg/kg	200		84.3	66.4-124		23.4	
DRO >C10-C28	181	10.0	mg/kg	200		90.4	61.6-132		23.1	
Surrogate: 1-Chlorooctane	42.7		mg/kg	50.0		85.4	65.2-140			
Surrogate: 1-Chlorooctadecane	54.7		mg/kg	50.0		109	63.6-154			
<b>LCS Dup (2072306-BSD1)</b>				<b>Prepared &amp; Analyzed: 23-Jul-12</b>						
GRO C6-C10	174	10.0	mg/kg	200		87.1	66.4-124	3.19	23.4	
DRO >C10-C28	180	10.0	mg/kg	200		89.8	61.6-132	0.622	23.1	
Surrogate: 1-Chlorooctane	44.4		mg/kg	50.0		88.8	65.2-140			
Surrogate: 1-Chlorooctadecane	55.1		mg/kg	50.0		110	63.6-154			

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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 701  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876Reported:  
25-Jul-12 10:20**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spill Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2072403 - Volatiles</b>										
<b>Blank (2072403-BLK1)</b>										
Prepared & Analyzed: 24-Jul-12										
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0519		mg/kg	0.0570		104	89.4-126			
<b>LCS (2072403-BS1)</b>										
Prepared & Analyzed: 24-Jul-12										
Benzene	1.87	0.050	mg/kg	2.00		93.6	80.7-116			
Toluene	1.91	0.050	mg/kg	2.00		95.5	89.7-121			
Ethylbenzene	1.97	0.050	mg/kg	2.00		98.4	91.4-124			
Total Xylenes	6.00	0.150	mg/kg	6.00		100	93.4-130			
Surrogate: 4-Bromofluorobenzene (PID)	0.0525		mg/kg	0.0570		103	89.4-126			
<b>LCS Dup (2072403-BS1)</b>										
Prepared & Analyzed: 24-Jul-12										
Benzene	1.83	0.050	mg/kg	2.00		91.7	80.7-116	2.04	16.4	
Toluene	1.83	0.050	mg/kg	2.00		91.7	89.7-121	4.10	16.6	
Ethylbenzene	1.87	0.050	mg/kg	2.00		93.4	91.4-124	5.17	16.1	
Total Xylenes	5.64	0.150	mg/kg	6.00		94.0	93.4-130	6.27	15.8	
Surrogate: 4-Bromofluorobenzene (PID)	0.0517		mg/kg	0.0570		103	89.4-126			

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

### Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit  
RPD Relative Percent Difference  
\*\* Samples not received at proper temperature of 6°C or below.  
\*\*\* Insufficient time to reach temperature.  
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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## NOTES:

1) Ensure proper container packaging.

2) Ship samples promptly following collection.

### 3) Designate Sample Reject Disposition.

FOIA b 7

Project Name:

**Samplers Signature:**

Table 1. - Matrix Type

1 = Surface Water, 2 = Ground Water

3 = Soil/Sediment, 4 = Rinate, 5 = Oil

6 = Waste, 7 = Other (Specify)

FOR GAL-USE ONLY

GAL JOB #

# CHAIN OF CUSTODY RECORD

## NOTES:

1) Ensure proper container packaging.

2) Ship samples promptly following collection.

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FOIA b 7

Project Name:

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1 = Surface Water, 2 = Ground Water

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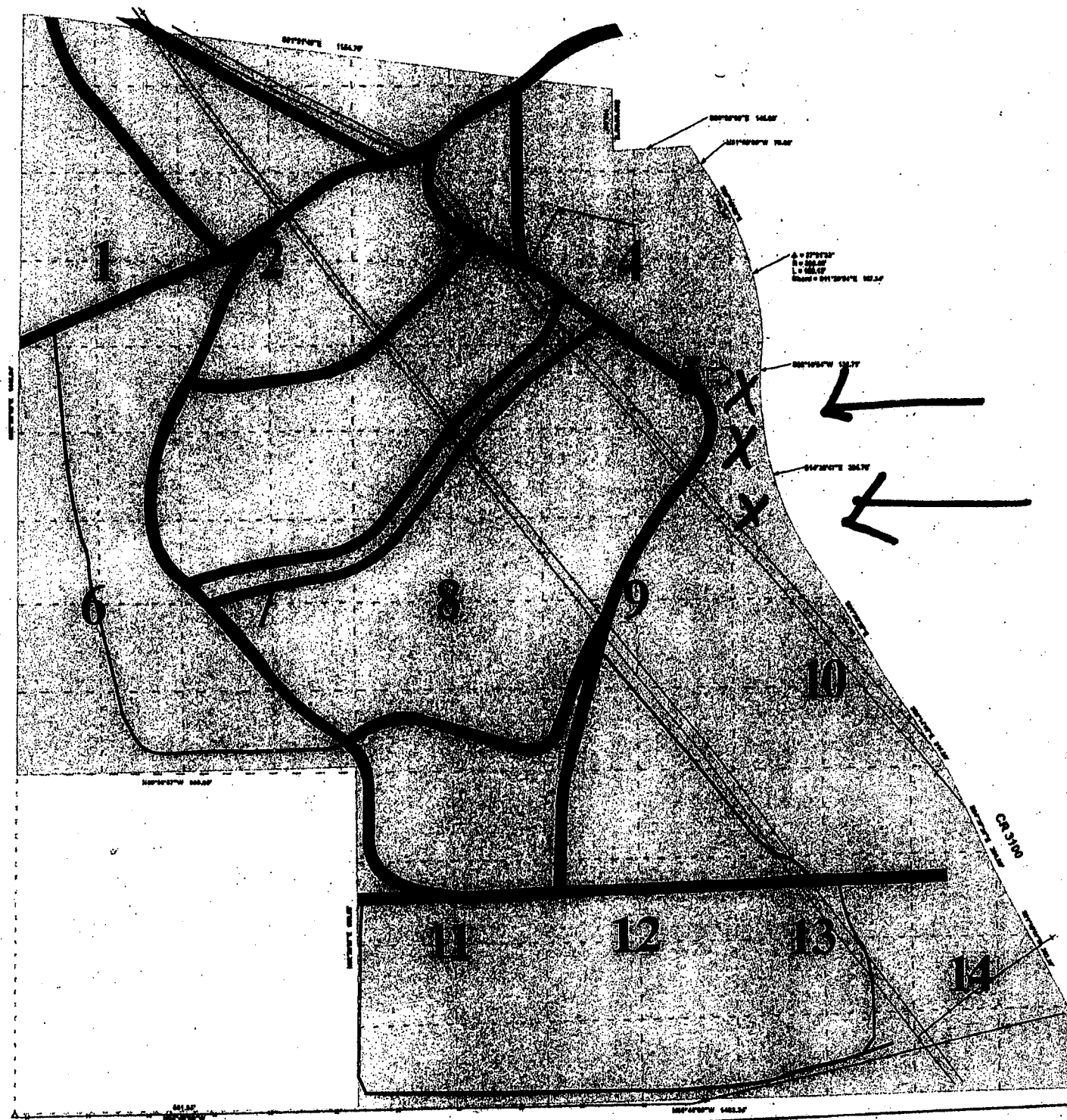
FOR GAL-USE ONLY

GAL JOB #

Lab Name: Green Analytical Laboratories			(970) 247-4220 FAX (970) 247-4227			Analyses Required						
Address: 75 Suite Street, Durango, CO 81303			www.greenanalytical.com									
Sample ID	Collection		Collected by: (init.)	Miscellaneous		Preservative(s)					Comments	
	Date	Time		No. of Containers	Sample Filtered Y/N	Unpreserved (See Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)
42011672	4/12	1:40	1	1								2
42011673	4/12	7:10	1	1								2
42011674	4/12	7:35	1	1								2
42011675	4/12	7:40	1	1								2
42011676	4/12	8:20	1	1								2
42011677	4/12	9:00	1	1								2
42011678	4/12	9:40	1	1								2
42011679	4/12	10:15	1	1								2
42011680	4/12	10:30	1	1								2
42011681	4/12	11:10	1	1								2
Retinquished by: <u>Dr. [Signature]</u>			Date: <u>4/12/12</u>			Page: <u>50</u>			Retinquished by: <u>Dr. [Signature]</u>			Date: <u>4/12/12</u>
Retinquished by: <u>Dr. [Signature]</u>			Date: <u>4/12/12</u>			Page: <u>50</u>			Retinquished by: <u>Dr. [Signature]</u>			Date: <u>4/12/12</u>

\* Sample Reject: [ ] Return [ ] Dispose of [ ] Store (30 Days)

2322





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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELIA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

**PILE 815  
H202330-10 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	--------	-------

**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	16.0	16.0	mg/kg	4	2092803	HM	28-Sep-12	4500-Cl-B
----------	------	------	-------	---	---------	----	-----------	-----------

**Organic Compounds**

GRO C6-C10	ND	10.0	mg/kg	1	2092601	MS	26-Sep-12	8015M
------------	----	------	-------	---	---------	----	-----------	-------

DRO >C10-C28	17.4	10.0	mg/kg	1	2092601	MS	26-Sep-12	8015M
--------------	------	------	-------	---	---------	----	-----------	-------

Surrogate: 1-Chlorooctane	89.4 %	65.2-140		2092601	MS	26-Sep-12	8015M
---------------------------	--------	----------	--	---------	----	-----------	-------

Surrogate: 1-Chlorooctadecane	94.4 %	63.6-154		2092601	MS	26-Sep-12	8015M
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**Volatile Organic Compounds by EPA Method 8021**

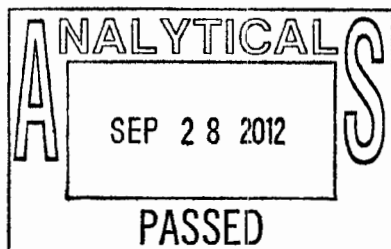
Benzene*	ND	0.050	mg/kg	50	2092605	AP	26-Sep-12	8021B
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Toluene*	ND	0.050	mg/kg	50	2092605	AP	26-Sep-12	8021B
----------	----	-------	-------	----	---------	----	-----------	-------

Ethylbenzene*	ND	0.050	mg/kg	50	2092605	AP	26-Sep-12	8021B
---------------	----	-------	-------	----	---------	----	-----------	-------

Total Xylenes*	ND	0.150	mg/kg	50	2092605	AP	26-Sep-12	8021B
----------------	----	-------	-------	----	---------	----	-----------	-------

Surrogate: 4-Bromofluorobenzene (PID)	101 %	89.5-126		2092605	AP	26-Sep-12	8021B
---------------------------------------	-------	----------	--	---------	----	-----------	-------



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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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September 28, 2012

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 09/25/12 10:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager





PHONE (575) 393-2326 \* 101 E. MARLAND \* HOBBS, NM 88240

**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE 563	H202330-01	Soil	24-Sep-12 10:10	25-Sep-12 10:30
PILE 752	H202330-02	Soil	24-Sep-12 10:30	25-Sep-12 10:30
PILE 755	H202330-03	Soil	24-Sep-12 10:35	25-Sep-12 10:30
PILE 761	H202330-04	Soil	24-Sep-12 10:50	25-Sep-12 10:30
PILE 789	H202330-05	Soil	24-Sep-12 11:20	25-Sep-12 10:30
PILE 791	H202330-06	Soil	24-Sep-12 11:35	25-Sep-12 10:30
PILE 792	H202330-07	Soil	24-Sep-12 11:50	25-Sep-12 10:30
PILE 795	H202330-08	Soil	24-Sep-12 13:15	25-Sep-12 10:30
PILE 814	H202330-09	Soil	24-Sep-12 13:30	25-Sep-12 10:30
PILE 815	H202330-10	Soil	24-Sep-12 13:55	25-Sep-12 10:30

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 860  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
28-Sep-12 12:36

**Inorganic Compounds - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2092803 - 1:4 DI Water</b>										
<b>Blank (2092803-BLK1)</b>				Prepared & Analyzed: 28-Sep-12						
Chloride	ND	16.0	mg/kg							
<b>LCS (2092803-BS1)</b>				Prepared & Analyzed: 28-Sep-12						
Chloride	400	16.0	mg/kg	400		100	80-120			
<b>LCS Dup (2092803-BSD1)</b>				Prepared & Analyzed: 28-Sep-12						
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	

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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 860  
Project Manager: MARCELIA MARQUEZ  
Fax To: (505) 632-1876Reported:  
28-Sep-12 12:36**Organic Compounds - Quality Control**  
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2092601 - General Prep - Organics</b>										
<b>Blank (2092601-BLK1)</b>										
Prepare 1 & Analyzed: 26-Sep-12										
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	45.9		mg/kg	50.0		91.7	65.2-140			
Surrogate: 1-Chlorooctadecane	47.8		mg/kg	50.5		94.7	63.6-154			
<b>LCS (2092601-BS1)</b>										
Prepare 1 & Analyzed: 26-Sep-12										
GRO C6-C10	190	10.0	mg/kg	200		95.1	66.4-124		23.4	
DRO >C10-C28	192	10.0	mg/kg	200		95.8	61.6-132		23.1	
Surrogate: 1-Chlorooctane	46.5		mg/kg	50.0		92.9	65.2-140			
Surrogate: 1-Chlorooctadecane	45.6		mg/kg	50.5		90.3	63.6-154			
<b>LCS Dup (2092601-BSD1)</b>										
Prepare 1 & Analyzed: 26-Sep-12										
GRO C6-C10	178	10.0	mg/kg	200		88.8	66.4-124	6.93	23.4	
DRO >C10-C28	158	10.0	mg/kg	200		79.1	61.6-132	19.1	23.1	
Surrogate: 1-Chlorooctane	43.4		mg/kg	50.0		86.8	65.2-140			
Surrogate: 1-Chlorooctadecane	41.7		mg/kg	50.5		82.6	63.6-154			

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Caley D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 860  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
28-Sep-12 12:36**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2092605 - Volatiles</b>									
<b>Blank (2092605-BLK1)</b>									
Prepared & Analyzed: 26-Sep-12									
Benzene	ND	0.050	mg/kg						
Toluene	ND	0.050	mg/kg						
Ethylbenzene	ND	0.050	mg/kg						
Total Xylenes	ND	0.150	mg/kg						
Surrogate: 4-Bromofluorobenzene (PID)	0.0500		mg/kg	0.0500		100	89.5-126		
<b>LCS (2092605-BS1)</b>									
Prepared & Analyzed: 26-Sep-12									
Benzene	1.70	0.050	mg/kg	2.00		85.2	80.7-116		
Toluene	1.88	0.050	mg/kg	2.00		94.0	89.7-121		
Ethylbenzene	1.87	0.050	mg/kg	2.00		93.4	91.4-124		
Total Xylenes	5.67	0.150	mg/kg	6.00		94.6	93.4-130		
Surrogate: 4-Bromofluorobenzene (PID)	0.0498		mg/kg	0.0500		99.6	89.5-126		
<b>LCS Dup (2092605-BSD1)</b>									
Prepared & Analyzed: 26-Sep-12									
Benzene	2.03	0.050	mg/kg	2.00		102	80.7-116	17.7	16.4
Toluene	2.25	0.050	mg/kg	2.00		112	89.7-121	17.9	16.6
Ethylbenzene	2.23	0.050	mg/kg	2.00		111	91.4-124	17.6	16.1
Total Xylenes	6.76	0.150	mg/kg	6.00		113	93.4-130	17.5	15.8
Surrogate: 4-Bromofluorobenzene (PID)	0.0498		mg/kg	0.0500		99.6	89.5-126		

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Celey D. Keene, Lab Director/Quality Manager





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RPD Relative Percent Difference  
\*\* Samples not received at proper temperature of 6°C or below.  
\*\*\* Insufficient time to reach temperature.  
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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REPORT 620/17-11



Analytical  
Laboratories

# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Industrial Ecosystems

Contact: Marcelle

Address: 49 CR 3150

Artes NM 87464

Phone Number: 505-632-1782

FAX Number: 505-632-1874

Table 1. - Matrix Type  
1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify)

FOR GAL USE ONLY  
GAL JOB #

1) Ensure proper container packaging.  
2) Ship samples promptly following collection.  
3) Designate Sample Reject Disposition.

PO# 866

Project Name: ST-1

Samplers Signature: St. Edge

Lab Name: Green Analytical Laboratories		(970) 247-4220 FAX (970) 247-4227		Analyses Required										
Address: 75 Suttle Street, Durango, CO 81303		www.greenanalytical.com												
Sample ID	Collection		Miscellaneous			Preservative(s)			Comments					
	Date	Time	Collected by: (Init)	Matrix Type From Table 1	No. of Containers	Sample Filtered? Y/N	Unpreserved (Ice Only)	HNO3		HCL	H2SO4	NaOH	Other (Specify)	
1. Pile 563	09/24/12	10:10	SA	3	1	N							DRD 8015M 6RO 8015M BTEX 8015M Chloride 300.0	Unit on it
2. Pile 752		10:30												
3. Pile 755		10:35												
4. Pile 761		10:50												
5. Pile 789		11:20												
6. Pile 791		11:35												
7. Pile 792		11:50												
8. Pile 795		1:15												
9. Pile 814		1:30												
10. Pile 815		1:55												
Relinquished by: <u>St. Edge</u>		Date: <u>9/24/12</u>		Time: <u>8:10p</u>		Received by: <u>W. McFar</u>		Date: <u>9/24/12</u>		Time: <u>2:10p</u>				
Relinquished by: <u>St. Edge</u>		Date: <u>9/24/12</u>		Time: <u>2:10p</u>		Received by: <u>W. McFar</u>		Date: <u>9/24/12</u>		Time: <u>2:10p</u>				

\* Sample Reject: ☐ Return ☐ Dispose ☐ Store (30 Days)

W. McFar  
9/25/12  
30 #26

State of New Mexico  
Energy, Minerals and Natural Resources Department

---

**Susana Martinez**  
Governor

**John Bemis**  
Cabinet Secretary

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey**  
Division Director  
Oil Conservation Division



October 1, 2012

Ms. Marcella Marquez  
JFJ Landfarm, L.L.C.  
Industrial Ecosystems Inc.  
Soil Reclamation Center  
P.O. Box 2043  
Farmington, New Mexico 87499

**RE: Request for Approval of On-Site Disposition of Remediated Soils**  
**JFJ Landfarm, LLC - Industrial Ecosystems Inc.**  
**JFJ Landfarm – Permit # NM1-010-B**  
**Location: NW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,**  
**San Juan County, New Mexico**

Dear Ms. Marquez:

The Oil Conservation Division (OCD) has reviewed JFJ Landfarm, LLC's (JFJ) email request, dated October 1, 2012, for on-site disposition of remediated soils from the OCD permitted landfarm (Surface Waste Management Facility Permit # NM-1-0010B) to be utilized to build up the area along the eastern boundary of and within the existing permitted facility property, located in NW/4 SE/4 of Section 2, Township 29 North, Range 12 West NMPM, San Juan County, New Mexico. OCD has reviewed the analytical results to reuse the remediated soils from the following biopile(s):

*Pile # 13      Pile # 14      Pile # 603*  
*Pile # 790      Pile # 765*

Based upon the information provided, the above-referenced biopiles are hereby approved for reuse with the following understandings and conditions:

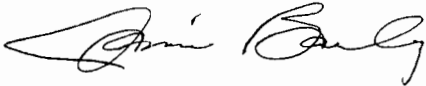
1. JFJ has demonstrated that the proposed soils for reuse satisfy the TPH, BTEX, and Benzene concentrations specified in Condition 17 of the Landfarm and Composting Operations section of your February 3, 2004 surface waste management facility permit (NM1-010-B);
2. JFJ shall obtain legal authority from the surface owner prior to placement of the remediated soils for reuse;

3. JFJ shall ensure that remediated soils are reused in a manner that prevents the contamination of ground water and surface water, and protects human health and the environment; and
4. If JFJ reuses the remediated soils within the surface waste management facility permitted boundary, as proposed and considered in this approval, at closure JFJ shall comply with Conditions 2d and 2f of the Closure section of your February 3, 2004 surface waste management facility permit (NM1-010-B).

Please be advised that approval of this request does not relieve JFJ of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve JFJ of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Mr. Brad A. Jones of my staff at (505) 476-3487 or [brad.a.jones@state.nm.us](mailto:brad.a.jones@state.nm.us).

Sincerely,



Jami Bailey  
Director

JB/baj

cc: OCD District III Office, Aztec

**Jones, Brad A., EMNRD**

---

**From:** Marcella Marquez <marcella@industrialecosystems.com>  
**Sent:** Monday, October 01, 2012 10:45 AM  
**To:** Jones, Brad A., EMNRD  
**Subject:** Passed Piles  
**Attachments:** 3902\_0001.pdf; 3909\_0001.pdf  
  
**Importance:** High

Brad:

Attached please find the QA/QI for the analytical reports for each pile along with the map of the area that the soils will be spread.

Please let me know if you have any questions.

*Thanks,  
Marcella Marquez, HSE Administrator  
Industrial Ecosystems, Inc.  
Phone: (505) 632-1782  
Fax: (505) 632-1876 or (505) 334-1003*



**Industrial Ecosystems Inc.  
Soil Reclamation Center**

P.O. Box 2043  
Farmington, NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec, NM 87410

---

September 27, 2012

Brad Jones, Environmental Engineer  
NM Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: JFJ Landfarm Permit # NM01-0010B  
Disposition of Treated Soils

Dear Brad:

This letter is being submitted to you as a request to reuse/recycle treated soils. We are requesting approval to reuse/recycle treated soils within our property boundaries. The treated soils would be utilized to "build up" the East portion of the property (see attached map).

Attached you will find the analytical reports showing the treated soils have reached acceptable permit levels for the following biopiles:

- Pile 13
- Pile 14
- Pile 603
- Pile 765 (06/21/11 DRO @ 129, 02/01/12 DRO @ <10)
- Pile 790

Respectfully Submitted,

A handwritten signature in cursive script that reads "Marcella Marquez".

Marcella Marquez  
HSE Administrator

Enclosures-Analytical Reports, Map





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

July 25, 2012

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 07/20/12 10:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 701  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-Jul-12 10:20

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE 13	H201672-01	Soil	19-Jul-12 06:40	20-Jul-12 10:35
PILE 14	H201672-02	Soil	19-Jul-12 07:10	20-Jul-12 10:35
PILE 603	H201672-03	Soil	19-Jul-12 07:35	20-Jul-12 10:35
PILE 633	H201672-04	Soil	19-Jul-12 07:40	20-Jul-12 10:35
PILE 752	H201672-05	Soil	19-Jul-12 08:20	20-Jul-12 10:35
PILE 755	H201672-06	Soil	19-Jul-12 09:00	20-Jul-12 10:35
PILE 761	H201672-07	Soil	19-Jul-12 09:40	20-Jul-12 10:35
PILE 790	H201672-08	Soil	19-Jul-12 10:15	20-Jul-12 10:35
PILE 791	H201672-09	Soil	19-Jul-12 10:30	20-Jul-12 10:35
PILE 814	H201672-10	Soil	19-Jul-12 11:10	20-Jul-12 10:35

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-Jul-12 10:20

**PILE 13**

H201672-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	32.0	16.0	mg/kg	4	2072304	HM	23-Jul-12	4500-Cl-B
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**Organic Compounds**

GRO C6-C10	ND	10.0	mg/kg	1	2072306	MS	23-Jul-12	8015M
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DRO >C10-C28	10.4	10.0	mg/kg	1	2072306	MS	23-Jul-12	8015M
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Surrogate: 1-Chlorooctane	81.7 %	65.2-140		2072306	MS	23-Jul-12	8015M
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Surrogate: 1-Chlorooctadecane	107 %	63.6-154		2072306	MS	23-Jul-12	8015M
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**Volatile Organic Compounds by EPA Method 8021**

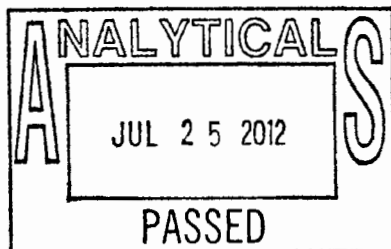
Benzene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Toluene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Ethylbenzene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Total Xylenes*	ND	0.150	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Surrogate: 4-Bromofluorobenzene (PID)	101 %	89.4-126		2072403	AP	24-Jul-12	8021B
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Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-Jul-12 10:20

**PILE 14**

H201672-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	16.0	16.0	mg/kg	4	2072304	HM	23-Jul-12	4500-Cl-B
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**Organic Compounds**

GRO C6-C10	ND	10.0	mg/kg	1	2072306	MS	23-Jul-12	8015M
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DRO >C10-C28	ND	10.0	mg/kg	1	2072306	MS	23-Jul-12	8015M
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Surrogate: 1-Chlorooctane	79.6 %	65.2-140			2072306	MS	23-Jul-12	8015M
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Surrogate: 1-Chlorooctadecane	102 %	63.6-154			2072306	MS	23-Jul-12	8015M
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**Volatile Organic Compounds by EPA Method 8021**

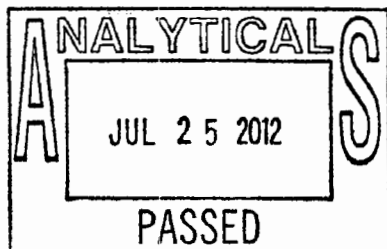
Benzene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Toluene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Ethylbenzene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Total Xylenes*	ND	0.150	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Surrogate: 4-Bromofluorobenzene (PID)	104 %	89.4-126			2072403	AP	24-Jul-12	8021B
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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-Jul-12 10:20

**PILE 603**

H201672-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	32.0	16.0	mg/kg	4	2072304	HM	23-Jul-12	4500-Cl-B
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**Organic Compounds**

GRO C6-C10	ND	10.0	mg/kg	1	2072306	MS	23-Jul-12	8015M
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DRO >C10-C28	ND	10.0	mg/kg	1	2072306	MS	23-Jul-12	8015M
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Surrogate: 1-Chlorooctane	81.6 %	65.2-140		2072306	MS	23-Jul-12	8015M
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Surrogate: 1-Chlorodecane	103 %	63.6-154		2072306	MS	23-Jul-12	8015M
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**Volatile Organic Compounds by EPA Method 8021**

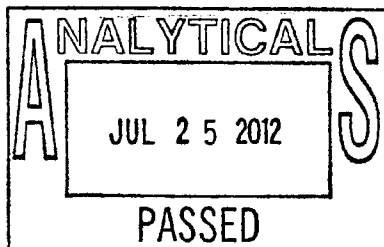
Benzene*	0.050	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Toluene*	0.071	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Ethylbenzene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Total Xylenes*	ND	0.150	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Surrogate: 4-Bromofluorobenzene (PID)	102 %	89.4-126		2072403	AP	24-Jul-12	8021B
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\*=Accredited Analyte

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*Celest D. Keene*

Celest D. Keene, Lab Director/Quality Manager



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### Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-Jul-12 10:20

**PILE 790**  
**H201672-08 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Inorganic Compounds

Chloride	32.0	16.0	mg/kg	4	2072304	HM	23-Jul-12	4500-Cl-B
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#### Organic Compounds

GRO C6-C10	ND	10.0	mg/kg	1	2072306	MS	24-Jul-12	8015M
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DRO >C10-C28	17.6	10.0	mg/kg	1	2072306	MS	24-Jul-12	8015M
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Surrogate: 1-Chlorooctane	84.8 %	65.2-140		2072306	MS	24-Jul-12	8015M
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Surrogate: 1-Chlorooctadecane	109 %	63.6-154		2072306	MS	24-Jul-12	8015M
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#### Volatile Organic Compounds by EPA Method 8021

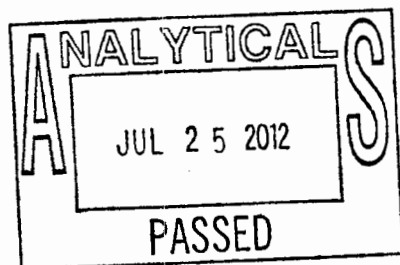
Benzene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Toluene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
----------	----	-------	-------	----	---------	----	-----------	-------

Ethylbenzene*	ND	0.050	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Total Xylenes*	ND	0.150	mg/kg	50	2072403	AP	24-Jul-12	8021B
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Surrogate: 4-Bromofluorobenzene (PID)	100 %	89.4-126		2072403	AP	24-Jul-12	8021B
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\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-Jul-12 10:20

**Inorganic Compounds - Quality Control**  
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2072304 - 1:4 DI Water</b>									
<b>Blank (2072304-BLK1)</b>				Prepared & Analyzed: 23-Jul-12					
Chloride	ND	16.0	mg/kg						
<b>LCS (2072304-BS1)</b>				Prepared & Analyzed: 23-Jul-12					
Chloride	432	16.0	mg/kg	400	108	80-120			
<b>LCS Dup (2072304-BSD1)</b>				Prepared & Analyzed: 23-Jul-12					
Chloride	432	16.0	mg/kg	400	108	80-120	0.00	20	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 701  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876Reported:  
25-Jul-12 10:20**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spice Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2072306 - General Prep - Organics****Blank (2072306-BLK1)**

Prepared &amp; Analyzed: 23-Jul-12

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	38.6		mg/kg	50.0		77.2	63.2-140		
Surrogate: 1-Chlorooctadecane	51.3		mg/kg	50.0		103	63.6-154		

**LCS (2072306-BS1)**

Prepared &amp; Analyzed: 23-Jul-12

GRO C6-C10	169	10.0	mg/kg	200		84.3	66.4-124	23.4	
DRO >C10-C28	181	10.0	mg/kg	200		90.4	61.6-132	23.1	
Surrogate: 1-Chlorooctane	42.7		mg/kg	50.0		85.4	63.2-140		
Surrogate: 1-Chlorooctadecane	54.7		mg/kg	50.0		109	63.6-154		

**LCS Dup (2072306-BSD1)**

Prepared &amp; Analyzed: 23-Jul-12

GRO C6-C10	174	10.0	mg/kg	200		87.1	66.4-124	3.19	23.4
DRO >C10-C28	180	10.0	mg/kg	200		89.8	61.6-132	0.622	23.1
Surrogate: 1-Chlorooctane	44.4		mg/kg	50.0		88.8	63.2-140		
Surrogate: 1-Chlorooctadecane	55.1		mg/kg	50.0		110	63.6-154		

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager







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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 701  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
25-Jul-12 10:20**Volatile Organic Compounds by EPA Method 8021 - Quality Control**  
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2072403 - Volatiles</b>										
<b>Blank (2072403-BLK1)</b>										
Prepared & Analyzed: 24-Jul-12										
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0519		mg/kg	0.0500		104	89.4-126			
<b>LCS (2072403-BS1)</b>										
Prepared & Analyzed: 24-Jul-12										
Benzene	1.87	0.050	mg/kg	2.00		93.6	80.7-116			
Toluene	1.91	0.050	mg/kg	2.00		95.5	89.7-121			
Ethylbenzene	1.97	0.050	mg/kg	2.00		98.4	91.4-124			
Total Xylenes	6.00	0.150	mg/kg	6.00		100	93.4-130			
Surrogate: 4-Bromofluorobenzene (PID)	0.0525		mg/kg	0.0500		105	89.4-126			
<b>LCS Dup (2072403-BS1)</b>										
Prepared & Analyzed: 24-Jul-12										
Benzene	1.83	0.050	mg/kg	2.00		91.7	80.7-116	2.04	16.4	
Toluene	1.83	0.050	mg/kg	2.00		91.7	89.7-121	4.10	16.6	
Ethylbenzene	1.87	0.050	mg/kg	2.00		93.4	91.4-124	5.17	16.1	
Total Xylenes	5.64	0.150	mg/kg	6.00		94.0	93.4-130	6.27	15.8	
Surrogate: 4-Bromofluorobenzene (PID)	0.0517		mg/kg	0.0500		103	89.4-126			

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

EPA 821-1-7



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

### Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in cursive script, reading 'Celey D. Keene'.

Celey D. Keene, Lab Director/Quality Manager





# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Mr. LEE  
 Contact: Mr. Marcell  
 Address: 45 CR 3150  
Aztec NM 87410  
 Phone Number: 505-632-1782  
 FAX Number: 505-632-1872

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 701

Project Name: JF1

Table 1. - Matrix Type  
 1 = Surface Water, 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
 6 = Waste, 7 = Other (Specify)

Samplers Signature: [Signature]

FOR GAL USE ONLY  
 GAL JOB #

Lab Name: Green Analytical Laboratories		(970) 247-4220		FAX (970) 247-4227													
Address: 75 Suttle Street, Durango, CO 81303		www.greenanalytical.com															
Sample ID	Date	Time	Collection		Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered? Y/N	Preservative(s)					Other (Specify)	Comments		
			Miscellaneous	Unpreserved (Ice Only)					HNO3	HCL	H2SO4	NAOH					
H201672	7/19/12	6:40				1											
1. Pile 13		7:10														27.00 on 100	
2. Pile 14		7:35															
3. Pile 603		7:40															
4. Pile 633		8:20															
5. Pile 752		9:00															
6. Pile 755		9:40															
7. Pile 761		10:15															
8. Pile 790		10:30															
9. Pile 791		11:10															
10. Pile 814																	
Relinquished by: <u>[Signature]</u>		Date: 7/19/12		Time: 5:00		Received by: <u>[Signature]</u>		Date: 7/19/12		Time: 7:30		Received by: <u>[Signature]</u>		Date: 7/19/12		Time: 7:20/12	

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

Field EX

5.5°C

Calypso



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

June 28, 2011

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RECEIVED  
JUN 28 2011

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 06/22/11 10:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1875

Received: 06/22/2011  
Reported: 06/28/2011  
Project Name: JFJ  
Project Number: 9780  
Project Location: NOT GIVEN

Sampling Date: 06/21/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

Sample ID: **PILE 765 (H101287-05)**

BTEX 82608

mg/kg

Analyzed By: CMS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.050	0.050	06/24/2011	ND	2.10	105	2.00	21.9	
Toluene*	0.274	0.050	06/24/2011	ND	2.01	101	2.00	20.1	
Ethylbenzene*	0.078	0.050	06/24/2011	ND	1.94	97.2	2.00	23.2	
Total Xylenes*	0.721	0.150	06/24/2011	ND	5.84	97.4	6.00	24.8	

Surrogate: Dibromofluoromethane 82.8 % 80-120

Surrogate: Toluene-d8 96.8 % 80-120

Surrogate: 4-Bromofluorobenzene 108 % 80-120

Chloride, SM4500Cl-B

mg/kg

Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	06/22/2011	ND	448	112	400	0.00	

TPH 8015M

mg/kg

Analyzed By: ab

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/24/2011	ND	171	85.4	200	5.18	
DRO >C10-C28	129	10.0	06/24/2011	ND	170	85.1	200	5.11	

Surrogate: 1-Chlorooctane 105 % 70-130

Surrogate: 1-Chlorooctadecane 119 % 70-130

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager





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### Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





Green Analytical Laboratories

Client: I.E.I.

Contact: Marcella

Address: 49 CA 3150

Attec, NM 87410

Phone Number: 632-1782

FAX Number: 632-1876

# CHAIN OF CUSTODY RECORD

## NOTES

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 9780

Project Name: VFI Sampling

## Table 1 - Matrix Type

- 1 = Surface Water, 2 = Ground Water
- 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil
- 6 = Waste, 7 = Other (Specify)

Sample Signature: *[Signature]*

For Use Only  
GAL JOB #

Page 1 of 1

Sample ID	Collection		Collected by (Init.)	Miscellaneous			Preservative(s)					Other (Specify)	Analytes Required		Comments	
	Date	Time		Matrix Type	No. of Containers	Sample Filtered / VLN	Unreserved (Yes/No)	HN3	HCl	H2O4	NaOH					
HID1287																
1 Pile # 586	09/21/11	9:25a	CT	3	1	N										
2 Pile # 743		9:50a														
3 Pile # 747		10:21a														
4 Pile # 763		11:05a														
5 Pile # 765		11:48a														
6																
7																
8																
9																
10																
Reanalyzed by:																
Signature: <i>[Signature]</i>	09/21/11	11:50														
Signature: <i>[Signature]</i>	09/21/11	11:51														
Signature: <i>[Signature]</i>	09/21/11	11:52														

\* Sample Reject | Return | Dispose | Store (30 Days)

Signature: *[Signature]* Date: 09-21-11 14:30

09/21/11

Get Benson 5c #26 6/23/11 10:30



PHONE (675) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

February 9, 2012

Marcella Marquez  
Industrial Ecosystems  
49 CR 3150  
Aztec, NM 87410

Re: JFJ 10309

Enclosed are the results of analyses for samples received by the laboratory on 02/02/12 12:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Thank you,

Celey D. Keene  
Laboratory Director/Quality Manager





# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: IEI

Contact: Marcella

Address: 49 CR 3150

Arden NM

Phone Number: 505-632-1782

FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 10305

Project Name: JFJ

## Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: Chydell

Sample ID	Collection		Miscellaneous				Preservative(s)				Analyses Required				Comments
	Date	Time	Collected by: (Init.)	Matrix Type	From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH	Other (Specify)		
H200256-															
1. 916727	2/1/12	7:20	ST	3	1	N								DRD 8015M	
2. 741		7:50												BTEX 800113	
3. 758		8:15												Chloride 300.0	
4. 761		8:35													
5. 765		9:10													
6. 770		9:40													
7. 776		10:26													
8. 778		10:35													
9. 784		11:10													
10. 792		11:40													
Relinquished by: <u>Chydell</u>	Date: <u>2/1/12</u>	Time: <u>12:40</u>	Received by: <u>Marcella</u>											Date: <u>2/1/12</u>	Time: <u>12:41</u>
Relinquished by: <u>Marcella</u>	Date: <u>2/1/12</u>	Time: <u>14:00</u>	Received by: <u>Chydell</u>											Date: <u>2/1/12</u>	Time: <u>14:00</u>

\* Sample Reject | Return | Dispose | Store (30 Days)

Jodi Jensen 2/2/12 #710



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: MS

LAB NUMBER SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)
ANALYSIS DATE	02/03/12	02/03/12
H200256-05 PILE 765	<10.0	<10.0
Quality Control	203	244
True Value QC	200	200
% Recovery	102	122
Relative Percent Difference	20.1	24.4

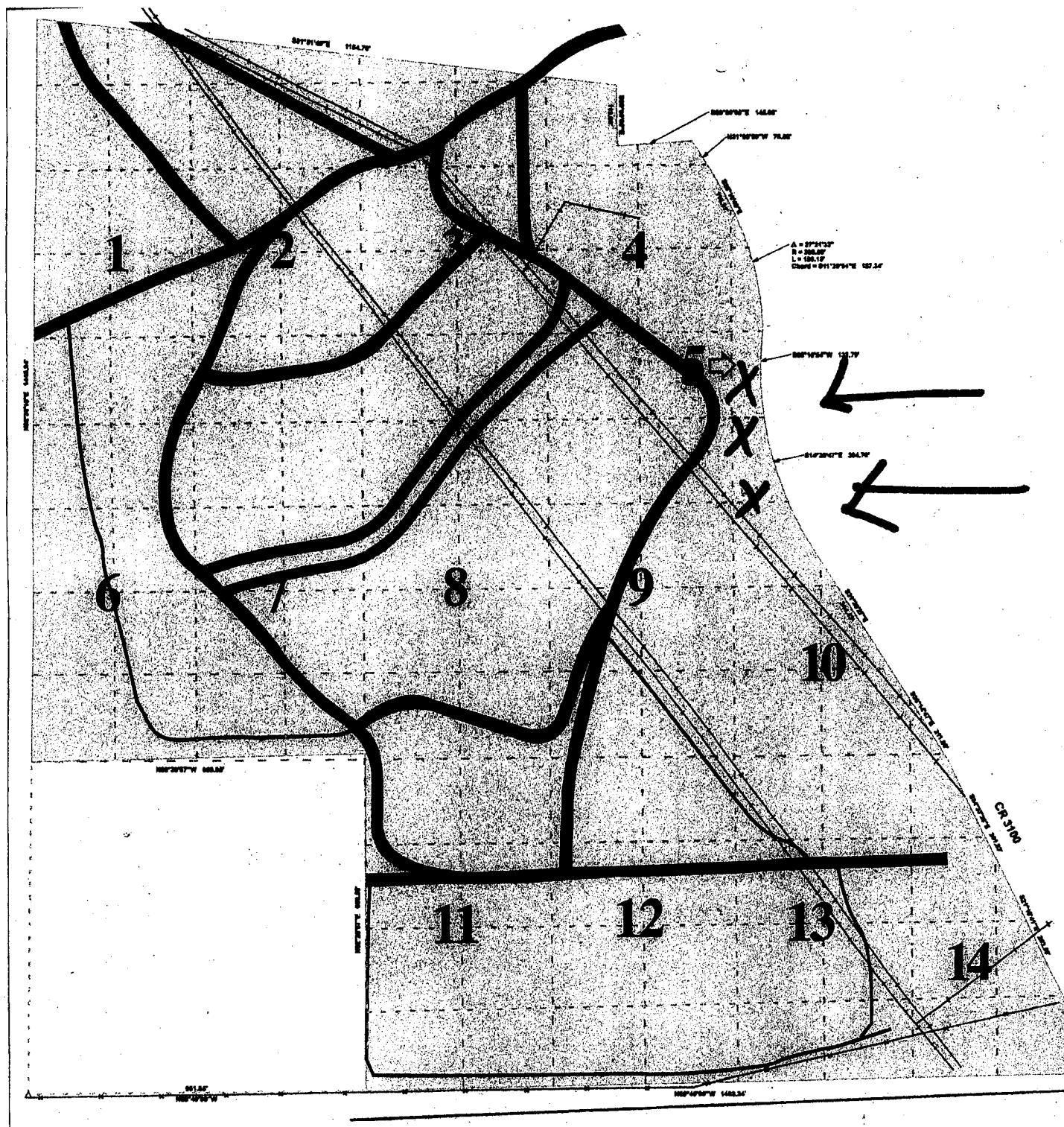
METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Std. Methods 4500-CFB  
\*Analyses performed on 1:4 w:v aqueous extracts.



Date \_\_\_\_\_

H200256TCL IEI

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State of New Mexico  
Energy, Minerals and Natural Resources Department

---

**Susana Martinez**  
Governor

**John Bemis**  
Cabinet Secretary

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey**  
Division Director  
Oil Conservation Division



July 2, 2012

Ms. Marcella Marquez  
JFJ Landfarm, L.L.C.  
Industrial Ecosystems Inc.  
Soil Reclamation Center  
P.O. Box 2043  
Farmington, New Mexico 87499

**RE: Request for Approval of On-Site Disposition of Remediated Soils**  
**JFJ Landfarm, LLC - Industrial Ecosystems Inc.**  
**JFJ Landfarm – Permit # NM1-010-B**  
**Location: NW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,**  
**San Juan County, New Mexico**

Dear Ms. Marquez:

The Oil Conservation Division (OCD) has reviewed JFJ Landfarm, LLC's (JFJ) request, dated June 5, 2012 and the clarification email of June 28, 2012, for on-site disposition of remediated soils from the OCD permitted landfarm (Surface Waste Management Facility Permit # NM-1-0010B) to be utilized to level the area along the eastern boundary of and within the existing permitted facility property, located in NW/4 SE/4 of Section 2, Township 29 North, Range 12 West NMPM, San Juan County, New Mexico. OCD has reviewed the analytical results to reuse the remediated soils from the following biopile(s):

*Pile # 9*  
*Pile # 18*

Based upon the information provided, the above-referenced biopiles are hereby approved for reuse with the following understandings and conditions:

1. JFJ has demonstrated that the proposed soils for reuse satisfy the TPH, BTEX, and Benzene concentrations specified in Condition 17 of the Landfarm and Composting Operations section of your February 3, 2004 surface waste management facility permit (NM1-010-B);
2. JFJ shall obtain legal authority from the surface owner prior to placement of the remediated soils for reuse;

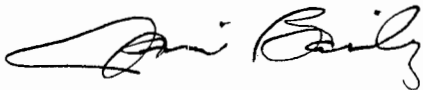
Ms. Marquez  
JFJ Landfarm, LLC  
Permit NM1-010-B  
July 2, 2012  
Page 2 of 2

3. JFJ shall ensure that remediated soils are reused in a manner that prevents the contamination of ground water and surface water, and protects human health and the environment; and
4. If JFJ reuses the remediated soils within the surface waste management facility permitted boundary, as proposed and considered in this approval, at closure JFJ shall comply with Conditions 2d and 2f of the Closure section of your February 3, 2004 surface waste management facility permit (NM1-010-B).

Please be advised that approval of this request does not relieve JFJ of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve JFJ of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Mr. Brad A. Jones of my staff at (505) 476-3487 or [brad.a.jones@state.nm.us](mailto:brad.a.jones@state.nm.us).

Sincerely,



Jami Bailey  
Director

JB/baj

cc: OCD District III Office, Aztec

## **Jones, Brad A., EMNRD**

---

**From:** Terry <terry@industrialecosystems.com>  
**Sent:** Thursday, June 28, 2012 3:21 PM  
**To:** Jones, Brad A., EMNRD; 'Marcella Marquez'; Bailey, Jami, EMNRD  
**Cc:** Gerholt, Gabrielle, EMNRD; VonGonten, Glenn, EMNRD; AGrankin@hollandhart.com  
**Subject:** RE: Letter to request reuse of treated soils

Brad,

Treated soils will be spread on property adjacent to our permitted facility, both properties owned by JFJ, but not on the permitted property for the landfarm, we will be using the soil to level the property. August 18th 2011 Ms. Marquez and myself had a meeting with Lt Governor John Sanchez, Secretary Bemis, Division Director Jami Bailey, at that time it was my understanding that as long as we had the legal authority of the property we were able to spread remediated soils per NMAC 19.15.36.15.G, with NMOCD Approval!

This is not a request to spread or dispose of remediated soil on the JFJ Permitted LandFarm.

Let me know if there are any other questions or concerns?

Terry L. Lattin  
Pres/Gm  
Industrial Ecosystems Inc  
505-860-2885cell  
505-632-1782 off  
505-632-1876 fx  
[Terry@industrialecosystems.com](mailto:Terry@industrialecosystems.com)

## **Oil and Gas Feeds my Family and Pays My Taxes!!** **Drill Baby Drill !!**

---

**From:** Jones, Brad A., EMNRD [<mailto:brad.a.jones@state.nm.us>]  
**Sent:** Thursday, June 28, 2012 2:23 PM  
**To:** Marcella Marquez; Bailey, Jami, EMNRD  
**Cc:** [terry@industrialecosystems.com](mailto:terry@industrialecosystems.com); Gerholt, Gabrielle, EMNRD; VonGonten, Glenn, EMNRD  
**Subject:** RE: Letter to request reuse of treated soils on facility

Marcella,

OCD's Assistant General Counsel has asked me to pose the following questions, in order to complete her legal analysis. Please provide answers for the following questions:

1. What is the purpose of spreading the treated soils on the property?
2. The attached map has 2 X's marked on it. Are these the two areas upon which the soil will be spread? Or is the soil being spread between the 2 X's?

Brad

**Brad A. Jones**

*Environmental Engineer*

*Environmental Bureau*

*NM Oil Conservation Division*

*1220 S. St. Francis Drive*

*Santa Fe, New Mexico 87505*

*E-mail: [brad.a.jones@state.nm.us](mailto:brad.a.jones@state.nm.us)*

*Office: (505) 476-3487*

*Fax: (505) 476-3462*

---

**From:** Marcella Marquez [<mailto:marcella@industrialecosystems.com>]

**Sent:** Wednesday, June 27, 2012 9:37 AM

**To:** Jones, Brad A., EMNRD; Bailey, Jami, EMNRD

**Cc:** [terry@industrialecosystems.com](mailto:terry@industrialecosystems.com)

**Subject:** FW: Letter to request reuse of treated soils on facility

**Importance:** High

Brad:

Can you please provide me with an update on the status of this request?

*Thanks,*

*Marcella Marquez, HSE Administrator*

*Industrial Ecosystems, Inc.*

*Phone: (505) 632-1782*

*Fax: (505) 632-1876 or (505) 334-1003*

---

**From:** Marcella Marquez [<mailto:marcella@industrialecosystems.com>]

**Sent:** Tuesday, June 05, 2012 2:15 PM

**To:** 'brad.a.jones@state.nm.us'

**Cc:** 'Terry'

**Subject:** Letter to request reuse of treated soils on facility

**Importance:** High

Brad:

Please see attached letter to spread remediated soils, along with the analytical reports and map of area where the soils will be spread.

Thanks,

Marcella Marquez

Industrial Ecosystems, Inc.

No virus found in this message.

Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 2012.0.2179 / Virus Database: 2437/5098 - Release Date: 06/28/12

**Jones, Brad A., EMNRD**

---

**From:** Marcella Marquez <marcella@industrialecosystems.com>  
**Sent:** Tuesday, June 05, 2012 2:15 PM  
**To:** Jones, Brad A., EMNRD  
**Cc:** 'Terry'  
**Subject:** Letter to request reuse of treated soils on facility  
**Attachments:** Letter to request reuse of treated soils on facility.doc; Pile 9.pdf; Pile 18.pdf; 3460\_0001.pdf  
  
**Importance:** High

Brad:

Please see attached letter to spread remediated soils, along with the analytical reports and map of area where the soils will be spread.

Thanks,  
Marcella Marquez  
Industrial Ecosystems, Inc.





**Industrial Ecosystems Inc.  
Soil Reclamation Center**

P.O. Box 2043  
Farmington, NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec, NM 87410

---

July 2, 2012

Brad Jones, Environmental Engineer  
NM Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: JFJ Landfarm Permit # NM01-0010B  
Disposition of Treated Soils

Dear Brad:

This letter is being submitted to you as a request to reuse/recycle treated soils. We are requesting approval to reuse/recycle treated soils within our property boundaries. The treated soils would be spread on IEI property (see attached map with X marking the spot).

Attached you will find the analytical reports showing the treated soils have reached acceptable permit levels for the following biopiles:

- Pile 9
- Pile 18

Respectfully Submitted,

A handwritten signature in cursive script that reads 'Marcella Marquez'.

Marcella Marquez  
HSE Administrator

Enclosures-Analytical Reports

**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS	Project: JFJ	Reported:
49 CR 3150	Project Number: 452	17-Apr-12 10:49
AZTEC NM, 87410	Project Manager: MARCELLA MARQUEZ	
	Fax To: (505) 632-1876	

**PILE 9**  
**H200825-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	--------	-------

**Cardinal Laboratories**
**Inorganic Compounds**

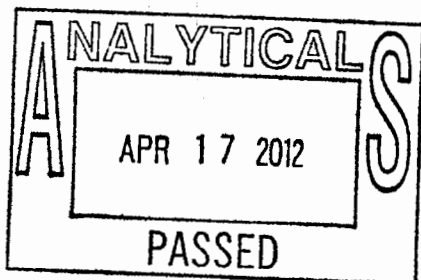
Chloride	32.0	16.0	mg/kg	4	2041304	AP	16-Apr-12	4500-Cl-B	
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**Organic Compounds**

DRO >C10-C28	56.3	10.0	mg/kg	1	2041208	MS	13-Apr-12	8015M	
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Surrogate: 1-Chlorooctane	94.1 %	55.5-154	2041208	MS	13-Apr-12	8015M			
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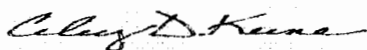
Surrogate: 1-Chlorooctadecane	118 %	57.6-158	2041208	MS	13-Apr-12	8015M			
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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

April 17, 2012

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 04/11/12 10:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene  
Lab Director/Quality Manager





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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
17-Apr-12 10:49

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE 9	H200825-01	Soil	10-Apr-12 07:20	11-Apr-12 10:40
PILE 13	H200825-02	Soil	10-Apr-12 07:45	11-Apr-12 10:40
PILE 14	H200825-03	Soil	10-Apr-12 08:20	11-Apr-12 10:40
PILE 18	H200825-04	Soil	10-Apr-12 08:50	11-Apr-12 10:40
PILE 576	H200825-05	Soil	10-Apr-12 09:05	11-Apr-12 10:40
PILE 619	H200825-06	Soil	10-Apr-12 10:05	11-Apr-12 10:40

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49**Inorganic Compounds - Quality Control**  
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
<b>Batch 2041304 - General Prep - Wet Chem</b>								
<b>Blank (2041304-BLK1)</b>			Prepared & Analyzed: 13-Apr-12					
Chloride	ND	16.0	mg/kg					
<b>LCS (2041304-BS1)</b>			Prepared & Analyzed: 13-Apr-12					
Chloride	416	16.0	mg/kg	400	104	80-120		
<b>LCS Dup (2041304-BSD1)</b>			Prepared & Analyzed: 13-Apr-12					
Chloride	416	16.0	mg/kg	400	104	80-120	0.00	20
<b>Duplicate (2041304-DUP1)</b>			Source: H200809-12	Prepared & Analyzed: 13-Apr-12				
Chloride	560	16.0	mg/kg		640		13.3	20
<b>Matrix Spike (2041304-MS1)</b>			Source: H200809-12	Prepared & Analyzed: 13-Apr-12				
Chloride	912	16.0	mg/kg	400	640	68.0	80-120	QM-07

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Celey D. Keene, Lab Director/Quality Manager

17-Apr-12 10:49



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2041204 - General Prep - Organics</b>										
Blank (2041204-BLK1) Prepared: 12-Apr-12 Analyzed: 14-Apr-12										
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	47.2		mg/kg	50.0		94.5	55.5-154			
Surrogate: 1-Chlorooctadecane	49.5		mg/kg	50.0		99.0	57.6-158			
LCS (2041204-BS1) Prepared: 12-Apr-12 Analyzed: 14-Apr-12										
GRO C6-C10	191	10.0	mg/kg	200		95.6	63.5-131			
DRO >C10-C28	208	10.0	mg/kg	200		104	52.3-130			
Total TPH C6-C28	399	10.0	mg/kg	400		99.7	62-129			
Surrogate: 1-Chlorooctane	50.0		mg/kg	50.0		99.9	55.5-154			
Surrogate: 1-Chlorooctadecane	47.9		mg/kg	50.0		95.8	57.6-158			
LCS Dup (2041204-BSD1) Prepared: 12-Apr-12 Analyzed: 14-Apr-12										
GRO C6-C10	205	10.0	mg/kg	200		102	63.5-131	6.82	13.9	
DRO >C10-C28	216	10.0	mg/kg	200		108	52.3-130	3.99	18.1	
Total TPH C6-C28	421	10.0	mg/kg	400		105	62-129	5.36	16.2	
Surrogate: 1-Chlorooctane	54.9		mg/kg	50.0		110	55.5-154			
Surrogate: 1-Chlorooctadecane	51.7		mg/kg	50.0		103	57.6-158			
Matrix Spike (2041204-MS1) Source: H200825-05 Prepared: 12-Apr-12 Analyzed: 14-Apr-12										
GRO C6-C10	190	10.0	mg/kg	200	ND	95.2	46.4-144			
DRO >C10-C28	268	10.0	mg/kg	200	81.7	93.2	33.5-141			
Total TPH C6-C28	459	10.0	mg/kg	400	82.5	94.0	52.7-131			
Surrogate: 1-Chlorooctane	50.7		mg/kg	50.0		101	55.5-154			
Surrogate: 1-Chlorooctadecane	47.6		mg/kg	50.0		95.2	57.6-158			

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Celest D. Keene, Lab Director/Quality Manager

17-Apr-12 10:49



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spikes Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2041204 - General Prep - Organics**

Matrix Spike Dup (2041204-MSD1)		Source: H200825-05			Prepared: 12-Apr-12 Analyzed: 14-Apr-12				
GRO C6-C10	188	10.0	mg/kg	200	ND	94.1	46.4-144	1.23	46.5
DRO >C10-C28	273	10.0	mg/kg	200	81.7	95.8	33.5-141	2.69	933
Total TPH C6-C28	461	10.0	mg/kg	400	82.5	94.7	52.7-131	0.733	55.4
Surrogate: 1-Chlorooctane	50.2		mg/kg	50.0		100	55.5-154		
Surrogate: 1-Chlorooctadecane	49.6		mg/kg	50.0		99.2	57.6-158		

**Batch 2041208 - General Prep - Organics**

Blank (2041208-BLK1)		Prepared & Analyzed: 12-Apr-12							
GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C35	ND	10.0	mg/kg						
Total TPH C6-C28	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	58.4		mg/kg	50.0		117	55.5-154		
Surrogate: 1-Chlorooctadecane	73.8		mg/kg	50.0		148	57.6-158		

LCS (2041208-BS1)		Prepared & Analyzed: 12-Apr-12							
GRO C6-C10	218	10.0	mg/kg	200		109	63.5-131		
DRO >C10-C28	257	10.0	mg/kg	200		129	52.3-130		
Total TPH C6-C28	475	10.0	mg/kg	400		119	62-129		
Surrogate: 1-Chlorooctane	58.8		mg/kg	50.0		118	55.5-154		
Surrogate: 1-Chlorooctadecane	61.9		mg/kg	50.0		124	57.6-158		

LCS Dup (2041208-BSD1)		Prepared: 12-Apr-12 Analyzed: 13-Apr-12							
GRO C6-C10	200	10.0	mg/kg	200		99.8	63.5-131	8.64	13.9
DRO >C10-C28	241	10.0	mg/kg	200		121	52.3-130	6.33	18.1
Total TPH C6-C28	441	10.0	mg/kg	400		110	62-129	7.38	16.2
Surrogate: 1-Chlorooctane	55.2		mg/kg	50.0		110	55.5-154		
Surrogate: 1-Chlorooctadecane	63.2		mg/kg	50.0		126	57.6-158		

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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2041208 - General Prep - Organics****Matrix Spike (2041208-MS1)**

Source: H200825-01

Prepared: 12-Apr-12 Analyzed: 13-Apr-12

GRO C6-C10	214	10.0	mg/kg	200	ND	107	46.4-144			
DRO >C10-C28	350	10.0	mg/kg	200	56.3	147	33.5-141			
Total TPH C6-C28	564	10.0	mg/kg	400	56.6	127	52.7-131			
Surrogate: 1-Chlorooctane	60.0		mg/kg	50.0		120	55.5-154			
Surrogate: 1-Chlorooctadecane	70.7		mg/kg	50.0		141	57.6-158			

**Matrix Spike Dup (2041208-MSD1)**

Source: H200825-01

Prepared: 12-Apr-12 Analyzed: 13-Apr-12

GRO C6-C10	212	10.0	mg/kg	200	ND	106	46.4-144	1.07	46.5	
DRO >C10-C28	352	10.0	mg/kg	200	56.3	148	33.5-141	0.849	933	
Total TPH C6-C28	564	10.0	mg/kg	400	56.6	127	52.7-131	0.0452	55.4	
Surrogate: 1-Chlorooctane	59.2		mg/kg	50.0		118	55.5-154			
Surrogate: 1-Chlorooctadecane	68.6		mg/kg	50.0		137	57.6-158			

**Batch 2041307 - General Prep - Organics****Blank (2041307-BLK1)**

Prepared: 13-Apr-12 Analyzed: 14-Apr-12

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	49.5		mg/kg	50.0		99.0	55.5-154			
Surrogate: 1-Chlorooctadecane	51.0		mg/kg	50.0		102	57.6-158			

**LCS (2041307-BS1)**

Prepared: 13-Apr-12 Analyzed: 14-Apr-12

GRO C6-C10	190	10.0	mg/kg	200		95.0	63.5-131			
DRO >C10-C28	211	10.0	mg/kg	200		105	52.3-130			
Total TPH C6-C28	401	10.0	mg/kg	400		100	62-129			
Surrogate: 1-Chlorooctane	49.9		mg/kg	50.0		99.9	55.5-154			
Surrogate: 1-Chlorooctadecane	47.7		mg/kg	50.0		95.3	57.6-158			

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### Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
17-Apr-12 10:49

### Organic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 2041307 - General Prep - Organics

##### LCS Dup (2041307-BSD1)

Prepared: 13-Apr-12 Analyzed: 14-Apr-12

GRO C6-C10	185	10.0	mg/kg	200		92.6	63.5-131	2.55	13.9	
DRO >C10-C28	187	10.0	mg/kg	200		93.7	52.3-130	11.8	18.1	
Total TPH C6-C28	372	10.0	mg/kg	400		93.1	62-129	7.30	16.2	
Surrogate: 1-Chlorooctane	47.1		mg/kg	50.0		94.2	55.5-154			
Surrogate: 1-Chlorooctadecane	41.4		mg/kg	50.0		82.8	57.6-158			

##### Matrix Spike (2041307-MS1)

Source: H200859-01

Prepared: 13-Apr-12 Analyzed: 14-Apr-12

GRO C6-C10	186	50.0	mg/kg	200	ND	93.2	46.4-144			
DRO >C10-C28	236	50.0	mg/kg	200	264	NR	33.5-141			
Total TPH C6-C28	422	50.0	mg/kg	400	272	37.6	52.7-131			
Surrogate: 1-Chlorooctane	51.1		mg/kg	50.0		102	55.5-154			
Surrogate: 1-Chlorooctadecane	49.9		mg/kg	50.0		99.7	57.6-158			

##### Matrix Spike Dup (2041307-MSD1)

Source: H200859-01

Prepared: 13-Apr-12 Analyzed: 14-Apr-12

GRO C6-C10	181	50.0	mg/kg	200	ND	90.3	46.4-144	3.12	46.5	
DRO >C10-C28	375	50.0	mg/kg	200	264	55.3	33.5-141	NR	933	
Total TPH C6-C28	555	50.0	mg/kg	400	272	70.9	52.7-131	61.4	55.4	
Surrogate: 1-Chlorooctane	49.2		mg/kg	50.0		98.4	55.5-154			
Surrogate: 1-Chlorooctadecane	46.9		mg/kg	50.0		93.9	57.6-158			

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2041601 - Volatiles</b>										
Blank (2041601-BLK1)				Prepared & Analyzed: 16-Apr-12						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0519		mg/kg	0.0500		104	64.4-134			
LCS (2041601-BS1)				Prepared & Analyzed: 16-Apr-12						
Benzene	2.08	0.050	mg/kg	2.00		104	65.2-126			
Toluene	2.15	0.050	mg/kg	2.00		108	73.2-126			
Ethylbenzene	2.14	0.050	mg/kg	2.00		107	74.4-131			
Total Xylenes	6.61	0.150	mg/kg	6.00		110	73.5-130			
Surrogate: 4-Bromofluorobenzene (PID)	0.0517		mg/kg	0.0500		103	64.4-134			
LCS Dup (2041601-BSD1)				Prepared & Analyzed: 16-Apr-12						
Benzene	2.14	0.050	mg/kg	2.00		107	65.2-126	2.80	26.9	
Toluene	2.21	0.050	mg/kg	2.00		111	73.2-126	2.84	27.9	
Ethylbenzene	2.21	0.050	mg/kg	2.00		110	74.4-131	2.99	28.5	
Total Xylenes	6.78	0.150	mg/kg	6.00		113	73.5-130	2.53	27.7	
Surrogate: 4-Bromofluorobenzene (PID)	0.0512		mg/kg	0.0500		102	64.4-134			
Matrix Spike (2041601-MS1)				Source: H200818-07		Prepared & Analyzed: 16-Apr-12				
Benzene	2.09	0.050	mg/kg	2.00	ND	105	38.5-146			
Toluene	2.14	0.050	mg/kg	2.00	ND	107	43.8-145			
Ethylbenzene	2.21	0.050	mg/kg	2.00	ND	111	38.7-154			
Total Xylenes	7.02	0.150	mg/kg	6.00	0.089	116	46.4-151			
Surrogate: 4-Bromofluorobenzene (PID)	0.0569		mg/kg	0.0500		114	64.4-134			
Matrix Spike Dup (2041601-MSD1)				Source: H200818-07		Prepared & Analyzed: 16-Apr-12				
Benzene	2.08	0.050	mg/kg	2.00	ND	104	38.5-146	0.371	51.6	
Toluene	2.13	0.050	mg/kg	2.00	ND	107	43.8-145	0.461	56.1	
Ethylbenzene	2.20	0.050	mg/kg	2.00	ND	110	38.7-154	0.670	59.8	
Total Xylenes	6.94	0.150	mg/kg	6.00	0.089	114	46.4-151	1.21	61.7	

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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### Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
17-Apr-12 10:49

### Volatile Organic Compounds by EPA Method 8021 - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 2041601 - Volatiles

Matrix Spike Dup (2041601-MSD1)

Source: H200818-07

Prepared & Analyzed: 16-Apr-12

Surrogate: 4-Bromofluorobenzene (PID)

0.0588

mg/kg

0.0500

118

64.4-134

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager

17-Apr-12 10:49

**Notes and Definitions**

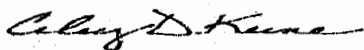
- QM-07      The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND          Analyte NOT DETECTED at or above the reporting limit
- RPD        Relative Percent Difference
- \*\*          Samples not received at proper temperature of 6°C or below.
- \*\*\*        Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

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---

Celey D. Keene, Lab Director/Quality Manager

Client: I E I

Contact: Marcella

Address: 49 CR 3150

Azteco, NM 87410

Phone Number: 505-632-1782

FAX Number: 505-632-1876

## CHAIN OF CUSTODY RECORD

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 452

Project Name: JFJ

Page 1 of 1

Table 1. – Matrix Type

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify)

**Samplers Signature:**

26 Aug

**FOR GAL USE ONLY**

**GAL JOB #**

Lab Name: Green Analytical Laboratories		(970) 247-4220 FAX (970) 247-4227	
Address: 75 Suttle Street, Durango, CO 81303			
Sample ID	Collection		Preservative(s)
	Date	Time	
		Collected by: (Init.)	Miscellaneous
		Matrix Type	From Table 1
		No. of Containers	Sample Filtered ? Y/N
		Unreserved (Ice Only)	HNO3
		HCL	H2SO4
		NAOH	Other (Specify)
H200625			
1. Pile 9	4/10/12	7:20	SA 3
2. Pile 13		7:45	
3. Pile 14		8:20	
4. Pile 18		8:50	
5. Pile 576		9:05	
6. Pile 619		10:05	
7.			
8.			
9.			
10.			
Relinquished by: <i>St. Olen</i>		Date: 4/10/12	Time: 11:15
Relinquished by: <i>M. M. M. M. M.</i>		Date: 4/10/12	Time: 13:05

\* Sample Reject: ☐ Return ☒ Dispose ☐ Store (30 Days)

Yodi Benson 4/11/12 5<sup>0</sup> 10:40  
5c 42'



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 562  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-May-12 10:56

**PILE #9  
H201168-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	---------	----------	--------	-------

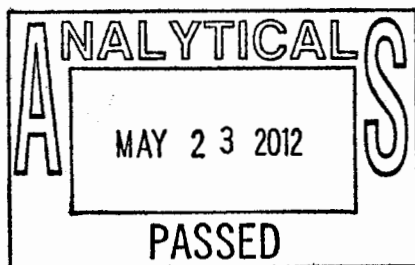
**Cardinal Laboratories**

**Organic Compounds**

GRO C6-C10	ND	10.0	mg/kg	1	2052401	MS	24-May-12	8015B	
Surrogate: 1-Chlorooctane		83.7 %	65.2-140		2052401	MS	24-May-12	8015B	
Surrogate: 1-Chlorooctadecane		88.9 %	63.6-154		2052401	MS	24-May-12	8015B	

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	ND	0.050	mg/kg	50	2052402	AP	24-May-12	8021B	
Toluene*	ND	0.050	mg/kg	50	2052402	AP	24-May-12	8021B	
Ethylbenzene*	ND	0.050	mg/kg	50	2052402	AP	24-May-12	8021B	
Total Xylenes*	ND	0.150	mg/kg	50	2052402	AP	24-May-12	8021B	
Surrogate: 4-Bromofluorobenzene (PID)		109 %	89.4-126		2052402	AP	24-May-12	8021B	



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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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---

May 25, 2012

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 05/23/12 11:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene  
Lab Director/Quality Manager



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 562  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-May-12 10:56

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE #9	H201168-01	Soil	22-May-12 08:40	23-May-12 11:15
PILE #13	H201168-02	Soil	22-May-12 08:55	23-May-12 11:15
PILE #14	H201168-03	Soil	22-May-12 09:20	23-May-12 11:15
PILE #18	H201168-04	Soil	22-May-12 09:40	23-May-12 11:15
PILE #765	H201168-05	Soil	22-May-12 10:00	23-May-12 11:15
PILE #776	H201168-06	Soil	22-May-12 10:50	23-May-12 11:15

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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 562  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
25-May-12 10:56**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spill Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2052401 - General Prep - Organics****Blank (2052401-BLK1)**

Prepared &amp; Analyzed: 24-May-12

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C35	ND	10.0	mg/kg						
Total TPH C6-C28	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	41.6		mg/kg	50.0		83.2	65.2-140		
Surrogate: 1-Chlorooctadecane	46.2		mg/kg	50.0		92.3	63.6-154		

**LCS (2052401-BS1)**

Prepared &amp; Analyzed: 24-May-12

GRO C6-C10	176	10.0	mg/kg	200		88.1	66.4-124		
DRO >C10-C28	176	10.0	mg/kg	200		88.2	61.6-132		
Total TPH C6-C28	352	10.0	mg/kg	400		88.1	69.7-122		
Surrogate: 1-Chlorooctane	43.6		mg/kg	50.0		87.1	65.2-140		
Surrogate: 1-Chlorooctadecane	48.5		mg/kg	50.0		97.0	63.6-154		

**LCS Dup (2052401-BSD1)**

Prepared &amp; Analyzed: 24-May-12

GRO C6-C10	173	10.0	mg/kg	200		86.7	66.4-124	1.55	23.4
DRO >C10-C28	169	10.0	mg/kg	200		84.7	61.6-132	3.97	23.1
Total TPH C6-C28	343	10.0	mg/kg	400		85.7	69.7-122	2.75	20.6
Surrogate: 1-Chlorooctane	43.6		mg/kg	50.0		87.2	65.2-140		
Surrogate: 1-Chlorooctadecane	46.5		mg/kg	50.0		92.9	63.6-154		

**Matrix Spike (2052401-MS1)**

Source: H201168-01

Prepared &amp; Analyzed: 24-May-12

GRO C6-C10	196	10.0	mg/kg	200	ND	98.0	17.7-179		
DRO >C10-C28	188	10.0	mg/kg	200	3.74	92.0	21.3-172		
Total TPH C6-C28	384	10.0	mg/kg	400	4.60	94.8	24.3-163		
Surrogate: 1-Chlorooctane	46.6		mg/kg	50.0		93.3	65.2-140		
Surrogate: 1-Chlorooctadecane	48.3		mg/kg	50.0		96.6	63.6-154		

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Page 9 of 14



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 562  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-May-12 10:56

**Organic Compounds - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2052401 - General Prep - Organics**

**Matrix Spike Dup (2052401-MSD1)**

Source: H201168-01

Prepared & Analyzed: 24-May-12

GRO C6-C10	190	10.0	mg/kg	200	ND	95.0	17.7-179	3.03	80.9	
DRO >C10-C28	180	10.0	mg/kg	200	3.74	88.0	21.3-172	4.39	104	
Total TPH C6-C28	370	10.0	mg/kg	400	4.60	91.3	24.3-163	3.70	62.6	
Surrogate: 1-Chlorooctane	44.6		mg/kg	50.0		89.2	65.2-140			
Surrogate: 1-Chlorooctadecane	46.0		mg/kg	50.0		92.0	63.6-154			

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 562  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876Reported:  
25-May-12 10:56**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Batch 2052402 - Volatiles</b>										
<b>Blank (2052402-BLK1)</b>										
Prepared & Analyzed: 24-May-12										
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0579		mg/kg	0.0510		116	89.4-126			
<b>LCS (2052402-BS1)</b>										
Prepared & Analyzed: 24-May-12										
Benzene	1.98	0.050	mg/kg	2.00		99.0	80.7-116			
Toluene	2.06	0.050	mg/kg	2.00		103	89.7-121			
Ethylbenzene	2.07	0.050	mg/kg	2.00		104	91.4-124			
Total Xylenes	6.41	0.150	mg/kg	6.00		107	93.4-130			
Surrogate: 4-Bromofluorobenzene (PID)	0.0550		mg/kg	0.0510		110	89.4-126			
<b>LCS Dup (2052402-BSD1)</b>										
Prepared & Analyzed: 24-May-12										
Benzene	1.68	0.050	mg/kg	2.00		84.1	80.7-116	16.3	16.4	
Toluene	1.77	0.050	mg/kg	2.00		88.6	89.7-121	15.2	16.6	
Ethylbenzene	1.77	0.050	mg/kg	2.00		88.7	91.4-124	15.5	16.1	
Total Xylenes	5.53	0.150	mg/kg	6.00		92.2	93.4-130	14.7	15.8	
Surrogate: 4-Bromofluorobenzene (PID)	0.0570		mg/kg	0.0510		114	89.4-126			
<b>Matrix Spike (2052402-MS1)</b>										
Source: H201148-01 Prepared & Analyzed: 24-May-12										
Benzene	2.06	0.050	mg/kg	2.00	ND	103	69.9-119			
Toluene	2.13	0.050	mg/kg	2.00	ND	106	67.5-131			
Ethylbenzene	2.11	0.050	mg/kg	2.00	ND	105	46.7-157			
Total Xylenes	6.50	0.150	mg/kg	6.00	ND	108	45.1-161			
Surrogate: 4-Bromofluorobenzene (PID)	0.0550		mg/kg	0.0510		110	89.4-126			
<b>Matrix Spike Dup (2052402-MSD1)</b>										
Source: H201148-01 Prepared & Analyzed: 24-May-12										
Benzene	1.93	0.050	mg/kg	2.00	ND	96.4	69.9-119	6.86	22	
Toluene	2.00	0.050	mg/kg	2.00	ND	99.9	67.5-131	6.15	17.9	
Ethylbenzene	1.99	0.050	mg/kg	2.00	ND	99.4	46.7-157	5.92	21.5	
Total Xylenes	6.11	0.150	mg/kg	6.00	ND	102	45.1-161	6.32	27	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 562  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-May-12 10:56

**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2052402 - Volatiles**

Matrix Spike Dup (2052402-MSD1)

Source: H201148-01

Prepared & Analyzed: 24-May-12

Surrogate: 4-Bromofluorobenzene (PID)	0.0552		mg/kg	0.0500		110	89.4-126			
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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

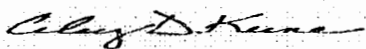
ND Analyte NOT DETECTED at or above the reporting limit  
RPD Relative Percent Difference  
\*\* Samples not received at proper temperature of 6°C or below.  
\*\*\* Insufficient time to reach temperature.  
- Chloride by SM4S00CI-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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---

Caley D. Keene, Lab Director/Quality Manager



Client: IEI

Contact: Marcelle

Address: 49 CR 3150

Aztec NM 87410

Phone Number: 505-632-1782

FAX Number: 505-632-1876

## CHAIN OF CUSTODY RECORD

Page 1 of 1

### NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 562

Project Name: IEI Landfill Steve Obayto

Sampler Signature: Steve Obayto

### Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY  
GAL JOB # \_\_\_\_\_

Sample ID	Collection		Miscellaneous				Preservative(s)					Analyses Required					Comments
	Date	Time	Collected by: (Init.)	Matrix Type	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH	Other (Specify)	DR0 418.1	BTEX 80218	Chlorides 300.0		
H201168																	
1. Pile # 9	05/22/12	8:40	SA	3	1	N							✓	✓			
2. Pile # 13		8:55											✓	✓			
3. Pile # 14		9:20											✓	✓			
4. Pile # 18		9:40											✓	✓			
5. Pile # 765		10:00											✓	✓			
6. Pile # 776		10:53											✓	✓			
7.																	
8.																	
9.																	
10.																	

Relinquished by: <u>Steve Obayto</u>	Date: <u>05/22/12</u>	Received by: <u>Steve Obayto</u>	Date: <u>05/22/12</u>
Relinquished by: <u>Steve Obayto</u>	Date: <u>05/22/12</u>	Received by: <u>Steve Obayto</u>	Date: <u>05/22/12</u>

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

Steve Obayto 5/23/12

**Analytical Results For:**

 INDUSTRIAL ECOSYSTEMS  
 49 CR 3150  
 AZTEC NM, 87410

 Project: JFJ  
 Project Number: 452  
 Project Manager: MARCELLA MARQUEZ  
 Fax To: (505) 632-1876

 Reported:  
 17-Apr-12 10:49

**PILE 18**

H200825-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Inorganic Compounds**

Chloride	48.0	16.0	mg/kg	4	2041304	AP	16-Apr-12	4500-Cl-B
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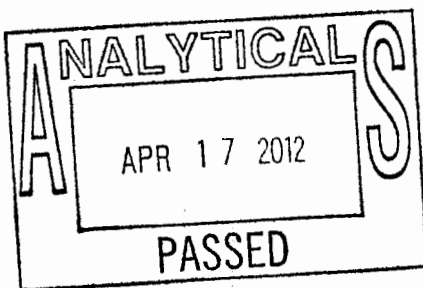
**Organic Compounds**

GRO C6-C10	ND	10.0	mg/kg	1	2041307	MS	14-Apr-12	8015M
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DRO >C10-C28	51.3	10.0	mg/kg	1	2041307	MS	14-Apr-12	8015M
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Surrogate: 1-Chlorooctane	92.1 %	55.5-154		2041307	MS	14-Apr-12	8015M
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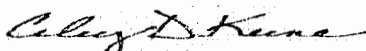
Surrogate: 1-Chlorooctadecane	95.5 %	57.6-158		2041307	MS	14-Apr-12	8015M
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Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

April 17, 2012

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 04/11/12 10:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager



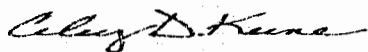
**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE 9	H200825-01	Soil	10-Apr-12 07:20	11-Apr-12 10:40
PILE 13	H200825-02	Soil	10-Apr-12 07:45	11-Apr-12 10:40
PILE 14	H200825-03	Soil	10-Apr-12 08:20	11-Apr-12 10:40
PILE 18	H200825-04	Soil	10-Apr-12 08:50	11-Apr-12 10:40
PILE 576	H200825-05	Soil	10-Apr-12 09:05	11-Apr-12 10:40
PILE 619	H200825-06	Soil	10-Apr-12 10:05	11-Apr-12 10:40

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spill Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2041304 - General Prep - Wet Chem</b>										
<b>Blank (2041304-BLK1)</b>				Prepared & Analyzed: 13-Apr-12						
Chloride	ND	16.0	mg/kg							
<b>LCS (2041304-BS1)</b>				Prepared & Analyzed: 13-Apr-12						
Chloride	416	16.0	mg/kg	400		104	80-120			
<b>LCS Dup (2041304-BSD1)</b>				Prepared & Analyzed: 13-Apr-12						
Chloride	416	16.0	mg/kg	400		104	80-120	0.00	20	
<b>Duplicate (2041304-DUP1)</b>				Source: H200809-12 Prepared & Analyzed: 13-Apr-12						
Chloride	560	16.0	mg/kg		640			13.3	20	
<b>Matrix Spike (2041304-MS1)</b>				Source: H200809-12 Prepared & Analyzed: 13-Apr-12						
Chloride	912	16.0	mg/kg	400	640	68.0	80-120			QM-07

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Caley D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 INDUSTRIAL ECOSYSTEMS  
 49 CR 3150  
 AZTEC NM, 87410

 Project: JFJ  
 Project Number: 452  
 Project Manager: MARCELLA MARQUEZ  
 Fax To: (505) 632-1876

 Reported:  
 17-Apr-12 10:49

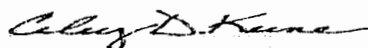
**Organic Compounds - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2041204 - General Prep - Organics</b>										
<b>Blank (2041204-BLK1)</b>				Prepared: 12-Apr-12 Analyzed: 14-Apr-12						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	47.2		mg/kg	50.0		94.5	55.5-154			
Surrogate: 1-Chlorooctadecane	49.5		mg/kg	50.0		99.0	57.6-158			
<b>LCS (2041204-BS1)</b>				Prepared: 12-Apr-12 Analyzed: 14-Apr-12						
GRO C6-C10	191	10.0	mg/kg	200		95.6	63.5-131			
DRO >C10-C28	208	10.0	mg/kg	200		104	52.3-130			
Total TPH C6-C28	399	10.0	mg/kg	400		99.7	62-129			
Surrogate: 1-Chlorooctane	50.0		mg/kg	50.0		99.9	55.5-154			
Surrogate: 1-Chlorooctadecane	47.9		mg/kg	50.0		95.8	57.6-158			
<b>LCS Dup (2041204-BSD1)</b>				Prepared: 12-Apr-12 Analyzed: 14-Apr-12						
GRO C6-C10	205	10.0	mg/kg	200		102	63.5-131	6.82	13.9	
DRO >C10-C28	216	10.0	mg/kg	200		108	52.3-130	3.99	18.1	
Total TPH C6-C28	421	10.0	mg/kg	400		105	62-129	5.36	16.2	
Surrogate: 1-Chlorooctane	54.9		mg/kg	50.0		110	55.5-154			
Surrogate: 1-Chlorooctadecane	51.7		mg/kg	50.0		103	57.6-158			
<b>Matrix Spike (2041204-MS1)</b>				Source: H200825-05 Prepared: 12-Apr-12 Analyzed: 14-Apr-12						
GRO C6-C10	190	10.0	mg/kg	200	ND	95.2	46.4-144			
DRO >C10-C28	268	10.0	mg/kg	200	81.7	93.2	33.5-141			
Total TPH C6-C28	459	10.0	mg/kg	400	82.5	94.0	52.7-131			
Surrogate: 1-Chlorooctane	50.7		mg/kg	50.0		101	55.5-154			
Surrogate: 1-Chlorooctadecane	47.6		mg/kg	50.0		95.2	57.6-158			

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 INDUSTRIAL ECOSYSTEMS  
 49 CR 3150  
 AZTEC NM, 87410

 Project: JFJ  
 Project Number: 452  
 Project Manager: MARCELLA MARQUEZ  
 Fax To: (505) 632-1876

 Reported:  
 17-Apr-12 10:49

**Organic Compounds - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2041204 - General Prep - Organics**
**Matrix Spike Dup (2041204-MSD1)**

Source: H200825-05

Prepared: 12-Apr-12 Analyzed: 14-Apr-12

GRO C6-C10	188	10.0	mg/kg	200	ND	94.1	46.4-144	1.23	46.5	
DRO >C10-C28	273	10.0	mg/kg	200	81.7	95.8	33.5-141	2.69	933	
Total TPH C6-C28	461	10.0	mg/kg	400	82.5	94.7	52.7-131	0.733	55.4	
Surrogate: 1-Chlorooctane	50.2		mg/kg	50.0		100	55.5-154			
Surrogate: 1-Chlorooctadecane	49.6		mg/kg	50.0		99.2	57.6-158			

**Batch 2041208 - General Prep - Organics**
**Blank (2041208-BLK1)**

Prepared &amp; Analyzed: 12-Apr-12

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	58.4		mg/kg	50.0		117	55.5-154			
Surrogate: 1-Chlorooctadecane	73.8		mg/kg	50.0		148	57.6-158			

**LCS (2041208-BS1)**

Prepared &amp; Analyzed: 12-Apr-12

GRO C6-C10	218	10.0	mg/kg	200		109	63.5-131			
DRO >C10-C28	257	10.0	mg/kg	200		129	52.3-130			
Total TPH C6-C28	475	10.0	mg/kg	400		119	62-129			
Surrogate: 1-Chlorooctane	58.8		mg/kg	50.0		118	55.5-154			
Surrogate: 1-Chlorooctadecane	61.9		mg/kg	50.0		124	57.6-158			

**LCS Dup (2041208-BSD1)**

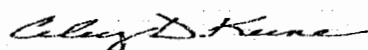
Prepared: 12-Apr-12 Analyzed: 13-Apr-12

GRO C6-C10	200	10.0	mg/kg	200		99.8	63.5-131	8.64	13.9	
DRO >C10-C28	241	10.0	mg/kg	200		121	52.3-130	6.33	18.1	
Total TPH C6-C28	441	10.0	mg/kg	400		110	62-129	7.38	16.2	
Surrogate: 1-Chlorooctane	55.2		mg/kg	50.0		110	55.5-154			
Surrogate: 1-Chlorooctadecane	63.2		mg/kg	50.0		126	57.6-158			

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2041208 - General Prep - Organics**

Matrix Spike (2041208-MS1)		Source: H200825-01		Prepared: 12-Apr-12 Analyzed: 13-Apr-12					
GRO C6-C10	214	10.0	mg/kg	200	ND	107	46.4-144		
DRO >C10-C28	350	10.0	mg/kg	200	56.3	147	33.5-141		
Total TPH C6-C28	564	10.0	mg/kg	400	56.6	127	52.7-131		
Surrogate: 1-Chlorooctane	60.0		mg/kg	50.0		120	55.5-154		
Surrogate: 1-Chlorooctadecane	70.7		mg/kg	50.0		141	57.6-158		

Matrix Spike Dup (2041208-MSD1)		Source: H200825-01		Prepared: 12-Apr-12 Analyzed: 13-Apr-12					
GRO C6-C10	212	10.0	mg/kg	200	ND	106	46.4-144	1.07	46.5
DRO >C10-C28	352	10.0	mg/kg	200	56.3	148	33.5-141	0.849	933
Total TPH C6-C28	564	10.0	mg/kg	400	56.6	127	52.7-131	0.0452	55.4
Surrogate: 1-Chlorooctane	59.2		mg/kg	50.0		118	55.5-154		
Surrogate: 1-Chlorooctadecane	68.6		mg/kg	50.0		137	57.6-158		

**Batch 2041307 - General Prep - Organics**

Blank (2041307-BLK1)				Prepared: 13-Apr-12 Analyzed: 14-Apr-12					
GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C35	ND	10.0	mg/kg						
Total TPH C6-C28	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	49.5		mg/kg	50.0		99.0	55.5-154		
Surrogate: 1-Chlorooctadecane	51.0		mg/kg	50.0		102	57.6-158		

LCS (2041307-BS1)				Prepared: 13-Apr-12 Analyzed: 14-Apr-12					
GRO C6-C10	190	10.0	mg/kg	200		95.0	63.5-131		
DRO >C10-C28	211	10.0	mg/kg	200		105	52.3-130		
Total TPH C6-C28	401	10.0	mg/kg	400		100	62-129		
Surrogate: 1-Chlorooctane	49.9		mg/kg	50.0		99.9	55.5-154		
Surrogate: 1-Chlorooctadecane	47.7		mg/kg	50.0		95.3	57.6-158		

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2041307 - General Prep - Organics****LCS Dup (2041307-BSD1)**

Prepared: 13-Apr-12 Analyzed: 14-Apr-12

GRO C6-C10	185	10.0	mg/kg	200		92.6	63.5-131	2.55	13.9	
DRO >C10-C28	187	10.0	mg/kg	200		93.7	52.3-130	11.8	18.1	
Total TPH C6-C28	372	10.0	mg/kg	400		93.1	62-129	7.30	16.2	
Surrogate: 1-Chlorooctane	47.1		mg/kg	50.0		94.2	55.5-154			
Surrogate: 1-Chlorooctadecane	41.4		mg/kg	50.0		82.8	57.6-158			

**Matrix Spike (2041307-MS1)**

Source: H200859-01

Prepared: 13-Apr-12 Analyzed: 14-Apr-12

GRO C6-C10	186	50.0	mg/kg	200	ND	93.2	46.4-144			
DRO >C10-C28	236	50.0	mg/kg	200	264	NR	33.5-141			
Total TPH C6-C28	422	50.0	mg/kg	400	272	37.6	52.7-131			
Surrogate: 1-Chlorooctane	51.1		mg/kg	50.0		102	55.5-154			
Surrogate: 1-Chlorooctadecane	49.9		mg/kg	50.0		99.7	57.6-158			

**Matrix Spike Dup (2041307-MSD1)**

Source: H200859-01

Prepared: 13-Apr-12 Analyzed: 14-Apr-12

GRO C6-C10	181	50.0	mg/kg	200	ND	90.3	46.4-144	3.12	46.5	
DRO >C10-C28	375	50.0	mg/kg	200	264	55.3	33.5-141	NR	933	
Total TPH C6-C28	555	50.0	mg/kg	400	272	70.9	52.7-131	61.4	55.4	
Surrogate: 1-Chlorooctane	49.2		mg/kg	50.0		98.4	55.5-154			
Surrogate: 1-Chlorooctadecane	46.9		mg/kg	50.0		93.9	57.6-158			

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 452  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
17-Apr-12 10:49**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2041601 - Volatiles</b>										
<b>Blank (2041601-BLK1)</b>				Prepared & Analyzed: 16-Apr-12						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0519		mg/kg	0.0500		104	64.4-134			
<b>LCS (2041601-BS1)</b>				Prepared & Analyzed: 16-Apr-12						
Benzene	2.08	0.050	mg/kg	2.00		104	65.2-126			
Toluene	2.15	0.050	mg/kg	2.00		108	73.2-126			
Ethylbenzene	2.14	0.050	mg/kg	2.00		107	74.4-131			
Total Xylenes	6.61	0.150	mg/kg	6.00		110	73.5-130			
Surrogate: 4-Bromofluorobenzene (PID)	0.0517		mg/kg	0.0500		103	64.4-134			
<b>LCS Dup (2041601-BSD1)</b>				Prepared & Analyzed: 16-Apr-12						
Benzene	2.14	0.050	mg/kg	2.00		107	65.2-126	2.80	26.9	
Toluene	2.21	0.050	mg/kg	2.00		111	73.2-126	2.84	27.9	
Ethylbenzene	2.21	0.050	mg/kg	2.00		110	74.4-131	2.99	28.5	
Total Xylenes	6.78	0.150	mg/kg	6.00		113	73.5-130	2.53	27.7	
Surrogate: 4-Bromofluorobenzene (PID)	0.0512		mg/kg	0.0500		102	64.4-134			
<b>Matrix Spike (2041601-MS1)</b>				Source: H200818-07	Prepared & Analyzed: 16-Apr-12					
Benzene	2.09	0.050	mg/kg	2.00	ND	105	38.5-146			
Toluene	2.14	0.050	mg/kg	2.00	ND	107	43.8-145			
Ethylbenzene	2.21	0.050	mg/kg	2.00	ND	111	38.7-154			
Total Xylenes	7.02	0.150	mg/kg	6.00	0.089	116	46.4-151			
Surrogate: 4-Bromofluorobenzene (PID)	0.0569		mg/kg	0.0500		114	64.4-134			
<b>Matrix Spike Dup (2041601-MSD1)</b>				Source: H200818-07	Prepared & Analyzed: 16-Apr-12					
Benzene	2.08	0.050	mg/kg	2.00	ND	104	38.5-146	0.371	51.6	
Toluene	2.13	0.050	mg/kg	2.00	ND	107	43.8-145	0.461	56.1	
Ethylbenzene	2.20	0.050	mg/kg	2.00	ND	110	38.7-154	0.670	59.8	
Total Xylenes	6.94	0.150	mg/kg	6.00	0.089	114	46.4-151	1.21	61.7	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 452  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
17-Apr-12 10:49

**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2041601 - Volatiles**

Matrix Spike Dup (2041601-MSD1)

Source: H200818-07

Prepared & Analyzed: 16-Apr-12

Surrogate: 4-Bromofluorobenzene (PID)	0.0588		mg/kg	0.0100		118	64.4-134			
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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

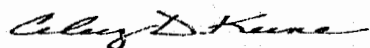
- QM-07      The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND          Analyte NOT DETECTED at or above the reporting limit
- RPD        Relative Percent Difference
- \*\*          Samples not received at proper temperature of 6°C or below.
- \*\*\*        Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

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---

Celey D. Keene, Lab Director/Quality Manager

Client: I E I

**Client:**

Contact: Marcella

Address: 49 CR 3150

Aztec Nm87410

Phone Number: 505-632-1782

FAX Number: 505-632-1876

## CHAIN OF CUSTODY RECORD

**NOTES:**

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 452

Project Name: U.F.J.

Table 1. – Matrix Type

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify)

**Samplers Signature:**

St. Petersburg

Page 1 of 1

**FOR GAL USE ONLY**

GAL JOB #

Lab Name: Green Analytical Laboratories		(970) 247-4220 FAX (970) 247-4227		Analyses Required				
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous		Preservative(s)		Comments
Sample ID	Date	Time	Collected by: (Init.)	Matrix Type	Front Table 1	No. of Containers	Sample Filtered ? Y/N	
H200625	04/10/12	7:20	SA	3		1	N	
1. Pile 9		7:45						✓
2. Pile 13		8:20						✓
3. Pile 14		8:50						✓
4. Pile 18		9:05						✓
5. Pile 576		10:05						✓
6. Pile 619								✓
7.								
8.								
9.								
10.								
Relinquished by: <i>St. Clear</i>		Date: 04/10/12		Time: 11:15		Received by: <i>W. Marquez</i>		Date: 04/10/12
Relinquished by: <i>M. Marquez</i>		Date: 04/10/12		Time: 13:05		Received by: <i>M. Marquez</i>		Date: 04/10/12

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

Jodi Benson 4/11/12 5<sup>2</sup> 10:40 5c #21



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 562  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-May-12 10:56

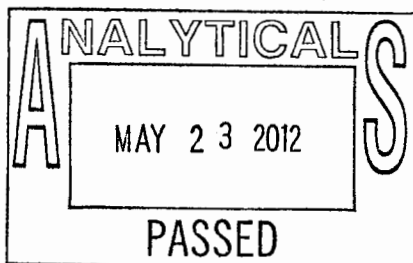
**PILE #18  
H201168-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	ND	0.050	mg/kg	50	2052402	AP	24-May-12	8021B
Toluene*	ND	0.050	mg/kg	50	2052402	AP	24-May-12	8021B
Ethylbenzene*	ND	0.050	mg/kg	50	2052402	AP	24-May-12	8021B
Total Xylenes*	ND	0.150	mg/kg	50	2052402	AP	24-May-12	8021B
Surrogate: 4-Bromofluorobenzene (PID)		111 %	89.4-126		2052402	AP	24-May-12	8021B



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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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May 25, 2012

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 05/23/12 11:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

05/25/12 11:14 AM



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS 49 CR 3150 AZTEC NM, 87410	Project: JFJ Project Number: 562 Project Manager: MARCELLA MARQUEZ Fax To: (505) 632-1876	Reported: 25-May-12 10:56
--	--	------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE #9	H201168-01	Soil	22-May-12 08:40	23-May-12 11:15
PILE #13	H201168-02	Soil	22-May-12 08:55	23-May-12 11:15
PILE #14	H201168-03	Soil	22-May-12 09:20	23-May-12 11:15
PILE #18	H201168-04	Soil	22-May-12 09:40	23-May-12 11:15
PILE #765	H201168-05	Soil	22-May-12 10:00	23-May-12 11:15
PILE #776	H201168-06	Soil	22-May-12 10:50	23-May-12 11:15

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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 562  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876Reported:  
25-May-12 10:56**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2052401 - General Prep - Organics****Blank (2052401-BLK1)**

Prepared &amp; Analyzed: 24-May-12

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	41.6		mg/kg	50.0		83.2	65.2-140			
Surrogate: 1-Chlorooctadecane	46.2		mg/kg	50.0		92.3	63.6-154			

**LCS (2052401-BS1)**

Prepared &amp; Analyzed: 24-May-12

GRO C6-C10	176	10.0	mg/kg	200		88.1	66.4-124			
DRO >C10-C28	176	10.0	mg/kg	200		88.2	61.6-132			
Total TPH C6-C28	352	10.0	mg/kg	400		88.1	69.7-122			
Surrogate: 1-Chlorooctane	43.6		mg/kg	50.0		87.1	65.2-140			
Surrogate: 1-Chlorooctadecane	48.5		mg/kg	50.0		97.0	63.6-154			

**LCS Dup (2052401-BSD1)**

Prepared &amp; Analyzed: 24-May-12

GRO C6-C10	173	10.0	mg/kg	200		86.7	66.4-124	1.55	23.4	
DRO >C10-C28	169	10.0	mg/kg	200		84.7	61.6-132	3.97	23.1	
Total TPH C6-C28	343	10.0	mg/kg	400		85.7	69.7-122	2.75	20.6	
Surrogate: 1-Chlorooctane	43.6		mg/kg	50.0		87.2	65.2-140			
Surrogate: 1-Chlorooctadecane	46.5		mg/kg	50.0		92.9	63.6-154			

**Matrix Spike (2052401-MS1)**

Source: H201168-01

Prepared &amp; Analyzed: 24-May-12

GRO C6-C10	196	10.0	mg/kg	200	ND	98.0	17.7-179			
DRO >C10-C28	188	10.0	mg/kg	200	3.74	92.0	21.3-172			
Total TPH C6-C28	384	10.0	mg/kg	400	4.60	94.8	24.3-163			
Surrogate: 1-Chlorooctane	46.6		mg/kg	50.0		93.3	65.2-140			
Surrogate: 1-Chlorooctadecane	48.3		mg/kg	50.0		96.6	63.6-154			

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### Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 562  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-May-12 10:56

### Organic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 2052401 - General Prep - Organics

##### Matrix Spike Dup (2052401-MSD1)

Source: H201168-01

Prepared & Analyzed: 24-May-12

GRO C6-C10	190	10.0	mg/kg	200	ND	95.0	17.7-179	3.03	80.9	
DRO >C10-C28	180	10.0	mg/kg	200	3.74	88.0	21.3-172	4.39	104	
Total TPH C6-C28	370	10.0	mg/kg	400	4.60	91.3	24.3-163	3.70	62.6	
Surrogate: 1-Chlorooctane	44.6		mg/kg	50.0		89.2	65.2-140			
Surrogate: 1-Chlorooctadecane	46.0		mg/kg	50.0		92.0	63.6-154			

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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 562  
Project Manager: MARCELA MARQUEZ  
Fax To: (505) 632-1876Reported:  
25-May-12 10:56**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2052402 - Volatiles</b>										
<b>Blank (2052402-BLK1)</b>				Prepared & Analyzed: 24-May-12						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0379		mg/kg	0.0500		116	89.4-126			
<b>LCS (2052402-BS1)</b>				Prepared & Analyzed: 24-May-12						
Benzene	1.98	0.050	mg/kg	2.00		99.0	80.7-116			
Toluene	2.06	0.050	mg/kg	2.00		103	89.7-121			
Ethylbenzene	2.07	0.050	mg/kg	2.00		104	91.4-124			
Total Xylenes	6.41	0.150	mg/kg	6.00		107	93.4-130			
Surrogate: 4-Bromofluorobenzene (PID)	0.0350		mg/kg	0.0500		110	89.4-126			
<b>LCS Dup (2052402-BSD1)</b>				Prepared & Analyzed: 24-May-12						
Benzene	1.68	0.050	mg/kg	2.00		84.1	80.7-116	16.3	16.4	
Toluene	1.77	0.050	mg/kg	2.00		88.6	89.7-121	15.2	16.6	
Ethylbenzene	1.77	0.050	mg/kg	2.00		88.7	91.4-124	15.5	16.1	
Total Xylenes	5.53	0.150	mg/kg	6.00		92.2	93.4-130	14.7	15.8	
Surrogate: 4-Bromofluorobenzene (PID)	0.0370		mg/kg	0.0500		114	89.4-126			
<b>Matrix Spike (2052402-MS1)</b>				Source: H201148-01	Prepared & Analyzed: 24-May-12					
Benzene	2.06	0.050	mg/kg	2.00	ND	103	69.9-119			
Toluene	2.13	0.050	mg/kg	2.00	ND	106	67.5-131			
Ethylbenzene	2.11	0.050	mg/kg	2.00	ND	105	46.7-157			
Total Xylenes	6.50	0.150	mg/kg	6.00	ND	108	45.1-161			
Surrogate: 4-Bromofluorobenzene (PID)	0.0350		mg/kg	0.0500		110	89.4-126			
<b>Matrix Spike Dup (2052402-MSD1)</b>				Source: H201148-01	Prepared & Analyzed: 24-May-12					
Benzene	1.93	0.050	mg/kg	2.00	ND	96.4	69.9-119	6.86	22	
Toluene	2.00	0.050	mg/kg	2.00	ND	99.9	67.5-131	6.15	17.9	
Ethylbenzene	1.99	0.050	mg/kg	2.00	ND	99.4	46.7-157	5.92	21.5	
Total Xylenes	6.11	0.150	mg/kg	6.00	ND	102	45.1-161	6.32	27	

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 562  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
25-May-12 10:56

**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch 2052402 - Volatiles**

**Matrix Spike Dup (2052402-MSD1)**

**Source: H201148-01**

**Prepared & Analyzed: 24-May-12**

Surrogate: 4-Bromofluorobenzene (PID)	0.0552		mg/kg	0.0500		110	89.4-126			
---------------------------------------	--------	--	-------	--------	--	-----	----------	--	--	--

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

### Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# CHAIN OF CUSTODY RECORD

Client: IEI

Contact: Marcelle

Address: 49 CR 3150

Artec NM 8740

Phone Number: 505-632-1782

FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 562

Project Name: JFL Landfill

Samplers Signature: Artec Obayto

Table 1 - Matrix Type

- 1 = Surface Water, 2 = Ground Water
- 3 = Soil/Sediment, 4 = Rinseate, 5 = Oil
- 6 = Waste, 7 = Other (Specify)

FOR GAL USE ONLY

GAL JOB #

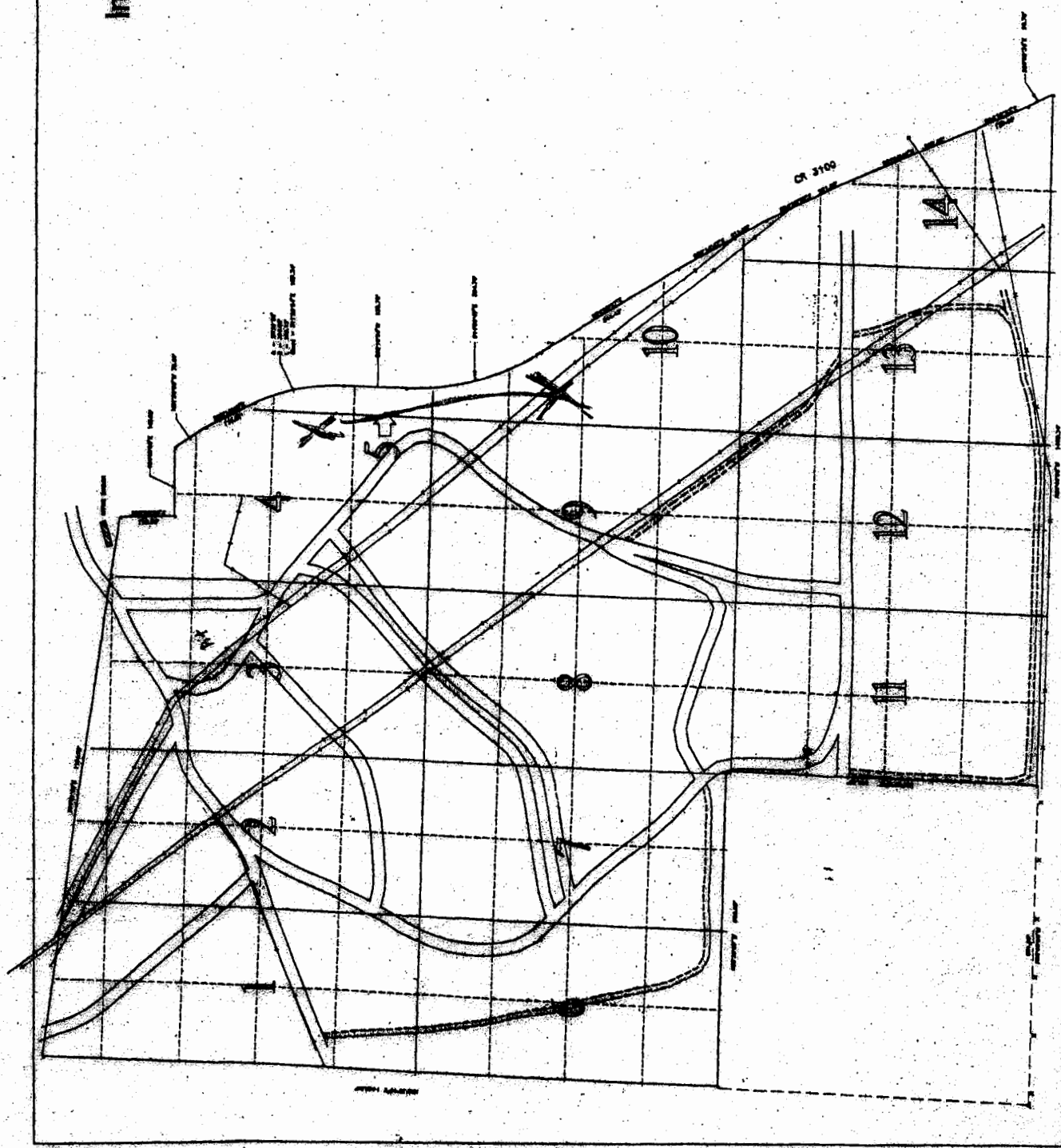
Page 1 of 1

Lab Name: Green Analytical Laboratories	(970) 247-4220	FAX (970) 247-4227														
Address: 75 Suttle Street, Durango, CO 81303																
Sample ID	Collection		Time	Date	Collected by: (Init.)	Miscellaneous			Preservative(s)				Other (Specify)	Comments		
	Matrix Type	From Table 1				No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH				
H201168																
1. Pile # 9	SA	3	1	N												
2. Pile # 13																
3. Pile # 14																
4. Pile # 18																
5. Pile # 765																
6. Pile # 776																
7.																
8.																
9.																
10.																

Relinquished by: <u>Artec Obayto</u>	Date: <u>5/23/12</u>	Received by: <u>Artec Obayto</u>	Date: <u>5/23/12</u>
Relinquished by: <u>Artec Obayto</u>	Date: <u>5/23/12</u>	Received by: <u>Artec Obayto</u>	Date: <u>5/23/12</u>

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

Property Sketch for  
Industrial Ecosystems Inc.  
CELL ANNEXMENT



State of New Mexico  
Energy, Minerals and Natural Resources Department

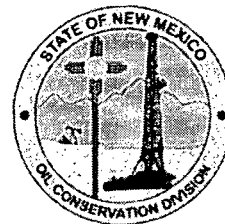
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**Susana Martinez**  
Governor

**John Bemis**  
Cabinet Secretary

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey**  
Division Director  
Oil Conservation Division



April 17, 2012

Ms. Marcella Marquez  
JFJ Landfarm, L.L.C.  
Industrial Ecosystems Inc.  
Soil Reclamation Center  
P.O. Box 2043  
Farmington, New Mexico 87499

**RE: Request for Approval of On-Site Disposition of Remediated Soils**  
**JFJ Landfarm, LLC - Industrial Ecosystems Inc.**  
**JFJ Landfarm – Permit # NM1-010-B**  
**Location: NW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,**  
**San Juan County, New Mexico**

Dear Ms. Marquez:

The Oil Conservation Division (OCD) has reviewed JFJ Landfarm, LLC's (JFJ) request, dated April 12, 2012, for on-site disposition of remediated soils from the OCD permitted landfarm (Surface Waste Management Facility Permit # NM-1-0010B) to be utilized to "build up" the area north of the office/shop building on of the existing facility property, located in NW/4 SE/4 of Section 2, Township 29 North, Range 12 West NMPM, San Juan County, New Mexico. OCD has reviewed the analytical results to reuse the remediated soils from the following biopile(s):

*Pile # 778*

Based upon the information provided, the above-referenced biopiles are hereby approved for reuse with the following understandings and conditions:

1. JFJ has demonstrated that the proposed soils for reuse satisfy the TPH, BTEX, and Benzene concentrations specified in Condition 17 of the Landfarm and Composting Operations section of your February 3, 2004 surface waste management facility permit (NM1-010-B);
2. JFJ shall obtain legal authority from the surface owner prior to placement of the remediated soils for reuse; and

Ms. Marquez  
JFJ Landfarm, LLC  
Permit NM1-010-B  
April 17, 2012  
Page 2 of 2

3. JFJ shall ensure that remediated soils are reused in a manner that prevents the contamination of ground water and surface water, and protects human health and the environment.

Please be advised that approval of this request does not relieve JFJ of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve JFJ of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Mr. Brad A. Jones of my staff at (505) 476-3487 or [brad.a.jones@state.nm.us](mailto:brad.a.jones@state.nm.us).

Sincerely,

A handwritten signature in black ink, appearing to read "Jami Bailey", with a stylized flourish at the end.

Jami Bailey  
Director

JB/baj

cc: OCD District III Office, Aztec

State of New Mexico  
Energy, Minerals and Natural Resources Department

---

**Susana Martinez**  
Governor

**John Bemis**  
Cabinet Secretary

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey**  
Division Director  
**Oil Conservation Division**



April 17, 2012

Ms. Marcella Marquez  
JFJ Landfarm, L.L.C.  
Industrial Ecosystems Inc.  
Soil Reclamation Center  
P.O. Box 2043  
Farmington, New Mexico 87499

**RE: Request for Approval of On-Site Disposition of Remediated Soils**  
**JFJ Landfarm, LLC - Industrial Ecosystems Inc.**  
**JFJ Landfarm – Permit # NM1-010-B**  
**Location: NW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,**  
**San Juan County, New Mexico**

Dear Ms. Marquez:

The Oil Conservation Division (OCD) has reviewed JFJ Landfarm, LLC's (JFJ) request, dated April 12, 2012, for on-site disposition of remediated soils from the OCD permitted landfarm (Surface Waste Management Facility Permit # NM-1-0010B) to be utilized to "build up" the area north of the office/shop building on of the existing facility property, located in NW/4 SE/4 of Section 2, Township 29 North, Range 12 West NMPM, San Juan County, New Mexico. OCD has reviewed the analytical results to reuse the remediated soils from the following biopile(s):

*Pile # 727                      Pile # 741*  
*Pile # 758                      Pile # 770*  
*Pile # 770*

Based upon the information provided, the above-referenced biopiles are hereby approved for reuse with the following understandings and conditions:

1. JFJ has demonstrated that the proposed soils for reuse satisfy the TPH, BTEX, and Benzene concentrations specified in Condition 17 of the Landfarm and Composting Operations section of your February 3, 2004 surface waste management facility permit (NM1-010-B);
2. JFJ shall obtain legal authority from the surface owner prior to placement of the remediated soils for reuse; and

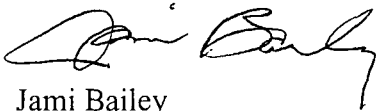
Ms. Marquez  
JFJ Landfarm, LLC  
Permit NM1-010-B  
April 17, 2012  
Page 2 of 2

3. JFJ shall ensure that remediated soils are reused in a manner that prevents the contamination of ground water and surface water, and protects human health and the environment.

Please be advised that approval of this request does not relieve JFJ of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve JFJ of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Mr. Brad A. Jones of my staff at (505) 476-3487 or [brad.a.jones@state.nm.us](mailto:brad.a.jones@state.nm.us).

Sincerely,

A handwritten signature in black ink, appearing to read "Jami Bailey", is written over the printed name.

Jami Bailey  
Director

JB/baj

cc: OCD District III Office, Aztec



**Jones, Brad A., EMNRD**

---

**From:** Marcella Marquez [marcella@industrialecosystems.com]  
**Sent:** Thursday, April 12, 2012 4:42 PM  
**To:** Jones, Brad A., EMNRD  
**Subject:** Letter to request reuse of treated soils on facility  
**Attachments:** Letter to request reuse of treated soils on facility.doc; Pile 727.pdf; Pile 770.pdf; Pile 741.pdf; Pile 758.pdf; Pile 778.pdf; map.pdf

**Importance:** High

Brad:

Attached please find the QA/QI for the analytical reports for each pile along with the map of the area that the soils will be spread.

Please let me know if you have any questions.

Also, I will be out of the office tomorrow, so if you need anything I won't be able to get back with you until Monday.

Thanks,  
Marcella



**Industrial Ecosystems Inc.  
Soil Reclamation Center**

P.O. Box 2043  
Farmington, NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec, NM 87410

---

April 17, 2012

Brad Jones, Environmental Engineer  
NM Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: JFJ Landfarm Permit # NM01-0010B  
Disposition of Treated Soils

Dear Brad:

This letter is being submitted to you as a request to reuse/recycle treated soils. We are requesting approval to reuse/recycle treated soils within our property boundaries. The treated soils would be utilized to "build up" the area north of the Office/Shop building.

Attached you will find the analytical reports showing the treated soils have reached acceptable permit levels for the following biopiles:

- Pile 770
- Pile 727
- Pile 741
- Pile 758
- Pile 778

Respectfully Submitted,

A handwritten signature in cursive script that reads 'Marcella Marquez'.

Marcella Marquez  
HSE Administrator

Enclosures-Analytical Reports



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

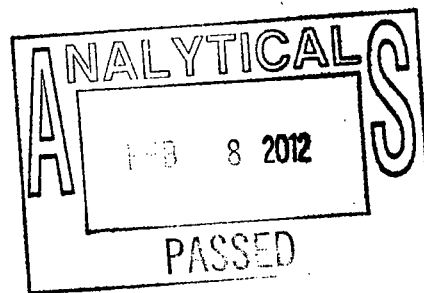
Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: MS

LAB NUMBER SAMPLE ID DRO  
( $>C_{10}-C_{28}$ )  
(mg/kg)

ANALYSIS DATE	02/03/12
H200256-01 PILE 727	16.2
Quality Control	244
True Value QC	200
% Recovery	122
Relative Percent Difference	24.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M



Chemist

02/09/12  
Date

H200256TCL IEI

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February 9, 2012

Marcella Marquez  
Industrial Ecosystems  
49 CR 3150  
Aztec, NM 87410

Re: JFJ 10309

Enclosed are the results of analyses for samples received by the laboratory on 02/02/12 12:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Thank you,

Celey D. Keene  
Laboratory Director/Quality Manager



# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: JET  
 Contact: Marcella  
 Address: 49 CR 3150  
Aztec NM  
 Phone Number: 505-632-1782  
 FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 10309  
 Project Name: JFJ

## Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
 6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: Clyde J. J.

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments
Address: 75 Suttle Street, Durango, CO 81303												
Sample ID	Collection		Miscellaneous			Preservative(s)						
	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH	Other (Specify)
H200256-1. <u>Pile 727</u>	<u>2/1/12</u>	<u>7:20</u>	<u>CT</u>	<u>3</u>	<u>1</u>	<u>N</u>						<u>DRD 8015M</u>
2. <u>741</u>		<u>7:50</u>										<u>GRD 8015M</u>
3. <u>758</u>		<u>8:15</u>										<u>BTEX 8021B</u>
4. <u>761</u>		<u>8:35</u>										<u>Chloride 300.0</u>
5. <u>765</u>		<u>9:10</u>										
6. <u>770</u>		<u>9:40</u>										
7. <u>776</u>		<u>10:00</u>										
8. <u>778</u>		<u>10:25</u>										
9. <u>784</u>		<u>11:10</u>										
10. <u>792</u>		<u>11:40</u>										

Relinquished by: Clyde J. J. Date: 2/1/12 Time: 12:40 Received by: M. Margay Date: 2/1/12 Time: 12:41  
 Relinquished by: Marcella Date: 2/1/12 Time: 14:00 Received by: Christina Clark Date: 2/1/12 Time: 14:00

\* Sample Reject: [ ] Return [ ] Dispose [X] Store (30 Days)

Jodi Jensen 2/2/12 #710

# CARDINAL Laboratories

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBES, NM 88240

## Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 02/01/2011  
Reported: 02/04/2011  
Project Name: JFJ  
Project Number: 9475  
Project Location: NOT GIVEN

Sampling Date: 01/28/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

Sample ID: **PILE 727** (H100224-11)

BTEX 8021B

mg/kg

Analyzed By: CMS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/02/2011	ND	2.21	111	2.00	5.26	
Toluene*	<0.050	0.050	02/02/2011	ND	2.27	113	2.00	7.18	
Ethylbenzene*	<0.050	0.050	02/02/2011	ND	2.32	116	2.00	8.13	
Total Xylenes*	<0.150	0.150	02/02/2011	ND	6.86	114	6.00	7.52	

Surrogate: 4-Bromofluorobenzene (PIL) 99.8 % 70-130

Chloride, SM4500Cl-B

mg/kg

Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	02/03/2011	ND	448	112	400	0.00	

TPH 8015M

mg/kg

Analyzed By: AB

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2011	ND	243	97.3	250	3.02	
<del>DRD C6-C10</del>	<del>0.00</del>	10.0	02/03/2011	ND	235	94.2	250	4.84	

Surrogate: 1-Chlorooctane 96.8 % 70-130

Surrogate: 1-Chlorooctadecane 93.4 % 70-130

Cardinal Laboratories

\*=Accredited Analyte

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*Celley D. Keene*

Celley D. Keene, Lab Director/Quality Manager

Page 12 of 23



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

February 04, 2011

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 02/01/11 10:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

### Notes and Definitions

S-LOW	Low surrogate recovery confirmed as a matrix effect by a second analysis.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





## CHAIN OF CUSTODY RECORD

Page 1 of 2

Client: Industrial Ecosystems

Contact: Marcella

Address: 49 CA 3150

Artec NM 87410

Phone Number: 505-632-1782

FAX Number: 505-632-1876

### NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 9475

Project Name: WJ

### Table I. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227										Analyses Required										Comments		
Address: 75 Suttle Street, Durango, CO 81303																						
Sample ID	Collection		Miscellaneous				Preservative(s)															
	Date	Time	Collected by: (Init.)	Matrix Type From Table I	No. of Containers	Sample Filtered: Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH	Other (Specify)										
H10274																						
1. Pib 123	1/28/11	7:10	CT	3	1	N							DRG 8015A									
2. P 124		7:20											GFA 805N									
3. P 125		7:35											ITEV 80AL									
4. P 126		7:40											Chlorides 3000									
5. P 127		7:50																				
6. P 128		8:00																				
7. P 129		8:10																				
8. P 130		8:23																				
9. P 131		8:46																				
10. P 713		8:55																				

Relinquished by: <u>[Signature]</u>	Date: <u>1/28/11</u>	Time: <u>11:35</u>	Received by: <u>[Signature]</u>	Date: <u>1/28/11</u>	Time: <u>11:36</u>
Relinquished by: <u>[Signature]</u>	Date: <u>1/28/11</u>	Time: <u>12:11</u>	Received by: <u>[Signature]</u>	Date: <u>1/28/11</u>	Time: <u>12:11</u>

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

2.5°C [Signature] 2/1/11



# CHAIN OF CUSTODY RECORD

Page 2 of 2

Client: LET  
 Contact: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_  
 FAX Number: \_\_\_\_\_

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 9475  
 Project Name: JEJ

Table 1. - Matrix Type	
1 = Surface Water, 2 = Ground Water	
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil	
6 = Waste, 7 = Other (Specify) _____	

FOR GAL USE ONLY  
 GAL JOB # \_\_\_\_\_

Samplers Signature: [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments	
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous			Preservative(s)						
Sample ID	Date	Time	Collected by: (init.)	Matrix Type (from Table 1)	No. of Containers	Sample Filled? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)
11 H10284 -													
12 1. Pile 727	11/28/11	9:15	CT	3	1	N							
13 2. " 729		9:30											
14 3. " 742		9:45											
15 4. " 750		9:55											
16 5. " 751		10:17											
17 6. " 756		10:37											
18 7. " 757		10:48											
19 8. " 758		11:13											
9. " 760		11:34											
10.													

Relinquished by: [Signature] Date: 11/28/11 Time: 11:35 Received by: [Signature] Date: 11/28/11 Time: 11:36  
 Relinquished by: [Signature] Date: 11/28/11 Time: 11:35 Received by: [Signature] Date: 11/28/11 Time: 11:36

\* Sample Reject [ ] Return [ ] Dispose [ ] Store (30 Days)

2.5°C Jodi Benson



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

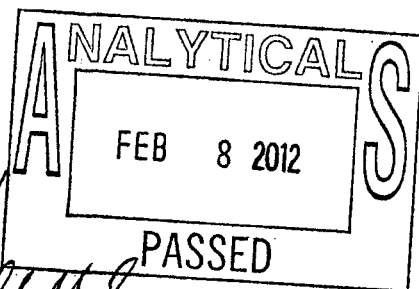
Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: MS

LAB NUMBER	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)
		02/03/12	02/03/12
H200256-06	PILE 770	<10.0	<10.0
Quality Control		203	244
True Value QC		200	200
% Recovery		102	122
Relative Percent Difference		20.1	24.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Std. Methods 4500-CFB

\*Analyses performed on 1:4 w:v aqueous extracts.



Chemist

Date

H200256TCL IEI

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PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

February 9, 2012

Marcella Marquez  
Industrial Ecosystems  
49 CR 3150  
Aztec, NM 87410

Re: JFJ 10309

Enclosed are the results of analyses for samples received by the laboratory on 02/02/12 12:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Thank you,

Celey D. Keene  
Laboratory Director/Quality Manager



# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: IET  
 Contact: Marcella  
 Address: 49 CR 3150  
Aztec NM  
 Phone Number: 505-632-1782  
 FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 10309  
 Project Name: JFJ

Table 1. - Matrix Type	
1 = Surface Water, 2 = Ground Water	
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil	
6 = Waste, 7 = Other (Specify) _____	

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: Clyde JFJ

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments
Address: 75 Suttle Street, Durango, CO 81303												
Sample ID	Collection		Miscellaneous			Preservative(s)						
	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH	Other (Specify)
H200256-												
01 1. Pile 727	2/1/12	7:20	CT	3	1	N						DRD 8015M
02 2. " 741		7:50										GRO 8015M
03 3. " 758		8:15										BTEX 8021B
04 4. " 761		8:35										Chloride 300.0
05 5. " 765		9:10										
06 6. " 770		9:40										
07 7. " 776		10:20										
08 8. " 778		10:25										
09 9. " 784		11:10										
10 10. " 792		11:40										
Relinquished by: <u>Clyde JFJ</u>			Date: <u>2/1/12</u>	Time: <u>12:40</u>	Received by: <u>Margie</u>			Date: <u>2/1/12</u>	Time: <u>12:41</u>			
Relinquished by: <u>Marcella</u>			Date: <u>2/1/12</u>	Time: <u>14:00</u>	Received by: <u>Charita Clark</u>			Date: <u>2/1/12</u>	Time: <u>14:00</u>			

\* Sample Reject: [ ] Return [ ] Dispose [X] Store (30 Days)

Ida Jensen 2/2/12 #716



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 10180  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
19-Dec-11 13:43**PILE 770**  
H102681-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	--------	-------

**Cardinal Laboratories****Inorganic Compounds**

Chloride	48.0	16.0	mg/kg	4	1121904	HM	17-Dec-11	4500-Cl-B	
----------	------	------	-------	---	---------	----	-----------	-----------	--

**Organic Compounds**

██████████	████	100	mg/kg	10	1121704	CK	17-Dec-11	418.1	
██████████	████	10.0	mg/kg	1	1121507	MS	15-Dec-11	8015M	
██████████	████	10.0	mg/kg	1	1121507	MS	15-Dec-11	8015M	
Surrogate: 1-Chlorooctane		70.9 %	55.5-154		1121507	MS	15-Dec-11	8015M	
Surrogate: 1-Chlorooctadecane		81.7 %	57.6-158		1121507	MS	15-Dec-11	8015M	

**Volatile Organic Compounds by EPA Method 8021**

Benzene	ND	0.050	mg/kg	50	1121402	MS	14-Dec-11	8021B	
Toluene	ND	0.050	mg/kg	50	1121402	MS	14-Dec-11	8021B	
Ethylbenzene	ND	0.050	mg/kg	50	1121402	MS	14-Dec-11	8021B	
Total Xylenes	ND	0.150	mg/kg	50	1121402	MS	14-Dec-11	8021B	
Surrogate: 4-Bromofluorobenzene (PID)		108 %	64.4-134		1121402	MS	14-Dec-11	8021B	

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

December 19, 2011

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 12/14/11 10:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list on accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads 'Celey D. Keene'.

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 10180  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
19-Dec-11 13:43

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PILE 539	H102681-01	Soil	13-Dec-11 10:50	14-Dec-11 10:15
PILE 563	H102681-02	Soil	13-Dec-11 11:25	14-Dec-11 10:15
PILE 586	H102681-03	Soil	13-Dec-11 11:40	14-Dec-11 10:15
PILE 595	H102681-04	Soil	13-Dec-11 12:45	14-Dec-11 10:15
PILE 756	H102681-05	Soil	13-Dec-11 13:00	14-Dec-11 10:15
PILE 747	H102681-06	Soil	13-Dec-11 13:40	14-Dec-11 10:15
PILE 763	H102681-07	Soil	13-Dec-11 14:00	14-Dec-11 10:15
PILE 765	H102681-08	Soil	13-Dec-11 14:15	14-Dec-11 10:15
PILE 770	H102681-09	Soil	13-Dec-11 14:30	14-Dec-11 10:15
PILE 776	H102681-10	Soil	13-Dec-11 14:45	14-Dec-11 10:15

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 10180  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
19-Dec-11 13:43**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1121505 - General Prep - Wet Chem</b>										
<b>Blank (1121505-BLK1)</b>				Prepared & Analyzed: 15-Dec-11						
Chloride	ND	16.0	mg/kg							
<b>LCS (1121505-BS1)</b>				Prepared & Analyzed: 15-Dec-11						
Chloride	432	16.0	mg/kg	400		108	80-120			
<b>LCS Dup (1121505-BSD1)</b>				Prepared & Analyzed: 15-Dec-11						
Chloride	416	16.0	mg/kg	400		104	80-120	3.77	20	
<b>Duplicate (1121505-DUP1)</b>				Source: H102677-07		Prepared & Analyzed: 15-Dec-11				
Chloride	1630	16.0	mg/kg		1620			0.985	20	
<b>Matrix Spike (1121505-MS1)</b>				Source: H102677-07		Prepared & Analyzed: 15-Dec-11				
Chloride	2260	16.0	mg/kg	400	1620	160	80-120			
<b>Batch 1121904 - General Prep - Wet Chem</b>										
<b>Blank (1121904-BLK1)</b>				Prepared & Analyzed: 17-Dec-11						
Chloride	ND	16.0	mg/kg							
<b>LCS (1121904-BS1)</b>				Prepared & Analyzed: 17-Dec-11						
Chloride	464	16.0	mg/kg	400		116	80-120			
<b>LCS Dup (1121904-BSD1)</b>				Prepared & Analyzed: 17-Dec-11						
Chloride	432	16.0	mg/kg	400		108	80-120	7.14	20	
<b>Duplicate (1121904-DUP1)</b>				Source: H102704-06		Prepared & Analyzed: 17-Dec-11				
Chloride	48.0	16.0	mg/kg		48.0			0.00	20	

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Celey D. Keene, Lab Director/Quality Manager

Page 1 of 1



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 10180  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
19-Dec-11 13:43

**Inorganic Compounds - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1121904 - General Prep - Wet Chem**

Matrix Spike (1121904-MS1)

Source: H102704-06

Prepared & Analyzed: 17-Dec-11

Chloride	464	16.0	mg/kg	400	48.0	104	80-120			
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 10180  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
19-Dec-11 13:43**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1121507 - General Prep - Organics****Blank (1121507-BLK1)**

Prepared &amp; Analyzed: 15-Dec-11

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	48.5		mg/kg	50.0		97.1	55.5-154			
Surrogate: 1-Chlorooctadecane	53.7		mg/kg	48.7		110	57.6-158			

**LCS (1121507-BS1)**

Prepared &amp; Analyzed: 15-Dec-11

GRO C6-C10	206	10.0	mg/kg	200		103	63.5-131			
DRO >C10-C28	168	10.0	mg/kg	200		84.1	52.3-130			
Total TPH C6-C28	374	10.0	mg/kg	400		93.6	62-129			
Surrogate: 1-Chlorooctane	55.2		mg/kg	50.0		111	55.5-154			
Surrogate: 1-Chlorooctadecane	58.8		mg/kg	48.7		121	57.6-158			

**LCS Dup (1121507-BSD1)**

Prepared &amp; Analyzed: 15-Dec-11

GRO C6-C10	208	10.0	mg/kg	200		104	63.5-131	1.05	13.9	
DRO >C10-C28	166	10.0	mg/kg	200		82.8	52.3-130	1.48	18.1	
Total TPH C6-C28	374	10.0	mg/kg	400		93.5	62-129	0.0791	16.2	
Surrogate: 1-Chlorooctane	55.8		mg/kg	50.0		112	55.5-154			
Surrogate: 1-Chlorooctadecane	57.3		mg/kg	48.7		118	57.6-158			

**Batch 1121704 - Solvent Extraction****Blank (1121704-BLK1)**

Prepared &amp; Analyzed: 17-Dec-11

TPH 418.1	ND	100	mg/kg							
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**LCS (1121704-BS1)**

Prepared &amp; Analyzed: 17-Dec-11

TPH 418.1	1240	100	mg/kg	1090		113	80-120			
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\*=Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager

12-Dec-11 5:01:19



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**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 10180  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
19-Dec-11 13:43

**Organic Compounds - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch 1121704 - Solvent Extraction**

**LCS Dup (1121704-BSD1)**

Prepared & Analyzed: 17-Dec-11

TPH 418.1	1240	100	mg/kg	1090		114	80-120	0.565	20	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 10180  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
19-Dec-11 13:43**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 1121402 - Volatiles****Blank (1121402-BLK1)**

Prepared &amp; Analyzed: 14-Dec-11

Benzene	ND	0.050	mg/kg
Toluene	ND	0.050	mg/kg
Ethylbenzene	ND	0.050	mg/kg
Total Xylenes	ND	0.150	mg/kg

Surrogate: 4-Bromofluorobenzene (PID) 0.0320 mg/kg 0.0488 107 64.4-134

**LCS (1121402-BS1)**

Prepared &amp; Analyzed: 14-Dec-11

Benzene	2.02	0.050	mg/kg	2.00	101	65.2-126
Toluene	1.90	0.050	mg/kg	2.00	95.1	73.2-126
Ethylbenzene	2.15	0.050	mg/kg	2.00	107	74.4-131
Total Xylenes	6.14	0.150	mg/kg	6.00	102	73.5-130

Surrogate: 4-Bromofluorobenzene (PID) 0.0312 mg/kg 0.0488 105 64.4-134

**LCS Dup (1121402-BSD1)**

Prepared &amp; Analyzed: 14-Dec-11

Benzene	1.99	0.050	mg/kg	2.00	99.6	65.2-126	1.23	26.9
Toluene	1.89	0.050	mg/kg	2.00	94.5	73.2-126	0.630	27.9
Ethylbenzene	2.13	0.050	mg/kg	2.00	107	74.4-131	0.633	28.5
Total Xylenes	6.12	0.150	mg/kg	6.00	102	73.5-130	0.343	27.7

Surrogate: 4-Bromofluorobenzene (PID) 0.0315 mg/kg 0.0488 106 64.4-134

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

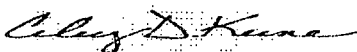
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

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---

Celey D. Keene, Lab Director/Quality Manager



# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: IEI  
 Contact: Marcella  
 Address: 49 CR 3150  
Astec Nm 87410  
 Phone Number: 505 632-1782  
 FAX Number: 505 632-1876

## NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 10180  
 Project Name: JFI

Table 1. - Matrix Type	
1 = Surface Water, 2 = Ground Water	
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil	
6 = Waste, 7 = Other (Specify)	

FOR GAL USE ONLY  
 GAL JOB #

Samplers Signature: [Signature]

Marcella@industrialecosystems.com

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments	
Address: 75 Suttle Street, Durango, CO 81303													
Sample ID	Collection Date	Time	Collected by (Init)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)
H102681													
1. Pile 539	12/13/11	10:50	CT	3	1	N							✓ DRO+GRO (TSP) 418
2. Pile 563		11:25											✓ BTex 80210
3. Pile 586		1:40											✓ Chloride 300.0
4. Pile 595		12:45											
5. Pile 756		1:00											
6. Pile 747		1:40											
7. Pile 763		2:00											
8. Pile 765		2:15											
9. Pile 770		2:30											
10. Pile 776		2:45											

Relinquished by: [Signature] Date: 12-13-11 Time: 2:47 Received by: [Signature] Date: 12-13-11 Time: 2:48  
 Relinquished by: [Signature] Date: 12-13-11 Time: 15:15 Received by: [Signature] Date: 12/13/11 Time: 15:15

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

Jodi Nelson

12/14/11  
10:15



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: AP/MS

LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	BENZENE* (mg/kg)	TOLUENE* (mg/kg)	ETHYL BENZENE* (mg/kg)	TOTAL XYLENES* (mg/kg)	CI** (mg/kg)
ANALYSIS DATE:	02/03/12	02/03/12	02/06/12	02/06/12	02/06/12	02/06/12	02/06/12	02/02/12
H200256-02	PILE 741	<10.0	19.9	<0.050	0.096	<0.050	0.456	512
Quality Control		203	244	1.95	2.34	2.46	7.63	464
True Value QC		200	200	2.00	2.00	2.00	6.00	400
% Recovery		102	122	97.5	117	123	127	116
Relative Percent Difference		20.1	24.4	9.2	9.5	9.9	9.6	10.9

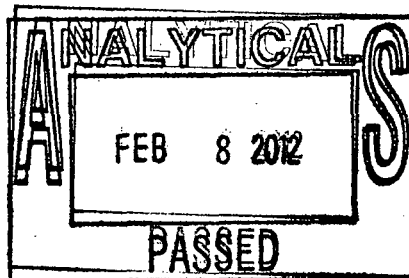
METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8021B; Std. Methods 4500-Cl<sup>-</sup>B

\*\*Analyses performed on 1:4 w:v aqueous extracts.

TEXAS NELAP CERTIFICATE T104704398-11-3 FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

Chemist

Date



H200256BT2 IEI

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

February 9, 2012

Marcella Marquez  
Industrial Ecosystems  
49 CR 3150  
Aztec, NM 87410

Re: JFJ 10309

Enclosed are the results of analyses for samples received by the laboratory on 02/02/12 12:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Thank you,

Celey D. Keene  
Laboratory Director/Quality Manager



# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: IEI  
 Contact: Marcella  
 Address: 49 CR 3150  
Aztec, NM  
 Phone Number: 505-632-1782  
 FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 10309

Project Name: JFJ

## Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
 6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: Clyde JFJ

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments	
Address: 75 Suttle Street, Durango, CO 81303													
Sample ID	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH		Other (Specify)
H200256-													
1. 727	2/1/12	7:20	CT	3	1	N							DRD 8015M
2. 741		7:50											GRD 8015M
3. 758		8:15											PTEX 8021B
4. 761		8:35											Chloride 300.0
5. 765		9:10											
6. 770		9:40											
7. 776		10:00											
8. 778		10:25											
9. 784		11:10											
10. 792		11:40											
Relinquished by: <u>Clyde JFJ</u>			Date: <u>2/1/12</u>	Time: <u>12:40</u>	Received by: <u>MA. Morgan</u>			Date: <u>2/1/12</u>	Time: <u>12:41</u>				
Relinquished by: <u>Marcella Morgan</u>			Date: <u>2/1/12</u>	Time: <u>14:00</u>	Received by: <u>Christina Clark</u>			Date: <u>2/1/12</u>	Time: <u>14:00</u>				

\* Sample Reject: [ ] Return [ ] Dispose [X] Store (30 Days)

Adi Jensen 2/2/12



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: AP/MS

LAB NUMBER	SAMPLE ID	CI*	DRO
		(mg/kg)	(>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)
ANALYSIS DATE		02/02/12	02/03/12
H200256-03	PILE 758	496	11.4
Quality Control		464	244
True Value QC		400	200
% Recovery		116	122
Relative Percent Difference		10.9	24.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Std. Methods 4500-CIB  
\*Analyses performed on 1:4 w:v aqueous extracts.

Chemist

Date

H200256TCL IEI

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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February 9, 2012

Marcella Marquez  
Industrial Ecosystems  
49 CR 3150  
Aztec, NM 87410

Re: JFJ 10309

Enclosed are the results of analyses for samples received by the laboratory on 02/02/12 12:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Thank you,

Celey D. Keene  
Laboratory Director/Quality Manager



# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: JET  
 Contact: Marcella  
 Address: 40 CR 3150  
Aztec NM  
 Phone Number: 505-632-1782  
 FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 10309  
 Project Name: JFJ

Table 1. - Matrix Type	
1 = Surface Water, 2 = Ground Water	
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil	
6 = Waste, 7 = Other (Specify) _____	

FOR GAL USE ONLY  
 GAL JOB # \_\_\_\_\_

Samplers Signature: Clyde J. J.

Lab Name: Green Analytical Laboratories		(970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments				
Address: 75 Suttle Street, Durango, CO 81303																		
Sample ID	Collection		Miscellaneous			Preservative(s)												
	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH	Other (Specify)						
01. H200256- Pile 727	2/1/12	7:20	ST	3	1	N							DRD 8015M					
02. 741		7:50											GRD 8015M					
03. 758		8:15											BTEX 8021B					
04. 761		8:35											Chloride 300.0					
05. 765		9:10																
06. 770		9:40																
07. 776		10:00																
08. 778		10:25																
09. 784		11:10																
10. 792		11:40																
Relinquished by: <u>Clyde J. J.</u>			Date: <u>2/1/12</u>	Time: <u>12:40</u>	Received by: <u>Margaret</u>			Date: <u>2/1/12</u>	Time: <u>12:41</u>									
Relinquished by: <u>Marcella</u>			Date: <u>2/1/12</u>	Time: <u>14:00</u>	Received by: <u>Christina Clark</u>			Date: <u>2/1/12</u>	Time: <u>14:00</u>									

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

Paul Jensen 2/2/12

# CARDINAL Laboratories

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

## Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 02/01/2011  
Reported: 02/04/2011  
Project Name: JFJ  
Project Number: 9475  
Project Location: NOT GIVEN

Sampling Date: 01/28/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

Sample ID **PILE 758 (H100224-18)**

BTEX 8021B		mg/kg		Analyzed By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.099	0.050	02/02/2011	ND	2.21	111	2.00	5.26	
Toluene*	0.512	0.050	02/02/2011	ND	2.27	113	2.00	7.18	
Ethylbenzene*	0.193	0.050	02/02/2011	ND	2.32	116	2.00	8.13	
Total Xylenes*	2.16	0.150	02/02/2011	ND	6.86	114	6.00	7.52	

Surrogate: 4-Bromofluorobenzene (PIL) 96.9 % 70-130

mg/kg		Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	15.0	10.0	02/04/2011	ND	243	97.3	250	3.02	

Surrogate: 1-Chlorooctane 89.6 % 70-130

Surrogate: 1-Chlorooctadecane 93.7 % 70-130

Cardinal Laboratories

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*Celestine D. Keene*

Celestine D. Keene, Lab Director/Quality Manager

Page 19 of 23



PHONE (575) 393-2326 \* 101 E. MARLAND \* HOBBS, NM 88240

February 04, 2011

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 02/01/11 10:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 \* 101 E. MARLAND \* HOBBS, NM 88240

### Notes and Definitions

S-LOW	Low surrogate recovery confirmed as a matrix effect by a second analysis.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





# CHAIN OF CUSTODY RECORD

Page 1 of 2

Client: Industrial Ecosystems  
 Contact: Marcella  
 Address: 49 CR 3150  
Artes NM 87410  
 Phone Number: 505-632-1782  
 FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 9475  
 Project Name EFJ

Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
 6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Address: 75 Suttle Street, Durango, CO 81303		Analyses Required												Comments	
Sample ID	Collection		Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	Preservative(s)					Other (Specify)				
	Date	Time						HNO3	HCL	H2SO4	NAOH						
H10224																	
1. Pile 123	1/28/11	9:10	CT	3	1	N											
2. 124		7:20															
3. 125		7:35															
4. 126		7:40															
5. 127		7:50															
6. 128		8:00															
7. 129		8:10															
8. 130		8:23															
9. 131		8:46															
10. 713		8:55															

Relinquished by: [Signature] Date: 1/28/11 Time: 11:35 Received by: [Signature] Date: 1/28/11 Time: 11:36  
 Relinquished by: [Signature] Date: 1/28/11 Time: 12:11 Received by: [Signature] Date: 1/28/11 Time: 12:11

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

25°C Gode Henson 2/1/11



# CHAIN OF CUSTODY RECORD

Page 2 of 2

Client: ICI  
 Contact: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_  
 FAX Number: \_\_\_\_\_

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition:

PO# 9475

Project Name: JFI

## Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
 6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: [Signature]

Lab Name: Green Analytical Laboratories		(970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments
Address: 75 Suttle Street, Durango, CO 81303				Collection		Miscellaneous			Preservative(s)					
Sample ID	Date	Time	Collected by (Init.)	Matrix Type (from Table 1)	No. of Containers	Sample Filtered Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH	Other (Specify)		
H10784-														
1. Pile 727	1/28/11	9:15	ICT	3	1	N							DRO 8015M	
2. "		9:30											6RO 8015M	
3. "		9:45											BTEx 8001B	
4. "		9:55											CL Oxides 3000	
5. "		10:17												
6. "		10:37												
7. "		10:48												
8. "		11:13												
9. "		11:34												
10.														

Relinquished by: [Signature] Date: 1/28/11 Time: 11:35 Received by: [Signature] Date: 1/28/11 Time: 11:36  
 Relinquished by: [Signature] Date: 1/28/11 Time: 12:14 Received by: [Signature] Date: 1/28/11 Time: 12:14

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

2.5°C

Jodi Benson



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: AP/MS

LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	BENZENE* (mg/kg)	TOLUENE* (mg/kg)	ETHYL BENZENE* (mg/kg)	TOTAL XYLENES* (mg/kg)	CI** (mg/kg)
ANALYSIS DATE:		02/03/12	02/03/12	02/06/12	02/06/12	02/06/12	02/06/12	02/02/12
H200256-08	PILE 778	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	64
Quality Control		203	244	1.95	2.34	2.46	7.63	464
True Value QC		200	200	2.00	2.00	2.00	6.00	400
% Recovery		102	122	97.5	117	123	127	118
Relative Percent Difference		20.1	24.4	9.2	9.5	9.9	9.6	10.9

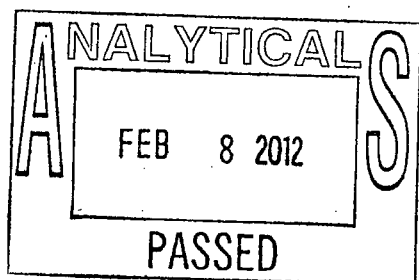
METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8021B; Std. Methods 4500-CFB

\*\*Analyses performed on 1:4 w:v aqueous extracts.

TEXAS NELAP CERTIFICATE T104704398-11-3 FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

*Calypso Keene*  
Chemist

*02/08/12*  
Date



H200256BT2 IE1

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PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

February 9, 2012

Marcella Marquez  
Industrial Ecosystems  
49 CR 3150  
Aztec, NM 87410

Re: JFJ 10309

Enclosed are the results of analyses for samples received by the laboratory on 02/02/12 12:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Thank you,

Celey D. Keene  
Laboratory Director/Quality Manager



# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: IEI  
 Contact: Marcella  
 Address: 49 CR 3150  
Aztec NM  
 Phone Number: 505-632-1782  
 FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 10309  
 Project Name: JFJ

## Table 1. - Matrix Type

1 = Surface Water, 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
 6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

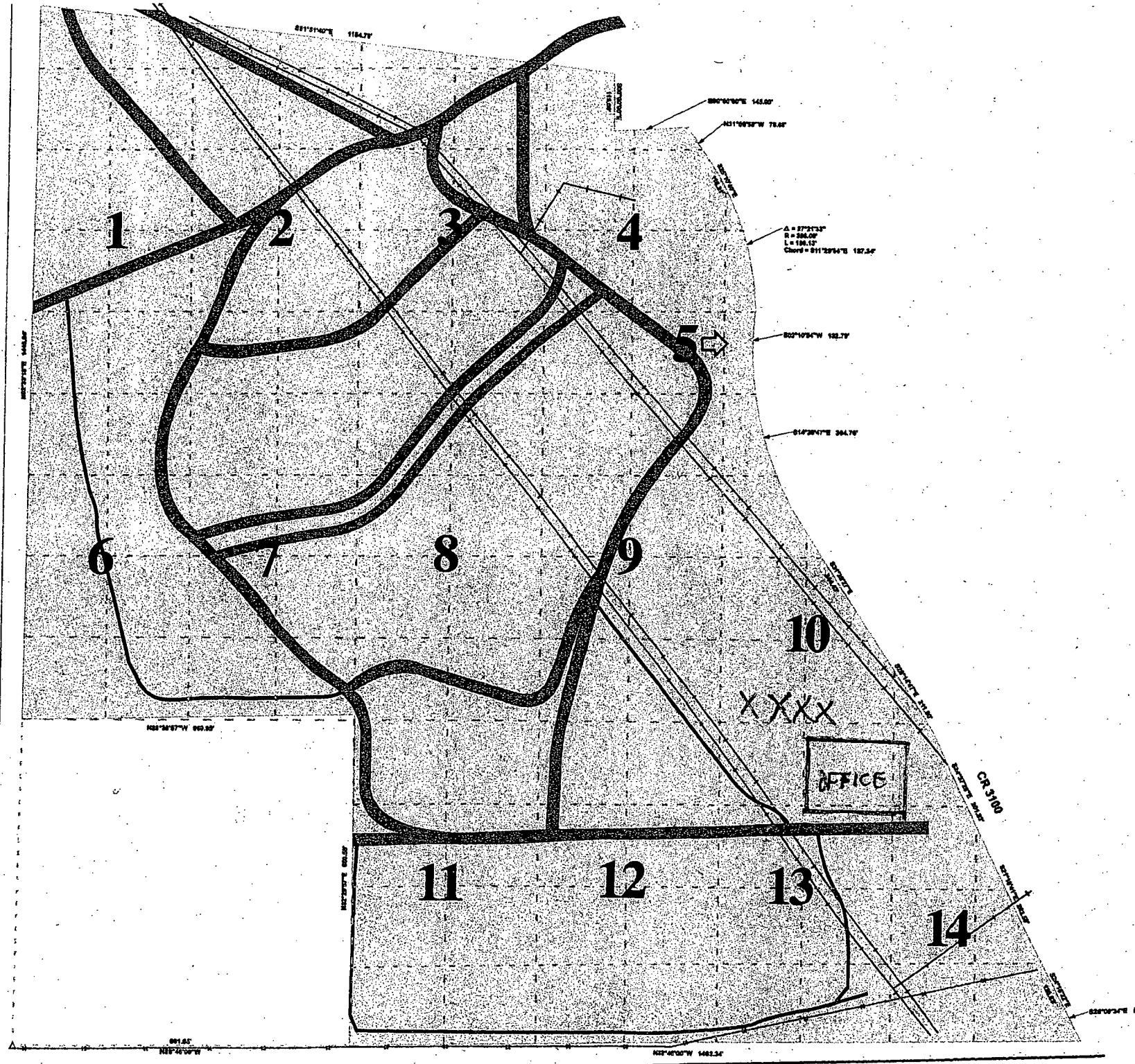
Samplers Signature: Clyde JFJ

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments	
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous			Preservative(s)						
Sample ID	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH		Other (Specify)
4200256-													
01 1. Pile 727	2/1/12	7:20	CT	3	1	2							DRD 8015M
02 2. " 741		7:50											GRD 8015M
03 3. " 758		8:15											PTEX 8021B
04 4. " 761		8:35											Chloride 300.0
05 5. " 765		9:10											
06 6. " 770		9:40											
07 7. " 776		10:00											
08 8. " 778		10:25											
09 9. " 784		11:10											
10 10. " 792		11:40											
Relinquished by: <u>Clyde JFJ</u>		Date: <u>2/1/12</u>	Time: <u>12:40</u>	Received by: <u>M. Margu</u>		Date: <u>2/1/12</u>	Time: <u>12:41</u>						
Relinquished by: <u>Marcella</u>		Date: <u>2/1/12</u>	Time: <u>14:00</u>	Received by: <u>Charita Clark</u>		Date: <u>2/1/12</u>	Time: <u>14:00</u>						

\* Sample Reject: [ ] Return [ ] Dispose [X] Store (30 Days)

Adi Jensen 2/2/12

6'-0"



## **Jones, Brad A., EMNRD**

---

**From:** Marcella Marquez [marcella@industrialecosystems.com]  
**Sent:** Tuesday, April 10, 2012 10:57 AM  
**To:** Jones, Brad A., EMNRD  
**Subject:** Letter to request reuse of treated soils on facility  
**Attachments:** Letter to request reuse of treated soils on facility.doc; 3228\_0001.pdf

**Importance:** High

Brad:

Please see attached letter & analytical reports.

Let me know if you have any questions or if any additional information is needed.

Thanks,  
Marcella



**Industrial Ecosystems Inc.  
Soil Reclamation Center**

P.O. Box 2043  
Farmington, NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec, NM 87410

---

April 11, 2012

Brad Jones, Environmental Engineer  
NM Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: JFJ Landfarm Permit # NM01-0010B  
Disposition of Treated Soils

Dear Brad:

This letter is being submitted to you as a request to reuse/recycle treated soils. We are requesting approval to reuse/recycle treated soils within our property boundaries. The treated soils would be utilized to "build up" the area north of the Office/Shop building.

Attached you will find the analytical reports showing the treated soils have reached acceptable permit levels for the following biopiles:

- Pile 770
- Pile 727
- Pile 741
- Pile 758
- Pile 778

Respectfully Submitted,

A handwritten signature in cursive script, reading 'Marcella Marquez', is written over a horizontal line.

Marcella Marquez  
HSE Administrator

Enclosures-Analytical Reports





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

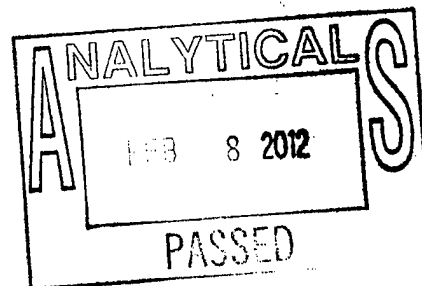
Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: MS

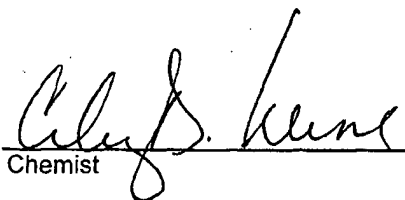
LAB NUMBER SAMPLE ID

DRO  
( $>C_{10}-C_{28}$ )  
(mg/kg)

ANALYSIS DATE	02/03/12
H200256-01 PILE 727	16.2
Quality Control	244
True Value QC	200
% Recovery	122
Relative Percent Difference	24.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M



  
Chemist

02/09/12  
Date

H200256TCL IEI

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# CARDINAL Laboratories

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## Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 02/01/2011  
Reported: 02/04/2011  
Project Name: JFJ  
Project Number: 9475  
Project Location: NOT GIVEN

Sampling Date: 01/28/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

### Sample ID: PILE 727 (H100224-11)

BTX 8021B			mg/kg		Analyzed By: CMS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/02/2011	ND	2.21	111	2.00	5.26	
Toluene*	<0.050	0.050	02/02/2011	ND	2.27	113	2.00	7.18	
Ethylbenzene*	<0.050	0.050	02/02/2011	ND	2.32	116	2.00	8.13	
Total Xylenes*	<0.150	0.150	02/02/2011	ND	6.86	114	6.00	7.52	

Surrogate: 4-Bromofluorobenzene (PIL 99.8 % 70-130

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	02/03/2011	ND	448	112	400	0.00		

TPH 8015M			mg/kg		Analyzed By: AB				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/03/2011	ND	243	97.3	250	3.02	
<del>GRO C11-C15</del>	<del>235</del>	10.0	02/03/2011	ND	235	94.2	250	4.84	

Surrogate: 1-Chlorooctane 96.8 % 70-130

Surrogate: 1-Chlorooctadecane 93.4 % 70-130

Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: AP/MS

LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	BENZENE* (mg/kg)	TOLUENE* (mg/kg)	ETHYL BENZENE* (mg/kg)	TOTAL XYLENES* (mg/kg)	CI** (mg/kg)
ANALYSIS DATE:		02/03/12	02/03/12	02/06/12	02/06/12	02/06/12	02/06/12	02/02/12
H200256-02	PILE 741	<10.0	19.9	<0.050	0.096	<0.050	0.456	512
Quality Control		203	244	1.95	2.34	2.46	7.63	464
True Value QC		200	200	2.00	2.00	2.00	6.00	400
% Recovery		102	122	97.5	117	123	127	116
Relative Percent Difference		20.1	24.4	9.2	9.5	9.9	9.6	10.9

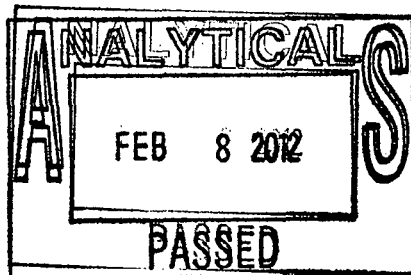
METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8021B; Std. Methods 4500-C1B

\*\*Analyses performed on 1:4 w:v aqueous extracts.

TEXAS NELAP CERTIFICATE T104704398-11-3 FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

Chemist

Date



H200256BT2 IEI

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ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: AP/MS

LAB NUMBER	SAMPLE ID	CI*	DRO
		(mg/kg)	(>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)
ANALYSIS DATE		02/02/12	02/03/12
H200256-03	PILE 758	496	11.4
Quality Control		464	244
True Value QC		400	200
% Recovery		116	122
Relative Percent Difference		10.9	24.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Std. Methods 4500-CI\*B

\*Analyses performed on 1:4 w:v aqueous extracts.

Chemist

Date

H200256TCL IEI

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ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

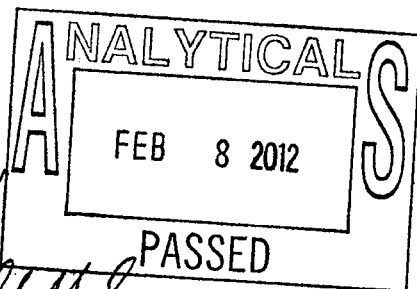
Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: MS

LAB NUMBER	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)
------------	-----------	--	---

ANALYSIS DATE	02/03/12	02/03/12
H200256-06 PILE 770	<10.0	<10.0
Quality Control	203	244
True Value QC	200	200
% Recovery	102	122
Relative Percent Difference	20.1	24.4

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Std. Methods 4500-CF-B  
\*Analyses performed on 1:4 w:v aqueous extracts.



Cheryl Anne  
Chemist

02/09/12  
Date

H200256TCL IEI

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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 10180  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
19-Dec-11 13:43

PILE 770

H102681-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	--------	-------

**Cardinal Laboratories****Inorganic Compounds**

Chloride	48.0	16.0	mg/kg	4	1121904	HM	17-Dec-11	4500-Cl-B
----------	------	------	-------	---	---------	----	-----------	-----------

**Organic Compounds**

[REDACTED]	[REDACTED]	100	mg/kg	10	1121704	CK	17-Dec-11	418.1
[REDACTED]	[REDACTED]	10.0	mg/kg	1	1121507	MS	15-Dec-11	8015M
[REDACTED]	[REDACTED]	10.0	mg/kg	1	1121507	MS	15-Dec-11	8015M
Surrogate: 1-Chlorooctane	70.9 %	55.5-154		1121507	MS	15-Dec-11	8015M	
Surrogate: 1-Chlorooctadecane	81.7 %	57.6-158		1121507	MS	15-Dec-11	8015M	

**Volatile Organic Compounds by EPA Method 8021**

Benzene	ND	0.050	mg/kg	50	1121402	MS	14-Dec-11	8021B
Toluene	ND	0.050	mg/kg	50	1121402	MS	14-Dec-11	8021B
Ethylbenzene	ND	0.050	mg/kg	50	1121402	MS	14-Dec-11	8021B
Total Xylenes	ND	0.150	mg/kg	50	1121402	MS	14-Dec-11	8021B
Surrogate: 4-Bromofluorobenzene (PID)	108 %	64.4-134		1121402	MS	14-Dec-11	8021B	

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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ANALYTICAL RESULTS FOR  
INDUSTRIAL ECOSYSTEMS  
ATTN: MARCELLA MARQUEZ  
49 CR 3150  
AZTEC, NM 87410

Receiving Date: 02/02/12  
Reporting Date: 02/08/12  
Project Owner: NOT GIVEN  
Project Name: JFJ 10309  
Project Location: NOT GIVEN

Sampling Date: 02/01/12  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 4°C  
Sample Received By: JH  
Analyzed By: AP/MS

LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	BENZENE* (mg/kg)	TOLUENE* (mg/kg)	ETHYL BENZENE* (mg/kg)	TOTAL XYLENES* (mg/kg)	CI** (mg/kg)
ANALYSIS DATE:		02/03/12	02/03/12	02/06/12	02/06/12	02/06/12	02/06/12	02/02/12
H200256-08	PILE 778	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	64
Quality Control		203	244	1.95	2.34	2.46	7.63	464
True Value QC		200	200	2.00	2.00	2.00	6.00	400
% Recovery		102	122	97.5	117	123	127	116
Relative Percent Difference		20.1	24.4	9.2	9.5	9.9	9.6	10.9

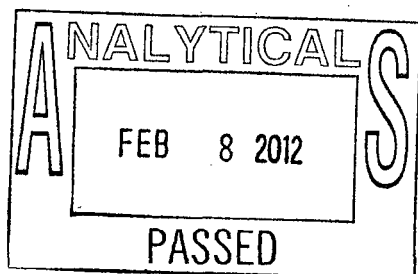
METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8021B; Std. Methods 4500-CFB

\*\*Analyses performed on 1:4 w:v aqueous extracts.

TEXAS NELAP CERTIFICATE T104704398-11-3 FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

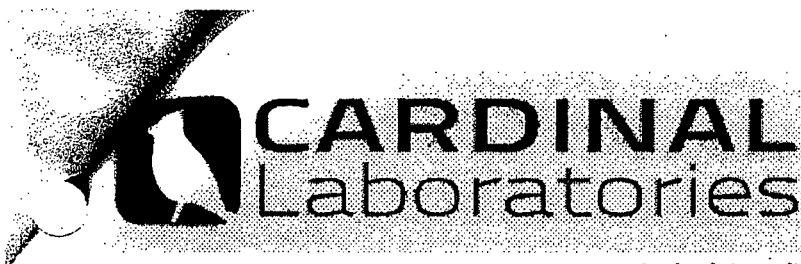
Chemist

Date



H200256BT2 IEI

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### Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 02/01/2011  
Reported: 02/04/2011  
Project Name: JFJ  
Project Number: 9475  
Project Location: NOT GIVEN

Sampling Date: 01/28/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

### Sample ID: PILE 758 (H100224-18)

BTEX 8021B		mg/kg	Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.099	0.050	02/02/2011	ND	2.21	111	2.00	5.26	
Toluene*	0.512	0.050	02/02/2011	ND	2.27	113	2.00	7.18	
Ethylbenzene*	0.193	0.050	02/02/2011	ND	2.32	116	2.00	8.13	
Total Xylenes*	2.16	0.150	02/02/2011	ND	6.86	114	6.00	7.52	

Surrogate: 4-Bromofluorobenzene (PIL) 96.9 % 70-130

[REDACTED]		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

TPH 8015M		mg/kg	Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	15.0	10.0	02/04/2011	ND	243	97.3	250	3.02	
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Surrogate: 1-Chlorooctane 89.6 % 70-130

Surrogate: 1-Chlorooctadecane 93.7 % 70-130

Cardinal Laboratories


\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager





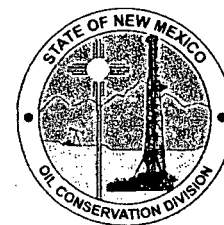
# New Mexico Energy, Minerals and Natural Resources Department

**Susana Martinez**  
Governor

**John H. Bemis**  
Cabinet Secretary-Designate

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey**  
Division Director  
Oil Conservation Division



November 17, 2011

Ms. Marcella Marquez  
JFJ Landfarm, L.L.C.  
Industrial Ecosystems Inc.  
Soil Reclamation Center  
P.O. Box 2043  
Farmington, New Mexico 87499

**RE: Request for Approval of On-Site Disposition of Remediated Soils**  
**JFJ Landfarm, LLC - Industrial Ecosystems Inc.**  
**JFJ Landfarm – Permit # NM1-010-B**  
**Location: NW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,**  
**San Juan County, New Mexico**

Dear Ms. Marquez:

The Oil Conservation Division (OCD) has reviewed JFJ Landfarm, LLC's (JFJ) request, dated November 10, 2011, for on-site disposition of remediated soils from the OCD permitted landfarm (Surface Waste Management Facility Permit # NM-1-0010B) to be utilized to "build up" the west portion of the existing facility property, located in NW/4 SE/4 of Section 2, Township 29 North, Range 12 West NMPM, San Juan County, New Mexico. OCD has reviewed the analytical results to reuse the remediated soils from the following biopile(s):

<i>Pile # 715</i>	<i>Pile # 728</i>
<i>Pile # 719</i>	<i>Pile # 734</i>
<i>Pile # 724</i>	<i>Pile # 736</i>

Based upon the information provided, the above-referenced biopiles are hereby approved for reuse with the following understandings and conditions:

1. JFJ has demonstrated that the proposed soils for reuse satisfy the TPH, BTEX, and Benzene concentrations specified in Condition 17 of the Landfarm and Composting Operations section of your February 3, 2004 surface waste management facility permit (NM1-010-B);
2. JFJ shall obtain legal authority from the surface owner prior to placement of the remediated soils for reuse; and

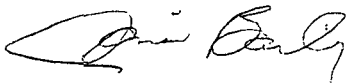
Ms. Marquez  
JFJ Landfarm, LLC  
Permit NM1-010-B  
November 17, 2011  
Page 2 of 2

3. JFJ shall ensure that remediated soils are reused in a manner that prevents the contamination of ground water and surface water, and protects human health and the environment.

Please be advised that approval of this request does not relieve JFJ of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve JFJ of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Mr. Brad A. Jones of my staff at (505) 476-3487 or [brad.a.jones@state.nm.us](mailto:brad.a.jones@state.nm.us).

Sincerely,



Jami Bailey  
Director

JB/baj

cc: OCD District III Office, Aztec

**Jones, Brad A., EMNRD**

---

**From:** Marcella Marquez [marcella@industrialecosystems.com]  
**Sent:** Thursday, November 10, 2011 3:06 PM  
**To:** Jones, Brad A., EMNRD  
**Cc:** 'Terry Lattin'  
**Subject:** Request to Reuse Treated Soils  
**Attachments:** Letter to request reuse of treated soils on facility.doc; Pile 736.pdf; Pile 715.pdf; Pile 719.pdf; Pile 724.pdf; Pile 728.pdf; Pile 734.pdf

Brad:

Please see attached letter and corresponding analytical reports.

*Thanks,  
Marcella Marquez, HSE Administrator  
Industrial Ecosystems, Inc.  
Phone: (505) 632-1782  
Fax: (505) 632-1876 or (505) 334-1003*



**Industrial Ecosystems Inc.  
Soil Reclamation Center**

P.O. Box 2043  
Farmington, NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec, NM 87410

---

November 16, 2011

Brad Jones, Environmental Engineer  
NM Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: JFJ Landfarm Permit # NM01-0010B  
Disposition of Treated Soils

Dear Brad:

This letter is being submitted to you as a request to reuse/recycle treated soils. We are requesting approval to reuse/recycle treated soils within our property boundaries. The treated soils would be utilized to "build up" the West portion of the property.

Attached you will find the analytical reports showing the treated soils have reached acceptable permit levels for the following biopiles:

- Pile 715
- Pile 719
- Pile 724
- Pile 728
- Pile 734
- Pile 736

Respectfully Submitted,

A handwritten signature in cursive script that reads 'Marcella Marquez'.

Marcella Marquez  
HSE Administrator

Enclosures-Analytical Reports



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

### Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 08/20/2010  
Reported: 08/27/2010  
Project Name: JFJ  
Project Number: 9003  
Project Location: NOT GIVEN

Sampling Date: 08/19/2010  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

### Sample ID: 719 (H020680-04)

BTX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2010	ND	0.810	81.0	1.00	5.27	
Toluene*	<0.050	0.050	08/24/2010	ND	0.860	86.0	1.00	3.68	
Ethylbenzene*	<0.050	0.050	08/24/2010	ND	0.906	90.6	1.00	2.96	
Total Xylenes*	<0.150	0.150	08/24/2010	ND	2.65	88.2	3.00	3.89	

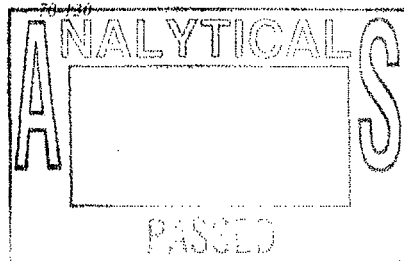
Surrogate: 4-Bromofluorobenzene (PF) 95.8 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	08/23/2010	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/24/2010	ND	162	81.2	200	0.699		
DRO >C10-C28	80.4	10.0	08/24/2010	ND	163	81.3	200	0.746		

Surrogate: 1-Chlorooctane 92.0 % 70-130

Surrogate: 1-Chlorodecane 96.1 % 70-130



Cardinal Laboratories

Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-3326 • 101 E. MARLAND • HOBBES, NM 88240

August 27, 2010

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 08/20/10 11:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Caley D. Keene  
Lab Director/Quality Manager



# CARDINAL Laboratories

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## Notes and Definitions

- S-01 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit.
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\* Insufficient time to reach temperature.
- Chloride by SM-4500CB does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet), unless otherwise noted on report.

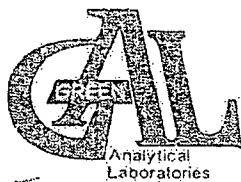
Cardinal Laboratories

\* = Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



## CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: I.E.I.  
Contact: Marcella  
Address: 49 CR 3150  
Aztec, NM 87410  
Phone Number: 505-632-1782  
FAX Number: 505-632-1896  
marcella@industrialecosystems.com

### NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 9003

Project Name: JFJ samples

### Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify)

FOR GAL USE ONLY

GAL JOB #

Samplers Signature: Robert R. [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments		
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous			Preservative(s)							
Sample ID	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)	
<u>H20680-</u>														
1. <u>Pile 716</u>	<u>8/19/10</u>	<u>7:40</u>	<u>RC</u>	<u>3</u>	<u>1</u>	<u>N</u>							<u>DRG 8015M</u>	
2. <u>Pile 722</u>		<u>8:00</u>											<u>GRG 8015M</u>	
3. <u>Pile 734</u>		<u>8:17</u>											<u>BTEX 8021B</u>	
4. <u>" 719</u>		<u>8:39</u>											<u>Chloride 300.0</u>	
5. <u>" 715</u>		<u>9:05</u>												
6. <u>" 721</u>		<u>9:27</u>												
7. <u>" 728</u>		<u>9:50</u>												
8. <u>" 736</u>		<u>10:23</u>												
9. <u>" 738</u>		<u>11:00</u>												
10. <u>" 724</u>		<u>11:29</u>												
Relinquished by: <u>Robert R. [Signature]</u>		Date: <u>8-19-10</u>	Time: <u>12:20</u>	Received by: <u>Marcella [Signature]</u>		Date: <u>8-19-10</u>	Time: <u>12:20</u>							
Relinquished by: <u>[Signature]</u>		Date: <u>8-19-10</u>	Time: <u>1:10</u>	Received by: <u>[Signature]</u>		Date: <u>8/19/10</u>	Time: <u>1:31</u>							

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 08/20/2010  
Reported: 08/27/2010  
Project Name: JFJ  
Project Number: 9003  
Project Location: NOT GIVEN

Sampling Date: 08/19/2010  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

BTEX 8021B

mg/kg

**Analyzed By: CK**

**S-04**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value (QC)	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2010	ND	0.810	81.0	1.00	5.27	
Toluene*	0.261	0.050	08/24/2010	ND	0.860	86.0	1.00	3.68	
Ethylbenzene*	0.060	0.050	08/24/2010	ND	0.906	90.6	1.00	2.96	
Total Xylenes*	0.522	0.150	08/24/2010	ND	2.65	88.2	3.00	3.89	

Surrogate: 4-Bromobenzotrifluoride (PIL)	130 %	80-120
--	-------	--------

Chloride, SM4500Cl-B

mg/kg

**Analyzed By: HM**

QM-07

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	08/23/2010	ND	432	108	400	0.00	

TPH 8015M

mg/kg

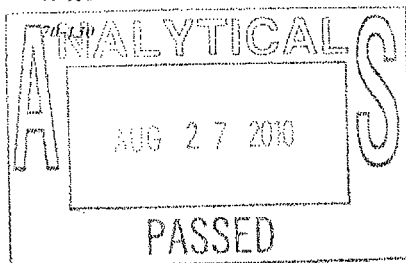
Analyzed By: AB

5-04

Analyte	Result	Reporting Unit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/25/2010	ND	162	81.2	200	0.699	
DRO >C10-C28	32.6	10.0	08/25/2010	ND	163	81.3	200	0.746	

Surrogate: 1-Chlorooctane	88.4%	70-130
---------------------------	-------	--------

Surrogate: 1-Chlorooctadecane	52.7%	716.330
-------------------------------	-------	---------



Cardinal Laboratories

\* = Accredited Analyte

[illegible]

Clegg & Kune

Celey D. Keene, Lab Director/Quality Manager



# CARDINAL Laboratories

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 27, 2010

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 08/20/10 11:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846-8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846-8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Caley D. Keene  
Lab Director/Quality Manager



# CARDINAL Laboratories

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NH 08240

## Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit.
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 5°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\* = Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



## CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: I.E.I.

Contact: Marcella

Address: 49 CR 3150

Aztec NM 87410

Phone Number: 505-632-1782

FAX Number: 505-632-1896

Marcella@industrialecosystems.com

### NOTES:

1) Ensure proper container packaging.

2) Ship samples promptly following collection.

3) Designate Sample Reject Disposition.

PO# 9003

Project Name: JFJ Samples

### Table 1. -- Matrix Type

1 = Surface Water, 2 = Ground Water

3 = Soil/Sediment, 4 = Rinsate, 5 = Oil

6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: Robert R. Johnson

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments		
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous			Preservative(s)							
Sample ID	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)	
<u>H20680-</u>														
1. <u>Pile 716</u>	<u>8/19/10</u>	<u>7:40</u>	<u>RC</u>	<u>W</u>	<u>1</u>	<u>2</u>							<u>DRG 8015M</u>	
2. <u>Pile 722</u>		<u>8:00</u>											<u>GRG 8015M</u>	
3. <u>Pile 734</u>		<u>8:17</u>											<u>BTEX 8021B</u>	
4. <u>" 719</u>		<u>8:39</u>											<u>Chloride 300.0</u>	
5. <u>" 715</u>		<u>9:05</u>												
6. <u>" 721</u>		<u>9:27</u>												
7. <u>" 728</u>		<u>9:50</u>												
8. <u>" 736</u>		<u>10:23</u>												
9. <u>" 738</u>		<u>11:00</u>												
10. <u>" 725</u>		<u>11:29</u>												
Relinquished by: <u>Robert R. Johnson</u>		Date: <u>8-19-10</u>	Time: <u>12:20</u>	Received by: <u>Marcella</u>		Date: <u>8-19-10</u>	Time: <u>12:20</u>							
Relinquished by: <u>Marcella</u>		Date: <u>8-19-10</u>	Time: <u>1:10</u>	Received by: <u>Marcella</u>		Date: <u>8/19/10</u>	Time: <u>1:31</u>							

\* Sample Reject: ☐ Return ☐ Dispose ☐ Store (30 Days)



PHONE (505) 393-2326 \* 101 E. MARLAND \* HOBBS, NM 88240

### Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 08/20/2010  
Reported: 08/27/2010  
Project Name: JFJ  
Project Number: 9003  
Project Location: NOT GIVEN

Sampling Date: 08/19/2010  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

Sample ID: **715 (H020680-05)**

BTEX 8021B

mg/kg

Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2010	ND	0.810	81.0	1.00	5.27	
Toluene*	<0.050	0.050	08/24/2010	ND	0.860	86.0	1.00	3.68	
Ethylbenzene*	<0.050	0.050	08/24/2010	ND	0.906	90.6	1.00	2.96	
Total Xylenes*	<0.150	0.150	08/24/2010	ND	2.65	88.2	3.00	3.89	

Surrogate: 4-Bromofluorobenzene (BFB) 100 % 30-120

Chloride, SM4500Cl-B

mg/kg

Analyzed By: HM

QM-07

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/23/2010	ND	432	108	400	0.00	

TPH 8015M

mg/kg

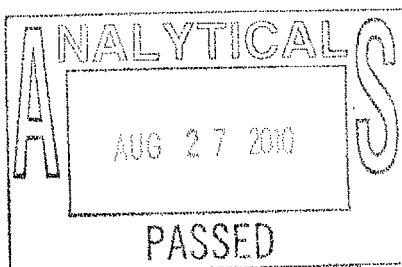
Analyzed By: AB

S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/24/2010	ND	162	81.2	200	0.699	
DRO >C10-C28	19.3	10.0	08/24/2010	ND	163	81.3	200	0.746	

Surrogate: 1-Chlorooctane 82.5 % 70-130

Surrogate: 1-Chlorooctadecane 44.6 % 70-130



Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and service is limited to the amount paid by client for analyses. All claims, including those for negligent and any other claims whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the analytical service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of data, or loss of profits resulting from third party negligence, employee or personnel errors, out of or related to the performance of the services rendered by Cardinal, regardless of whether such claim is caused in whole or in part by the actions of Cardinal or its employees. Results shall not be the subject of litigation. This report shall not be reproduced or used in any way without approval of Cardinal Laboratories.

*Coley D. Keene*

Coley D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 27, 2010

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 08/20/10 11:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021 Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260 Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005 Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)

Method EPA 524.2 Total Trihalomethanes (TTHM)

Method EPA 524.4 Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

## Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit.
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500C-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report.

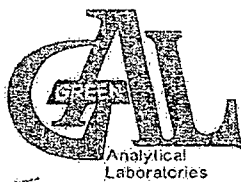
Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and claims exclusion remedy for any claim arising out of or from this report shall be limited to the amount paid by client for analysis. No claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or associates arising out of or from the performance of the services performed by Cardinal, regardless of whether such claim is based upon any of the above stated remedies or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



## CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: I.E.I.

Contact: Marcella

Address: 49 CR 3150

Aztec NM 87410

Phone Number: 505-632-1782

FAX Number: 505-632-1896

marcella@industrialecosystems.com

### NOTES:

1) Ensure proper container packaging.

2) Ship samples promptly following collection.

3) Designate Sample Reject Disposition.

PO# 9003

Project Name: JFJ samples

### Table 1. - Matrix Type

1 = Surface Water, 2 = Ground Water

3 = Soil/Sediment, 4 = Rinsate, 5 = Oil

6 = Waste, 7 = Other (Specify)

FOR GAL USE ONLY

GAL JOB #

Samplers Signature: Robert R. [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments		
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous			Preservative(s)							
Sample ID	Date	Time	Collected by: (Initia)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH		Other (Specify)	
<u>H20680-</u>														
1. <u>Pile 716</u>	<u>8/17/10</u>	<u>7:40</u>	<u>RC</u>	<u>W</u>	<u>1</u>	<u>2</u>							<u>DR 8015M</u>	
2. <u>Pile 722</u>		<u>8:00</u>											<u>GR 8015M</u>	
3. <u>Pile 734</u>		<u>8:17</u>											<u>BTEX 80216</u>	
4. <u>719</u>		<u>8:39</u>											<u>Chloride 300.0</u>	
5. <u>715</u>		<u>9:05</u>												
6. <u>721</u>		<u>9:27</u>												
7. <u>728</u>		<u>9:50</u>												
8. <u>736</u>		<u>10:23</u>												
9. <u>738</u>		<u>11:00</u>												
10. <u>725</u>		<u>11:29</u>												
Relinquished by: <u>Robert R. [Signature]</u>			Date: <u>8-19-10</u>	Time: <u>12:20</u>	Received by: <u>Marcella [Signature]</u>			Date: <u>8-19-10</u>	Time: <u>12:20</u>					
Relinquished by: <u>[Signature]</u>			Date: <u>8-19-10</u>	Time: <u>1:10</u>	Received by: <u>[Signature]</u>			Date: <u>8/19/10</u>	Time: <u>1:10</u>					

\* Sample Reject: ☐ Return ☐ Dispose ☐ Store (30 Days)

Jodi Benson  
GO. #071

8/28/10

Page 13 of 13





PHONE (575) 393-2326 • 101 E. HARLAND • HOBBS, NM 88240

### Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 08/20/2010  
Reported: 08/27/2010  
Project Name: JFJ  
Project Number: 9003  
Project Location: NOT GIVEN

Sampling Date: 08/19/2010  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

Sample ID: 7247 (HD20680-10)

BTEX 8021B

mg/kg

Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2010	ND	0.810	81.0	1.00	5.27	
Toluene*	<0.050	0.050	08/24/2010	ND	0.860	86.0	1.00	3.68	
Ethylbenzene*	<0.050	0.050	08/24/2010	ND	0.906	90.6	1.00	2.96	
Total Xylenes*	<0.150	0.150	08/24/2010	ND	2.65	88.2	3.00	3.89	

Surrogate: 4-Bromofluorobenzene (PIL) 99.7 % 50-120

Chloride, SM4500Cl-B

mg/kg

Analyzed By: HM

QM-07

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/23/2010	ND	432	108	400	0.00	

TPH 8015M

mg/kg

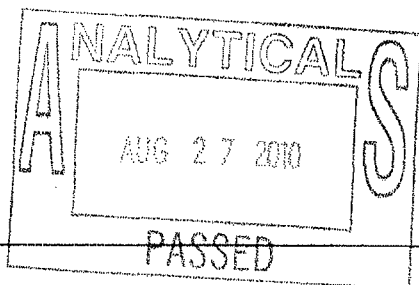
Analyzed By: AB

S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/25/2010	ND	162	61.2	200	0.699	
DRO >C10-C28	28.5	10.0	08/25/2010	ND	163	81.3	200	0.746	

Surrogate: 1-Chlorooctane 50.9 % 20-130

Surrogate: 1-Chlorotetradecane 42.6 % 70-110



Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Cardinal Laboratories and its staff are not responsible for any data errors, whether caused in whole or in part by the client, due to the client's failure to provide accurate information. All data are subject to the accuracy of the information provided by the client. Cardinal Laboratories and its staff are not responsible for any data errors, whether caused in whole or in part by the client, due to the client's failure to provide accurate information. All data are subject to the accuracy of the information provided by the client. Cardinal Laboratories and its staff are not responsible for any data errors, whether caused in whole or in part by the client, due to the client's failure to provide accurate information. All data are subject to the accuracy of the information provided by the client.

*Coley D. Keene*

Coley D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 27, 2010

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 08/20/10 11:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. HARRISON • HOBBS, NM 88240

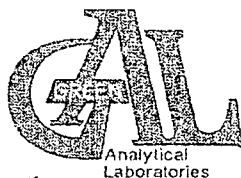
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

† = Accredited Analyte

[illegible]

C. L. Kline

Celey D. Keene, Lab Director/Quality Manager



## CHAIN OF CUSTODY RECORD

Page 1 of 1Client: I.E.I.Contact: MarcellaAddress: 49 CA 3150Aztec, NM 87410Phone Number: 505-632-1782FAX Number: 505-632-1816

marcella@industrialecosystems.com

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 9003Project Name: JFJ samples

## Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: Robert R. [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4225 FAX (970) 247-4227		Analyses Required										Comments					
Sample ID	Collection		Miscellaneous			Preservative(s)					DRO 8015M		GRO 8015M	BTX 8021B	Chloride 300.0		
	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4						NAOH	Other (Specify)
H20680-																	
1. Pile 716	8/19/10	7:40	RC	3	1	2											
2. Pile 722		8:00															
3. Pile 731		8:17															
4. " 719		8:39															
5. " 715		9:05															
6. " 721		9:27															
7. " 728		9:50															
8. " 736		10:23															
9. " 738		11:00															
10. " 724		11:39															
Relinquished by: <u>Robert R. [Signature]</u>		Date: <u>8-19-10</u>	Time: <u>12:20</u>	Received by: <u>Marcella [Signature]</u>		Date: <u>8-19-10</u>	Time: <u>12:20</u>										
Relinquished by: <u>[Signature]</u>		Date: <u>8-19-10</u>	Time: <u>1:10</u>	Received by: <u>[Signature]</u>		Date: <u>8/19/10</u>	Time: <u>1:10</u>										

\* Sample Reject: ☐ Return ☐ Dispose ☐ Store (30 Days)



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 08/20/2010  
Reported: 08/27/2010  
Project Name: JFJ  
Project Number: 9003  
Project Location: NOT GIVEN

Sampling Date: 08/19/2010  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

Sample ID: 728 (H020680-07)

BTEX 80218		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2010	ND	0.810	81.0	1.00	5.27	
Toluene*	0.251	0.050	08/24/2010	ND	0.860	86.0	1.00	3.68	
Ethylbenzene*	0.068	0.050	08/24/2010	ND	0.906	90.6	1.00	2.96	
Total Xylenes*	0.571	0.150	08/24/2010	ND	2.65	88.2	3.00	3.89	

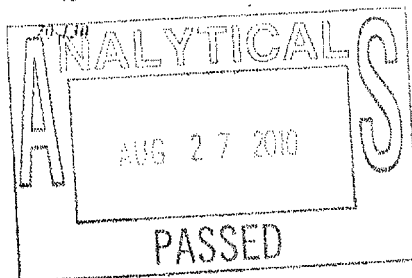
Surrogate: 4-Bromofluorobenzene (77)	101%	86-120
--------------------------------------	------	--------

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					QM-07	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	Total Value QC	RPD	Qualifier	
Chloride	256	16.0	08/23/2010	ND	-432	108	400	0.00		

TPH 8015M	mg/kg		Analyzed By: AB					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	Trat Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/25/2010	ND	162	81.2	200	0.699	
DRO >C10-C28	49.4	10.0	08/25/2010	ND	163	81.3	200	0.746	

Surrogate: 1-Chlorooctane	92.1 %	70.130
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Surrogate: 1-Chlorooctadecane 55.9% 17.71



## Cardinal Laboratories

\*=Accredited Analyte

[illegible]

Clay L. Kunc

Celcy D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 27, 2010

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 08/20/10 11:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846-8021 Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846-8260 Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005 Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)

Method EPA 524.2 Total Trihalomethanes (TTHM)

Method EPA 524.4 Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Coley D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

### Notes and Definitions

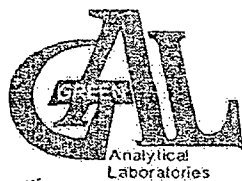
- S-01 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QN-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit.
- RPD Relative Percent Difference
- \*\*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- \*\*\* Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- \*\*\* Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



## CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: I.E.I.  
Contact: Marcella  
Address: 49 CR 3150  
Aztec, NM 87410  
Phone Number: 505-632-1782  
FAX Number: 505-632-1896  
marcella@industrialecosystems.com

### NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 9003

Project Name: JFJ samples

### Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: Robert R. [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4226 FAX (970) 247-4227		Analyses Required										Comments		
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous			Preservative(s)							
Sample ID	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)	
<u>H20680-</u>														
1. <u>Pile 716</u>	<u>8/19/10</u>	<u>7:40</u>	<u>RC</u>	<u>5</u>	<u>1</u>	<u>2</u>							<u>DRO 8015M</u>	
2. <u>Pile 722</u>		<u>8:00</u>											<u>GRO 8015M</u>	
3. <u>Pile 731</u>		<u>8:17</u>											<u>BTEX 80210</u>	
4. <u>719</u>		<u>8:39</u>											<u>Chloride 300.0</u>	
5. <u>715</u>		<u>9:05</u>												
6. <u>721</u>		<u>9:27</u>												
7. <u>728</u>		<u>9:50</u>												
8. <u>736</u>		<u>10:23</u>												
9. <u>738</u>		<u>11:00</u>												
10. <u>725</u>		<u>11:29</u>												
Relinquished by: <u>[Signature]</u>		Date: <u>8-19-10</u>	Time: <u>5:20</u>	Received by: <u>[Signature]</u>		Date: <u>8-19-10</u>	Time: <u>12:20</u>							
Relinquished by: <u>[Signature]</u>		Date: <u>8-19-10</u>	Time: <u>1:10</u>	Received by: <u>[Signature]</u>		Date: <u>8/19/10</u>	Time: <u>1:31</u>							

\* Sample Reject: | | Return | | Dispose | | Store (30 Days)





PHONE (575) 393-2326 \* 101 E. MARLAND \* HOBBS, NM 88240

### Analytical Results For:

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 08/20/2010  
Reported: 08/27/2010  
Project Name: JFJ  
Project Number: 9003  
Project Location: NOT GIVEN

Sampling Date: 08/19/2010  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

Sample ID: **734 (R020680-03)**

BTEX 8021B

mg/kg

Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2010	ND	0.810	81.0	1.00	5.27	
Toluene*	<0.050	0.050	08/24/2010	ND	0.860	86.0	1.00	3.68	
Ethylbenzene*	<0.050	0.050	08/24/2010	ND	0.906	90.6	1.00	2.96	
Total Xylenes*	<0.150	0.150	08/24/2010	ND	2.65	88.2	3.00	3.89	

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 80-120

Chloride, SM4500Cl-B

mg/kg

Analyzed By: HM

QM-07

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/23/2010	ND	432	108	400	0.00	

TPH 8015M

mg/kg

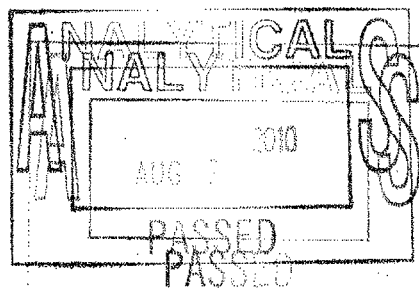
Analyzed By: AB

S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/24/2010	ND	162	81.2	200	0.699	
DRO >C10-C28	47.6	10.0	08/24/2010	ND	163	81.3	200	0.746	

Surrogate: 1-Chlorooctane 91.2 % 70-130

Surrogate: 1-Chlorodecane 55.2 % 70-130



Cardinal Laboratories

\*=Accredited Analyte

Warranty: Cardinal Laboratories, Inc. warrants that the results reported herein were obtained in accordance with the methods specified in the contract and that the results are a true and accurate representation of the sample as received. This warranty is limited to the amount paid by client for analysis. No warranty is made for negligence and any other cause whatsoever that the results were obtained in testing and received by Cardinal within thirty (30) days after completion of the analytical service. In no event shall Cardinal be liable for personal or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits, resulting from the use of the results reported herein. Results are not to be used for any purpose other than the purpose intended. This report shall not be reproduced or used in any way without the written approval of Cardinal Laboratories.

*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 27, 2010

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 08/20/10 11:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846.8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846.8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T10470-4398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager



**CARDINAL**  
Laboratories

PHONE (575) 393-2326 • 101 E. HARLAND • HOBBS, NH 88240

### Notes and Definitions

- S-01** The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QM-07** The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND** Analyte NOT DETECTED at or above the reporting limit.
- RPD** Relative Percent Difference
- \*\*** Samples not received at proper temperature of 6°C or below.
- \*\*\*** Insufficient time to reach temperature.
- \*\*\*** Chloride by SM-4500CI-B does not require samples be received at or below 6°C
- \*\*\*** Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



## CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: I.E.I.  
Contact: Marcella  
Address: 49 CR 3150  
Aztec NM 87410  
Phone Number: 505-632-1782  
FAX Number: 505-632-1896  
marcella@industrialecosystems.com

### NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 9003

Project Name: JFJ samples

### Table 1. - Matrix Type.

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify)

FOR GAL USE ONLY

GAL JOB #

Samplers Signature: Robert Kelson

Lab Name: Green Analytical Laboratories		(970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments
Address: 75 Suttle Street, Durango, CO 81303														
Sample ID	Date	Time	Collected by: (init)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH	Other (Specify)		
H20680-														
1. Pile 716	8/19/10	7:40	RC	W	1	2							DR 8015M	
2. Pile 722		8:00											GR 8015M	
3. Pile 734		8:17											BTEX 80210	
4. " 719		8:39											Chloride 300.0	
5. " 715		9:05												
6. " 721		9:27												
7. " 728		9:50												
8. " 736		10:23												
9. " 738		11:00												
10. " 724		11:29												
Relinquished by: <u>Robert Kelson</u>			Date: <u>8-19-10</u>	Time: <u>2:20</u>	Received by: <u>Marcella</u>			Date: <u>8-19-10</u>	Time: <u>10:20</u>					
Relinquished by: <u>Marcella</u>			Date: <u>8-19-10</u>	Time: <u>1:10</u>	Received by: <u>Marcella</u>			Date: <u>8/19/10</u>	Time: <u>1:31</u>					

\* Sample Reject: | | Return | | Dispose | | Store (30 Days)

John Benson  
G.D.A. H.17.1

8/20/10 11:15

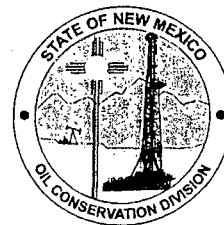
# New Mexico Energy, Minerals and Natural Resources Department

**Susana Martinez**  
Governor

**John H. Bemis**  
Cabinet Secretary-Designate

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey**  
Division Director  
Oil Conservation Division



October 6, 2011

Ms. Marcella Marquez  
JFJ Landfarm, L.L.C.  
Industrial Ecosystems Inc.  
Soil Reclamation Center  
P.O. Box 2043  
Farmington, New Mexico 87499

**RE: Request for Approval of On-Site Disposition of Remediated Soils**  
**JFJ Landfarm, LLC - Industrial Ecosystems Inc.**  
**JFJ Landfarm – Permit # NM1-010-B**  
**Location: NW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,**  
**San Juan County, New Mexico**

Dear Ms. Marquez:

The Oil Conservation Division (OCD) has reviewed JFJ Landfarm, LLC's (JFJ) request, dated October 5, 2011, for on-site disposition of remediated soils from the OCD permitted landfarm (Surface Waste Management Facility Permit # NM-1-0010B) to be utilized at the proposed Crowe Blanco Landfarm, located in Section 16, Township 29 North, Range 9 West NMPM, San Juan County, New Mexico. OCD has reviewed the analytical results to reuse the remediated soils from the following biopile(s):

*Pile # 737*

Based upon the information provided, the above-referenced biopiles are hereby approved for reuse with the following understandings and conditions:

1. JFJ has demonstrated that the proposed soils for reuse satisfy the TPH, BTEX, and Benzene concentrations specified in Condition 17 of the Landfarm and Composting Operations section of your February 3, 2004 surface waste management facility permit (NM1-010-B);
2. JFJ shall obtain legal authority from the surface owner prior to placement of the remediated soils for reuse; and

3. JFJ shall ensure that remediated soils are reused in a manner that prevents the contamination of ground water and surface, and protects human health and the environment.

Please be advised that approval of this request does not relieve JFJ of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve JFJ of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Mr. Brad A. Jones of my staff at (505) 476-3487 or [brad.a.jones@state.nm.us](mailto:brad.a.jones@state.nm.us).

Sincerely,



Jami Bailey  
Director

JB/baj

cc: OCD District III Office, Aztec

**Jones, Brad A., EMNRD**

---

**From:** Marcella Marquez [marcella@industrialecosystems.com]  
**Sent:** Wednesday, October 05, 2011 11:23 AM  
**To:** Jones, Brad A., EMNRD  
**Cc:** 'Terry Lattin'  
**Subject:** Pile 737  
**Attachments:** 2450\_0001.pdf; Letter to remove treated soils to Blanco facility.doc

Brad:

Please see attached request to remove treated soils from the JFJ Landfarm to the Blanco property along with the corresponding analytical reports.

Please let me know if you have any questions or if additional information is needed.

*Thanks,  
Marcella Marquez, HSE Administrator  
Industrial Ecosystems, Inc.  
Phone: (505) 632-1782  
Fax: (505) 632-1876 or (505) 334-1003*

---



**Industrial Ecosystems Inc.  
Soil Reclamation Center**

P.O. Box 2043  
Farmington, NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec, NM 87410

---

October 6, 2011

Brad Jones  
NM Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: JFJ Landfarm Permit # NM01-0010B  
Disposition of Treated Soils

Dear Brad:

As per our meeting on 08/18/11, this letter is being submitted to you as a request to remove treated soils from the JFJ Landfarm to be reused/recycled at our property in Blanco (Sec-16, T-29N, R-09W).

Attached you will find the analytical reports showing the treated soils have reached acceptable permit levels for the following biopiles:

- Pile 737

Respectfully Submitted,

A handwritten signature in cursive script that reads 'Marcella Marquez'.

Marcella Marquez  
HSE Administrator

{ Attachments }





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

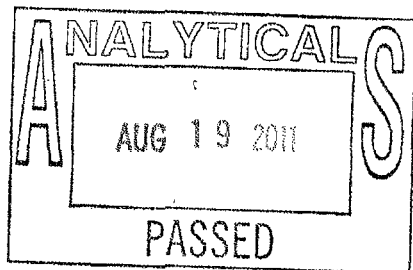
INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 08/17/2011  
Reported: 08/19/2011  
Project Name: JFJ  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/16/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: PILE 737 (H101727-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/17/2011	ND	432	108	400	3.77	
TPH 418.1		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	08/18/2011	ND	1060	97.2	1090	1.90	



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*Hope S. Moreno*

Hope Moreno, Inorganic Technical Director



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 19, 2011

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 08/17/11 9:45.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Hope Moreno

Inorganic Technical Director

**Notes and Definitions**

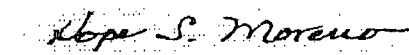
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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\*=Accredited Analyte

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\_\_\_\_\_  
Hope Moreno, Inorganic Technical Director



# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: IEI  
 Contact: Marcella  
 Address: 49 CR 3150  
Aztec, NM 87410  
 Phone Number: 505-632-1782  
 FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 9897

Project Name: JFJ

## Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
 6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments	
Address: 75 Suttle Street, Durango, CO 81303													
Sample ID	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)
H101727													
1. Pile 595	8/16	10:47	CT	3	1	N							TPH 418.1
2. Pile 723		11:21											BTEX 8021B
3. Pile 737		11:55											Chlorides 3000
4. Pile 743		1:12											
5. Pile 762		1:40											
6.													
7.													
8.													
9.													
10.													

Relinquished by: <u>[Signature]</u>	Date: <u>8/16/11</u>	Time: <u>1:45</u>	Received by: <u>Margay</u>	Date: <u>8/16/11</u>	Time: <u>1:45</u>
Relinquished by: <u>M. Margay</u>	Date: <u>8/16/11</u>	Time: <u>1:46</u>	Received by: <u>M. Margay</u>	Date: <u>8/16/11</u>	Time: <u>1:46</u>

\* Sample Reject: ☐ Return ☒ Dispose ☐ Store (30 Days)

4'c #26 God Jensen 8/17/11 9:45

[Signature] 8/16/11 3:50 Christa Chau



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410

Project: JFJ  
Project Number: 9994  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876

Reported:  
01-Oct-11 15:55

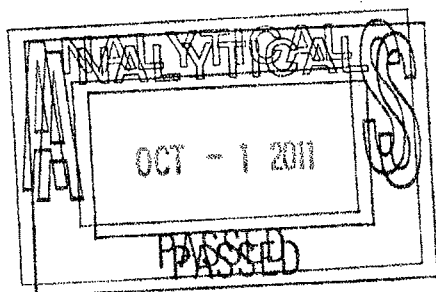
**PILE 737  
H102090-10 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	---------	----------	--------	-------

**Cardinal Laboratories**

**Organic Compounds**

Benzene	ND	0.050	mg/kg	50	1092901	CMS	30-Sep-11	8260B	
Toluene	ND	0.050	mg/kg	50	1092901	CMS	30-Sep-11	8260B	
Ethylbenzene	ND	0.050	mg/kg	50	1092901	CMS	30-Sep-11	8260B	
Total Xylenes	ND	0.150	mg/kg	50	1092901	CMS	30-Sep-11	8260B	
Surrogate: Dibromofluoromethane		80.6 %	61.3-142		1092901	CMS	30-Sep-11	8260B	
Surrogate: Toluene-d8		103 %	71.3-129		1092901	CMS	30-Sep-11	8260B	
Surrogate: 4-Bromofluorobenzene		114 %	65.7-141		1092901	CMS	30-Sep-11	8260B	



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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

October 01, 2011

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 09/29/11 10:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

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Sincerely,

A handwritten signature in cursive script that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 9994  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
01-Oct-11 15:55**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1092901 - Volatiles</b>										
<b>Blank (1092901-BLK1)</b>				Prepared & Analyzed: 29-Sep-11						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Surrogate: Dibromofluoromethane	0.571		mg/kg	0.500		114	61.3-142			
Surrogate: Toluene-d8	0.493		mg/kg	0.500		98.7	71.3-129			
Surrogate: 4-Bromofluorobenzene	0.381		mg/kg	0.500		76.1	65.7-141			
<b>LCS (1092901-BS1)</b>				Prepared & Analyzed: 29-Sep-11						
Benzene	2.27	0.050	mg/kg	2.00		114	76.8-122			
Toluene	2.36	0.050	mg/kg	2.00		118	73.1-129			
Ethylbenzene	2.48	0.050	mg/kg	2.00		124	72.8-128			
m+p - Xylene	5.42	0.100	mg/kg				69.4-129			
o-Xylene	2.27	0.050	mg/kg	2.00		114	70.3-126			
Total Xylenes	7.69	0.150	mg/kg	6.00		128	72-127			
Surrogate: Dibromofluoromethane	0.456		mg/kg	0.500		91.2	61.3-142			
Surrogate: Toluene-d8	0.486		mg/kg	0.500		97.2	71.3-129			
Surrogate: 4-Bromofluorobenzene	0.456		mg/kg	0.500		91.1	65.7-141			
<b>LCS Dup (1092901-BSD1)</b>				Prepared & Analyzed: 29-Sep-11						
Benzene	2.36	0.050	mg/kg	2.00		118	76.8-122	3.86	18.7	
Toluene	2.39	0.050	mg/kg	2.00		120	73.1-129	1.47	19.4	
Ethylbenzene	2.55	0.050	mg/kg	2.00		127	72.8-128	2.67	21.8	
m+p - Xylene	5.60	0.100	mg/kg				69.4-129	3.14	25.3	
Total Xylenes	7.93	0.150	mg/kg	6.00		132	72-127	3.08	23.2	
o-Xylene	2.34	0.050	mg/kg	2.00		117	70.3-126	2.92	23.6	
Surrogate: Dibromofluoromethane	0.463		mg/kg	0.500		92.6	61.3-142			
Surrogate: Toluene-d8	0.481		mg/kg	0.500		96.2	71.3-129			
Surrogate: 4-Bromofluorobenzene	0.443		mg/kg	0.500		88.7	65.7-141			

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC NM, 87410Project: JFJ  
Project Number: 9994  
Project Manager: MARCELLA MARQUEZ  
Fax To: (505) 632-1876Reported:  
01-Oct-11 15:55**Organic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1092903 - General Prep - Organics</b>									
<b>Blank (1092903-BLK1)</b>									
					Prepared & Analyzed: 29-Sep-11				
TPH 418.1	ND	10.0	mg/kg						
<b>LCS (1092903-BS1)</b>									
					Prepared & Analyzed: 29-Sep-11				
TPH 418.1	1060	10.0	mg/kg	1090		97.2	80-120		
<b>LCS Dup (1092903-BSD1)</b>									
					Prepared & Analyzed: 29-Sep-11				
TPH 418.1	1100	10.0	mg/kg	1090		101	80-120	3.70	20

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

### Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit  
RPD Relative Percent Difference  
\*\* Samples not received at proper temperature of 6°C or below.  
\*\*\* Insufficient time to reach temperature.  
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: IFI  
 Contact: Marcella  
 Address: 49 CR 3150  
Aztec, NM 87410  
 Phone Number: 505 632-1782  
 FAX Number: 505 632-1876

## NOTES:

- 1) Ensure proper container packaging.
  - 2) Ship samples promptly following collection.
  - 3) Designate Sample Reject Disposition.
- PO# 9994  
 Project Name: JFJ

## Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
 6 = Waste, 7 = Other (Specify)

FOR GAL USE ONLY  
 GAL JOB #

Samplers Signature: [Signature]


Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments		
Address: 75 Suttle Street, Durango, CO 81303														
Sample ID	Collection	Miscellaneous			Preservative(s)									
	Date	Time	Collected by: (init.)	Matrix Type (From Table 1)	No. of Containers	Sample Filtered? Y/N	Unpreserved (See Only)	HNO3	HCL	H2SO4	NaOH	Other (Specify)		
H1020090														
1. PLU	9/28/11	7:20	CT	3	1	N							TPH 418.1	BTEX 8021B
2. "		7:40												
3. "		7:55												
4. "		8:10												
5. "		8:30												
6. "		8:55												
7. "		9:15												
8. "		9:40												
9. "		10:25												
10. " #37	✓	11:00	✓	✓	✓	✓								

Please put results of each pile on its own sheet.

Relinquished by: [Signature] Date: 9/28/11 Time: 11:05 Received by: [Signature] Date: 9/28/11 Time: 11:05  
 Relinquished by: [Signature] Date: 9/28/11 Time: 11:56 Received by: [Signature] Date: 9/28/11 Time: 11:56

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

[Signature] 9/29/11



# New Mexico Energy, Minerals and Natural Resources Department

**Susana Martinez**  
Governor

**John H. Bemis**  
Cabinet Secretary-Designate

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey**  
Division Director  
Oil Conservation Division



August 25, 2011

Ms. Marcella Marquez  
JFJ Landfarm, L.L.C.  
Industrial Ecosystems Inc.  
Soil Reclamation Center  
P.O. Box 2043  
Farmington, New Mexico 87499

**RE: Request for Approval of On-Site Disposition of Remediated Soils**  
**JFJ Landfarm, LLC - Industrial Ecosystems Inc.**  
**JFJ Landfarm – Permit # NM1-010-B**  
**Location: NW/4 SE/4 of Section 2, Township 29 North, Range 12 West, NMPM,**  
**San Juan County, New Mexico**

Dear Ms. Marquez:

The Oil Conservation Division (OCD) has reviewed JFJ Landfarm, LLC's (JFJ) request, dated August 25, 2011, for on-site disposition of remediated soils from the OCD permitted landfarm (Surface Waste Management Facility Permit # NM-1-0010B) to be utilized at the proposed Crowe Blanco Landfarm, located in Section 16, Township 29 North, Range 9 West NMPM, San Juan County, New Mexico. OCD has reviewed the analytical results to reuse the remediated soils from the following biopile(s):

*Pile # 743*  
*Pile # 762*

Based upon the information provided, the above-referenced biopiles are hereby approved for reuse with the following understandings and conditions:

1. JFJ has demonstrated that the proposed soils for reuse satisfy the TPH, BTEX, and Benzene concentrations specified in Condition 17 of the Landfarm and Composting Operations section of your February 3, 2004 surface waste management facility permit (NM1-010-B);
2. JFJ shall obtain legal authority from the surface owner prior to placement of the remediated soils for reuse; and

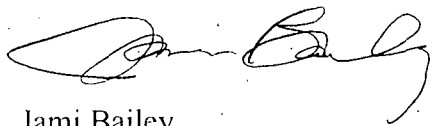
Ms. Marquez  
JFJ Landfarm, LLC  
Permit NM1-010-B  
August 25, 2011  
Page 2 of 2

3. JFJ shall ensure that remediated soils are reused in a manner that prevents the contamination of ground water and surface, and protects human health and the environment.

Please be advised that approval of this request does not relieve JFJ of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve JFJ of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If there are any questions regarding this matter, please do not hesitate to contact Mr. Brad A. Jones of my staff at (505) 476-3487 or [brad.a.jones@state.nm.us](mailto:brad.a.jones@state.nm.us).

Sincerely,



Jami Bailey  
Director

JB/baj

cc: OCD District III Office, Aztec

**Jones, Brad A., EMNRD**

---

**From:** Marcella Marquez [marcella@industrialecosystems.com]  
**Sent:** Thursday, August 25, 2011 1:15 PM  
**To:** Jones, Brad A., EMNRD  
**Cc:** Bailey, Jami, EMNRD  
**Subject:** Letter to remove treated soils to Blanco facility  
**Attachments:** Letter to remove treated soils to Blanco facility.doc; Pile 743 Analyticals.pdf; Pile 762 Analyticals.pdf

Brad:

Please see attached request to remove treated soils from the JFJ Landfarm to the Blanco property along with the corresponding analytical reports.

Please let me know if you have any questions or if additional information is needed.

Thanks,  
Marcella  
Industrial Ecosystems, Inc.



**Industrial Ecosystems Inc.  
Soil Reclamation Center**

P.O. Box 2043  
Farmington, NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec, NM 87410

---

August 25, 2011

Brad Jones  
NM Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: JFJ Landfarm Permit # NM01-0010B  
Disposition of Treated Soils

Dear Brad:

As per our meeting on 08/18/11, this letter is being submitted to you as a request to remove treated soils from the JFJ Landfarm to be reused/recycled at our property in Blanco (Sec-16, T-29N, R-09W).

Attached you will find the analytical reports showing the treated soils have reached acceptable permit levels for the following biopiles:

- Pile 743
- Pile 762

Respectfully Submitted,

A handwritten signature in cursive script that reads 'Marcella Marquez'.

Marcella Marquez  
HSE Administrator

{Attachments}



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 08/17/2011  
Reported: 08/19/2011  
Project Name: JFJ  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/16/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: PILE 762 (H101727-05)**

BTEX 8021B		mg/kg		Analyzed By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/18/2011	ND	1.99	99.3	2.00	6.77	
Toluene*	<0.050	0.050	08/18/2011	ND	1.90	95.0	2.00	7.27	
Ethylbenzene*	<0.050	0.050	08/18/2011	ND	1.94	97.2	2.00	7.93	
Total Xylenes*	<0.150	0.150	08/18/2011	ND	5.77	96.2	6.00	8.20	

Surrogate: 4-Bromofluorobenzene (PIL) 102 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/17/2011	ND	432	108	400	3.77	

TPH 418.1		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	08/18/2011	ND	1060	97.2	1090	1.90	

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*Hope S. Moreno*

Hope Moreno, Inorganic Technical Director



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August 19, 2011

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 08/17/11 9:45.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Hope Moreno

Inorganic Technical Director





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

### Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit  
RPD Relative Percent Difference  
\*\* Samples not received at proper temperature of 6°C or below.  
\*\*\* Insufficient time to reach temperature.  
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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*Hope S. Moreno*

Hope Moreno, Inorganic Technical Director



# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: IEI  
 Contact: Marcella  
 Address: 49 CR 3150  
Q2tec, NM 87410  
 Phone Number: 505-632-1782  
 FAX Number: 505-632-1876

## NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 9897

Project Name: JFJ

## Table 1. - Matrix Type

- 1 = Surface Water; 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinseate, 5 = Oil  
 6 = Waste, 7 = Other (Specify)

FOR GAL USE ONLY

GAL JOB #

Sampler's Signature: [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments	
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous			Preservative(s)						
Sample ID	Date	Time	Collected by: (init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)
H101727													
1. Pile 595	8/16	10:47	CT	3	1	N							TPH 418.1
2. Pile 723		11:21											BTEX 8021B
3. Pile 737		11:55											Chlorides 3000
4. Pile 743		1:12											
5. Pile 762		1:40											
6.													
7.													
8.													
9.													
10.													
Relinquished by: <u>[Signature]</u>		Date: <u>8/16/11</u>	Time: <u>1:45</u>	Received by: <u>[Signature]</u>		Date: <u>8/16/11</u>	Time: <u>1:45</u>						
Relinquished by: <u>[Signature]</u>		Date: <u>8/16/11</u>	Time: <u>1:46</u>	Received by: <u>[Signature]</u>		Date: <u>8/16/11</u>	Time: <u>1:46</u>						

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

4'c #26 [Signature] 8/17/11 9:45

[Signature] 8/16/11 5:00 [Signature] Christina Clau



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 08/17/2011  
Reported: 08/19/2011  
Project Name: JFJ  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/16/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: PILE 743 (H101727-04)**

TPH 418.1		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TPH 418.1	<100	100	08/18/2011	ND	1060	97.2	1090	1.90		

Cardinal Laboratories

\*=Accredited Analyte

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*Hope S. Moreno*

Hope Moreno, Inorganic Technical Director



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 19, 2011

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

Enclosed are the results of analyses for samples received by the laboratory on 08/17/11 9:45.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Hope Moreno

Inorganic Technical Director



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

### Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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*Hope S. Moreno*

Hope Moreno, Inorganic Technical Director



## CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: IEI  
Contact: Marcella  
Address: 49 CR 3150  
Greer, NM 87410  
Phone Number: 505.632-1782  
FAX Number: 505-632-1876

### NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 9897  
Project Name: JFJ

### Table 1. - Matrix Type

1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments		
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous			Preservative(s)							
Sample ID	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)	
H101727														
1. Pile 595	8/16	10:47	CT	3		N							TPH 418.1	
2. Pile 723		11:21											BTEX 8021B	
3. Pile 737		11:55											Chlorides 3000	
4. Pile 743		1:12												
5. Pile 762		1:40												
6.														
7.														
8.														
9.														
10.														
Relinquished by: <u>[Signature]</u>			Date: <u>8/16/11</u>	Time: <u>1:45</u>	Received by: <u>M. Margay</u>			Date: <u>8/16/11</u>	Time: <u>1:45</u>					
Relinquished by: <u>M. Margay</u>			Date: <u>8/16/11</u>	Time: <u>1:46</u>	Received by: <u>[Signature]</u>			Date: <u>8/16/11</u>	Time: <u>1:46</u>					

\* Sample Reject: ☐ Return ☒ Dispose ☐ Store (30 Days)

Godwinson 8/17/11  
4°C #26 9:45

[Signature] 8/16/11  
1500 Christa Chau

Page 6 of 6



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

INDUSTRIAL ECOSYSTEMS  
MARCELLA MARQUEZ  
49 CR 3150  
AZTEC NM, 87410  
Fax To: (505) 632-1876

Received: 06/22/2011  
Reported: 06/28/2011  
Project Name: JFJ  
Project Number: 9780  
Project Location: NOT GIVEN

Sampling Date: 06/21/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: PILE 743 (H101287-02)**

**BTEX 8260B**

mg/kg

Analyzed By: CMS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.061	0.050	06/23/2011	ND	2.10	105	2.00	21.9	
Toluene*	0.310	0.050	06/23/2011	ND	2.01	101	2.00	20.1	
Ethylbenzene*	0.107	0.050	06/23/2011	ND	1.94	97.2	2.00	23.2	
Total Xylenes*	0.874	0.150	06/23/2011	ND	5.84	97.4	6.00	24.8	

Surrogate: Dibromofluoromethane 74.7 % 80-120

Surrogate: Toluene-d8 98.3 % 80-120

Surrogate: 4-Bromofluorobenzene 111 % 80-120

**Chloride, SM4500Cl-B**

mg/kg

Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	06/22/2011	ND	464	116	400	7.14	

Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

June 28, 2011

MARCELLA MARQUEZ  
INDUSTRIAL ECOSYSTEMS  
49 CR 3150  
AZTEC, NM 87410

RE: JFJ

RECEIVED  
JUN 28 2011

Enclosed are the results of analyses for samples received by the laboratory on 06/22/11 10:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script, reading 'Celey D. Keene'.

Celey D. Keene

Lab Director/Quality Manager



**Notes and Definitions**

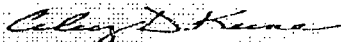
ND Analyte NOT DETECTED at or above the reporting limit  
RPD Relative Percent Difference  
\*\* Samples not received at proper temperature of 6°C or below.  
\*\*\* Insufficient time to reach temperature.  
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

---

**Cardinal Laboratories**

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



## CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: I.E.I.

Contact: Marcella

Address: 49 CR 3150

Atec, NM 87410

Phone Number: 632-1782

FAX Number: 632-1876

### NOTES

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# 9780

Project Name: JFJ Sampling

### Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: 9780 *Cheryl Taylor*

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments							
Address: 75 Suttle Street, Durango, CO 81303		Collection		Miscellaneous			Preservative(s)												
Sample ID	Date	Time	Collected by: (init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered? Y/N	Unpreserved (ice Only)	HNO3	HCL	H2SO4	NaOH		Other (Specify)						
<u>H101287</u>																			
1 <u>Pile # 586</u>	<u>04/21/11</u>	<u>9:25a</u>	<u>CT</u>	<u>3</u>	<u>1</u>	<u>N</u>							<u>DRO 8015M</u>	<u>✓</u>					
2 <u>Pile # 743</u>	<u>↓</u>	<u>9:50a</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>							<u>GRO 8015M</u>	<u>✓</u>	<u>✓</u>				
3 <u>Pile # 747</u>	<u>↓</u>	<u>10:21a</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>							<u>BTEX 8021B</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			
4 <u>Pile # 763</u>	<u>↓</u>	<u>11:05a</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>							<u>Chloride 300.0</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>			
5 <u>Pile # 765</u>	<u>↓</u>	<u>11:45a</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>								<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		
6																			
7																			
8																			
9																			
10																			
Relinquished by: <i>Cheryl Taylor</i>		Date: <u>6/21/11</u>	Time: <u>11:50</u>	Received by: <i>Marque</i>		Date: <u>6/21/11</u>	Time: <u>11:51</u>	Relinquished by: <i>Marque</i>		Date: <u>6/21/11</u>	Time: <u>11:52</u>	Received by: <i>Marque</i>		Date: <u>6/21/11</u>	Time: <u>11:52</u>				

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

*Revised 6/21/11 11:30* *Marque*

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*John Hanson 50 6/23/11 10:30 #26*