City of Broken Arrow
Meeting Agenda
Planning Commission

City of Broken Arrow
Council Chambers
220 S 1st Street
Broken Arrow OK
74012

Chairperson Fred Dorrell
Vice Chair Lee Whelpley
Member Ricky Jones
Member Carolyne Isbell-Carr
Member Mark Jones

Thursday, March 23, 2017 **5:00 PM** **Council Chambers**

1. Call To Order

2. Roll Call

3. Old Business

None

4. Consideration of Consent Agenda

A. 17-1987 Approval of Minutes, Planning Commission meeting held February 9, 2017

B. 17-1988 Approval of Minutes, Planning Commission meeting held March 9, 2017

C. 17-1923 Approval of BAL-2014CB, Riddle Property, 0.60 acres, 2 Lots, R-2 (Single Family Residential)/PUD 182, one-half mile south of New Orleans Street, one-half mile east of Mingo Road

5. Consideration of Items Removed from Consent Agenda

6. Public Hearings

A. 17-1977 Public hearing, consideration, and possible action regarding PUD-259 and BAZ-1975, Muhich Tract, 71.94 acres, 7 Lots, A-1 to IL/PUD-259, one-half mile east of Evans Road, one-quarter mile south of Kenosha Street

7. Appeals

None

8. General Commission Business

None

9. Remarks, Inquiries and Comments by Planning Commission and Staff (No Action)

10. Adjournment

NOTICE:

1. ALL MATTERS UNDER "CONSENT" ARE CONSIDERED BY THE PLANNING COMMISSION TO BE ROUTINE AND WILL BE ENACTED BY ONE MOTION. HOWEVER, ANY CONSENT ITEM CAN BE REMOVED FOR DISCUSSION, UPON REQUEST.

2. IF YOU HAVE A DISABILITY AND NEED ACCOMMODATION IN ORDER TO PARTICIPATE IN THE MEETING, PLEASE CONTACT THE DEVELOPMENT SERVICES DEPARTMENT AT 918-259-8412, TO MAKE ARRANGEMENTS.

3. EXHIBITS, PETITIONS, PICTURES, ETC. PRESENTED TO THE PLANNING COMMISSION MAY BE RECEIVED AND DEPOSITED IN CASE FILES TO BE MAINTAINED AT BROKEN ARROW CITY HALL.

4. RINGING/SOUND ON ALL CELL PHONES AND PAGERS MUST BE TURNED OFF DURING THE PLANNING COMMISSION MEETING.

POSTED on _____, _____ at _____ am/pm.

_____

City Clerk

City of Broken Arrow

Fact Sheet

File #: 17-1987, **Version:** 1

Broken Arrow Planning Commission
03-23-2017

To:	**Chairman and Commission Members**
From:	**Development Services Department**
Title:	**Approval of Minutes, Planning Commission meeting held February 9, 2017**
Background:	Minutes recorded for the Broken Arrow Planning Commission meeting.
Attachments:	Minutes from the February 9, 2017 Planning Commission meeting
Recommendation:	Approve minutes of Planning Commission meeting held on February 9, 2017, as presented.
Reviewed By:	**Development Services Department** **Legal Department**
Approved By:	**Michael W. Skates**

City of Broken Arrow

Minutes
Planning Commission

City of Broken Arrow
Council Chambers
220 S 1st Street
Broken Arrow OK
74012

Chairperson Fred Dorrell
Vice Chair Lee Whelpley
Member Ricky Jones
Member Carolyne Isbell-Carr
Member Mark Jones

Thursday, February 9, 2017 **5:00 PM** **Council Chambers**

1. Call To Order

Meeting was called to order at 5:00 p.m. by Chairman, Fred Dorrell

2. Roll Call

Present 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

3. Old Business

None

4. Consideration of Consent Agenda

Staff Planner, Amanda Yamaguchi presented the background for the Consent Agenda Items

A. 17-1814 **Minutes, Planning Commission meeting held on January 12, 2017**

MOTION: by Ricky Jones to approve Consent Agenda Items A, B, and C, per Staff recommendations. The motion was seconded by Lee Whelpley.

Aye: 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

B. 17-1813 **Consideration and possible action regarding CA 17-100, Commerce Crossing Lot 1, Block 1, 2.98 acres, IL to PUD 257/IL, south of Albany Street, one-quarter mile west of Olive Avenue**

MOTION: by Ricky Jones to approve Consent Agenda Items A, B, and C, per Staff recommendations. The motion was seconded by Lee Whelpley.

Aye: 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

C. 17-1769 **Consideration, and possible action regarding PT17-100, Preliminary Plat, Kum & Go 1866 Addition, 1 lot, 2.07 acres, A-CG to CG/PUD-94, northeast corner of Omaha Street and Aspen Avenue**

MOTION: by Ricky Jones to approve Consent Agenda Items A, B, and C, per Staff recommendations. The motion was seconded by Lee Whelpley.

Aye: 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

5. Consideration of Items Removed from Consent Agenda

None

6. Public Hearings

A. 17-1762 **Public hearing, consideration, and possible action regarding SP 278, R & M Music, 2.93 acres, CH, east of the southeast corner of Washington Street and Elm Place between Atlanta Street and Washington Street**

Staff Planner, Amanda Yamaguchi presented the background for SP-278 saying, SP-278 is a request for a Specific Use Permit for a new church to be located in the Washington Square Center. The property contains 2.93 acres, and is located east of the southeast corner of Washington and Elm Place between Atlanta Street and Washington Street. The property is developed and was platted as JHM Second, a re- subdivision of Lots 6 & 7, Block 1, JHM Addition on May 11, 1977.

The applicant is proposing to use an existing tenant space located on the north half of the property, near the center of the shopping center next to Washington Street, as a church facility. The space provided for the church is approximately 3,500 square feet. Churches are classified as "Places of Assembly" in the Zoning Ordinance, which require a Specific Use Permit in the CH district.

Parking for the church shall be provided by the existing parking lot for the shopping center. Hours of operation of the church coincides with the hours of least traffic for the shopping center, mainly on Sundays and on Wednesday evenings.
There is an existing bar, Torchy's, in the Washington Square Center, north of the proposed church. While churches can go in the vicinity of an existing bar, if the bar ever closes or loses its State liquor license, it may be difficult to get a new license. Adding a church to the shopping center could impact future liquor license requirements for tenants in the shopping center; however, the owner of the shopping center is the one applying for the Specific Use Permit.
Based on the Comprehensive Plan, Staff recommends that SP-278 be approved subject to the following conditions: The first being, Right-of-Way and utility easements shall be dedicated along Washington Street in accordance with the City of Broken Arrow Subdivision Regulations. The second condition being that the Specific Use Permit shall be for a church at this location shown on the site plan submitted with SP-278. SP-278 shall be valid for a two-year period from the date of City Council approval. Any

renewals after the two-year period will require a new specific use permit application to be submitted and approved by the City Council.

Fred Dorrell asked if the applicant was present and to step to the podium and state their name and address and if in agreement with Staff recommendations.

Kenneth Tegue, R&M Music Company, said the church is 2,500 square feet with a nursery of 1,000 square feet which is part of the 2,500 square feet. The church itself is 1,700 square feet and the remainder of the 2,500 square feet will be used for restrooms and office space. He said he agrees with Staff recommendations one-hundred percent.

Ricky Jones asked Mr. Tegue if he is aware that right-of-way must be dedicated to the City along the frontage. Mr. Tegue said yes, six feet.

Fred Dorrell opened the public hearing and asked if anyone wished to speak on Item 6A., SP-278. No one responded. Fred Dorrell closed the public hearing.

Lee Whelpley said this same type of situation occurred on Kenosha and County Line where a liquor store was next door and the owner of the liquor store did not show up at the hearing. He said that if this specific use permit is approved, per the ABLE Commission, the current property owner of the bar cannot sale their business as a bar and create a new bar.

Mark Jones said the stipulation is for two years.

Michael Skates said it is for two years and Staff has spoken with the shopping center owner, who has spoken with the owner of Torchy's bar. He said they were in agreement and aware of what is taking place.

Lee Whelpley said if the owner did not show and has not complained than there is no complaint (on record).

Fred Dorrell asked if there were any more comments or discussion. No one responded.

MOTION: by Mark Jones to approve SP-278, per Staff recommendations. The motion was seconded by Carolyne Isbell-Carr.

After the vote, Fred Dorrell said this item will be heard by City Council on March 7, 2017, at 6:30 p.m.

Aye: 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

7. Appeals

None

8. General Commission Business

A. 17-1823 **Review and discussion of Comprehensive Plan Update and possible selection of Planning Commission Members to be appointed on the selection team for reviewing RFP's for the Comprehensive Plan**

Farhad Daroga said the City is embarking on a new Comprehensive Plan which will take approximately one to one and one-half years to complete. The current Plan was done in 1997 and updated in 2003 with other subsequent minor amendments over the last several years. He said the first task is a letter of intent (LOI), inviting design consultants to come to the City of Broken Arrow if they are interested in this project. The LOI will be sent out February 10, 2017 to planning websites and media sources. After LOI's are received request for proposals (RFP) will start in March.

Once all LOI's are received, a small selection committee will be created. The selection committee will consist of approximately 7 to 10 people, with half of the committee members being City Staff and (it is recommended that) two of the members be from the Planning Commission. Mr. Daroga said they are requesting two Planning Commission members to volunteer for the selection committee because more than two Planning members would be considered a quorum and the committee meetings would have to be published. He asked if any Planning Commission members wish to volunteer for the committee to advise Staff at this meeting or later. This committee will meet two or three times to review all requests for proposals which are due April 28, 2017.

Mr. Daroga said the proposed schedule for this project has been provided to the Commission. Once the consulting firm has been selected, a larger committee (an advisory committee) will be formed, by the City Council, to help the consulting group and staff to help prepare the new Comprehensive Plan. The City Council may nominate members of the Planning Commission and other groups within the City for the advisory committee.

Mark Jones asked where the LOI's will be sent. Farhad Daroga said they will be published in the local newspapers, architectural publications, American Planning Association magazine website. The City also has a list of standard engineering and architectural firms who will be emailed and others that have contacted the City. This project will take about 18 months and need a commitment from a firm that can devote a lot of man hours and time to accomplish this task.

Ricky Jones said he is on the Committee for the City of Glenpool who are re-doing their rezoning and comprehensive plan. He said he is seeing a lot of large national firms partnering with local firms which is a good thing due to the late night meetings and the local firm knowing the immediate area and trends. He said he prefers the partnership rather than a large, out-of-state firm being chosen for the work and telling Broken Arrow what they need.

Mark Jones said he agreed with Ricky Jones comments. He said he is in favor of

involving a local firm rather than someone from like New York City tell Broken Arrow how to do things. A collaboration of an outside firm and local firm would be a good thing.

Michael Skates said the RFP may already have the request for local and national firms. He said if it is not in the RFP, Staff can add it. Farhad Daroga said the RFP's do have the request for local and national firms.

Conversation continued.

9. Remarks, Inquiries and Comments by Planning Commission and Staff (No Action)

None

10. Adjournment

MOTION by Carolyne Isbell-Carr to adjourn. The motion was seconded by Ricky Jones.

Aye: 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

City of Broken Arrow

Fact Sheet

File #: 17-1988, **Version:** 1

Broken Arrow Planning Commission
03-23-2017

To:	**Chairman and Commission Members**
From:	**Development Services Department**
Title:	**Approval of Minutes, Planning Commission meeting held March 9, 2017**
Background:	Minutes recorded for the Broken Arrow Planning Commission meeting.
Attachments:	Minutes from the March 9, 2017 Planning Commission meeting
Recommendation:	Approve minutes of Planning Commission meeting held on March 9, 2017, as presented.
Reviewed By:	**Larry R. Curtis, Plan Development Manager** **Legal Department**
Approved By:	**Michael W. Skates**

City of Broken Arrow

Minutes
Planning Commission

City of Broken Arrow
Council Chambers
220 S 1st Street
Broken Arrow OK
74012

Chairperson Fred Dorrell
Vice Chair Lee Whelpley
Member Ricky Jones
Member Carolyne Isbell-Carr
Member Mark Jones

Thursday, March 9, 2017 **5:00 PM** **Council Chambers**

1. Call To Order

Meeting was called to order at 5:00 p.m. by Chairman, Fred Dorrell

2. Roll Call

Present 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

3. Old Business

None

4. Consideration of Consent Agenda

Staff Planner, Amanda Yamaguchi presented the background for the Consent Agenda Items

A. 17-1927 **Minutes, Planning Commission meeting held on February 23, 2017**

MOTION: by Ricky Jones to approve Consent Agenda Items A, B and C, per Staff recommendations. The motion was seconded by Lee Whelpley.

Aye: 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

B. 17-1895 **Approval of BAL 2013, Oneal Ingram Property, 0.29 acres, R-2 and PUD 182, one-half mile south of New Orleans Street, one-half mile east of Mingo Road**

MOTION: by Ricky Jones to approve Consent Agenda Items A, B and C, per Staff recommendations. The motion was seconded by Lee Whelpley.

Aye: 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

C. 17-1908 Approval of ST17-103, Cotton Patch Cafe building elevations, 1.58 acres, CH, one-quarter mile west of 9th Street, north of Kenosha Street

MOTION: by Ricky Jones to approve Consent Agenda Items A, B and C, per Staff recommendations. The motion was seconded by Lee Whelpley.

Aye: 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

5. Consideration of Items Removed from Consent Agenda

None

6. Public Hearings

A. 17-1918 Public hearing, consideration, and possible action regarding PUD 258 and BAZ 1974, Kenosha Storage, 5.85 acres, A-1 to IL/CG/PUD 256, north and west of the northwest corner of Kenosha Street and Oneta Road*Please Note: Due to an error in advertising, PUD 258 and BAZ 1974 shall be re-advertised and placed on the agenda for the April 13th 2017 Planning Commission meeting.*****

Staff Planner, Amanda Yamaguchi said the applicant contacted Staff to withdraw this application. She said because it was re-advertised, it will still appear on the April 13, 2017 Planning Commission agenda and the request to withdraw the application will be acknowledged at that meeting as well. There is no need for a vote on this item.

7. Appeals

None

8. General Commission Business

None

9. Remarks, Inquiries and Comments by Planning Commission and Staff (No Action)

None

10. Adjournment

MOTION: by Mark Jones to adjourn. The motion was seconded by Carolyne Isbell-Carr

Aye: 5 - Mark Jones, Carolyne Isbell-Carr, Lee Whelpley, Fred Dorrell, and Ricky Jones

City of Broken Arrow

Fact Sheet

File #: 17-1923, **Version:** 1

Broken Arrow Planning Commission
03-23-2017

To:	**Chairman and Commission Members**
From:	**Development Services Department**
Title:	**Approval of BAL-2014CB, Riddle Property, 0.60 acres, 2 Lots, R-2 (Single Family Residential)/PUD 182, one-half mile south of New Orleans Street, one-half mile east of Mingo Road**

Background:

Applicant:	Bryan & Autumn Riddle
Owner:	Bryan & Autumn Riddle
Developer:	NA
Surveyor:	NA
Location:	One-half mile south of New Orleans Street, one-half mile east of Mingo Road
Size of Tract	0.60 total acres; Lot 5 - 0.29 acres; Lot 6 - 0.31 acres
Number of Lots:	2 (1 proposed)
Present Zoning:	R-2 (Single Family Residential)/PUD 182
Comp Plan:	Level 2 (Urban Residential)

Lot consolidation request BAL-2014CB involves two parcels located approximately one-half mile south of New Orleans Street and one-half mile east of Mingo Road. The property is zoned R-2/PUD-182, is platted as Block 4, Lots 5 and 6, Berwick Fairways II. Lot 5 has an existing single-family structure and Lot 6 is vacant. Applicant is proposing to consolidate the two lots into one. The proposed lot consolidation meets the minimum lot size of the R-2 district.

The applicant requests to consolidate these properties to avoid duplication of fees charged by the Berwick Fairways II Homeowners Association.

Oklahoma Natural Gas (ONG), Public Service Company of Oklahoma (PSO), Cox Communications, and Windstream have indicated that they do not have any problems with the proposed lot consolidation.

Attachments:
Case map
Aerial
Exhibits and Legal Descriptions
Berwick Fairways II Plat

Recommendation:

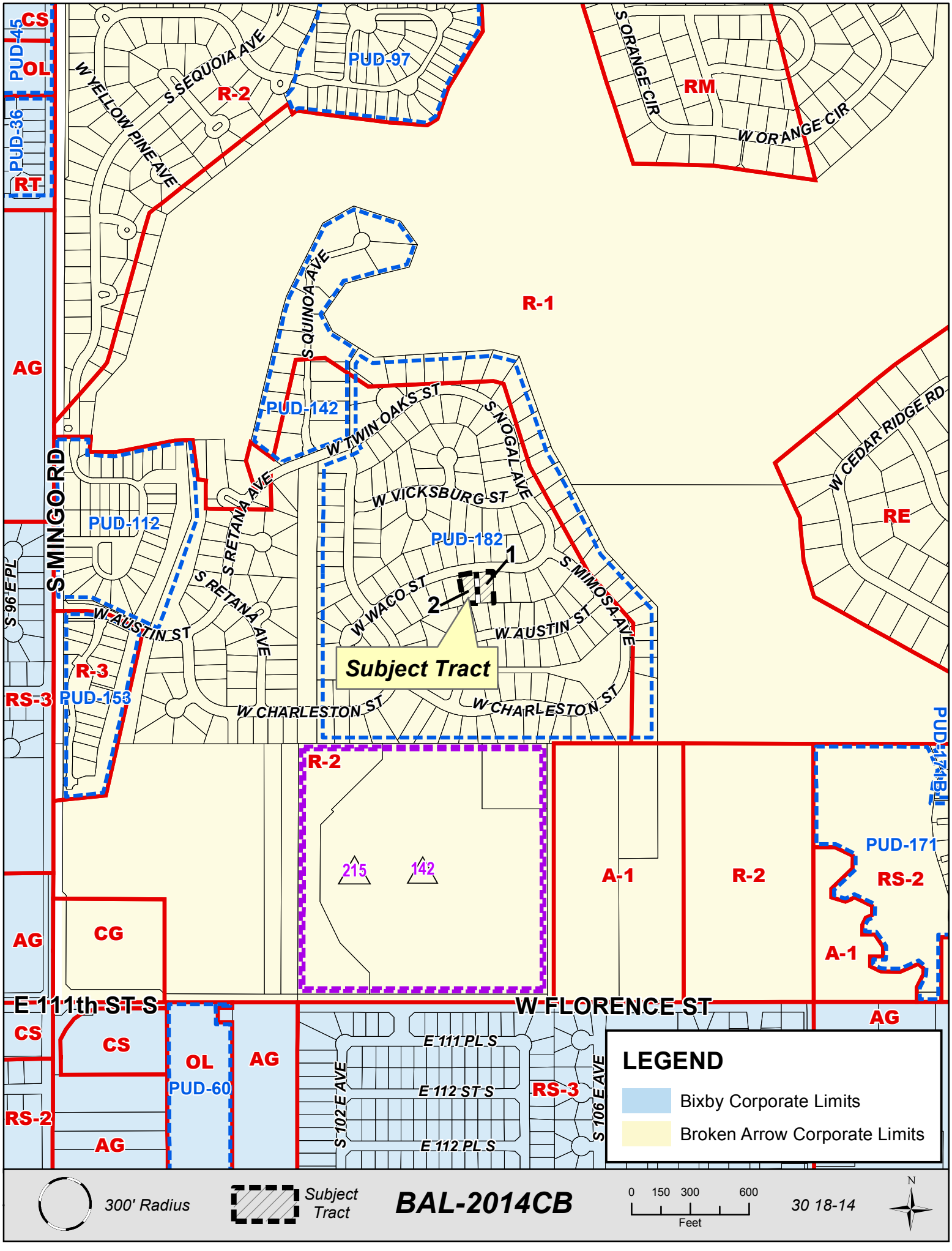
Staff recommends BAL 2014CB be approved, subject to the following:

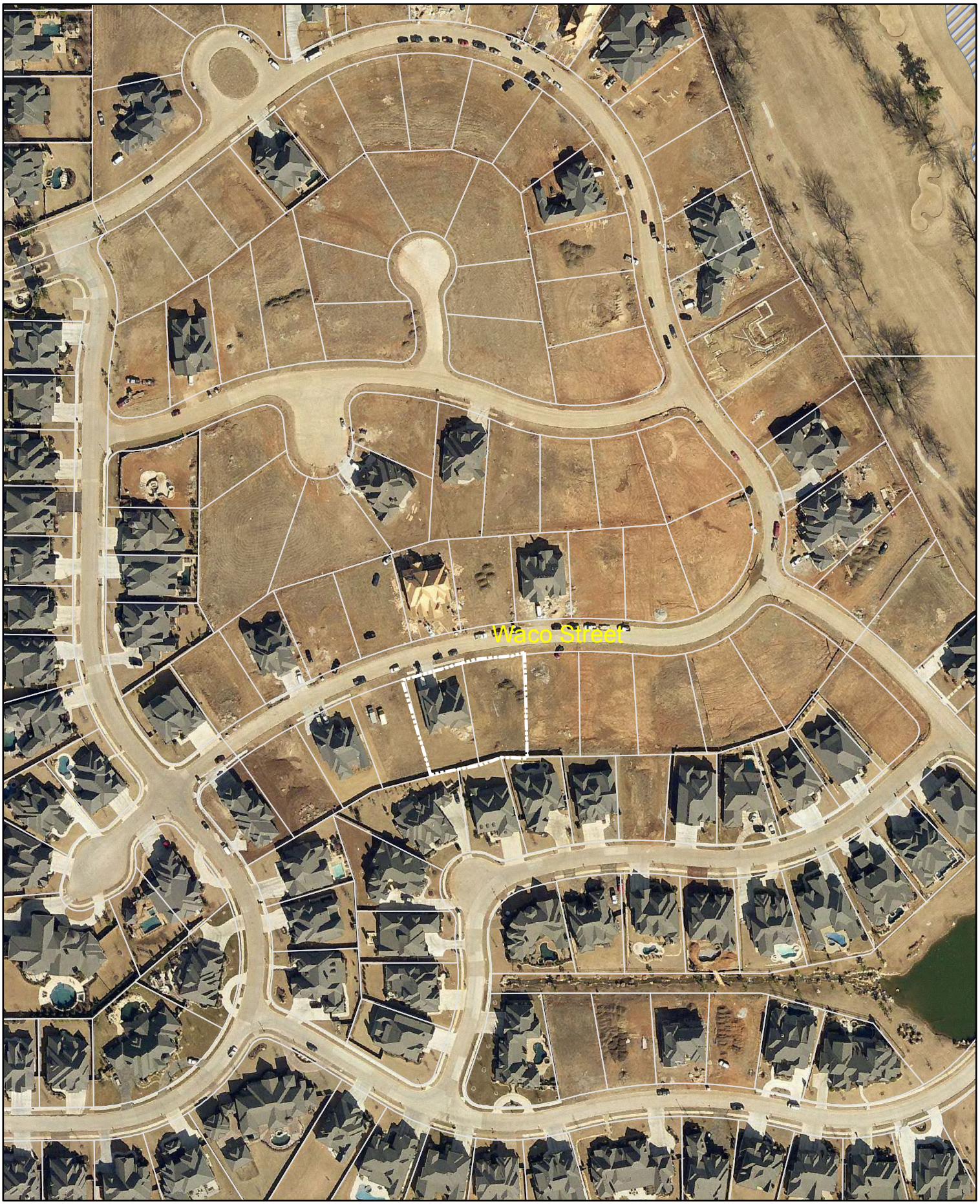
1. Warranty deed for the consolidated parcel shall be brought to the Plan Development Division to be stamped prior to being recorded in Tulsa County.
2. Both tracts shall be permanently tied together and it shall be acknowledged and stated in the warranty deed that the property cannot be divided without receiving lot split approval from the Planning Commission.

Reviewed By: **Larry R. Curtis**

Approved By: **Michael W. Skates**

LRC: ALY


CS
PUD-45
OL
PUD-36
RT
AG
S MINGO RD
S 96 E PL
PUD-97
R-2
W YELLOW PINE AVE
S SEQUOIA AVE
S ORANGE CIR
RM
W ORANGE CIR
R-1
S QUINOA AVE
PUD-142
W TWIN OAKS ST
S NOGAL AVE
W VICKSBURG ST
W CEDAR RIDGE RD
RE
PUD-112
S RETANA AVE
PUD-182
1
2
S MIMOSA AVE
W WACO ST
W AUSTIN ST
W AUSTIN ST
Subject Tract
R-3
RS-3
PUD-153
W CHARLESTON ST
W CHARLESTON ST
R-2
215
142
A-1
R-2
PUD-171
RS-2
A-1
AG
CG
E 111th ST S
W FLORENCE ST
AG
CS
CS
OL
PUD-60
AG
E 111 PL S
E 112 ST S
E 112 PL S
S 102 E AVE
S 106 E AVE
RS-3
RS-2
AG
LEGEND
Bixby Corporate Limits
Broken Arrow Corporate Limits
300' Radius
Subject Tract
BAL-2014CB
0 150 300 600
Feet
30 18-14
N



BAL 2014CB
Riddle Lot Consolidation

200 100 0 200 Feet

N

Bryan Riddle and Autumn Riddle Lot Combination Supporting Document

There are no buildings or structures on the property. See attached Plat and Covenants for Berwick Fairways II subdivision. I've also included a zoomed-in crop of the two lots to be combined.

Water and Sanitary will be City Main and City Sewer, respectively.

Lots Prior to Combination

Lot 1

Account: R83347843028380
Parcel: 83347-84-30-28380
Situs Address: 5801 W WACO ST S BROKEN ARROW 74011
Owner: RIDDLE, BRYAN R & AUTUMN M REVOCABLE TRUST

Legal Description:
Subdivision: BERWICK FAIRWAYS II REPLAT PT CEDAR RIDGE CLUB ADDN
Legal: LOT 6 BLOCK 4
Section: 30 Township: 18 Range: 14

Dimensions and Size:
North side: 83.95'
West side: 154.21'
South side: 80.31'
East side: 156.60'
Size: 13,396 sq ft / 0.31 acres

Lot 2

Account: R83347843028370
Parcel: 83347-84-30-28370
Situs Address: 5805 W WACO ST S BROKEN ARROW 74011
Owner: RIDDLE, BRYAN R & AUTUMN M REVOCABLE TRUST

Legal Description:
Subdivision: BERWICK FAIRWAYS II REPLAT PT CEDAR RIDGE CLUB ADDN
Legal: LOT 5 BLOCK 4
Section: 30 Township: 18 Range: 14

Dimensions and Size:
North side: 92.51'
West side: 152.15'
South side: 74.44'
East side: 154.21'
Size: 12,623 sq ft / 0.29 acres

Lot Information After Combination (one lot)

See attached zoomed-in plat (the blue outlines new combined lot).

Proposed Use: home

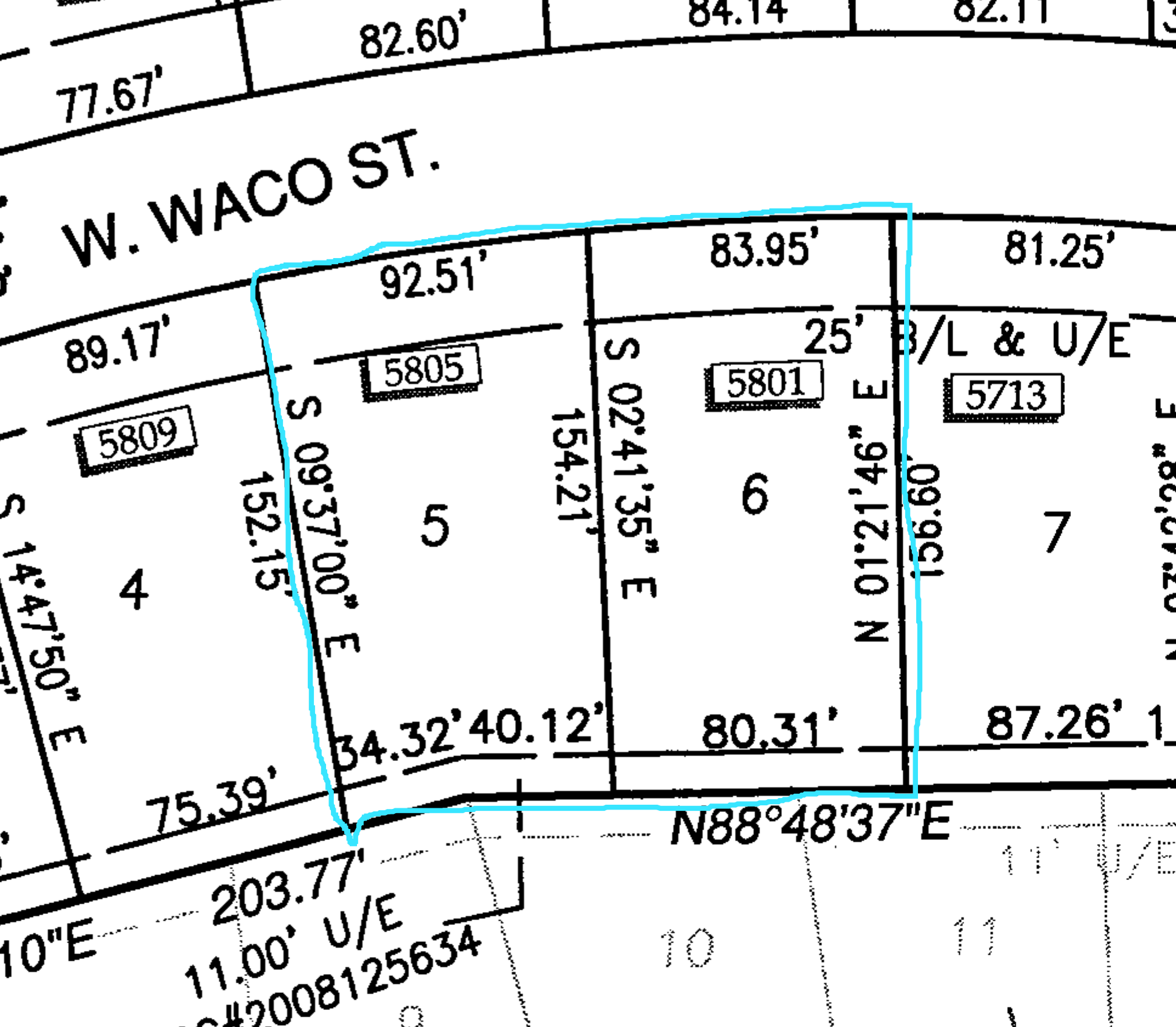
Proposed Address: 5801 W WACO ST S BROKEN ARROW 74011

Proposed Legal Description:

Subdivision: BERWICK FAIRWAYS II REPLAT PT CEDAR RIDGE CLUB ADDN
Legal: LOT 5/6 BLOCK 4
Section: 30 Township: 18 Range: 14

Dimensions and Size:

North side: 176.46'
West side: 152.15'
South side: 154.75'
East side: 156.60'
Size: 26,019 sq ft / 0.60 acres


W. WACO ST.
82.60'
77.67'
84.14
82.11
92.51'
83.95'
81.25'
89.17'
25'
B/L & U/E
5805
5801
5713
5809
S 09°37'00" E
152.15'
154.21'
S 02°41'35" E
N 01°21'46" E
156.60'
4
5
6
7
S 14°47'50" E
34.32'
40.12'
80.31'
87.26'
75.39'
N88°48'37"E
203.77'
11.00' U/E
10"E
#200812563
10
11

Tulsa County Clerk - EARLENE WILSON
Doc # 6480 Page(s): 2
Recorded 12/18/2012 at 02:54 PM
Receipt # 376842 Fee $30.00

BERWICK FAIRWAYS II

A REPLAT OF A PART OF CEDAR RIDGE CLUB ADDITION (PLAT NO. 2895), AN ADDITION TO THE CITY OF BROKEN ARROW IN SECTION 30, TOWNSHIP 18 NORTH, RANGE 14 EAST OF THE INDIAN BASE AND MERIDIAN, TULSA COUNTY, STATE OF OKLAHOMA
PLANNED UNIT DEVELOPMENT 182

CERTIFICATE

I hereby certify that all real estate taxes involved in this plat have been paid as reflected by the current tax rolls. Security as required has been provided in the amount of $ 1,840.00 per trust receipt no. ____ tax rolls ____ to be applied to 20__12 taxes. This certificate is NOT to be construed as payment of 20__12 taxes in full but is given in order that this plat may be filed on record. 20__12 taxes could exceed the amount of the security deposit.

Dated 18-Dec-12
Dennis Semler
Tulsa County Treasurer
By: Carol Deputy

Legend

B/L ..... BUILDING LINE
L/E ..... LANDSCAPE EASEMENT
LNA ..... LIMITS OF NO ACCESS
U/E ..... UTILITY EASEMENT
1317 ..... HOUSE ADDRESS
R/A ..... RESTRICTED ACCESS

STATE OF OKLAHOMA } SS
COUNTY OF TULSA
I, Earlene Wilson, Tulsa County Clerk, in and for the County and State above named, do hereby certify that the foregoing is a true and correct copy of a like instrument now on file in my office.
Dated the 18 day of December 2012
EARLENE WILSON, Tulsa County Clerk
By: Christie Stewart Deputy

100' 50' 0 100' 200'

R 14 E
(EAST 101st STREET SOUTH)
WEST NEW ORLEANS STREET
(SOUTH 97th EAST AVENUE) SOUTH MINGO ROAD
SOUTH GARNETT ROAD (SOUTH 113th EAST AVENUE)
T 18 N
PROJECT SITE
WEST FLORENCE STREET
(EAST 111th STREET SOUTH)

Location Map

CURVE TABLE

CURVE NO.	LENGTH (FT.)	RADIUS (FT.)	DELTA
C1	100.49	200.00	28°47'23"
C2	20.81	550.00	02°10'06"
C3	NOT	USED	
C4	44.05	25.00	100°56'49"
C5	98.42	125.00	45°06'41"
C6	13.09	100.00	7°30'00"
C7	NOT	USED	
C8	39.38	25.00	90°14'47"
C9	139.96	675.00	8°30'25"
C10	129.55	625.00	11°52'34"
C11	33.41	25.00	76°34'49"
C12	209.33	190.00	56°41'33"
C13	628.51	900.00	41°22'12"
C14	653.27	950.00	45°49'05"
C15	342.77	140.00	140°18'50"
C16	33.39	25.00	76°31'41"
C17	188.00	190.00	56°41'33"
C18	35.04	25.00	80°18'6"
C19	39.71	25.00	91°00'43"
C20	334.81	475.00	13°29'10"
C21	271.03	325.00	47°46'52"
C22	220.74	275.00	45°59'28"
C23	78.30	600.00	7°28'39"
C24	190.95	550.00	21°4'14"
C25	35.88	25.00	82°13'51"
C26	40.03	25.00	91°44'24"
C27	42.85	25.00	98°12'48"
C28	354.53	600.00	33°51'17"
C29	154.69	50.00	180°00'00"
C30	42.85	25.00	98°12'48"
C31	104.37	550.00	10°52'21"
C32	75.89	150.00	28°59'12"
C33	39.08	25.00	90°14'47"
C34	51.54	175.00	16°52'26"
C35	29.88	125.00	13°41'52"
C36	21.60	25.00	49°30'26"
C37	21.60	25.00	49°30'26"
C38	253.23	52.00	279°00'53"
C39	190.19	525.00	20°45'24"
C40	623.19	315.00	124°38'28"
C41	754.84	365.00	118°29'27"
C42	36.56	25.00	83°50'59"
C43	219.91	70.00	180°00'00"
C44	39.27	25.00	90°00'00"
C45	115.06	525.00	12°33'24"
C46	126.03	575.00	12°33'28"
C47	83.87	525.00	40°23'10"

Project Data

OWNERS
RLAND DEVELOPMENT GROUP L.L.C.
8558 101st STREET (Suite F)
TULSA, OKLAHOMA 74137
918.582.4300

ENGINEER / SURVEYOR
COOK & ASSOCIATES ENGINEERING, INC.
121 EAST COLLEGE
BROKEN ARROW, OK 74012
918.258.9442 (VOICE) 918.258.9488 (FAX)
CA#4479 EXPIRES JUNE 30, 2012

BENCHMARK (ADS 'BA17')
3" ALUMINUM CAP--FLUSH--SET IN CONCRETE--STAMPED "BA17", SET S.E. OF THE INTERSECTION OF EAST 111th STREET SOUTH & SOUTH GARNETT ROAD (NEAR THE SE CORNER 30-18-14).
N 372017.210 / E 2604133.738
ELEVATION=845.079 (NAVD1988)

BASIS OF BEARINGS
ASSUMED BEARING OF N 01°1'24" W ALONG THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 18, T-18-N, R-14-E OF THE INDIAN BASE AND MERIDIAN, TULSA COUNTY, STATE OF OKLAHOMA

LAND AREA
1,301,353 SF± / 29.87 AC±
73 LOTS / 4 BLOCKS
RESERVE AREA "A"

MONUMENTATION
A 5/8" X 18" DEFORMED BAR WITH A ORANGE PLASTIC CAP STAMPED "CA4479" TO BE SET AT ALL PLAT BOUNDARY CORNERS, UNLESS NOTED OTHERWISE.

A 3/8" X 18" DEFORMED BAR WITH A ORANGE PLASTIC CAP STAMPED "CA4479" TO BE SET AT ALL LOT CORNERS UNLESS NOTED OTHERWISE.

A 3/8" X 18" DEFORMED BAR WITH A ORANGE PLASTIC CAP STAMPED "CA4479" TO BE SET AT ALL STREET CENTERLINE INTERSECTIONS, POINTS OF CURVE, POINTS OF TANGENT, POINTS OF COMPOUND CURVE, POINTS OF REVERSE CURVE, CENTER OF CUL-DE-SACS AND CENTER OF EYEBROWS UNLESS NOTED OTHERWISE.

ADDRESSES
ADDRESSES SHOWN ON THIS PLAT WERE ACCURATE AT THE TIME THIS PLAT WAS FILED. ADDRESSES ARE SUBJECT TO CHANGE AND SHOULD NEVER BE RELIED ON IN PLACE OF LEGAL DESCRIPTION.

PUBLIC UTILITY NOTES
STORMWATER DETENTION ACCOMMODATIONS FOR THIS SITE ARE PROVIDED BY THE ONSITE DETENTION FACILITY AS SHOWN IN THE "NO EXCEPTIONS TAKEN" ENGINEERING PLANS IN ACCORDANCE WITH FEE-IN-LIEU OF DETENTION DETERMINATION # 00-121207-04

POTABLE WATER SUPPLY WILL BE SERVED BY THE CITY OF BROKEN ARROW, OKLAHOMA.

SANITARY SEWER SERVICE WILL BE SUPPLIED BY THE CITY OF BROKEN ARROW, OKLAHOMA.

Backflow Preventer Valve Table

Block	Lot	Pad Elevation	Finish Floor Elevation	Upstream Manhole	Top of Rim Elevation	BFP Required
1	1	673.50	674.83	XI11	674.52	YES
1	2	674.50	675.83	XI11	674.52	–
1	3	675.75	677.08	XI12	675.65	–
1	4	674.50	675.83	A13	671.99	–
1	5	672.75	674.08	A13	671.99	–
1	6	670.25	671.58	A13	671.99	YES
1	7	669.25	670.58	A12	663.77	–
1	8	667.75	669.08	A12	663.77	–
1	9	667.25	668.58	A11	659.39	–
1	10	666.75	668.08	A10	656.39	–
1	11	665.25	666.58	A09	658.52	–
1	12	664.75	666.08	A09	658.52	–

Block	Lot	Pad Elevation	Finish Floor Elevation	Upstream Manhole	Top of Rim Elevation	BFP Required
1	13	664.25	665.58	A09	658.52	–
1	14	663.25	664.58	A08	662.24	–
1	15	662.75	664.08	A07	660.42	–
1	16	663.25	664.58	A07	660.42	–
1	17	661.25	662.58	A07	660.42	–
1	18	659.75	661.08	A06	656.29	–
1	19	656.75	658.08	A06	656.29	–
2	1	672.75	674.08	C08	673.61	YES
2	2	673.25	674.58	C07	673.74	YES
2	3	674.25	675.58	C07	673.74	–
2	4	674.75	676.08	C06	675.06	–
2	5	674.25	675.58	C05	675.00	YES
2	6	673.75	675.08	C05	675.00	YES
2	7	672.25	673.58	C05	675.00	YES

Block	Lot	Pad Elevation	Finish Floor Elevation	Upstream Manhole	Top of Rim Elevation	BFP Required
2	8	671.25	672.58	C04	673.34	YES
2	9	670.75	672.08	C03	672.30	YES
2	10	669.75	671.08	C03	672.30	YES
2	11	669.25	670.58	C02	671.84	YES
2	12	668.25	669.58	C02	671.84	YES
2	13	672.25	673.58	C03	672.30	–
2	14	673.25	674.58	C03	672.30	–
2	15	674.25	675.58	C03	672.30	–
2	16	675.25	676.58	C04	673.34	–
2	17	676.50	677.83	C05	675.00	–
2	18	676.25	677.58	J01	675.94	–
2	19	676.25	677.58	J01	675.94	–
2	20	675.75	677.08	C07	673.74	–
2	21	675.25	676.58	C07	673.74	–

Block	Lot	Pad Elevation	Finish Floor Elevation	Upstream Manhole	Top of Rim Elevation	BFP Required
2	22	674.75	676.08	C07	673.74	–
2	23	674.25	675.58	C08	673.61	–
2	24	674.25	675.58	C08	673.61	–
3	1	672.25	673.58	B06	672.81	YES
3	2	672.75	674.08	B07	674.89	YES
3	3	673.25	674.58	B07	674.89	YES
3	4	672.75	674.08	B08	672.83	–
3	5	672.25	673.58	B08	672.83	YES
3	6	671.75	673.08	B08	672.83	YES
3	7	670.75	672.08	I04	670.99	–
3	8	668.38	669.71	I04	670.99	YES
3	9	666.75	668.08	I04	670.99	YES
3	10	664.75	666.08	I04	670.99	YES
3	11	662.75	664.08	I03	664.90	YES
3	12	665.75	667.08	I03	664.90	–
3	13	667.50	668.83	I04	670.99	YES
3	14	669.25	670.58	I04	670.99	YES
3	15	671.25	672.58	I04	670.99	–
3	16	673.25	674.58	B09	674.55	YES
3	17	676.50	677.83	B09	674.55	–
3	18	677.25	678.58	B08	672.83	–
3	19	677.75	679.08	B08	672.83	–

Block	Lot	Pad Elevation	Finish Floor Elevation	Upstream Manhole	Top of Rim Elevation	BFP Required
3	20	677.25	678.58	B07	674.89	–
4	1	671.75	673.08	D08	671.65	–
4	2	672.25	673.58	D08	671.65	–
4	3	672.75	674.08	D07	671.24	–
4	4	672.25	673.58	D07	671.24	–
4	5	671.75	673.08	D07	671.24	–
4	6	669.75	671.08	D06	671.06	YES
4	7	667.75	669.08	D06	671.06	YES
4	8	665.75	667.08	D05	666.42	YES
4	9	663.75	665.08	D05	666.42	YES
4	10	661.75	663.08	D04	661.27	–

IF THE ACTUAL FINISH FLOOR ELEVATION IS LOWER THAN ONE (1) FOOT ABOVE THE TOP OF RIM ELEVATION OF THE UPSTREAM MANHOLE, IT SHALL BE THE BUILDER'S RESPONSIBILITY TO INSTALL A BACKFLOW PREVENTER VALVE NEAR THE BUILDING ACCORDING TO BROKEN ARROW ORDINANCE NO. 1777, SECTION 24-100, ADOPTED MAY 17, 1993.

STATE OF OKLAHOMA } SS
COUNTY OF TULSA
I, Earlene Wilson, Tulsa County Clerk, in and for the County and State above named, do hereby certify that the foregoing is a true and correct copy of a like instrument now on file in my office.
Dated the ____ day of ____, 20__
EARLENE WILSON, Tulsa County Clerk
By: ____ Deputy

CERTIFICATE

I hereby certify that all real estate taxes involved in this plat have been paid as reflected by the current tax rolls. Security as required has been provided in the amount of $ ____ per trust receipt no. ____ to be applied to 20__ taxes. This certificate is NOT to be construed as payment of 20__ taxes in full but is given in order that this plat may be filed on record 20__ taxes could exceed the amount of the security deposit.

Dated ____, 20__
Dennis Semler
Tulsa County Treasurer
by ____ Deputy

APPROVED 3/6/12 by the City Council of the City of Broken Arrow Oklahoma.
Craig Thurmond Mayor
Mary Bruce Attest: City Clerk

BERWICK FAIRWAYS II
CASE NO. PT 07 08
DEV. # 07-187
Sheet 1 of 2
Date Prepared 11/02/2012

BERWICK FAIRWAYS II

A REPLAT OF A PART OF CEDAR RIDGE CLUB ADDITION (PLAT NO. 2895) TO THE CITY OF BROKEN ARROW IN SECTION 30, TOWNSHIP 18 NORTH, RANGE 14 EAST OF THE INDIAN BASE AND MERIDIAN, TULSA COUNTY, STATE OF OKLAHOMA PLANNED UNIT DEVELOPMENT 182

RECEIVED 2 4 2017

BERWICK FAIRWAYS II
DEED OF DEDICATION AND RESTRICTIVE COVENANTS

A REPLAT OF A PART OF CEDAR RIDGE CLUB ADDITION (PLAT NO. 2895), AN ADDITION TO THE CITY OF BROKEN ARROW, TULSA COUNTY, OKLAHOMA

KNOWN ALL MEN BY THESE PRESENTS
RLAND DEVELOPMENT GROUP, L.L.C., AN OKLAHOMA LIMITED LIABILITY COMPANY, (HEREAFTER REFERRED TO AS THE "OWNER"), IS THE OWNER OF THE FOLLOWING DESCRIBED LAND IN THE CITY OF BROKEN ARROW, TULSA COUNTY, STAE OF OKLAHOMA, TO WIT:

A TRACT OF LAND BEING ALL THAT PART OF BLOCK ONE (1) "CEDAR RIDGE CLUB ADDITION", PLAT NUMBER 2895, AN ADDITION TO THE CITY OF BROKEN ARROW, TULSA COUNTY, STATE OF OKLAHOMA, ACCORDING TO THE RECORDED PLAT THEREOF, LOCATED IN SECTION 30, TOWNSHIP EIGHTEEN NORTH (T18N), RANGE FOURTEEN EAST (R14E), OF THE INDIAN BASE AND MERIDIAN, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE CORNER OF "BERWICK FAIRWAYS I PLAT#6260 AN ADDITION TO THE CITY OF BROKEN ARROW, TULSA COUNTY; THENCE N28°30'11"W A DISTANCE OF 510.00 FEET; THENCE N19°19'42"W A DISTANCE OF 496.39 FEET; THENCE N75°27'17"W A DISTANCE OF 137.59 FEET; THENCE S86°53'29"W A DISTANCE OF 819.07 FEET; THENCE N57°54'54"W A DISTANCE OF 94.03 FEET; THENCE S32°01'53"W A DISTANCE OF 84.89 FEET; THENCE S00°00'01"W A DISTANCE OF 390.91 FEET; THENCE S25°37'48"E A DISTANCE OF 50.00 FEET; THENCE ALONG A CURVE TURNING TO THE LEFT WITH A TANGENT BEARING OF S64°02'28"W WITH A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 100°56'49", FOR 44.05 FEET; THENCE ALONG A TANGENT CURVE TURNING TO THE RIGHT WITH A RADIUS OF 125.00 FEET AND A CENTRAL ANGLE OF 45°06'41", FOR 98.42 FEET; THENCE S08°12'20"W A DISTANCE OF 74.18 FEET; THENCE ALONG A TANGENT CURVE TURNING TO THE LEFT WITH A RADIUS OF 100.00 FEET AND A CENTRAL ANGLE OF 7°30'00", FOR 13.09 FEET; THENCE S00°42'20"W A DISTANCE OF 137.50 FEET; THENCE ALONG A TANGENT CURVE TURNING TO THE RIGHT WITH A TANGENT BEARING OF N00°42'20"E WITH A RADIUS OF 25.00 FEET AND A CENTRAL ANGLE OF 90°14'47" FOR 39.38 FEET; THENCE ALONG A TANGENT CURVE TURNING TO THE LEFT WITH A RADIUS OF 200.00 FEET AND A CENTRAL ANGLE OF 28°47'23" FOR 100.49 FEET; THENCE ALONG A TANGENT CURVE TURNING TO THE RIGHT WITH A RADIUS OF 550.00 FEET AND A CENTRAL ANGLE OF 2°10'06" FOR 20.81 FEET; THENCE S00°42'20"W A DISTANCE OF 262.90 FEET; THENCE S28°36'18"E A DISTANCE OF 51.49 FEET; THENCE S55°22'33"W A DISTANCE OF 82.66 FEET; THENCE S35°15'47"E A DISTANCE OF 129.48 FEET; THENCE S39°35'17"E A DISTANCE OF 50.15 FEET; THENCE S35°02'05"E A DISTANCE OF 143.78 FEET; THENCE N59°20'53"E A DISTANCE OF 136.48 FEET; THENCE N75°12'10"E A DISTANCE OF 203.77 FEET; THENCE N88°48'37"E A DISTANCE OF 328.36 FEET; THENCE N71°51'22"E A DISTANCE OF 111.39 FEET; THENCE N38°06'41"E A DISTANCE OF 370.61 FEET TO THE POINT OF BEGINNING. SAID PARCEL CONTAINING 1,301,353 SQUARE FEET OR 29.8750 ACRES.

AND HAS CAUSED THE ABOVE DESCRIBED LAND TO BE SURVEYED, STAKED, PLATTED AND SUBDIVIDED IN CONFORMITY WITH THE ACCOMPANYING PLAT (THE "PLAT") AND HAS DESIGNATED THE SUBDIVISION AS "BERWICK FAIRWAYS II", A SUBDIVISION IN THE CITY OF BROKEN ARROW, TULSA COUNTY, STATE OF OKLAHOMA (HEREINAFTER SOMETIMES REFERRED TO AS THE "SUBDIVISION").

NOW, THEREFORE, THE OWNER, FOR THE PURPOSE OF PROVIDING FOR THE ORDERLY DEVELOPMENT OF THE SUBDIVISION AND FOR THE PURPOSE OF INSURING ADEQUATE RESTRICTIONS FOR THE MUTUAL BENEFIT OF THE OWNER, ITS SUCCESSORS, GRANTEES AND ASSIGNS, AND THE BENEFICIARIES OF THE COVENANTS SET FORTH IN SECTION 1 BELOW, WITH RESPECT TO SUCH COVENANTS ONLY, DOES HEREBY IMPOSE THE FOLLOWING RESTRICTIONS AND COVENANTS, WHICH SHALL BE COVENANTS RUNNING WITH THE LAND AND WHICH SHALL BE ENFORCEABLE BY THE OWNER OR OWNERS OF ANY PROPERTY WITHIN THE SUBDIVISION AND BY THE BENEFICIARIES OF THE COVENANTS SET FORTH IN SECTION 1 BELOW, WITH RESPECT TO SUCH COVENANTS ONLY.

SECTION I. STREETS, EASEMENTS AND UTILITIES.

A. GENERAL UTILITY EASEMENTS.
THE LOT OWNER DOES HEREBY DEDICATE FOR PUBLIC USE THE UTILITY EASEMENTS SHOWN AND DESIGNATED ON THE PLAT AS U/E FOR THE SEVERAL PURPOSES OF CONSTRUCTING, MAINTAINING, REPAIRING, REMOVING AND REPLACING ANY AND ALL PUBLIC UTILITIES, INCLUDING STORM SEWERS, SANITARY SEWERS, TELEPHONE AND COMMUNICATION LINES, CABLE TELEVISION LINES, ELECTRIC POWER LINES AND TRANSFORMERS, GAS LINES AND WATER LINES, TOGETHER WITH ALL FITTINGS AND EQUIPMENT FOR EACH OF SUCH FACILITIES INCLUDING THE POLES, WIRES, CONDUITS, PIPES, VALVES, METERS, AND ANY OTHER APPURTENANCES THERETO, WITH RIGHT OF INGRESS AND EGRESS TO SUCH EASEMENTS FOR THE USES AND PURPOSES AFORESAID; PROVIDED, HOWEVER, THE OWNER HEREBY RESERVES THE RIGHT TO CONSTRUCT, MAINTAIN, OPERATE, LAY AND RELAY WATER AND SEWER LINES, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS OVER, ACROSS, AND ALONG ALL OF THE EASEMENT AREAS SHOWN ON THE PLAT, FOR THE PURPOSES OF FURNISHING WATER AND/OR SEWER SERVICE TO THE AREA INCLUDED WITHIN THE PLAT. THE OWNER HEREBY IMPOSES A RESTRICTIVE COVENANT, WHICH COVENANT SHALL BE BINDING ON THE OWNER OF EACH LOT IN THE SUBDIVISION (THE LOT OWNER(S)) AND SHALL BE ENFORCEABLE BY THE CITY OF BROKEN ARROW, OKLAHOMA, AND BY THE SUPPLIER OF ANY AFFECTED UTILITY SERVICE, THAT WITHIN THE UTILITY EASEMENTS DEPICTED ON THE PLAT, NO BUILDING, STRUCTURE OR OTHER ABOVE OR BELOW-GROUND CONSTRUCTION THAT INTERFERES WITH THE ABOVE SET FORTH USES AND PURPOSES OF AN EASEMENT SHALL BE PLACED, ERECTED, INSTALLED OR MAINTAINED; PROVIDED HOWEVER, NOTHING HEREIN SHALL BE DEEMED TO PROHIBIT DRIVES, PARKING AREAS, CURBING, LANDSCAPING, SIGNS, AND CUSTOMARY SCREENING FENCES AND WALLS.

B. UNDERGROUND SERVICE.
1. STREET LIGHT POLES AND STANDARDS SHALL BE SERVED BY UNDERGROUND CABLE. ALL SUPPLY LINES, INCLUDING ELECTRIC, TELEPHONE, CABLE TELEVISION AND GAS LINES SHALL BE LOCATED UNDERGROUND, IN THE EASEMENT-WAYS DEDICATED FOR GENERAL UTILITY SERVICES AND IN THE PRIVATE STREETS AS DEPICTED ON THE PLAT. SERVICE PEDESTALS AND TRANSFORMERS, AS SOURCES OF SUPPLY AT SECONDARY VOLTAGES, MAY ALSO BE LOCATED IN SAID EASEMENT-WAYS; PROVIDING, HOWEVER, THAT NO SERVICE PEDESTALS OR TRANSFORMERS FOR ELECTRIC, TELEPHONE, CABLE TELEVISION OR METERS OR PEDESTALS FOR OTHER UTILITY SERVICES SHALL BE LOCATED ON THE FRONTS OF THE LOTS.
2. UNDERGROUND SERVICE CABLES AND GAS SERVICE LINES TO ALL STRUCTURES WHICH MAY BE LOCATED WITHIN THE SUBDIVISION MAY BE RUN FROM THE NEAREST GAS MAIN, SERVICE PEDESTAL OR TRANSFORMER TO THE POINT OF USAGE DETERMINED BY THE LOCATION AND CONSTRUCTION OF SUCH STRUCTURE AS MAY BE LOCATED UPON EACH LOT; PROVIDED THAT, UPON INSTALLATION OF A SERVICE CABLE OR GAS SERVICE LINE TO A PARTICULAR STRUCTURE, THE SUPPLIER OF SAID SERVICE SHALL THEREAFTER BE DEEMED TO HAVE A DEFINITIVE, PERMANENT, EFFECTIVE AND NON-EXCLUSIVE RIGHT-OF-WAY EASEMENT ON THE LOT, COVERING A FIVE FOOT STRIP EXTENDING 2.5 FEET ON EACH SIDE OF THE SERVICE CABLE OR LINE EXTENDING FROM THE GAS MAIN, SERVICE PEDESTAL OR TRANSFORMER TO THE SERVICE ENTRANCE ON SAID STRUCTURE.
3. THE SUPPLIERS OF ELECTRIC, TELEPHONE, CABLE TELEVISION AND GAS SERVICES, THROUGH THEIR PROPER AGENTS AND EMPLOYEES, SHALL AT ALL TIMES HAVE THE RIGHT OF ACCESS TO ALL EASEMENT WAYS SHOWN ON THE PLAT OR OTHERWISE PROVIDED FOR IN THIS DEED OF DEDICATION FOR THE PURPOSE OF INSTALLING, MAINTAINING, REMOVING, OR REPLACING ANY PORTION OF SAID UNDERGROUND ELECTRIC, TELEPHONE, CABLE TELEVISION OR GAS FACILITIES INSTALLED BY THE SUPPLIER OF THE UTILITY SERVICE.
4. THE OWNER OF THE LOT SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE UNDERGROUND SERVICE FACILITIES LOCATED ON HIS LOT AND SHALL PREVENT THE ALTERATION OF GRADE OR ANY CONSTRUCTION ACTIVITY WHICH WOULD INTERFERE WITH THE ELECTRIC, TELEPHONE, CABLE TELEVISION OR GAS FACILITIES. EACH SUPPLIER OF SERVICE SHALL BE RESPONSIBLE FOR ORDINARY MAINTENANCE OF UNDERGROUND FACILITIES, BUT THE OWNER SHALL PAY FOR DAMAGES OR RELOCATION OF SUCH FACILITIES CAUSED OR NECESSITATED BY ACTS OF THE OWNER OR HIS AGENTS OR CONTRACTORS. SAID ALTERATIONS OF GRADE AND LIMITATION OF CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO EASEMENTS AND DOES NOT APPLY TO AREAS OUTSIDE OF THE EASEMENTS DESIGNATED ON THE PLAT.
5. THE FOREGOING COVENANTS SET FORTH IN THIS SECTION B CONCERNING UNDERGROUND ELECTRIC, TELEPHONE, CABLE TELEVISION AND GAS SERVICES SHALL BE ENFORCEABLE BY EACH SUPPLIER OF THE ELECTRIC, TELEPHONE, CABLE TELEVISION OR GAS SERVICE AND THE OWNER OF THE LOT AGREES TO BE BOUND HEREBY.

C. WATER AND SEWER SERVICES.
1. EACH LOT OWNER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PUBLIC WATER MAINS, THE PUBLIC SANITARY SEWER MAIN AND STORM SEWERS LOCATED ON SUCH LOT.
2. WITHIN THE UTILITY EASEMENTS DEPICTED ON THE PLAT, THE ALTERATION OF GRADE ELEVATIONS IN EXCESS OF THREE (3) FEET FROM THE CONTOURS EXISTING UPON COMPLETION OF THE INSTALLATION OF A PUBLIC WATER MAIN OR SEWER MAIN, OR ANY CONSTRUCTION ACTIVITY WHICH WOULD INTERFERE WITH THE PUBLIC WATER AND SEWER MAINS SHALL BE PROHIBITED.
3. THE CITY OF BROKEN ARROW, OKLAHOMA, OR ITS SUCCESSORS, SHALL BE RESPONSIBLE FOR THE ORDINARY MAINTENANCE OF THE PUBLIC WATER AND SEWER MAINS, BUT EACH LOT OWNER SHALL PAY FOR DAMAGE OR RELOCATION OF SUCH FACILITIES CAUSED OR NECESSITATED BY THE ACT OF SUCH LOT OWNER, HIS AGENTS OR CONTRACTORS.
4. THE CITY OF BROKEN ARROW, OKLAHOMA, OR ITS SUCCESSORS SHALL AT ALL TIMES HAVE RIGHT OF ACCESS TO ALL EASEMENTS DEPICTED ON THE PLAT, OR OTHERWISE PROVIDED FOR IN THIS DEED OF DEDICATION, FOR THE PURPOSE OF INSTALLING, MAINTAINING, REMOVING OR REPLACING ANY PORTION OF UNDERGROUND WATER, SANITARY SEWER OR STORM SEWER FACILITIES.
5. THE FOREGOING COVENANTS SET FORTH IN THIS SECTION C. SHALL BE ENFORCEABLE BY THE CITY OF BROKEN ARROW, OKLAHOMA, OR ITS SUCCESSORS, AND THE ABOVE OWNER AND THE LOT OWNERS AGREE TO BE BOUND HEREBY.

D. GAS SERVICE.
1. THE SUPPLIER OF GAS SERVICE THROUGH ITS AGENTS AND EMPLOYEES SHALL AT ALL TIMES HAVE THE RIGHT OF ACCESS TO ALL SUCH EASEMENTS SHOWN ON THE PLAT OR AS PROVIDED FOR IN THIS DEED OF DEDICATION FOR THE PURPOSE OF INSTALLING, REMOVING, REPAIRING, OR REPLACING ANY PORTION OF THE FACILITIES INSTALLED BY THE SUPPLIER OF GAS SERVICE.
2. EACH LOT OWNER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE UNDERGROUND GAS FACILITIES LOCATED IN SUCH LOT OWNER'S LOT AND SHALL PREVENT THE ALTERATION OF GRADE, OR ANY OTHER CONSTRUCTION ACTIVITY WHICH WOULD INTERFERE WITH THE GAS SERVICE. THE SUPPLIER OF THE GAS SERVICE SHALL BE RESPONSIBLE FOR THE ORDINARY MAINTENANCE OF SAID FACILITIES, BUT THE LOT OWNER SHALL PAY FOR DAMAGE OR RELOCATION OF SUCH FACILITIES CAUSED OR NECESSITATED BY THE ACT OF THE LOT OWNER, OR THE LOT OWNER'S AGENTS OR CONTRACTORS.
3. FOREGOING COVENANTS SET FORTH IN THIS SECTION D. SHALL BE ENFORCEABLE BY THE SUPPLIER OF THE GAS SERVICE AND EACH LOT OWNER AGREES TO BE BOUND HEREBY.

E. SURFACE DRAINAGE.
EACH LOT SHALL RECEIVE AND DRAIN, IN AN UNOBSTRUCTED MANNER, THE STORM AND SURFACE WATERS FROM LOTS AND DRAINAGE AREAS OF HIGHER ELEVATION AND FROM PUBLIC STREETS AND EASEMENTS. NO LOT OWNER SHALL CONSTRUCT OR PERMIT TO BE CONSTRUCTED ANY FENCING OR OTHER OBSTRUCTIONS WHICH WOULD IMPAIR THE DRAINAGE OF STORM AND SURFACE WATERS OVER AND ACROSS EACH LOT OWNER'S LOT. THE FOREGOING COVENANTS SET FORTH IN THIS E. SHALL BE ENFORCEABLE BY ANY AFFECTED LOT OWNER AND BY THE CITY OF BROKEN ARROW, OKLAHOMA.

F. PAVING AND LANDSCAPING WITHIN EASEMENTS.
THE LOT OWNER AFFECTED SHALL BE RESPONSIBLE FOR REPAIR OF DAMAGE TO THE LANDSCAPING AND PAVING OCCASIONED BY THE NECESSARY INSTALLATION OF OR MAINTENANCE TO THE UNDERGROUND WATER, SEWER, STORM WATER, GAS, COMMUNICATION, CABLE TELEVISION OR ELECTRIC FACILITIES WITHIN THE EASEMENTS DEPICTED ON THE ACCOMPANYING PLAT, PROVIDED, HOWEVER, THAT THE CITY OF BROKEN ARROW, OR THE SUPPLIER OF THE UTILITY SERVICE SHALL USE REASONABLE CARE IN THE PERFORMANCE OF SUCH ACTIVITIES.

G. RESERVE AREAS.
RESERVE AREAS SHALL BE THOSE AREAS DESIGNATED AS "RESERVE AREAS" ON THE PLAT AND ALL PRIVATE STREETS, LANDSCAPING AREAS AND ALL OTHER COMMON AREAS (THE "RESERVE AREAS"). RESERVE AREAS MAY BE USED FOR PRIVATE STREETS, INCLUDING ENTRY FEATURES, BUILDINGS AND GATES, FOR THE MUTUAL, NON-EXCLUSIVE USE OF THE OWNERS OF LOTS WITHIN THE SUBDIVISION, THEIR GUESTS, TENANTS AND INVITEES AND THE GOVERNMENTAL ENTITIES AS SET FORTH IN SECTION B HEREOF, FOR BOTH VEHICULAR AND PEDESTRIAN INGRESS, EGRESS AND REGRESS TO THE LOTS. RESERVE AREAS MAY ALSO BE USED FOR OPEN SPACE, LANDSCAPING, FENCING OR WALLS, ENTRY GATES, TRAFFIC MEDIANS OR ISLANDS, RECREATION AND PARK USE, STORM WATER DRAINAGE AREAS, WATER FEATURES AND DETENTION AREAS. ALL RESERVE AREAS SHOWN ON THE PLAT SHALL BE OWNED BY AND MAINTAINED BY THE BERWICK FAIRWAYS NEIGHBORHOOD ASSOCIATION, INC. (THE "ASSOCIATION") AS MORE FULLY SET FORTH IN THE DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS OF BERWICK ON CEDAR RIDGE FILLED AS DOCUMENT NUMBER 2006096827 AS AMENDED, IN THE OFFICE OF THE COUNTY CLERK, TULSA COUNTY, OKLAHOMA (THE "DECLARATION") AND THE RULES AND REGULATIONS OF THE ASSOCIATION.

SECTION II. PLANNED UNIT DEVELOPMENT RESTRICTIONS.

WHEREAS, THE PLANNED UNIT DEVELOPMENT PROVISIONS OF THE BROKEN ARROW ZONING ORDINANCE REQUIRE THE ESTABLISHMENT OF COVENANTS OF RECORD, INURING TO AND ENFORCEABLE BY THE CITY OF BROKEN ARROW, OKLAHOMA SUFFICIENT TO ASSURE CONTINUED COMPLIANCE WITH THE APPROVED PLANNED UNIT DEVELOPMENT AND AMENDMENTS THERETO; AND

WHEREAS, THE OWNER DESIRES TO ESTABLISH RESTRICTIONS FOR THE PURPOSE OF ACHIEVING AN ORDERLY DEVELOPMENT FOR THE MUTUAL BENEFIT OF THE OWNER, THE OWNER'S SUCCESSORS IN TITLE AND THE CITY OF BROKEN ARROW, OKLAHOMA;

SECTION II. PLANNED UNIT DEVELOPMENT RESTRICTIONS (CONT)

NOW, THEREFORE, THE OWNER DOES HEREBY IMPOSE THE FOLLOWING LOT RESTRICTIONS AND COVENANTS WHICH SHALL BE COVENANTS RUNNING WITH THE LAND AND SHALL BE BINDING UPON EACH LOT OWNER, ITS SUCCESSORS IN TITLE, AND THE CITY OF BROKEN ARROW, OKLAHOMA, AND SHALL BE ENFORCEABLE AS HEREINAFTER SET FORTH.
THE DEVELOPMENT OF "BERWICK FAIRWAYS II" (PUD-NO. 182) SHALL BE SUBJECT TO THE PLANNED UNIT DEVELOPMENT PROVISIONS OF THE BROKEN ARROW ZONING ORDINANCE, AS SUBSEQUENTLY AMENDED, AND THE PROVISIONS OF PUD NO. 182

A. USE OF LAND.
1. RESIDENTIAL LOT USE.
ALL LOTS SHALL BE KNOWN AND DESCRIBED AS RESIDENTIAL LOTS AND SHALL BE LIMITED TO USE FOR DETACHED SINGLE-FAMILY RESIDENCES AND PURPOSES. NO TRADE OR BUSINESS SHALL BE PERMITTED ON ANY LOT.

2. FRONTING AND ACCESS LIMITATION.
EACH DWELLING SHALL FACE THE PRIVATE STREET AND DERIVE ITS ACCESS SOLELY FROM THE PRIVATE STREET.

3. YARDS AND SETBACKS.
A. MINIMUM FRONT YARD FROM PRIVATE STREET RIGHT-OF-WAY.
NO BUILDING SHALL BE CONSTRUCTED NEARER THAN 25 FEET FROM THE RIGHT-OF-WAY OF THE PRIVATE STREET IN THE FRONT OF THE RESIDENCE AS SHOWN ON THE ACCOMPANYING PLAT.
B. MINIMUM SIDE YARD FROM A PRIVATE STREET RIGHT-OF-WAY.
NO BUILDING SHALL BE CONSTRUCTED NEARER THAN 20 FEET FROM THE RIGHT-OF-WAY OF A PRIVATE STREET TO THE SIDE OF THE RESIDENCE AS SHOWN ON THE ACCOMPANYING PLAT, PROVIDED THAT ANY GARAGE DOOR WILL BE SET BACK A MINIMUM OF 25 FEET FROM THE PRIVATE RIGHT-OF WAY.
C. MINIMUM SIDE YARDS.
ONE SIDE YARD 5 FEET AND OTHER SIDE YARD 10 FEET.
D. MINIMUM REAR YARD.
THE MINIMUM REAR YARD SHALL BE 20 FEET.

4. MINIMUM LOT AREA.
NO LOT SHALL HAVE A LOT AREA LESS THAN 8,000 SQUARE FEET.

5. MAXIMUM NUMBER OF DWELLING UNITS.
THE MAXIMUM NUMBER OF DWELLING UNITS SHALL BE 170.

6. MINIMUM LOT WIDTH AND LOT FRONTAGE.
THE MINIMUM LOT WIDTH SHALL BE 70 FEET MEASURED AT THE BUILDING LINE EXCEPT THAT THE WIDTH OF ANY CUL-DE-SAC LOT MAY BE LESS THAN THE MINIMUM FRONTAGE AT THE RIGHT-OF-WAY PROVIDING THE LOT WIDTH AT THE BUILDING LINE IS A MINIMUM OF 60 FEET. ALL LOTS SHALL HAVE AT LEAST 30 FEET OF FRONTAGE ALONG THE STREET RIGHT-OF-WAY.

7. MAXIMUM STRUCTURE HEIGHT.
NO STRUCTURE MAY BE CONSTRUCTED OR ERECTED ON ANY LOT IN EXCESS OF THE HEIGHT PERMITTED BY THE REQUIREMENTS OF THE R-2 DISTRICT OF THE BROKEN ARROW ZONING ORDINANCE.

8. OTHER BULK AND AREA REQUIREMENTS.
EXCEPT AS MODIFIED ABOVE, ALL LOTS SHALL, AT A MINIMUM, MEET THE REQUIREMENTS OF THE R-2 DISTRICT OF THE BROKEN ARROW ZONING ORDINANCE.

B. UTILITY AND GOVERNMENTAL SERVICES ACCESS EASEMENT.
THE OWNER HEREBY GRANTS TO THE CITY OF BROKEN ARROW, OKLAHOMA, THE UNITED STATES POSTAL SERVICE, ANY PUBLIC UTILITY PROVIDING UTILITY SERVICE TO THE SUBDIVISION, AND ANY REFUSE COLLECTION SERVICE WHICH PROVIDES SERVICE WITHIN THE SUBDIVISION, THE RIGHT TO ENTER AND TRAVERSE THE PRIVATE STREETS AND TO OPERATE THEREON ALL SERVICE, EMERGENCY AND GOVERNMENTAL VEHICLES, INCLUDING, BUT NOT LIMITED TO, POLICE AND FIRE VEHICLES AND EQUIPMENT.

C. SIDEWALKS, FENCING AND LANDSCAPING.
SIDEWALKS WILL BE INSTALLED BY THE DEVELOPER ALONG ALL RESERVE AREAS AND SHALL BE MAINTAINED BY THE ASSOCIATION.

D. OFF-STREET PARKING.
A MINIMUM OF TWO, ENCLOSED OFF-STREET PARKING SPACES SHALL BE PROVIDED ON EACH LOT BY EACH LOT OWNER WITHIN THE GARAGE OF THE HOUSE.

E. SITE PLAN AND LANDSCAPING PLAN.
THE ACCOMPANYING PLAT SHALL CONSTITUTE THE REQUIRED SITE PLAN OF THE PLANNED UNIT DEVELOPMENT INCLUDED WITHIN THE PLAT.

F. MAINTENANCE OF RESERVE AREAS AND COMMON AREAS.
ALL RESERVE AREAS, THE PRIVATE STREETS, LANDSCAPING AREAS AND EASEMENTS AND ALL OTHER COMMON AREAS SHALL BE MAINTAINED BY THE ASSOCIATION IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE DECLARATION.

G. DEFINITIONS.
IN THE EVENT OF AN AMBIGUITY OR CONFLICT OF ANY WORD OR TERM SET FORTH IN THIS SECTION II, THE MEANING THEREOF, SHALL BE DEEMED TO BE DEFINED AS SET FORTH IN THE CITY OF BROKEN ARROW ZONING ORDINANCE, AS SUBSEQUENTLY AMENDED.

SECTION III. PRIVATE BUILDING AND USE RESTRICTIVE COVENANTS.

FOR THE PURPOSE OF PROVIDING AN ORDERLY DEVELOPMENT OF THE SUBDIVISION, TO PROTECT THE DESIRABILITY OF THE SUBDIVISION AND THE VALUES THEREOF, AND FOR MAINTAINING CONFORMITY OF THE IMPROVEMENTS THEREIN, THE FOLLOWING RESTRICTIONS AND COVENANTS ARE HEREBY IMPOSED UPON THE USE AND OCCUPANCY OF THE LOTS WITHIN THE SUBDIVISION, WHICH SHALL BE COVENANTS RUNNING WITH THE LAND AND SHALL BE BINDING UPON THE OWNER, ITS SUCCESSORS AND ASSIGNS AND SHALL BE ENFORCEABLE AS HEREINAFTER PROVIDED.

A. ARCHITECTURAL COMMITTEE - PLAN REVIEW.
1. FORMATION.
OWNER HEREBY FORMS AN ARCHITECTURAL COMMITTEE (THE "ARCHITECTURAL COMMITTEE") THAT SHALL:
A. APPROVE ALL PLANS FOR ANY STRUCTURE TO BE BUILT ON ANY LOT AND ANY MODIFICATIONS OR ALTERATIONS THERETO; AND
B. BE RESPONSIBLE FOR INTERPRETING THE DEVELOPMENT AND CONSTRUCTION STANDARDS CONTAINED HEREIN AND ANY BUILDING GUIDELINES DEVELOPED BY THE ARCHITECTURAL COMMITTEE.
2. MEMBERSHIP.
THE ARCHITECTURAL COMMITTEE SHALL CONSIST OF NOT LESS THAN ONE (1) NOR MORE THAN FIVE (5) MEMBERS TO BE APPOINTED BY OWNER UNTIL OWNER, IN ITS SOLE DISCRETION, ASSIGNS AND TRANSFERS THE RESPONSIBILITY FOR THE APPOINTMENT OF THE ARCHITECTURAL COMMITTEE TO THE ASSOCIATION TO BE FORMED PURSUANT TO SECTION IV BELOW.
3. SUBMISSION OF PLANS.
NO BUILDING, FENCE, WALL, FREE STANDING MAILBOX OR ANY OTHER IMPROVEMENTS OR STRUCTURE MAY BE COMMENCED, ERECTED, CONSTRUCTED OR PLACED ON ANY LOT IN THE SUBDIVISION WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECTURAL COMMITTEE. THE ARCHITECTURAL PLANS TO BE SUBMITTED AND APPROVED IN ACCORDANCE HEREWITH SHALL BE SUBMITTED IN DUPLICATE AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING WITH REGARD TO EACH IMPROVEMENT TO BE CONSTRUCTED ON ANY LOT IN THE SUBDIVISION, WHICH MUST BE APPROVED PRIOR TO SUBMITTAL TO THE CITY OF BROKEN ARROW.
A. AN ACCURATE SITE PLAN;
B. AN ACCURATE FLOOR PLAN;
C. ALL EXTERIOR ELEVATIONS;
D. A FENCING PLAN SLOWING THE COMPOSITION, LOCATION AND HEIGHT OF FENCING;
E. A LANDSCAPING PLAN;
F. A "HARDSCAPE" PLAN, SHOWING THE LOCATION AND COMPOSITION OF ALL DRIVEWAYS, WALKWAYS AND PATIOS.
G. ANY OTHER PLANS OR INFORMATION REQUIRING THE APPROVAL OF THE CITY OF BROKEN ARROW OR THE BROKEN ARROW PLANNING COMMISSION PURSUANT TO SECTION II OF THIS DEED OF DEDICATION;
H. DETAILS REGARDING THE COMPOSITION OF ALL ROOFING AND EXTERNAL BUILDING MATERIALS, INCLUDING COLOR SCHEMES;
I. DRAINAGE AND GRADING PLANS; AND
J. ANY OTHER PLANS OR DETAILS REQUIRED BY THE ARCHITECTURAL COMMITTEE.
IN PASSING UPON SUCH PLANS, SPECIFICATIONS, PLOT PLANS, DRAINAGE AND GRADING PLANS, THE ARCHITECTURAL COMMITTEE MAY TAKE INTO CONSIDERATION THE SUITABILITY OF THE PROPOSED BUILDING OR OTHER STRUCTURES AND OF THE MATERIAL OF WHICH IT IS TO BE BUILT TO THE SITE UPON WHICH IT IS PROPOSED TO ERECT THE SAME, THE HARMONY THEREOF WITH THE SURROUNDING BUILDINGS AND LOTS AND THE EFFECT OF THE BUILDING OR OTHER STRUCTURES AS PLANNED ON THE VIEW FROM THE ADJACENT OR NEIGHBORING LOTS.
4. VARIANCE.
THE ARCHITECTURAL COMMITTEE MAY AUTHORIZE IN WRITING VARIANCES FROM COMPLIANCE WITH ANY OF THE DESIGN GUIDELINES OR THE PROVISIONS OF SECTION III WHEN CIRCUMSTANCES PECULIAR TO THE PROPERTY IN QUESTION, INCLUDING, BUT NOT LIMITED TO, TOPOGRAPHY, OBSTRUCTIONS, HARDSHIP OR AESTHETIC, ENVIRONMENTAL OR OTHER CONSIDERATIONS WOULD ALLOW A VARIANCE FROM THE PROVISIONS OF SECTION III WITHOUT ANY DETRIMENT TO THE SUBDIVISION, BUT ONLY IN ACCORDANCE WITH SPECIFIC CONDITIONS IMPOSED BY THE ARCHITECTURAL COMMITTEE. NO VARIANCE SHALL BE CONTRARY TO ANY SPECIFIC RESTRICTION SET FORTH HEREIN OTHER THAN THE PROVISIONS OF SECTION III OR THE DESIGN GUIDELINES NOR ESTOP THE ARCHITECTURAL COMMITTEE FROM DENYING A VARIANCE IN ANY OTHER CIRCUMSTANCES. FOR PURPOSES OF THIS SECTION, THE INABILITY TO OBTAIN APPROVAL OF ANY GOVERNMENTAL AGENCY, ISSUANCE OF ANY PERMIT OR THE TERMS OF ANY FINANCING SHALL NOT BE CONSIDERED A HARDSHIP WARRANTING A VARIANCE. THIS SECTION SHALL NOT BE CONSTRUED SO AS TO CONFER ON ANY LOT OWNER ANY ENTITLEMENT TO A VARIANCE OR WAIVER.

B. FLOOR AREA.
SINGLE STORY DWELLINGS SHALL HAVE A MINIMUM OF 3,500 SQUARE FEET OF LIVING AREA. MULTI-STORY DWELLINGS SHALL HAVE A MINIMUM OF 4,000 SQUARE FEET OF LIVING AREA; PROVIDED, HOWEVER, THAT THE FIRST FLOOR SHALL HAVE A MINIMUM OF 3,000 SQUARE FEET OF LIVING AREA.
THE COMPUTATION OF SQUARE FEET OF LIVING AREA SHALL EXCLUDE GARAGES, OPEN SPACES AND BREEZE WAYS.

C. VIEW OBSTRUCTIONS.
NO STRUCTURE, OUTBUILDING, FENCE OR WALL SHALL BE SO SITUATED THAT, IN THE OPINION OF THE ARCHITECTURAL COMMITTEE, IT UNREASONABLY OBSTRUCTS A VIEW OF THE GOLF COURSE OR OF A GREENBELT AREA OR A WATER FEATURE FROM ANOTHER LOT.

D. FOUNDATIONS.
ALL EXPOSED FOUNDATIONS SHALL BE OF BRICK, STUCCO OR STONE. NO CONCRETE BLOCKS, POURED CONCRETE OR ANY OTHER FOUNDATION WILL BE EXPOSED. NO STEM WALLS SHALL BE EXPOSED.

E. GARAGES AND DRIVEWAYS.
AN ATTACHED GARAGE PROVIDING SPACES FOR A MINIMUM OF TWO (2) AUTOMOBILES SHALL BE PROVIDED ON EACH LOT. GARAGES SHALL BE ENCLOSED AND CARPORTS ARE PROHIBITED. ALL DRIVEWAYS SHALL BE CONCRETE OR OTHER MASONRY APPROVED BY THE ARCHITECTURAL COMMITTEE. GARAGE DOORS SHALL BE WOOD VENEER. WINDOWS IN GARAGE DOORS ARE PROHIBITED.
IF A GARAGE HAS SPACES FOR MORE THAN TWO CARS, THE GARAGE DOOR FOR THE ADDITIONAL SPACE(S) (AFTER THE FIRST TWO) SHALL BE OFFSET AND LOCATED FURTHER BACK ON THE LOT, UNLESS OTHERWISE APPROVED BY THE ARCHITECTURAL COMMITTEE.

F. MASONRY.
FOR BLOCKS 2, 3, & 4
ONE HUNDRED PERCENT (100%) OF THE SURFACE OF EXTERIOR WALLS (EXCLUDING WINDOWS AND DOORS) SHALL BE BRICK, STONE OR STUCCO EXCEPT UNDER COVERED PORCHES AND PATIOS, PROVIDED THAT THE EXTERIOR WALLS ABOVE THE FIRST FLOOR ELEVATION WALL MAY BE CONSTRUCTED OF WOOD, MASONITE OR A COMPARABLE SIDING PRODUCT. NOTWITHSTANDING THE FORGOING, BRICK, STONE OR STUCCO SHALL EXTEND TO THE TOP OF GABLES ON THE FRONT OF THE HOME.
FOR BLOCK 1
ONE HUNDRED PERCENT (100%) OF THE EXTERIOR WALLS (EXCLUDING WINDOWS AND DOORS) SHALL BE BRICK, STONE OR STUCCO EXCEPT UNDER COVERED PORCHES AND PATIOS.

G. WINDOWS AND DOORS.
ALL WINDOW FRAMES AND DOORS SHALL BE OF EITHER WOOD, VINYL CLAD WOOD OR VINYL. ALUMINUM WINDOWS HAVING A MILL FINISH ARE PROHIBITED.

H. ROOF PITCH.
NO DWELLING SHALL HAVE A ROOF PITCH OF LESS THAN 9/12; PROVIDING, HOWEVER, THAT A ROOF OVER A PORCH SHALL HAVE A ROOF PITCH OF NO LESS THAT 6/12 IF GABLE OR 4/12 IF SHED. ALL FRONT AND REAR GABLES SHALL HAVE NO LESS THAN A 12/12 PITCH.

SECTION III. PRIVATE BUILDING AND USE RESTRICTIVE COVENANTS (CONT)

I. ROOFING MATERIALS.
ROOFING SHALL BE SELF-SEALING TAMKO HERITAGE 30 YEAR, OXFORD GRAY COMPOSITION SHINGLES OR APPROVED EQUIVALENT; PROVIDING, HOWEVER, IN THE EVENT SUCH ROOFING SHOULD HEREINAFTER NOT BE REASONABLY AVAILABLE, ALTERNATIVE ROOFING OF COMPARABLE QUALITY SHALL BE PERMITTED UPON A DETERMINATION OF THE ARCHITECTURAL COMMITTEE THAT THE PROPOSED ALTERNATIVE IS OF COMPARABLE OR BETTER QUALITY AND OF A DESIGN AND QUALITY WHICH IS COMPATIBLE WITH THE ROOFING FIRST DESCRIBED.

J. ANTENNA.
EXTERIOR ANTENNAS OR OTHER DEVICES (INCLUDING SUPPORTING STRUCTURES) FOR THE TRANSMISSION OR RECEPTION OF RADIO, TELEVISION, SATELLITE SIGNALS OR OTHER FORMS OF ELECTO-MAGNETIC RADIATION ARE PROHIBITED, EXCEPT THAT WITHIN EACH LOT ONE SATELLITE DISH, NOT EXCEEDING TWENTY-FOUR INCHES (24") IN DIAMETER, IS PERMITTED. THE LOCATION OF ANY SUCH SATELLITE DISH MUST BE APPROVED BY THE ARCHITECTURAL COMMITTEE AND SHALL BE, WHEREVER POSSIBLE, SUCH THAT THE SATELLITE DISH IS NOT VISIBLE FROM ANY PUBLIC OR PRIVATE STREET.

K. MATERIALS AND STORAGE.
NO LOT WILL BE USED FOR THE STORAGE OF MATERIALS FOR A PERIOD OF GREATER THAN THIRTY (30) CALENDAR DAYS PRIOR TO THE START OF CONSTRUCTION, AND THEN THE CONSTRUCTION SHALL BE COMPLETED WITHIN SIX (6) MONTHS. ALL LOTS SHALL BE MAINTAINED IN A NEAT AND ORDERLY CONDITION AT ALL TIMES.

L. RECREATIONAL VEHICLES.
NO CAMPERS, BOATS, TRAILERS, MOTOR HOMES, RECREATIONAL OR OTHER VEHICLES SHALL BE PARKED OR STORED IN THE SUBDIVISION FOR A PERIOD TO EXCEED TWENTY-FOUR (24) HOURS UNLESS STORED OR PARKED IN AN ENCLOSED GARAGE.

M. INOPERATIVE VEHICLES.
NO INOPERATIVE VEHICLE OR MACHINERY SHALL BE STORED ON ANY LOT, EXCEPT WITHIN AN ENCLOSED GARAGE, WHICH GARAGE DOOR MUST BE CLOSED EXCEPT FOR NORMAL OPERATION FOR ENTERING AND EXITING THE GARAGE.

N. MAINTENANCE OF LOTS.
EACH LOT SHALL BE MAINTAINED FREE OF RUBBISH, TRASH OR OTHER DEBRIS AND SHALL BE CUT, TRIMMED OR MOWED TO PREVENT GROWTH OF WEEDS OR TALL GRASS. GRASS AND LANDSCAPING SHALL BE MAINTAINED ON A REGULAR BASIS. TRASH CONTAINERS, EXCEPT DURING PERIODS OF COLLECTION, SHALL BE STORED OUT OF VIEW FROM THE PUBLIC AND FROM ADJOINING PROPERTY OWNERS. NO EXPOSED GARBAGE CANS, TRASH CAN OR ANY TRASH BURNING APPARATUS OR STRUCTURE SHALL BE PLACED ON ANY LOT.

O. SURFACE DRAINAGE.
THE OWNER OF EACH LOT SHALL MAINTAIN THE SURFACE DRAINAGE, EITHER NATURAL OR ARTIFICIAL, OVER AND ACROSS SUCH LOT. NO LOT OWNER SHALL CONSTRUCT OR PERMIT ANY FENCING OR OTHER OBSTRUCTION WHICH WOULD IMPAIR THE DRAINING OF STORM WATER OVER AND ACROSS THE LOT. NO LOT OWNER SHALL MODIFY OR CHANGE THE DIRECTION OF SURFACE STORM WATER FROM THE ORIGINAL, APPROVED DRAINAGE PLAN CONSTRUCTED ON THE LOT.

P. ON-SITE CONSTRUCTION.
EACH DWELLING MUST BE CONSTRUCTED ON-SITE AND NO DWELLING BUILT OFF-SITE SHALL BE PLACED ON ANY LOT.

Q. OUTBUILDINGS.
OUTDOOR STORAGE BUILDINGS ARE NOT PERMITTED. OTHER OUTBUILDINGS, SUCH AS GAZEBOS OR CABANAS, MAY BE PERMITTED SUBJECT TO THE APPROVAL OF THE LOCATION, STYLE AND MATERIALS USED IN THE CONSTRUCTION BY THE ARCHITECTURAL COMMITTEE PRIOR TO CONSTRUCTION, AND PROVIDING THAT THE OUTBUILDING IS COMPATIBLE IN MATERIAL AND STYLE WITH THE PRIMARY RESIDENCE. NO OUTBUILDING SHALL BE ERECTED ON A LOCATION THAT THE ARCHITECTURAL COMMITTEE DETERMINES WOULD UNREASONABLY OBSTRUCT A VIEW OF THE GOLF COURSE, A GREENBELT AREA OR A WATER FEATURE FROM ANOTHER LOT.

R. SWIMMING POOLS.
ABOVE GROUND SWIMMING POOLS ARE PROHIBITED. ANY POOL OR SPA SHALL BE IN-GROUND AND PERMANENT. LOTS WITH SWIMMING POOLS SHALL HAVE SUFFICIENT SECURITY FENCING AS REQUIRED BY CODE. SWIMMING POOL ANCILLARY EQUIPMENT SHALL BE SHIELDED FROM VIEW FROM THE STREET AND ADJACENT LOTS.

S. INTERIOR FENCES.
1. RESTRICTION APPLICABLE TO ALL LOTS -
ALL FENCES AND WALLS MUST BE APPROVED BY THE ARCHITECTURAL COMMITTEE. EACH OWNER OF A LOT SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF FENCING ON SUCH LOT. NO FENCE SHALL EXTEND BEYOND THE FRONT BUILDING LINE. ALL FENCES SHALL CONFORM TO THE DESIGN GUIDELINES ESTABLISHED BY THE ARCHITECTURAL COMMITTEE AND SHALL BE CONSTRUCTED ENTIRELY OF WOOD, BRICK, STONE, WROUGHT IRON OR OTHER METAL HAVING THE APPEARANCE OF WROUGHT IRON ("WROUGHT IRON-STYLE"), OR SOME COMBINATION THEREOF AS APPROVED BY THE ARCHITECTURAL COMMITTEE. VINYL, CHAIN LINK, BARBED WIRE, MESHED OR OTHER METAL FENCES ARE PROHIBITED. WOOD FENCES SHALL BE CONSTRUCTED WITH METAL POSTS AND SHALL INCLUDE A CAP AND TRIM. NO FENCE SHALL EXCEED SIX (6) FEET IN HEIGHT.
NO FENCE OR WALL SHALL BE ALLOWED WHICH, IN THE OPINION OF THE ARCHITECTURAL COMMITTEE, UNREASONABLY OBSTRUCTS A VIEW OF THE GOLF COURSE, A GREENBELT AREA, OR A WATER FEATURE FROM ANOTHER LOT.
ANY WOOD FENCE (WHERE ALLOWED) WHICH IS CONSTRUCTED ADJACENT TO A STREET SHALL BE DOUBLE SIDED OR SHALL BE CONSTRUCTED WITH THE PICKETS FACING THE STREET SIDE OF THE FENCE AND SHALL BE POSITIONED AT LEAST FIVE (5) FEET INSIDE THE PROPERTY LINE. IF SUCH FENCE RUNNING ADJACENT TO A STREET IS MORE THAN TWENTY (20) FEET LONG, LANDSCAPING OUTSIDE THE FENCE MUST BE INSTALLED BY THE LOT OWNER PURSUANT TO A LANDSCAPE PLAN SUBMITTED TO AND APPROVED BY THE ARCHITECTURAL COMMITTEE.
WROUGHT IRON-STYLE FENCES SHALL BE AMERISTAR MONTAGE PLUS THREE RAIL CLASSIC OR APPROVED EQUIVALENT. IN THE EVENT SUCH FENCING SHOULD HEREAFTER NOT BE REASONABLY AVAILABLE, ALTERNATIVE FENCING OF COMPARABLE STYLE AND QUALITY SHALL BE PERMITTED UPON A DETERMINATION OF THE ARCHITECTURAL COMMITTEE THAT THE PROPOSED ALTERNATIVE IS OF COMPARABLE OR BETTER QUALITY AND OF A DESIGN WHICH IS SIMILAR TO THE FENCING FIRST DESCRIBED.
2. RESTRICTIONS APPLICABLE ONLY TO BLOCK 1 -

ALL FENCES ON LOTS WITHIN BLOCK 1 SHALL BE WROUGHT IRON-STYLE, AND SHALL BE OF A CONSISTENT STYLE THROUGHOUT THE SUBDIVISION AS SPECIFIED BY THE ARCHITECTURAL COMMITTEE. NO FENCE IN BLOCK 1 SHALL EXCEED FOUR (4) FEET IN HEIGHT. HOWEVER, NOTWITHSTANDING THE FOREGOING, OTHER TYPES OF FENCING ALLOWED UNDER THE PROVISIONS OF SECTION III.S.1., ABOVE, MAY BE ERECTED ON THE SIDE LOT LINES ONLY SEPARATING LOTS 1 AND 2 AND LOTS 2 AND 3 OF BLOCK 1.

THE LOT OWNER OF ANY LOT ABUTTING CEDAR RIDGE COUNTRY CLUB MAY CONNECT SIDE YARD FENCES TO CEDAR RIDGE COUNTRY CLUB'S FENCE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE FENCE AGREEMENT BY AND BETWEEN CEDAR RIDGE COUNTRY CLUB, INC. AND THE OWNER FILED OF RECORD IN THE OFFICE OF THE COUNTY CLERK OF TULSA COUNTY, OKLAHOMA. GATES PROVIDING ACCESS TO THE CEDAR RIDGE COUNTY CLUB'S PROPERTY ARE NOT ALLOWED.

3. A FENCE WILL BE INSTALLED ALONG THE ENTIRE OUTER BOUNDARY OF THE SUBDIVISION (EXCLUDING THE BOUNDARY BETWEEN THE SUBDIVISION AND BERWICK FAIRWAYS I) AND SHALL BE MAINTAINED BY THE ASSOCIATION.

T. CLOTHESLINES.

EXPOSED CLOTHESLINE POLES OR OTHER OUTSIDE DRYING APPARATUS ARE PROHIBITED.

U. MAILBOXES.

ALL MAILBOXES SHALL BE CONSTRUCTED OF MATERIALS, SIZE, LOCATION AND STYLE APPROVED BY THE ARCHITECTURAL COMMITTEE AND SHALL BE UNIFORM FOR THE NEIGHBORHOOD.

V. ANIMALS.

NO ANIMALS, LIVESTOCK OR POULTRY OF ANY KIND MAY BE MAINTAINED, BRED, SOLD OR KEPT ON ANY LOT, EXCEPT THAT NO MORE THAN FOUR (4) DOGS, CATS OR OTHER CUSTOMARY AND NORMAL HOUSEHOLD PETS MAY BE KEPT, PROVIDED THAT THEY ARE NOT USED FOR COMMERCIAL PURPOSES. ALL PETS MUST BE LEASHED, EXCEPT IN AN ENCLOSED FENCED AREA AND EACH LOT OWNER SHALL BE RESPONSIBLE FOR NOT PERMITTING BARKING OR OTHER NOISE OR ACTIVITY BY SUCH PETS WHICH ARE A NUISANCE TO ADJOINING LOT OWNERS. NO EXOTIC WILD LIFE SHALL BE PERMITTED.

W. NOXIOUS ACTIVITIES.

NO NOXIOUS, LOUD, ANNOYING OR OFFENSIVE ACTIVITY SHALL BE CARRIED OUT UPON ANY LOT NOR SHALL ANYTHING BE DONE THEREON THAT MAY BE OR MAY BECOME AN ANNOYANCE OR NUISANCE TO THE NEIGHBORHOOD.

X. SIGNAGE.

NO SIGN OF ANY KIND SHALL BE DISPLAYED TO THE PUBLIC VIEW ON ANY LOT, EXCEPT ONE SIGN OF NOT MORE THAN SIX (6) SQUARE FEET IN AREA ADVERTISING THE PROPERTY FOR SALE; PROVIDING, HOWEVER, NOTHING CONTAINED HEREIN SHALL BE CONSTRUED TO PROHIBIT SIGNS ADVERTISING THE SUBDIVISION AND HOMES FOR SALE BY THE OWNER OR ITS DESIGNATED BUILDERS.

Y. EXTERIOR LIGHTING, ALARMS AND VIDEO.

NO SPOTLIGHTS, FLOOD LIGHTS OR OTHER HIGH INTENSITY LIGHTING OR ALARMS AND VIDEO AND AUDIO EQUIPMENT SHALL BE PLACED UPON OR UTILIZED UPON ANY LOT IN A MANNER WHICH UNREASONABLY INTERFERES WITH THE ENJOYMENT OF ADJOINING LOTS.

Z. CHIMNEYS.

ALL CHIMNEY CAPS SHALL BE COPPER OR CLAY. ALL CHIMNEYS SHALL BE OF MASONRY OR MASONRY VENEER CONSTRUCTION, EXCEPT THAT THE SIDE FACING THE ROOF MAY BE CONSTRUCTED OF WOOD, MASONITE OR A COMPARABLE SIDING PRODUCT.

AA. GUTTERING, FLASHING AND ROOF VENTS.

ALL DWELLINGS SHALL BE FULLY GUTTERED WITH "TIGHT-LINES" TO DRAIN IN ACCORDANCE WITH THE DRAINAGE PLAN. ALL EXPOSED EXTERIOR ROOF VENTS, FLASHING AND VALLEYS SHALL BE EITHER COPPER OR ALUMINUM PAINTED TO MATCH THE ROOFTOP. ALL EXTERIOR VENTING SHALL BE IN THE REAR OF THE RESIDENCE, IF POSSIBLE.

BB. LANDSCAPING.

RESTRICTIONS APPLICABLE TO ALL LOTS -

A HARDSCAPE PLAN FOR EACH LOT MUST BE SUBMITTED TO AND APPROVED BY THE ARCHITECTURAL COMMITTEE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ON ANY LOT. NO COTTONWOOD, MIMOSA, MULBERRY OR OTHER AESTHETICALLY UNDESIRABLE TREES OR PLANTS SHALL BE USED IN THE LANDSCAPING OF ANY LOT. NO TREES UNDER THREE (3) INCHES IN DIAMETER SHALL BE PLANTED OR MAINTAINED ON A LOT AS PART OF THE INITIAL, APPROVED LANDSCAPING. ALL YARDS SHALL BE FULLY SPRINKLED WITH AN UNDERGROUND, PERMANENT SYSTEM REGULATED BY AN INTERIOR CONTROL SYSTEM. ANY TERRACING MUST BE ACCOMPLISHED WITH HARDSCAPE MATERIALS APPROVED BY THE ARCHITECTURAL COMMITTEE. THE USE OF RAILROAD TIES IS PROHIBITED. TREES INSTALLED IN THE SUBDIVISION SHALL BE A MINIMUM OF 2.5 INCHES IN DIAMETER.

ADDITIONAL RESTRICTIONS APPLICABLE TO LOTS 3 THROUGH 19 OF BLOCK 1 -
ALL LOTS MUST BE COMPLETELY SODDED ON THE COMPLETION OF A RESIDENCE AND PRIOR TO THE OCCUPANCY THEREOF. THE FRONT OF ALL HOMES MUST BE LANDSCAPED UPON COMPLETION AND PRIOR TO OCCUPANCY OF THE HOME ON EACH LOT. THE INITIAL LANDSCAPING SHALL BE AT A COST OF NO LESS THAN $3,500.00 FOR THE FRONT YARD AND $2,500 FOR THE REAR YARD. A MINIMUM OF TWO TREES WILL BE PLANTED IN THE FRONT YARD AND ONE TREE IN THE REAR YARD.

ADDITIONAL RESTRICTIONS APPLICABLE TO ALL OTHER LOTS -
ALL LOTS MUST BE COMPLETELY SODDED ON THE COMPLETION OF A RESIDENCE AND PRIOR TO THE OCCUPANCY THEREOF. THE FRONT AND REAR OF ALL LOTS MUST BE LANDSCAPED UPON COMPLETION AND PRIOR TO OCCUPANCY OF THE HOME ON EACH LOT. THE INITIAL LANDSCAPING SHALL BE AT A COST OF NO LESS THAN $3,500.00 FOR THE FRONT YARD. A MINIMUM OF TWO TREES WILL BE PLANTED IN THE FRONT YARD.

SECTION III. PRIVATE BUILDING AND USE RESTRICTIVE COVENANTS (CONT)

CC. EXTERIOR HEATING, VENTILATION AND AIR CONDITIONING EQUIPMENT.
ALL EXTERIOR HEATING, VENTILATION AND AIR CONDITIONING EQUIPMENT SHALL BE SCREENED FROM VIEW. NO WINDOW UNITS SHALL BE PERMITTED.

DD. UTILITY TRANSFORMERS.
ALL TRANSFORMERS AND SIMILAR EQUIPMENT LOCATED ON A LOT SHALL BE SCREENED FROM VIEW.

EE. TRASH CONTAINERS.
TRASH CONTAINERS SHALL BE SCREENED FROM VIEW AT ALL TIMES EXCEPT ON DAYS WHEN CONTAINERS ARE REQUIRED TO BE PLACED NEAR THE STREET FOR COLLECTION, IN WHICH CASE CONTAINERS SHALL BE RETURNED TO THEIR USUAL LOCATION AND SCREENED FROM VIEW BY THE END OF THE COLLECTION DAY.

FF. SIDE YARD SETBACKS.
A MINIMUM OF 15 FEET BETWEEN HOUSES IS REQUIRED.

SECTION IV. HOMEOWNERS ASSOCIATIONS.

A. ASSOCIATION AND MASTER ASSOCIATION.
1. FORMATION.

THE ACCOMPANYING PLAT OF BERWICK FAIRWAYS II IS PART OF A LARGER PLANNED RESIDENTIAL COMMUNITY WHICH SHALL INCLUDE FUTURE SUBDIVISIONS AND THE EXISTING SUBDIVISIONS BERWICK ON CEDAR RIDGE BLOCK 1, BERWICK ON CEDAR RIDGE, BLOCKS 2, 3, 4, 5 AND 6, BERWICK ON CEDAR RIDGE BLOCK 7, AND BERWICK FAIRWAYS I (HEREINAFTER ALL THE FOREGOING ARE COLLECTIVELY REFERRED TO AS BERWICK ON CEDAR RIDGE). IT IS INTENDED THAT THE HOMEOWNERS WITHIN EACH DEVELOPED PHASE OF BERWICK ON CEDAR RIDGE SHALL BE INCLUDED AS MEMBERS OF A MASTER HOMEOWNERS ASSOCIATION, AND IN CERTAIN PHASES HAVING DISTINCT AND SEPARATE COMMON AREA INTERESTS HOMEOWNERS WILL ALSO BE MEMBERS OF A SEPARATE NEIGHBORHOOD ASSOCIATION AS MORE FULLY SET FORTH IN THE DECLARATION. ACCORDINGLY, THE OWNER HAS FORMED AN ASSOCIATION OF THE OWNERS OF ALL RESIDENTIAL LOTS WITHIN BERWICK ON CEDAR RIDGE, WHICH IS NAMED BERWICK ON CEDAR RIDGE HOMEOWNERS ASSOCIATION, INC. (THE MASTER ASSOCIATION), AND HAS FORMED THE ASSOCIATION, WHICH ASSOCIATION SHALL INCLUDE ALL OF THE OWNERS OF RESIDENTIAL LOTS IN THE SUBDIVISION AND LOTS IN BERWICK FAIRWAYS I, FOR THE GENERAL PURPOSES OF MAINTAINING THE PRIVATE STREETS, ENTRYWAYS, STORM WATER MANAGEMENT AND DETENTION AREAS, RESERVE AREAS, TREES AND OTHER COMMON AREAS, IN ORDER TO ENHANCE THE DESIRABILITY AND ATTRACTIVENESS OF BERWICK ON CEDAR RIDGE, WHICH INCLUDES ALL LOTS IN THE ACCOMPANYING PLAT, THE FOREGOING SUBDIVISIONS AND ANY PROPERTIES ANNEXED THERETO.

2. MEMBERSHIP.
EVERY RECORD OWNER OF A FEE INTEREST OF A LOT IN THE SUBDIVISION SHALL BE A MEMBER OF THE ASSOCIATION AND THE MASTER ASSOCIATION AND SUCH MEMBERSHIP SHALL BE APPURTENANT TO AND MAY NOT BE SEPARATED FROM OWNERSHIP OF A LOT. THE ACCEPTANCE OF A DEED TO A LOT SHALL CONSTITUTE ACCEPTANCE OF MEMBERSHIP IN THE ASSOCIATION AND THE MASTER ASSOCIATION.
3. ASSESSMENTS.
EACH RECORD OWNER OF THE FEE INTEREST IN A LOT IN THE SUBDIVISION COVENANTS AND AGREES TO PAY TO THE ASSOCIATION AND THE MASTER ASSOCIATION AN ANNUAL ASSESSMENT ESTABLISHED BY THE ASSOCIATION AND THE MASTER ASSOCIATION, WHICH SHALL BE NO LESS THAN THE MINIMUM AMOUNT NECESSARY TO ADEQUATELY MAINTAIN AND SUPPORT ALL COMMON AREAS OF INTEREST, INCLUDING, WITHOUT LIMITATION, ALL RESERVE AREAS AS DESIGNATED ON THE PLATS AND WITHIN BERWICK ON CEDAR RIDGE. THE ANNUAL ASSESSMENT ON EACH LOT SHALL BE A LIEN ON EACH LOT AS SET FORTH IN THE DECLARATION AND THE INSTRUMENT OF FORMATION FOR THE ASSOCIATION AND THE MASTER ASSOCIATION.
4. MAINTENANCE.
THE ASSOCIATION SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF THE RESERVE AREAS AND ANY STRUCTURES, STREETS, LANDSCAPING OR OTHER IMPROVEMENTS THEREON. THE RESERVE AREAS ARE RESERVED FOR SUBSEQUENT CONVEYANCE BY THE OWNER TO THE ASSOCIATION.

SECTION V. ENFORCEMENT, DURATION, AMENDMENT AND SEVERABILITY.

A. ENFORCEMENT.
THE COVENANTS AND RESTRICTIONS SET FORTH HEREIN SHALL BE COVENANTS RUNNING WITH THE LAND AND WHICH SHALL BE BINDING UPON THE OWNER, ITS GRANTEES, SUCCESSORS AND ASSIGNS. IN THE EVENT THE OWNER OR ANY OF ITS SUCCESSORS, GRANTEES, LESSEES OR ASSIGNS, OR ANY PERSON CLAIMING UNDER THEM, SHALL VIOLATE OR BREACH ANY OF THE COVENANTS AND RESTRICTIONS SET FORTH HEREIN OR IMPOSED HEREBY, THE OWNER OR ANY LOT OWNER IN THE SUBDIVISION SHALL HAVE THE RIGHT TO MAINTAIN AN ACTION AT LAW OR IN EQUITY AGAINST THE PERSON OR PERSONS ATTEMPTING TO VIOLATE ANY OF SUCH COVENANTS OR RESTRICTIONS TO PREVENT VIOLATION AND TO RECOVER DAMAGES FOR THE VIOLATION THEREOF. THE PREVAILING PARTY IN ANY SUCH SUIT SHALL BE ENTITLED TO RECOVER A REASONABLE ATTORNEY'S FEE AND THE COSTS OF THE ACTION.
WITHIN THE PROVISIONS OF SECTION I, STREETS, EASEMENTS AND UTILITIES, ARE SET FORTH CERTAIN COVENANTS AND CERTAIN ENFORCEMENT RIGHTS PERTAINING THERETO AND SHALL INURE TO THE BENEFIT OF AND SHALL BE ENFORCEABLE BY THE CITY OF BROKEN ARROW, OKLAHOMA IN THE EVENT THE OWNER, ANY LOT OWNER, OR ANY OF THEIR SUCCESSORS OR ASSIGNS, OR ANY PERSON CLAIMING UNDER THEM SHALL VIOLATE OR BREACH ANY OF THE COVENANTS AND RESTRICTIONS SET FORTH THEREIN OR IMPOSED THEREBY. THE BENEFICIARIES OF THE COVENANTS AS SET FORTH IN SECTION I HEREOF WITH RESPECT TO SUCH COVENANTS ONLY, SHALL HAVE THE RIGHT TO MAINTAIN ANY ACTION AT LAW OR IN EQUITY AGAINST THE PERSON OR PERSONS ATTEMPTING TO VIOLATE ANY OF SUCH COVENANTS OR RESTRICTIONS TO PREVENT VIOLATION OR TO RECOVER DAMAGES FOR THE VIOLATIONS THEREOF. THE COVENANTS SET FORTH IN SECTION II, PLANNED UNIT DEVELOPMENT RESTRICTIONS, ARE ESTABLISHED PURSUANT TO THE PLANNED UNIT DEVELOPMENT PROVISIONS OF THE BROKEN ARROW ZONING ORDINANCE AND SHALL INURE TO THE BENEFIT OF AND BE ENFORCEABLE BY THE CITY OF BROKEN ARROW, OKLAHOMA. IN THE EVENT THE OWNER, ANY LOT OWNER, OR ANY OF THEIR SUCCESSORS, GRANTEES, LESSEES OR ASSIGNS, OR ANY PERSON CLAIMING UNDER THEM, SHALL VIOLATE OR BREACH ANY OF THE COVENANTS AND RESTRICTIONS SET FORTH HEREIN OR IMPOSED HEREBY, THE CITY OF BROKEN ARROW, OKLAHOMA SHALL HAVE THE RIGHT TO MAINTAIN AN ACTION AT LAW OR IN EQUITY AGAINST THE PERSON OR PERSONS ATTEMPTING TO VIOLATE ANY OF SUCH COVENANTS OR RESTRICTIONS TO PREVENT VIOLATION OR TO RECOVER DAMAGES FOR THE VIOLATION THEREOF.
NOTHING HEREIN CONTAINED, HOWEVER, SHALL BE CONSTRUED, EITHER EXPRESSLY OR IMPLIEDLY, AS PROHIBITING, LIMITING OR RESTRICTING THE RIGHT OF THE OWNER OF ANY PARCEL OF LAND WITHIN THE ADDITION TO APPLY FOR AND OBTAIN AT ANY TIME HEREAFTER AN AMENDMENT TO PUD NO. 182 PROVIDED, HOWEVER, THAT ANY SUCH AMENDMENT MUST BE FIRST APPROVED IN WRITING BY THE OWNER AND BY THE LOT OWNERS OF AT LEAST 51% OF THE LOTS IN THE ADDITION (INCLUDING THE OWNER). THE OWNER MAY DELEGATE ITS RIGHT TO APPROVE AN AMENDMENT TO THE ARCHITECTURAL COMMITTEE.

B. DURATION.
THESE RESTRICTIONS, TO THE EXTENT PERMITTED BY APPLICABLE LAW, SHALL BE PERPETUAL BUT IN ANY EVENT SHALL BE IN FORCE AND EFFECT FOR A TERM OF NOT LESS THAN THIRTY (30) YEARS FROM THE DATE OF THE RECORDING OF THIS DEED OF DEDICATION, UNLESS SOONER TERMINATED OR AMENDED AS HEREINAFTER PROVIDED.

C. SEVERABILITY.
INVALIDATION OF ANY COVENANT OR RESTRICTION SET FORTH HEREIN, OR ANY PART THEREOF BY AN ORDER, JUDGMENT, OR DECREE OF ANY COURT, OR OTHERWISE, SHALL NOT INVALIDATE OR AFFECT ANY OF THE OTHER RESTRICTIONS OR ANY PART THEREOF AS SET FORTH HEREIN, WHICH SHALL REMAIN IN FULL FORCE AND EFFECT.

D. AMENDMENT.
THE COVENANTS CONTAINED WITHIN SECTION I, STREETS, EASEMENTS AND UTILITIES HEREIN MAY BE AMENDED OR TERMINATED AT ANY TIME BY A WRITTEN INSTRUMENT SIGNED AND ACKNOWLEDGED BY THE OWNERS OF THE LOT OR PARCEL TO WHICH THE AMENDMENT OR TERMINATION IS TO BE APPLICABLE AND APPROVED BY THE BROKEN ARROW CITY COUNCIL OR ITS SUCCESSORS AND THE CITY OF BROKEN ARROW. THE COVENANTS CONTAINED WITHIN SECTION II, PLANNED UNIT DEVELOPMENT RESTRICTIONS, MAY BE AMENDED OR TERMINATED AT ANY TIME BY A WRITTEN INSTRUMENT SIGNED BY AND ACKNOWLEDGED BY THE OWNER OF THE LAND TO WHICH THE AMENDMENT OR TERMINATION IS TO BE APPLICABLE AND APPROVED BY THE CITY COUNCIL OF THE CITY OF BROKEN ARROW OR ITS SUCCESSORS, AS TO THE PROVISIONS OF ANY INSTRUMENT AMENDING OR TERMINATING THE COVENANTS SET FORTH IN SECTIONS I HEREOF. THE COVENANTS WITHIN SECTION III, PRIVATE BUILDING AND USE RESTRICTIONS AND THE COVENANTS WITHIN SECTION IV, HOMEOWNERS ASSOCIATION MAY BE AMENDED OR TERMINATED BY A WRITTEN INSTRUMENT SIGNED AND ACKNOWLEDGED BY THE OWNER DURING SUCH TIME AS IT OWNS ANY LOT IN THE SUBDIVISION OR ANY LOT IN ANY OF THE OTHER PHASES IN BERWICK ON CEDAR RIDGE WITHOUT THE APPROVAL OF ANY OTHER LOT OWNERS, OR, IN THE ALTERNATIVE, BY THE LOT OWNERS OF AT LEAST SIXTY-FIVE PERCENT (65%) OF THE LOTS IN THE SUBDIVISION; PROVIDING, HOWEVER, AND NOT WITHSTANDING IN ANY PROVISION IN ANY DOCUMENTS TO THE CONTRARY, THAT SO LONG AS THE OWNER OWNS ANY LOT IN THE SUBDIVISION OR ANY LOT IN ANY OF THE OTHER PHASES OF BERWICK ON CEDAR RIDGE, ANY SUCH AMENDMENT MUST BE APPROVED IN WRITING BY THE OWNER. THE OWNER MAY DELEGATE ITS RIGHT TO APPROVE ANY SUCH AMENDMENT TO THE ARCHITECTURAL COMMITTEE. ANY SUCH AMENDMENT SHALL BE EFFECTIVE FROM AND AFTER THE DATE IT IS PROPERLY EXECUTED AND RECORDED IN THE OFFICE OF THE COUNTY CLERK OF TULSA COUNTY, OKLAHOMA.

IN WITNESS WHEREOF, RLAND DEVELOPMENT GROUP, L.L.C., HAS EXECUTED THIS INSTRUMENT THIS 27 DAY OF Nov, 2012.

RLAND DEVELOPMENT GROUP, L.L.C.,
AN OKLAHOMA LIMITED LIABILITY COMPANY

BY: [signature]
JAY S. MITCHELL, ITS MANAGER

STATE OF OKLAHOMA)
)SS
COUNTY OF TULSA)
THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON Nov 27, 2012, BY JAY S. MITCHELL, AS MANAGER OF RLAND DEVELOPMENT GROUP, L.L.C., AN OKLAHOMA LIMITED LIABILITY COMPANY.

[signature]
(SIGNATURE OF NORARIAL)

KATHLEEN CHURCH
Notary Public, State of Oklahoma
Commission # 08011369
My Commission Expires November 06, 2016

CERTIFICATE OF SURVEY

I, DAVID CANTRELL, A REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR IN THE STATE OF OKLAHOMA, HEREBY CERTIFY THAT I HAVE CAREFULLY AND ACCURATELY SURVEYED, STAKED, SUBDIVIDED, AND PLATTED THE TRACT OF LAND DESCRIBED ABOVE, AND THAT THE ACCOMPANYING PLAT DESIGNATED HEREON AS "BERWICK FAIRWAYS II", A SUBDIVISION TO THE CITY OF BROKEN ARROW, STATE OF OKLAHOMA, IS A REPRESENTATION OF THE SURVEY MADE ON THE GROUND USING GENERALLY ACCEPTED PRACTICES AND MEETS OR EXCEEDS THE OKLAHOMA MINIMUM STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS ADOPTED.
WITNESS MY HAND AND SEAL THIS 28 DAY OF Nov, 2012.

[signature]
DAVID CANTRELL
LICENSED PROFESSIONAL LAND SURVEYOR
OKLAHOMA NO. 351

REGISTERED PROFESSIONAL LAND SURVEYOR
DAVID L. CANTRELL
L.S. 351
OKLAHOMA

STATE OF OKLAHOMA)
)SS
COUNTY OF TULSA)
BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS 28 DAY OF Nov, 2012, PERSONALLY APPEARED DAVID CANTRELL, TO ME KNOWN TO BE THE IDENTICAL PERSON WHO SUBSCRIBED HIS NAME AS REGISTERED PROFESSIONAL LAND SURVEYOR TO THE FOREGOING CERTIFICATE AS HIS FREE AND VOLUNTARY ACT AND DEED FOR THE USES AND PURPOSES THEREIN SET FORTH.
GIVEN UNDER MY HAND AND SEAL THE DAY AND YEAR LAST ABOVE WRITTEN.

[signature]
(SIGNATURE OF NOTARY)

KATHLEEN CHURCH
Notary Public, State of Oklahoma
Commission # 08011369
My Commission Expires November 06, 2016

APPROVED 3/6/12 by the City Council of the City of Broken Arrow Oklahoma.
[signature]
Mayor
[signature]
Attest: City Clerk

CITY OF BROKEN ARROW OKLAHOMA TULSA COUNTY

BERWICK FAIRWAYS II
CASE NO. PT 07-118
DEV. # 07-187
Sheet 2 of 2

Date Prepared: 11/02/2012

City of Broken Arrow

Fact Sheet

File #: 17-1977, **Version:** 1

Broken Arrow Planning Commission
03-23-2017

To:	**Chairman and Commission Members**
From:	**Development Services Department**
Title:	
	Public hearing, consideration, and possible action regarding PUD-259 and BAZ-1975, Muhich Tract, 71.94 acres, 7 Lots, A-1 to IL/PUD-259, one-half mile east of Evans Road, one-quarter mile south of Kenosha Street
Background:	
Applicant:	Tim Terral, Tulsa Engineering and Planning Associates, Inc.
Owner:	JM Assets, LP
Developer:	JM Assets, LP
Engineer:	Tulsa Engineering and Planning Associates, Inc.
Location:	One-half mile east of Evans Road, one-quarter mile south of Kenosha Street
Size of Tract	71.94 acres (PUD-259); 44.10 acres (BAZ-1975)
Number of Lots:	7
Present Zoning:	A-1 (Agricultural) to IL (Industrial Light)
Comp Plan:	Level 6 (Regional Employment/Commercial) via BACP-159

Planned Unit Development (PUD)-259 (71.94 acres) and BAZ-1975 (44.10 acres) involve undeveloped and unplatted land located one-half mile east of Evans Road, one-quarter mile south of Kenosha Street. Applicant is proposing to change the zoning on 44.10 acres of this property from A-1 (Agricultural) to IL (Industrial Light) and include the entire 71.94 acres in PUD-259.

BACP-159, a request to change the Comprehensive Plan designation on 50.13 acres (associated with this PUD and rezoning request) from Level 3 to Level 6, was approved by the City Council February 7th, 2017, subject to platting and a PUD submitted that is similar in context to the draft PUD submitted with BACP-159. A portion of the north part of the property associated with BACP-159 was rezoned to CH (Commercial Heavy) via, BAZ-1727 that was approved by the City Council on September 5, 2006, subject to platting. The property associated with BAZ-1727 was never platted; therefore, the zoning remains A-1.

21.81 acres (of the 50.13 acres within BACP-159) was previously designated as Level 6 via BACP-109, approved by City Council in March 2010. This request to change the zoning from A-1 to IL is considered to be in conformance with the comprehensive plan when done in conjunction with a PUD. A draft PUD was submitted with BACP-159 for informational purposes. Comments and input, from the City Council and Staff, have been incorporated and formally submitted as PUD-259.

According to the applicant, about halfway between Kenosha Street and the southern boundary of the property associated with PUD-259 and BAZ-1975, is the location of a former landfill, leased by the City of Broken Arrow. In addition, this area was used for strip coal mining operations in the 1920s, 1930s, and later in the 1960s. Environmental impacts to the site and adjacent properties, as a result of the past strip mining operations, include elevated metals concentration in both on and adjacent off-site soils. After mining operations were terminated, the property was utilized as a landfill by the City of Broken Arrow. The landfill was first permitted as a hazardous waste disposal site in February 1973. By June 1973, the landfill permit was converted to a sanitary landfill solid waste disposal site. The landfill was closed on September 15, 1976. According to the applicant, the landfilled area was capped with four to five feet of clay and silty loam with grass and gravel. The waste material that was deposited is generally five to six feet in thickness and ranges to 11.5 feet in the northwest area of the landfill. This area, as well as the entire site, is regulated by the Department of Environmental Quality (DEQ) and will require approval from DEQ before any development activities occur on the site. These requirements are addressed in PUD-259.

PUD-259 is for 71.94 acres and divides the property into seven tracts (Tracts A through G). A cul-de-sac type street is proposed to be constructed in a north/south direction through the center of the property. Tract A, which is located on the southeast corner of Kenosha Street and the proposed street, will be developed in accordance with the development regulations of the CH district except that a 20-foot wide landscape area will be provided along Kenosha Street and freestanding signs will be the same as those on the Tractor Supply property to the west.

Tracts C and F, which are near the center of the property, will be developed in accordance with the development regulations of the IL district except as follows:

- Approval from DEQ is required prior to any development occurring on the property.
- Permitted uses are limited to: Mini-Storage, RV Storage, Storage Yard, Office/Warehouse, Warehouse, Utility Facility (Minor), General Industrial Service, and Light Assembly.

Tracts D and E, which are at the south end of the property, along with Tract G, which is located immediately south of Tractor Supply, will be developed in accordance with the development regulations of the IL district except as follows:

- Permitted uses are limited to: Mini-Storage, RV Storage, Storage Yard, Office/Warehouse, Warehouse, Utility Facility (Minor), General Industrial Service, and Light Assembly.
- A 30-foot wide landscape buffer will be provided along the south and east boundaries of Tracts D and E. Within this landscape buffer at least one tree per 25 lineal feet will be provided and at least half of the trees will be evergreen.

Tract B, which is the environmentally sensitive parcel next to Kenosha Street, is regulated by DEQ and will require DEQ approval for any development activity on the property. This area will be left in its native state. Fencing and signage requirements have been added to PUD-259, as per City Council comments on the draft PUD submitted with BACP-159.

With PUD-259, the applicant has provided an exhibit titled “Brownfield Program Tract Map”. The DEQ Brownfield Program assisted the existing property owner in reviewing the environmental concerns of the subject property. The overall property was divided into four tracts (Tracts 1, 2A, 2, and 3). In 2014, DEQ issued Tracts 1 and 3 a “Certificate of No Action Necessary”. Tract 1 is located next to Kenosha Street and Tract 3 is next to the south boundary of BACP 159. The “Certificate of No Action Necessary” for Tracts 1 and 3 also stipulated in the Land Use Restrictions section that: 1) No use of groundwater and no drilling of wells

and 2) No residential use of the property. The middle tract (Tract 2) was the subject of an Addendum prepared by Blackshare Environmental Solution on June 15, 2016, declaring that Tract 2 would only be suitable for nonresidential uses based on an environmental review of the site. Tract 2A was designated in the Blackshare report as having "areas of excessive radiation."

In addition to the Blackshare report, the applicant has submitted a radiation survey which was performed in May 2014 to determine the location of radiation source materials and levels of radiation associated with these locations. Elevated readings were observed in the northeastern corner of the site, which corresponds to Tract 2A of the Blackshare report and Tract B of PUD-259.

As requested by city residents, a meeting with the applicant, city staff, and representatives from Blackshare and DEQ (Department of Environmental Quality) was held on March 7th 2017. Questions and concerns from residents, and the City Council raised during the comprehensive plan change (BACP-159) process were discussed and incorporated into the design of the site and PUD-259. The applicant will speak to these concerns during the March 23rd Planning Commission meeting.

SURROUNDING LAND USES/ZONING/COMPREHENSIVE PLAN

The surrounding properties contain the following uses, along with the following development guide and zoning designations:

Location	Development Guide	Zoning	Land Use
North	Level 6	A-1	Undeveloped
East	Levels 2 and 3	A-1	Undeveloped
South	Levels 2 and 3	A-1 (RS-3 approved with BAZ 1658 and BAZ 1640, subject to platting.)	Undeveloped and pond
West	Level 4	A-1 (CH approved on part subject to platting, BAZ 1729)	Undeveloped

Attachments: Case map
Aerial photo
Comprehensive Plan
Draft PUD
Conceptual Site Plan
Existing Fence Exhibit
Brownfield Program Tract Map
Existing Conditions Plan
Surrounding Zoning and Land Use Plan
Radiation Survey Findings
Brownfield Proposal from October 2014
Tracts 1 and 3 No Action Certificate

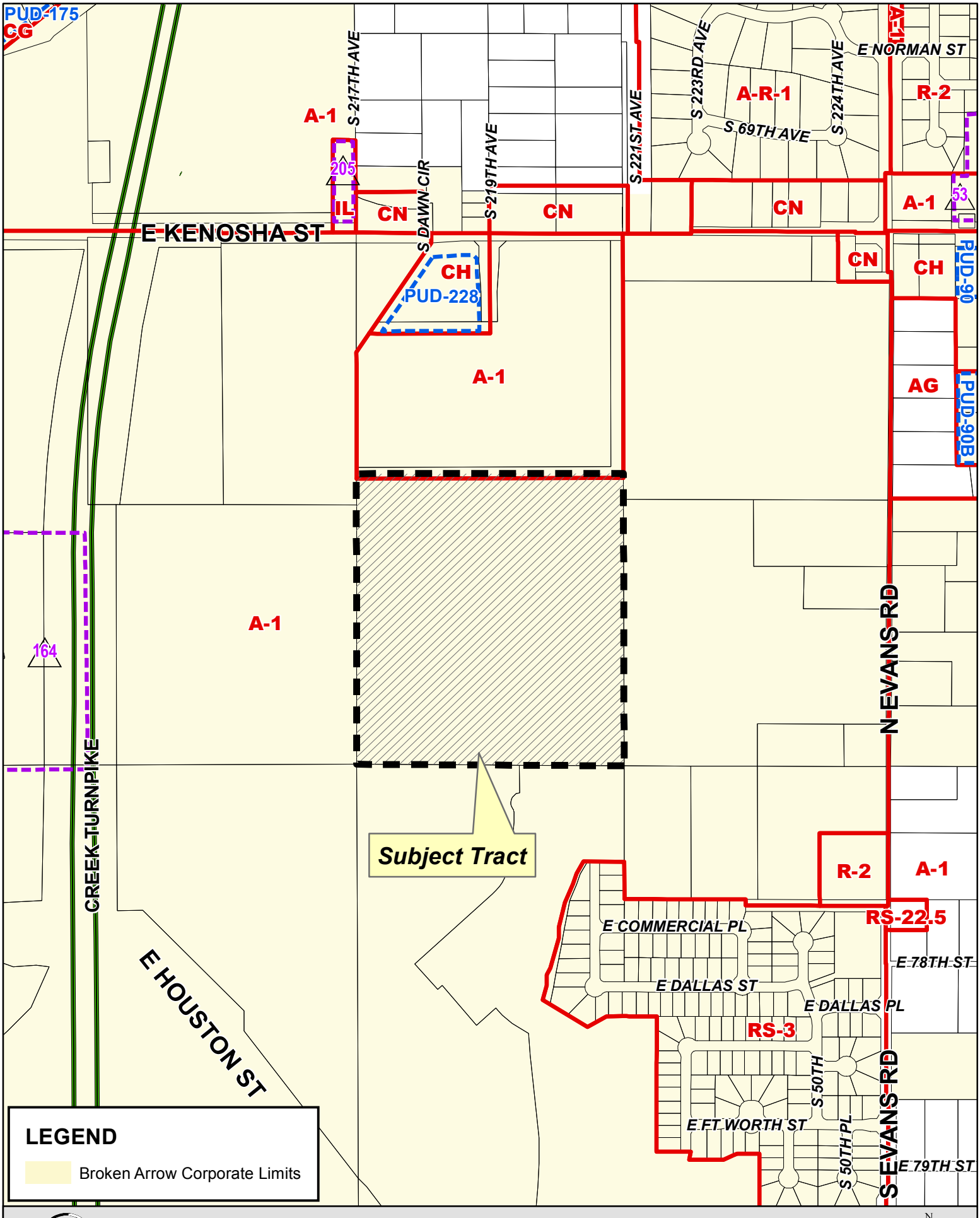
Recommendation:
The Level 3 designation that is presently on this property allows a wide variety of residential uses as well as office neighborhood; however, with the environmental issues associated with this property, most of the property is not suitable for residential development. Therefore, the Comprehensive Plan needs to be amended.

The IL zoning being contemplated by the applicant is in accordance with the Comprehensive Plan in Level 6, provided it is done as part of a PUD. Based on the Comprehensive Plan, location of the property, the environment issues associated with the property, and the surrounding land uses, Staff recommends that PUD-259 and BAZ-1975 be approved to change the zoning on the property to IL and PUD-259, subject to the property being platted.

Reviewed By: **Larry R. Curtis**

Approved By: **Michael W. Skates**

LRC: ALY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PUD-228
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E DALLAS ST
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RS-3
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E 79TH ST
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LEGEND
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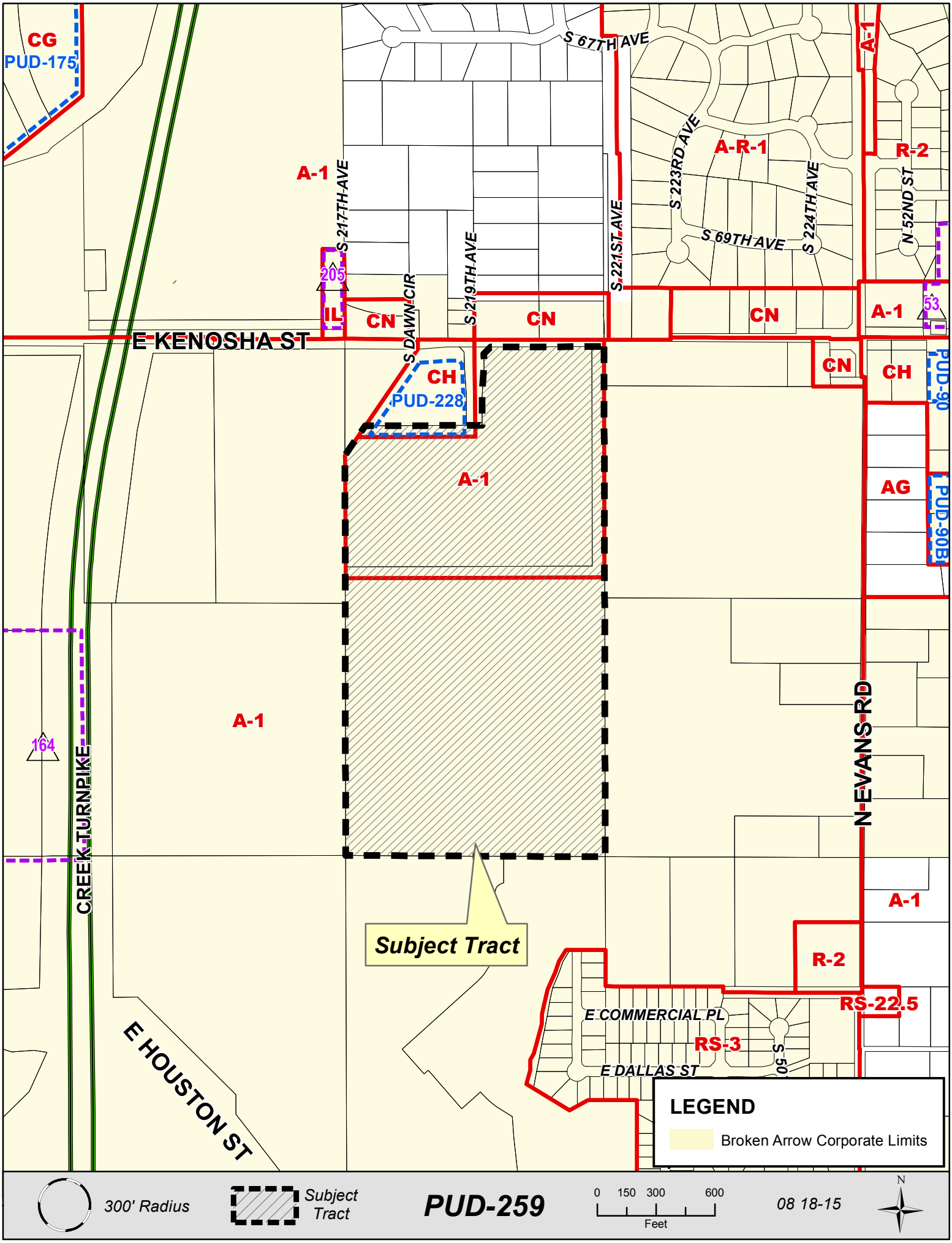
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N EVANS RD
Subject Tract
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E COMMERCIAL PL
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RS-22.5
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LEGEND
Broken Arrow Corporate Limits
300' Radius
Subject Tract
PUD-259
0 150 300 600
Feet
08 18-15
N

Muhich Tract

Planned Unit Development No. 259

RECEIVED
March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

Tulsa Engineering & Planning Associates
9820 East 41st Street, Suite 102
Tulsa, Oklahoma 74146
918.252.9621 Fax 918.250.4566

3/9/2017

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I. DEVELOPMENT CONCEPT

The Muhich Tract PUD site comprises ±71.9424 acres located approximately mid-mile between South 209th East Avenue and South 225th East Avenue, on the south side of East Kenosha Street with approximately 576 LF of frontage on East Kenosha Street. On September 5, 2006 the Broken Arrow City Council approved BAZ-1727 to change the zoning of the north 32.09 acres from A-1 to C-5 (now CH). In 2006, the City Council also approved Comprehensive Plan Amendment BACP-66 for the northern 30 acres of the site from Level 3 to Level 6. Both were approved subject to platting. The northwest 4.25 acres have been platted as "Broken Arrow-WF Addition" and is currently home to Tractor Supply Co. The remainder of the re-zoned property has not been platted.

The balance of the project area with a Land Use Intensity Classification of Level 3 was approved by the Broken Arrow City Council on February 7, 2017 for a Comprehensive Plan Amendment to Level 6 (BACP 159). Concurrently with the PUD application, a re-zoning application for the portion of the site zoned Agriculture (A-1) is being submitted to re-zone this area of the project to Light Industrial (IL).

The central portion of the project site is the former location of the City of Broken Arrow Landfill, as well as strip coal mining operations in the 1920s, 1930s and later in the 1960s. Environmental impacts to the site and adjacent properties, as a result of the former strip mining operations, include elevated metals concentrations in on and off-site soils. After mining operations were terminated, the property was utilized as a landfill by the City of Broken Arrow and other users. The landfill was first permitted as a hazardous waste disposal site in February 1973. By June 1973 the landfill permit was converted to a sanitary landfill solid waste disposal site. The landfill closed September 15, 1976. The landfilled areas are generally capped with four to five feet of clay and silty loam with grass and gravel. The waste material is generally five to six feet in thickness and ranges to 11.5 feet in the northwest area of the landfill. As shown in *Exhibit 'A' - Conceptual Site Plan*, the former Landfill impacts three tracts - Tracts 'C', 'E' and 'F'. This area, as well as the entire site, is regulated by the Department of Environmental Quality (DEQ) and will require DEQ approval before any development is possible. Tract 'B' also has development sensitive issues and hence has been designated as Open Space. The DEQ Brownfield Program assisted the OWNER in reviewing the environmental concerns of the subject property. The overall property was broken into 4 tracts (Tract 1, 2A, 2, and 3 - See *Exhibit 'B' - Brownfield Program Tract Map*). Tracts 1 and 3 were issued a "Certificate of No Action Necessary" in 2014. These two tracts are located in the northerly third and southerly third of the subject property and are the primary areas of proposed development. The "Certificate of No Action Necessary" for Tracts 1 and 3 also stipulates in the Land Use Restrictions section that: 1). No use of groundwater and no drilling of wells and 2). No residential use of the property. The middle tract (Tract 2) was the subject of an Addendum prepared by Blackshare Environmental Solutions on June 15, 2016 declaring that Tract 2 would only be suitable for nonresidential uses based on an environmental review of the site. Tract 2A has been designated in the Blackshare report as having "areas of excessive radiation."

With the development issues associated with the project site and the fact that much of the site is not suitable for residential development, we are proposing Commercial and Light Industrial land uses for the Muhich Tract PUD. As shown in *Exhibit 'A' - Conceptual Site Plan*, Tract 'A' is the only Commercial tract proposed since it is the only developable tract with frontage along East Kenosha Street, while Tracts 'D', 'E' and 'G' are proposed for Light Industrial uses. Tracts 'C' and 'F' are shown as Light Industrial - Development Sensitive land uses, since these two tracts have the bulk of the old landfill located within their boundaries.

II. STATISTICAL SUMMARY -

TOTAL PROJECT AREA:	±71.9424 Acres (Gross/Net)
• Commercial	±3.14 Acres
• Light Industrial	±37.03 Acres
• Light Industrial - Development Sensitive	±22.39 Acres
• Open Space - Development Sensitive	±7.20 Acres (10.0%)
MINIMUM REQUIRED OPEN SPACE:	313,381 SF (10.0%)

III. DEVELOPMENT STANDARDS: Commercial (Tract 'A')

Tract 'A' shall be governed by the City of Broken Arrow Zoning Ordinance and the use and development regulations of the CH District, except as hereinafter modified:

Permitted uses:	As permitted in the CH District, by right or specific use permit.
Minimum building setbacks:	
from East Kenosha Street	50 feet
from South 45th Place	30 feet
from east boundary line	0 feet
from south boundary line	20 feet

Parking:

As provided in accordance with "Section 5.4 - Off Street Parking and Loading" of the City of Broken Arrow Zoning Ordinance.

Sign Standard:

As provided in accordance with "Section 5.7 - Signs" of the City of Broken Arrow Zoning Ordinance except no flashing, twinkling or animated signs shall be allowed. In addition, no portable signs or banners shall be placed on the lot. Freestanding signs may be permitted within a utility easement only if approval is granted by all utility companies. Freestanding signs shall be located a minimum of five feet from any sidewalk. All freestanding signs shall have a monument type base that covers support structures. The base of the sign shall be of the same material as the principal building on the lot.

Exterior Building Materials:

The exterior vertical walls of all buildings abutting and adjacent to East Kenosha Street and 45th Place shall be constructed of masonry material.

Landscaping:

Landscaping shall be provided in accordance with Section 5.2 of the City of Broken Arrow Zoning Ordinance along both Kenosha Street and 45th Place except that a landscape edge of 20 feet shall be provided along Kenosha Street and a landscape edge of 10 feet shall be provided along 45th Place.

IV. DEVELOPMENT STANDARDS: Light Industrial - Development Sensitive (Tracts 'C' and 'F')

Tracts 'C' and 'F' are regulated by the Department of Environmental Quality (DEQ) and will require DEQ approval before any development is possible. Tracts 'C' and 'F' shall be governed by the City of Broken Arrow Zoning Ordinance and the use and development regulations of the IL District, except as hereinafter modified:

Permitted uses:	Mini Storage, RV Storage, Storage Yard (lay down areas*), Office/Warehouse, Warehouse, Utility Facility (minor), General Industrial Service, Light Assembly or similar uses.
Minimum building setbacks:	
from South 45th Place	30 feet
from north boundary line	0 feet
from south boundary line	0 feet
from abutting A-1 District	30 feet

Parking:

As provided in accordance with "Section 5.4 - Off Street Parking and Loading" of the City of Broken Arrow Zoning Ordinance.

Sign Standard:

As provided in accordance with "Section 5.7 - Signs" of the City of Broken Arrow Zoning Ordinance.

*Lay Down Area:

Lay down areas are to be arranged in a neat and orderly fashion.

V. DEVELOPMENT STANDARDS: Light Industrial (Tracts 'D', 'E' and 'G')

Tracts 'E' is regulated by the Department of Environmental Quality (DEQ) and will require DEQ approval before any development is possible. Tracts 'D', 'E' and 'G' shall be governed by the City of Broken Arrow Zoning Ordinance and the use and development regulations of the IL District, except as hereinafter modified:

Permitted uses:	Mini Storage, RV Storage, Storage Yard (lay down areas), Office/Warehouse, Warehouse, Utility Facility (minor), General Industrial Service, Light Assembly or similar uses.

Minimum building setbacks:

from South 45th Place	30 feet
Side Yard Abutting Same District	0 feet
Side Yard Abutting Non-Residential District	30 feet
Side/Rear Yard abutting Residential or A-1 District	50 feet
Rear yard	30 feet

Parking:

As provided in accordance with "Section 5.4 - Off Street Parking and Loading" of the City of Broken Arrow Zoning Ordinance.

Sign Standard:

As provided in accordance with "Section 5.7 - Signs" of the City of Broken Arrow Zoning Ordinance.

Landscaping:

Landscaping shall be provided in accordance with Section 5.2 of the City of Broken Arrow Zoning Ordinance. A Landscape Buffer of at least 30 feet in width shall be provided along the east and south boundary of Tracts 'D' and 'E' that abut Agriculture or Residential zoned land. Within the Landscape Buffer at least one medium to large tree shall be planted for every 25 lineal feet of landscape area, of which at least 50% shall be evergreen. Trees may be grouped together or evenly spaced. An effort will be made to preserve existing trees along the south and east boundary of Tracts 'D' and 'E'.

Fencing/Screening:

An 8-foot opaque, screening fence shall be installed, in accordance with Section 5.2.E.2.c of the City of Broken Arrow Zoning Ordinance, along the south and east boundaries of Tracts 'D' and 'E'.

VI. DEVELOPMENT STANDARDS: Open Space - Development Sensitive (Tract 'B')

Tract 'B' is regulated by the Department of Environmental Quality (DEQ) and will require DEQ approval before any development is possible. Tract 'B' will be monitored per DEQ standards and regulations, based on sites with characteristics and issues consistent with those of Tract 'B'. This area is to be left in its native state.

Permitted uses: Open Space and Fencing

Fencing and Signage:

A 6-foot opaque, screening fence shall be installed, in accordance with Section 5.2.E of the City of Broken Arrow Zoning Ordinance, along the boundary of Tract 'B'. Appropriate signage will be utilized on the fence warning the public of the sensitive nature of the property.

VII. LANDSCAPING AND SCREENING -

Except as modified herein, landscaping shall be provided in accordance with "Section 5.2 - Landscaping, Trees, Screening, and Fencing" of the City of Broken Arrow Zoning Ordinance. Any landscape material which fails shall be replaced in accordance with the criteria contained in Section 5.2.B.4.d.ii of the City of Broken Arrow Zoning Ordinance.

VIII. LIGHTING -

Lighting shall be installed in accordance with "Section 5.6 -Exterior Lighting" of the City of Broken Arrow Zoning Ordinance.

IX. ACCESS -

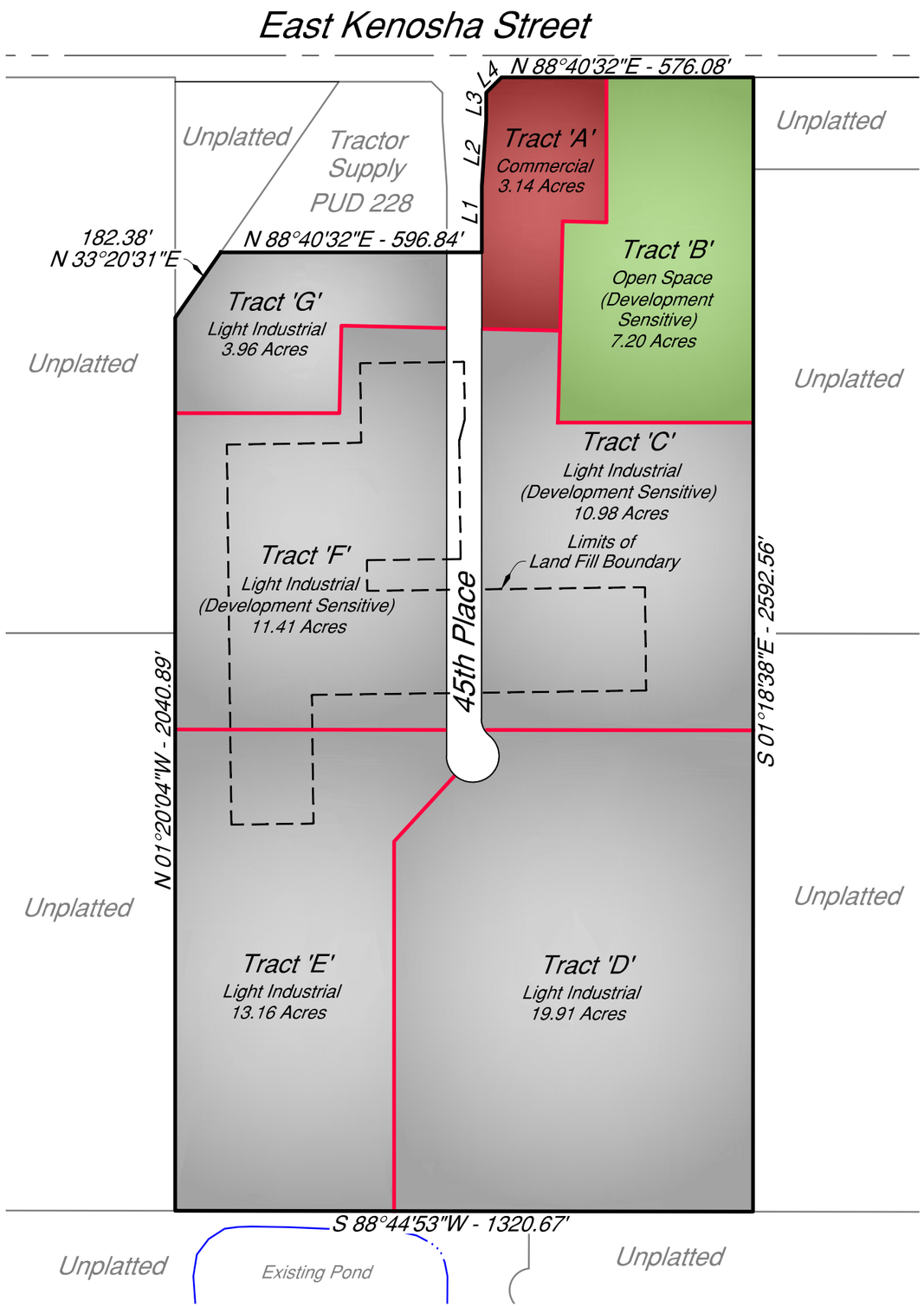
Access to Kenosha Street shall meet the requirements of the City of Broken Arrow Zoning Ordinance. Access to 45th Place from Tract' A' shall meet the City of Broken Arrow Zoning Ordinance for a collector street.

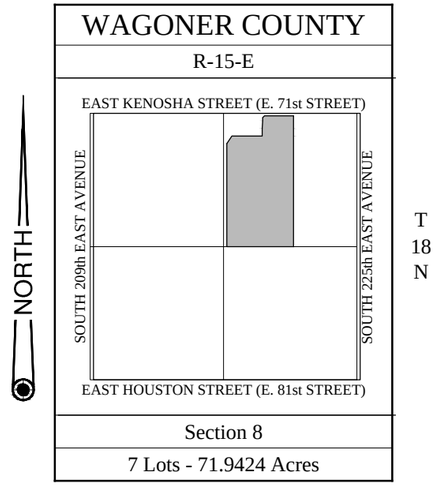
X. PLATTING -

No building permit shall be issued until the planned unit development project area has been included within a subdivision plat submitted to and approved by the Broken Arrow Planning Commission and the Broken Arrow City Council and duly filed of record. The property shall be platted in accordance with the City of Broken Arrow subdivision code. The deed of dedication of the required subdivision plat shall include covenants of record, enforceable by the City of Broken Arrow, setting forth the development standards of the planned unit development.

XI. SITE PLAN REVIEW -

No building permit shall be issued until a detailed site plan of the proposed improvements has been submitted to and approved by the City of Broken Arrow as being in compliance with the development concept and the development standards. No certificate of occupancy shall be issued until landscaping has been installed in accordance with a landscaping plan submitted to and approved by the City of Broken Arrow. A letter of approval from the Department of Environmental Quality (DEQ) shall be provided before the approval of any site plan located in environmentally sensitive areas.





Scale: 1"=300'

Data Summary:	
Total Project Area	71.9424 Acres
Total Number of Lots	7
· Commercial	3.14 Acres
· Light Industrial	37.03 Acres
· Light Industrial - (Development Sensitive)	22.39 Acres
· Open Space - (Development Sensitive)	7.20 Acres (±10.0 %)
Average Lot Size	Varies

Line Table

No.	Bearing	Distance
L1	N 01°19'28"W	150.00'
L2	N 02°29'23"E	150.33'
L3	N 01°19'28"W	65.00'
L4	N 43°40'32"E	49.50'

RECEIVED
March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

tep

Exhibit A

Muhich Tract

Conceptual Site Plan

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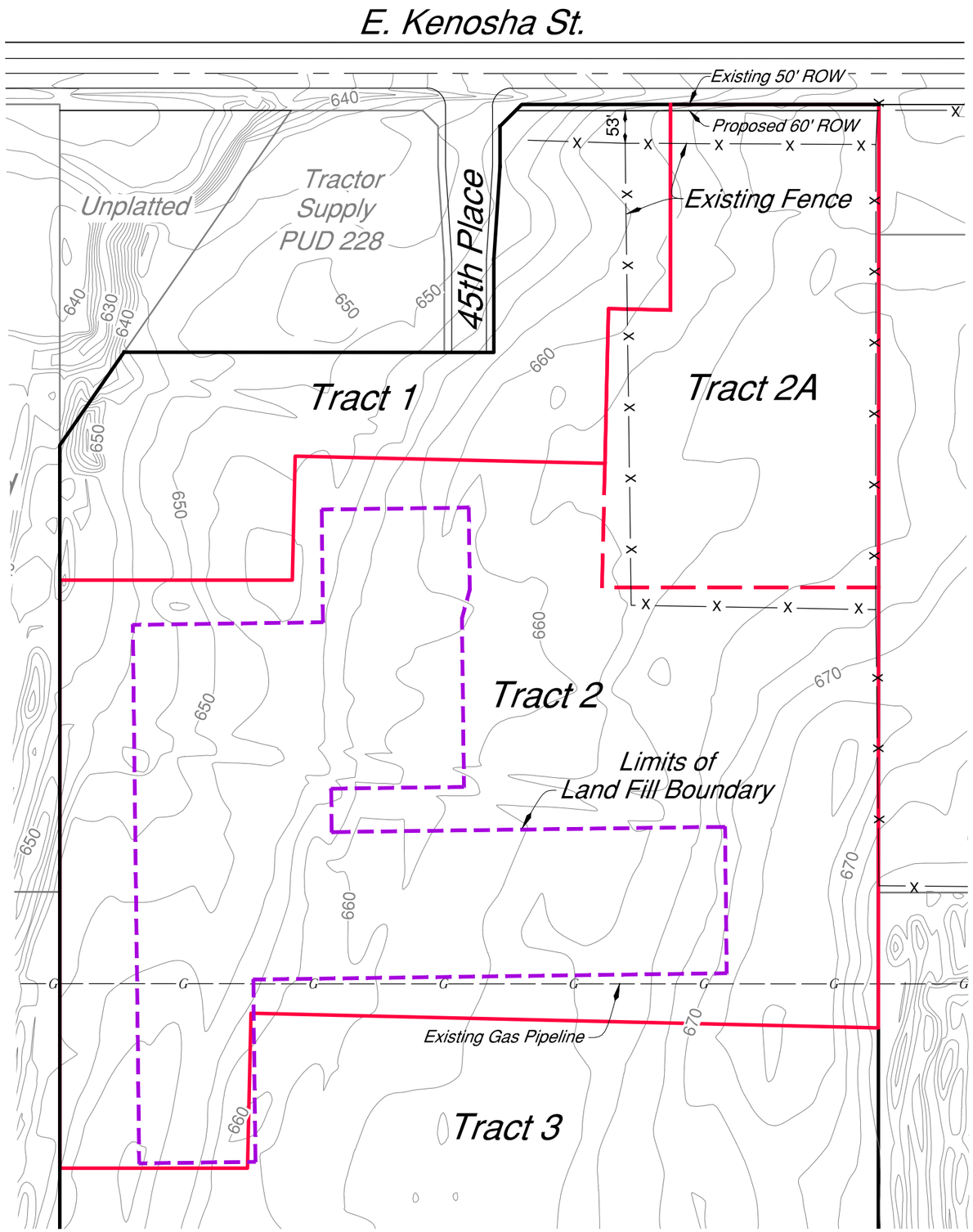

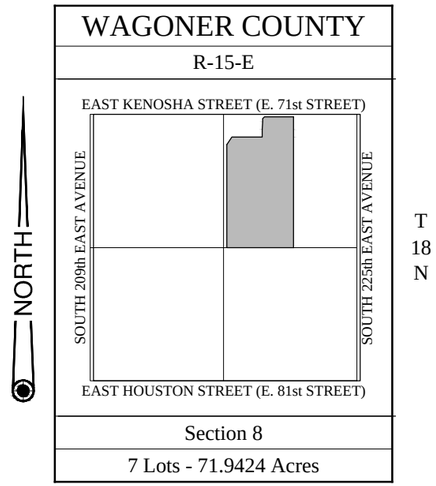

Scale: 1"=200'

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DEVELOPMENT SERVICES

Exhibit A

Muhich Tract

Tract B/2A Existing Fence Plan

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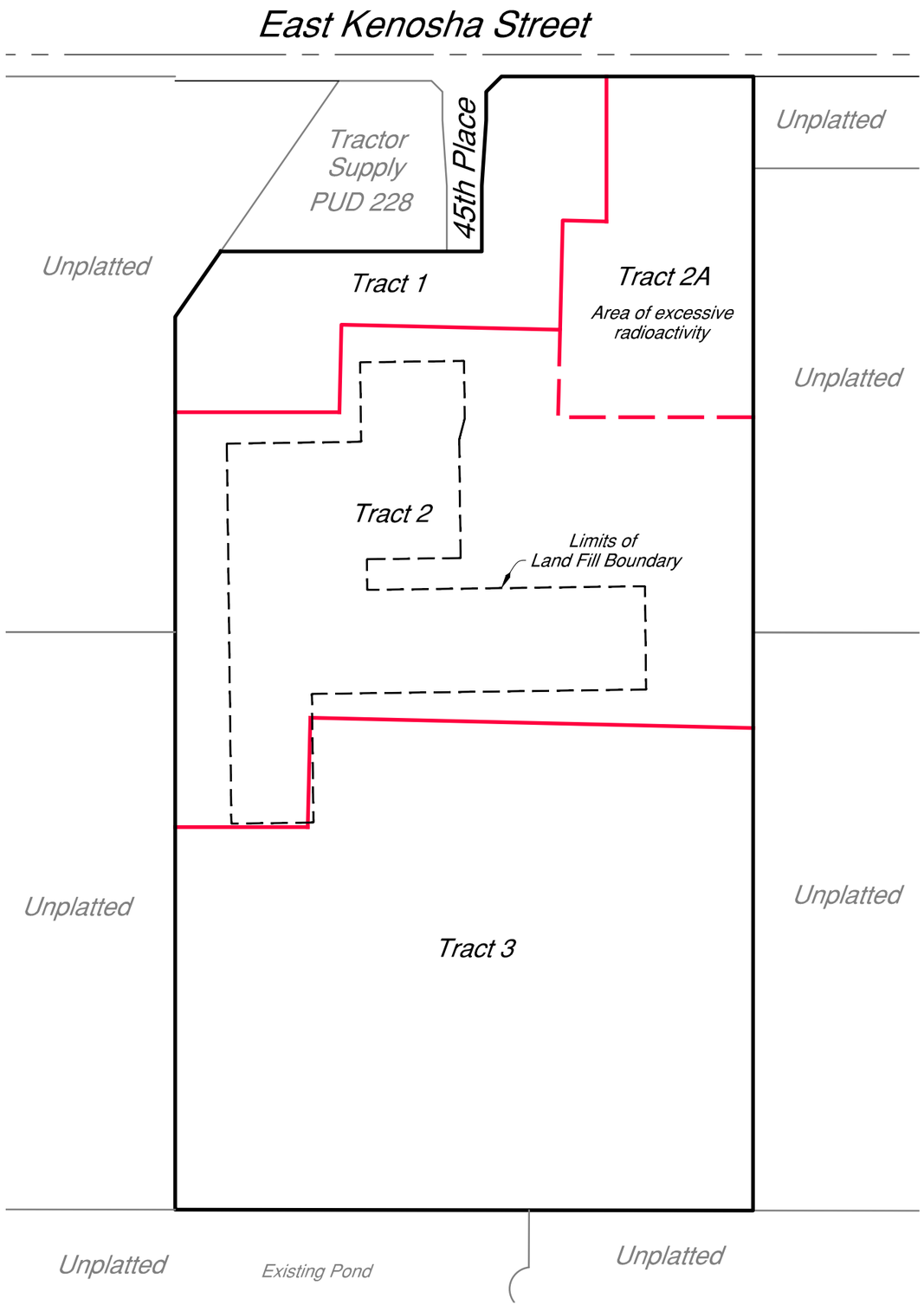

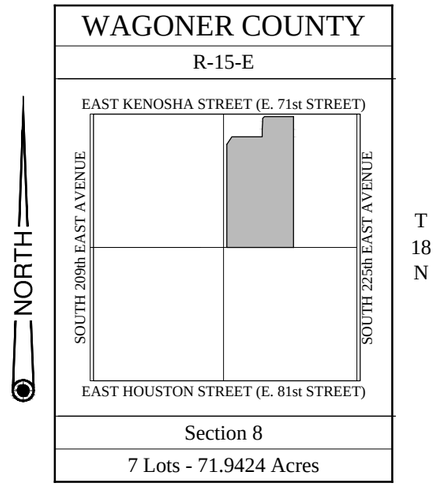

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18
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Scale: 1"=300'

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March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

tep

Exhibit B

Muhich Tract

Brownfield Program Tract Map

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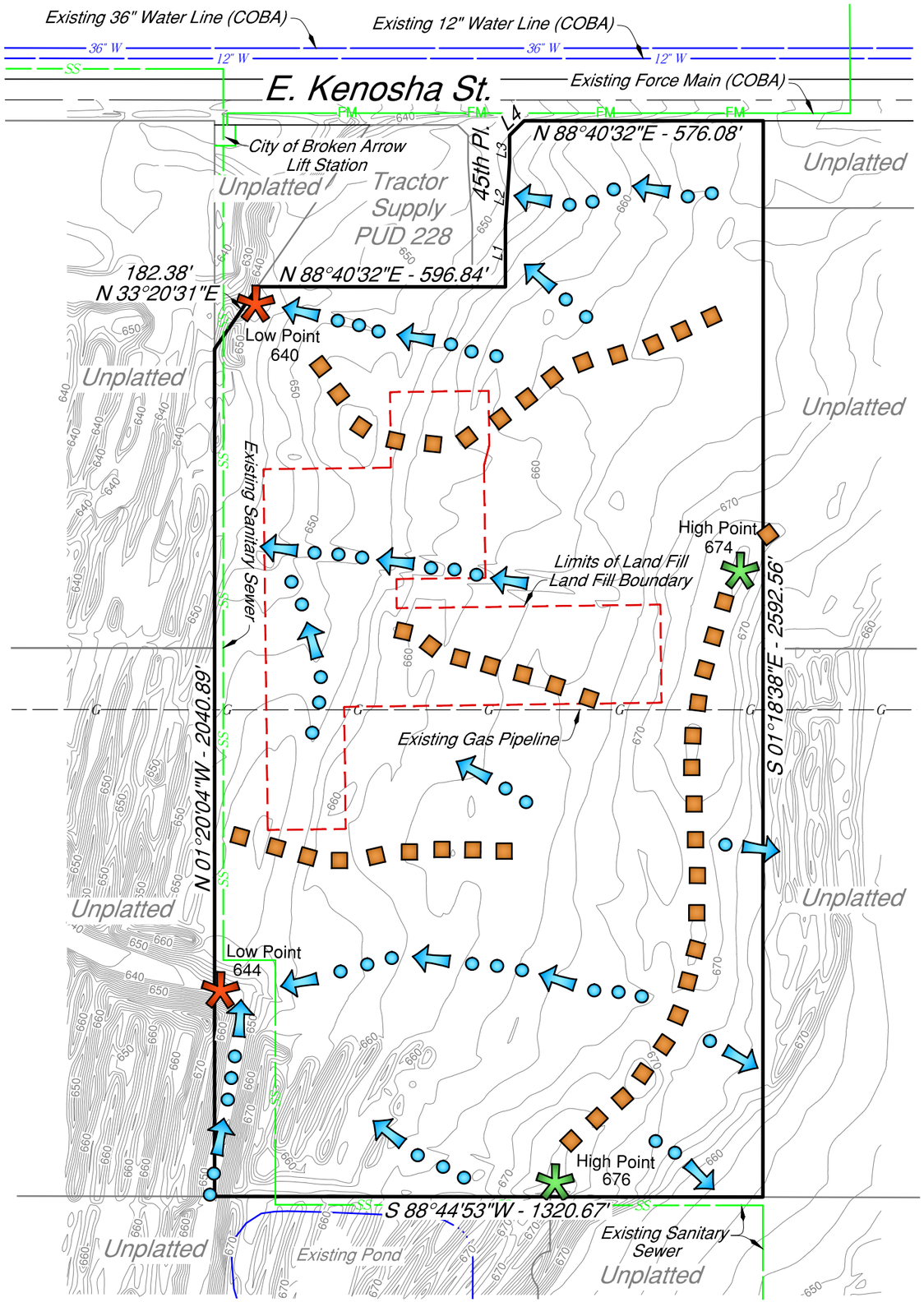

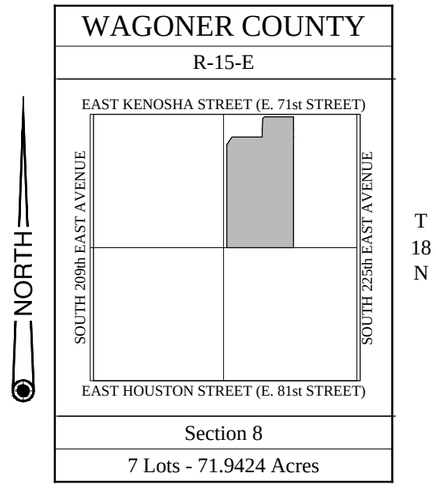

Scale: 1"=300'

Data Summary:	
Total Project Area	71.9424 Acres
Total Number of Lots	7
· Commercial	3.14 Acres
· Light Industrial	59.42 Acres
· Open Space	7.09 Acres (±10.0 %)
Average Lot Size	Varies
	Ridgelines
	Drainageways

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BROKEN ARROW
PLAN DEVELOPMENT

Line Table

No.	Bearing	Distance
L1	N 01°19'28"W	150.00'
L2	N 02°29'23"E	150.33'
L3	N 01°19'28"W	65.00'
L4	N 43°40'32"E	49.50'

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Exhibit C
Muhich Tract
Existing Conditions Plan

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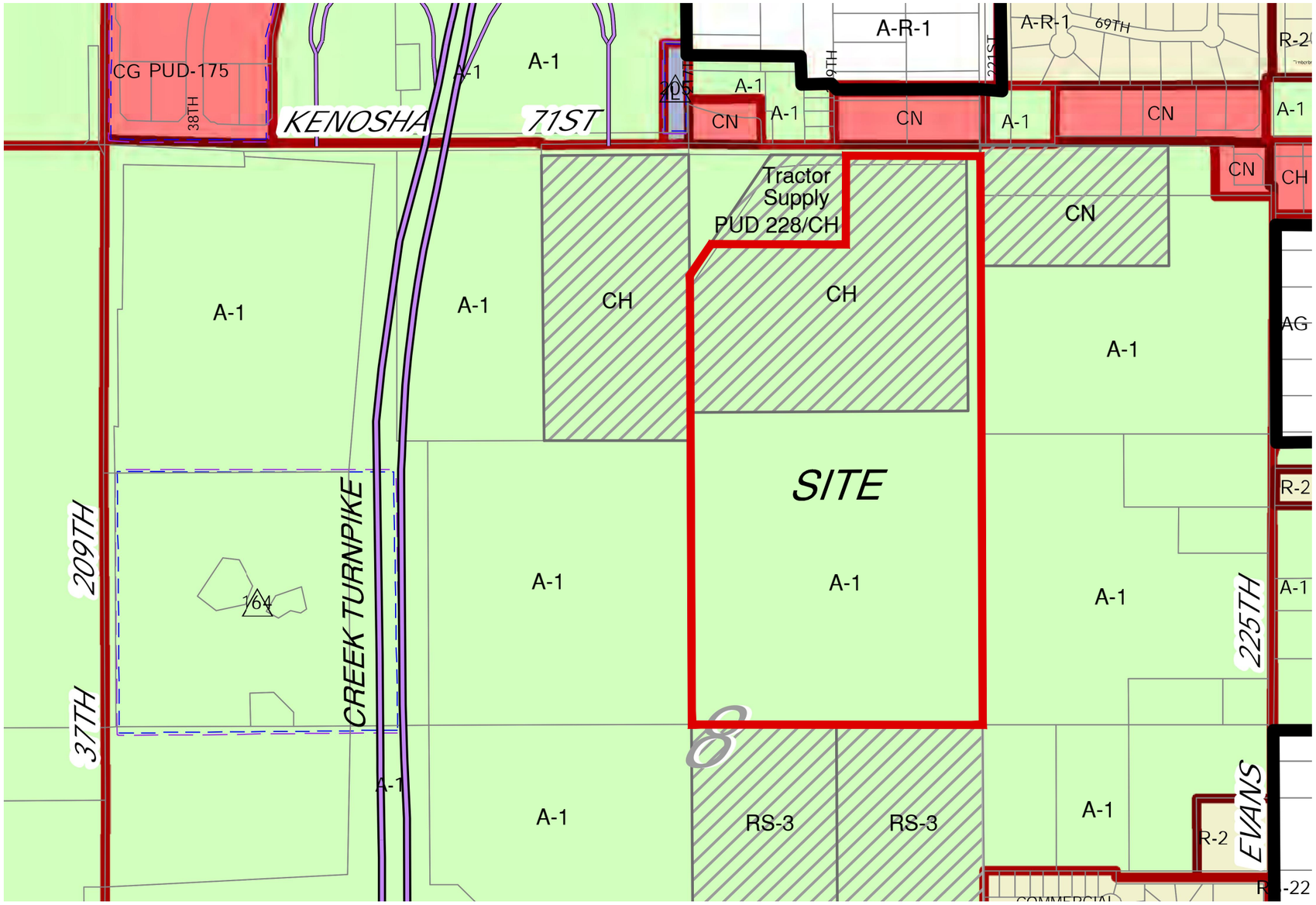
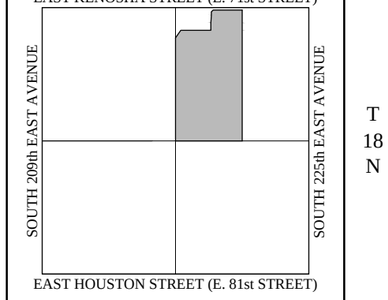


WAGONER COUNTY

R-15-E



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NORTH

Section 8

7 Lots - 71.9424 Acres

N

Not to Scale

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March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

tep

Exhibit D

Muhich Tract

Surrounding Zoning and Land Use Plan

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A & M ENGINEERING & ENVIRONMENTAL SERVICES, INC.
10010 E. 16TH STREET
TULSA, OKLAHOMA 74128-4713
ENGINEERING • ENVIRONMENTAL • CONSTRUCTION
(918) 665-6575 • FAX (918) 665-6576
EMAIL: aandm@aandmengineering.com

May 9, 2014

Ms. Rachel Francks
Environmental Programs Specialist
Land Protection Division
Brownfields Program
Oklahoma Department of Environmental Quality
707 North Robinson
P.O. Box 1677
Oklahoma City, OK 73101-1677

RE: Radiation Survey Report of Findings
Former City of Broken Arrow Landfill Site
Wagoner County, OK

Dear Ms. Francks:

Attached for review is one copy of the Report of Findings for the Radiation Survey conducted on the above referenced site. The Results of Investigation are being submitted on behalf of the current landowner, JM Assets LP.

If you have any questions on this matter, or if you require any additional information, please do not hesitate to call.

Sincerely,
A&M Engineering and Environmental Services, Inc.

Thomas A. Trebonik, P.G.
Senior Project Manager

218524 CD___ #c___ c/o Linda

RADIATION SURVEY
REPORT OF FINDINGS

FORMER CITY OF BROKEN ARROW, OK LANDFILL SITE
(W/2 OF THE NE/4 OF SECTION 8, T18N, R15E WAGONER COUNTY, OK)

MAY 2014

PREPARED FOR:

JM ASSETS LP
4203 SPINNAKER COVE
AUSTIN, TX 78731

(A & M Project No. 2028-009)

PREPARED BY:

A&M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
10010 EAST 16TH STREET
TULSA, OKLAHOMA 74128-4813
PHONE: (918) 665-6575 FAX: (918) 665-6576
EMAIL: aandm@aandmengineering.com

Table of Contents

Figures

Attachments

1.0 Introduction

Previous investigations in support of a Brownfields Proposal for a "No Action Necessary" determination from the Oklahoma Department of Environmental Quality (DEQ) were conducted on property which contains the former City of Broken Arrow, OK Landfill. The property (hereinafter the "Site") is located within the W/2 of the NE/4 of Section 8, Township 18N, Range 15 East, Wagoner County, Oklahoma. From a surface soil, sediment, surface water, groundwater, and methane gas generation perspective, the previous investigations resulted in a determination that the historic site activities do not present an unreasonable risk to human health and/or the environment. However, radiation surveys conducted at the site indicated that a small portion of the property exhibited gamma activity above the natural background level of adjacent areas.

The areas within the Site previously identified with higher than background activity are primarily located in the northeastern corner of the 76 acre property and constitute an area estimated to be between one and two acres in size. The cause(s) of the elevated activity observed was initially attributed to small radiation source material (such as that used in medical equipment and testing gauges) that may have been disposed (buried) in the landfill. However, further investigation of the area of elevated activity by DEQ personnel resulted in a determination that a layer of radioactive material exists in the shallow subsurface. The total areal extent of shallow subsurface material on the property and the entity(ies)/licensee(s) responsible for generation and placement of these materials at the site are not currently known.

As a result of their findings, DEQ requested rescreening of the site on a close grid basis to allow for identification of any additional areas where these materials may have been placed. Identification of all areas exhibiting elevated activity is an important aspect in planning for removal of the existing radioactive materials and for identifying those areas posing no threat to human health. Identification of areas posing no threat to human health could then be available for planned site development.

This Report of Findings presents the results of the radiation survey conducted at the site. Areas where no elevated activity exists above twice background levels are considered "clean" and are depicted. With proper controls to protect human health and the environment from nearby impacted areas, these areas can be considered available for immediate development. Access to "impacted" areas will be controlled until removal and release for unrestricted use is obtained from DEQ.

2.0 Site Location

The Site consists of approximately 76-acres of undeveloped land located within the West ½ of the Northeast ¼ of Section 8, Township 18 North, Range 15 East, Wagoner County, Oklahoma. The Site is situated in the northeast portion of the State of Oklahoma and within the west-central portion of Wagoner County. The Site is located approximately 2.5 miles east of downtown Broken Arrow, OK and 0.25 mile west of the East 71st Street/Kenosha Street and South 225th East Avenue intersection. The Creek Turnpike and Muskogee Turnpike intersection is situated approximately 0.75 mile southwest of the Site. Except for an earthen access road, the Site currently does not have any improvements (buildings, tanks, parking lots, etc.). The site is fenced and access to the site is limited. A gate provides access. When not in use, the gate is kept chained and locked. The property is posted "No Trespassing".

3.0 Site History

According to historical sources, the Site was formerly a coal strip mine that was mined in the 1920s and 1930s. Some additional mining is reported to have occurred in the 1960's. Mining activities occurred prior to the Surface Mining Control and Reclamation Act of 1977 and the site was left in an un-reclaimed state.

In the early 1970's, consideration was made for using the site for land filling purposes. The Site was permitted through the Oklahoma State Department of Health (OSDH) for hazardous waste disposal by the manufacturer of acetylene on February 15, 1973. OSDH stamped this first permit "invalid" with a remark of "Sold to Broken Arrow of S.L." (Sanitary Landfill). Hazardous waste generated from the manufacture of acetylene was not disposed at the site.

OSDH then reissued Permit No. 3573002 on June 15, 1973 to the City of Broken Arrow, OK for a sanitary landfill at the site. The same permit was closed on September 25, 1976. This permitting record indicates that the Site was utilized only for a maximum of 2.5 years by the City of Broken Arrow for disposing municipal waste. It is not currently known if the City of Broken Arrow accepted any radiological waste/materials at the site.

As part of a change in ownership, a Phase I Environmental Site Assessment (ESA) was originally conducted in February 2008 and was later updated in December 2008 and January 2009. Records indicate that historically, the Site had been strip mined and later permitted as a municipal landfill for the City of Broken Arrow, OK. The current owner of the property, JM

Assets LP, later purchased the site for development. JM Assts LP has never conducted any disposal activities or industrial activities at the site and the site remains undeveloped.

As a result of the change in ownership, and in consideration of future development of the site, JM Assets LP, entered into Memorandum of Agreement and Consent Order (MACO) with the Oklahoma Department of Environmental Quality (DEQ). The MACO acknowledges the entering of the property into the Brownfields Program administered by DEQ. Investigation and Site Characterization activities in support of a Brownfields Proposal for obtaining a Certificate of No Further Action have been conducted. However, to date, a Certificate of No Further Action has not been granted by DEQ and is pending resolution of the elevated gamma activity and radioactive material found at the site.

4.0 Radionuclides of Concern

Sampling and radiochemical analysis of the identified shallow subsurface materials at the site indicate the presence of uranium, thorium, and associated daughter isotopes as well as the metals magnesium, chromium, manganese, molybdenum, and aluminum.

At the activity and concentrations detected, these materials are not generally associated with the natural geologic strata of the area and are believed to have been brought to the site and disposed/dumped. The exact timing of placement of these materials is currently unknown.

5.0 Radiation Survey Procedures

Procedures followed in conducting the radiation survey at the Site were in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The MARSSIM is a multi-agency (Dept. of Defense, Dept. of Energy, Environmental Protection Agency, and the Nuclear Regulatory Commission) consensus document that provides information and guidance on planning, conducting, evaluating, and documenting, radiological surveys on building surfaces and surface soil for demonstrating compliance with dose or risk- based regulations or standards. The entire site was surveyed using direct measurement equipment and a reference coordinate system for documentation purposes. Soil sampling was not conducted during performance of the radiation survey.

5.1 Survey Grid Establishment

A reference coordinate system based on intersecting perpendicular lines was used at the Site. Based on the historical information of the site and previously gathered survey data, a grid pattern of 50 feet by 50 feet (~15 meters x 15 meters) was utilized in the radiation survey.

A base map containing the reference coordinate system with nodes was prepared for use in the field and was based on differential global positioning system (GPS) data overlain on a site aerial photograph. A Trimble R8 GNSS Model 2 GPS system, with a horizontal precision of approximately ± 1/2 inch (± 1.3centimeters) was used to establish the grid. The procedure involved establishing four site control points which surround the Site and recording the coordinates and elevations of the points using a Trimble GPS receiver to record the static positional data. The recorded data for each point was then uploaded to the Online Positioning User Service-Rapid Static (OPUS-RS) web-site operated by the National Geodetic Survey. The OPUS-RS web-site processed the uploaded data and determined a highly accurate position of each point with respect to at least three Continuously Operating Reference Stations (CORS). The average longitude, latitude and elevation residuals of the control points based on the North American Vertical Datum of 1988 (NAVD1988) was generated and converted to the local state plane coordinate system. The state plane coordinates were used to create the grid and each node of the grid was assigned its own unique number for survey purposes. Using the GPS assigned node coordinate method allows for accurately locating a node point in the future should it become necessary. For map reference and presentation purposes, each node was also assigned a unique alphanumeric identifier. **Figure 1** presents the grid node locations and alphanumeric grid layout established for the Site. Corresponding point numbers utilized by the GPS system are also provided.

5.2 Instrumentation

A Ludlum Model 3 Survey Meter with an analog (rather than digital) readout was used for the survey. The meter was equipped with a Ludlum 44-2 Sodium Iodide detector. Based on historical information of the Site, this detector was suitable for use at the Site. The survey meter was configured to allow for direct measurement of gamma radiation in the air in microRoentgens per hour (μR/hr).

Prior to use, the survey meter was checked for proper operation by conducting an operational check (including a battery test and instrument test) in accordance with Manufacturers recommendations.

5.3 Survey Technique

Each day, prior to conducting Site radiation surveying activities, background radiation levels were determined for comparison purposes. Two measurement readings were collected at each background reference area: one at ground surface and one approximately 3 feet (1 meter) above the ground surface. Measurement readings were collected by holding the survey meter stationary. Background readings varied from location to location but generally ranged from 13 to 17 µR/hr, with an average reading of 14.8 µR/hr at ground surface and an average reading of 14.4 µR/hr at three feet above ground level.

After collection of the background readings, survey activities at the Site were initiated or continued along the established grid. Measurement readings were collected at the survey nodes located by the GPS equipment and recorded. Two measurement readings were collected at each survey node: one at ground surface and one approximately 3 feet (1 meter) above the ground surface. Measurement readings were collected by holding the survey meter stationary. After recording the reading, the surveyor(s) moved along the grid line to the next survey node location.

In the event measurement readings at a survey node exceed three times the minimum recorded background level, additional readings at ground level and 1 meter above the ground level were collected at each of four points approximately 3 meters from the survey node. The points were determined by walking approximately 3 meters along a line diagonal to the grid system (i.e., NE, SE, SW, and NW) to a point and recording the measurement readings.

Once the additional readings were recorded, surveying along the established grid continued. This procedure continued until the entire Site had been surveyed. Readings were not recorded at established grid nodes falling within the local creek channel or outside of property fence lines/boundary. **Attachment A** presents a tabulation of all recorded data by alphanumeric grid node. Northing and Easting coordinates (based on the state plane coordinate system) and recorded readings at ground level and three feet above ground are included.

6.0 Evaluation of Survey Results

For purposes of data evaluation, radiation exposure readings at the Site were compared to background readings. **Figure 2** presents the results of the radiation survey in graphical (color coded) format showing the locations and relative exposure ranges throughout the entire site.

As can be observed, the vast majority of the property exhibits a radiation level below 25.00 μR/hr with portions of the property below a reading of 14.99 μR/hr.

Readings below 14.99 μR/hr are consistent with the average background reading recorded in the area (14.8 μR/hr). Values between 14.99 μR/hr and 25.00 μR/hr while slightly elevated above background are less than two times the background level and are believed to represent the natural radioactivity of the near-surface geologic strata of the area.

Historic coal mining activities conducted at this site, left the area in an un-reclaimed state with overburden (spoil) materials (shale and rock units of the Senora Formation) exposed at the surface. Later reclamation activities conducted at the site leveled the exposed spoil ridges but resulted in large areas of shale overburden at or near the surface.

Certain layers within the strata from which the coal was mined are known to have phosphatic nodules and/or shale which have been reported to have minute accumulations of naturally occurring uranium (Hayden and Danilchik, Geological Survey Bulletin 1147-B, 1962). When screened, the nodules and/or shale are reported to have a contact dose rate of 15 uR/hr to a high of 50 uR/hr. The readings observed over much of the area are well within the reported dose rates for these naturally occurring materials and are believed to represent the natural radioactivity of the geologic strata at the surface of the site.

Elevated readings were observed in a localized area near the northeastern corner of the Site (see **Figure 2**). In this area, readings greater than three times background were observed with the highest readings being recorded at more than 30 times background. The area where elevated readings were observed approximates 2.0 acres in size and is believed to be the only area at the site where radioactive materials were historically disposed/dumped.

7.0 Observations and Conclusions

Based on the results of the radiation survey conducted at the former City of Broken Arrow, OK Landfill Site, the following observations and conclusions can be made:

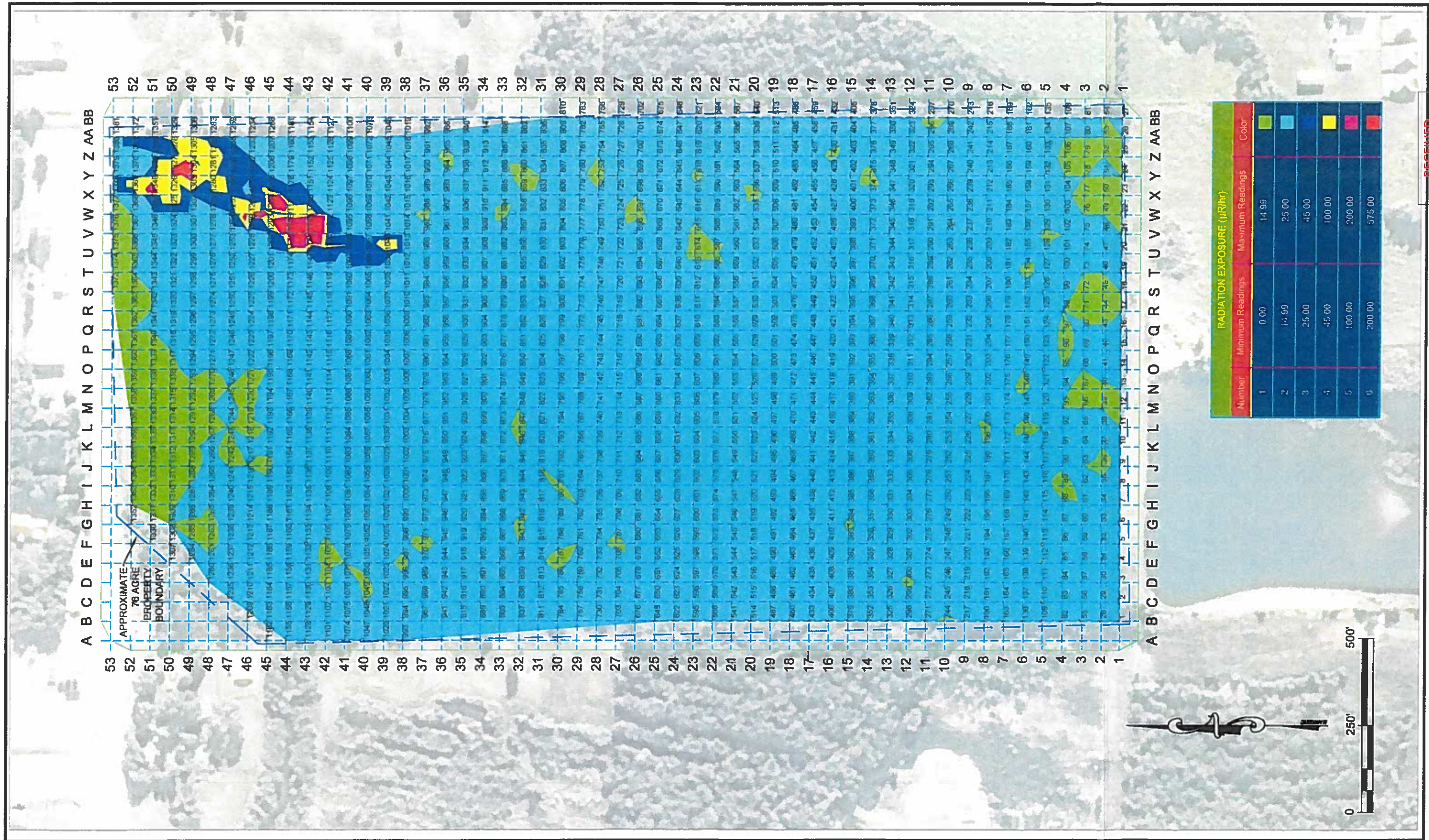
- Evaluation of the site on an approximate 50' by 50' grid basis resulted in the collection of approximately 1,500 data points on the level of radioactivity existing at the site.

- The use of differential Global Positioning System (GPS) techniques at the site resulted in the ability to accurately locate grid nodes established for radiation surveying purposes.
- Approximately 2.0 acres of land at the 76 acre property are impacted by radioactive materials which had been disposed/dumped at the site.
- The exact timing of placement of these radioactive materials is currently unknown.
- Impact by radioactive material is limited to the northeastern corner of the property.
- Within a short distance of the area of impact, direct measurement of radioactivity exposure drops rapidly and within a few feet is at background or a naturally occurring level.
- Only the northeastern corner of the property where the elevated readings were encountered will require additional characterization/remediation.
- With exception of the northeastern corner of the property, the predominance of the site poses no threat to human health or the environment from radioactivity and can be developed for commercial use.

8.0 References

Hayden, Harold J. and Walter Danilchik, *Uranium in Some Rocks of Pennsylvanian Age in Oklahoma, Kansas, and Missouri*. Geological Survey Bulletin 1147-B. United States Government Printing Office, Washington: 1962.

FIGURES



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PLAN DEVELOPMENT

GENERAL NOTES

- POINT ID LABELS (1–1381) REPRESENT LOCATION OF RECORDED SURVEY READINGS
- COLOR CODED DOSE RATE MAP GENERATED WITH RESULTS OF SURVEY USING GROUND SURFACE READINGS (SEE LEGEND BOX)

REVISIONS

NO.	DESCRIPTION	BY	CHECKED	DATE	NO.	DESCRIPTION	BY	CHECKED	DATE

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
ENGINEERING – ENVIRONMENTAL – CONSTRUCTION

DRAWN: BOC	CHECKED BY: TAT	MATERIALS BY:	ENGINEER:	APPROVED BY: TAT	SCALE: AS SHOWN	PROJECT NUMBER: 2028–009	DRAWING NUMBER: FIGURE 2	REV.: X
DATE: 2/17/2014	DATE: 2/17/2014	DATE:	DATE:	DATE: 2/17/2014				

JM ASSETS, LP
FORMER B.A. LANDFILL
RADIATION SURVEY RESULTS MAP

ATTACHMENT A

TABULATED READINGS

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
B1	1	391388	2637964	19	18
C1	2	391388	2638014	20	19
D1	3	391388	2638064	17	18
E1	4	391388	2638114	19	20
F1	5	391388	2638164	18	18
G1	6	391388	2638214	18	19
H1	7	391388	2638264	17	18
I1	8	391388	2638314	15	16
J1	9	391388	2638364	16	14
K1	10	391388	2638414	16	15
L1	11	391388	2638464	15	15
M1	12	391388	2638514	14	16
N1	13	391388	2638564	15	13
O1	14	391388	2638614	16	14
P1	15	391388	2638664	15	14
Q1	16	391388	2638714	17	16
R1	17	391388	2638764	15	13
S1	18	391388	2638814	15	15
T1	19	391388	2638864	16	14
U1	20	391388	2638914	16	16
V1	21	391388	2638964	15	16
W1	22	391388	2639014	14	15
X1	23	391388	2639064	15	14
Y1	24	391388	2639114	15	14
Z1	25	391388	2639164	14	16
AA1	26	391388	2639214	15	16
BB1	27	391388	2639264	20	18
B2	28	391438	2637964	18	18
C2	29	391438	2638014	18	18
D2	30	391438	2638064	20	19
E2	31	391438	2638114	17	18
F2	32	391438	2638164	19	19
G2	33	391438	2638214	21	20

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
H2	34	391438	2638264	17	16
I2	35	391438	2638314	16	17
J2	36	391438	2638364	14	15
K2	37	391438	2638414	15	15
L2	38	391438	2638464	15	16
M2	39	391438	2638514	15	16
N2	40	391438	2638564	14	13
O2	41	391438	2638614	17	16
P2	42	391438	2638664	16	14
Q2	43	391438	2638714	16	15
R2	44	391438	2638764	13	15
S2	45	391438	2638814	14	15
T2	46	391438	2638864	15	15
U2	47	391438	2638914	15	17
V2	48	391438	2638964	16	15
W2	49	391438	2639014	15	14
X2	50	391438	2639064	14	14
Y2	51	391438	2639114	15	13
Z2	52	391438	2639164	15	16
AA2	53	391438	2639214	15	13
BB2	54	391438	2639264	14	15
B3	55	391488	2637964	18	20
C3	56	391488	2638014	17	18
D3	57	391488	2638064	17	18
E3	58	391488	2638114	18	19
F3	59	391488	2638164	18	19
G3	60	391488	2638214	18	18
H3	61	391488	2638264	16	17
I3	62	391488	2638314	18	16
J3	63	391488	2638364	15	14
K3	64	391488	2638414	17	15
L3	65	391488	2638464	16	15
M3	66	391488	2638514	15	15

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
N3	67	391488	2638564	13	13
O3	68	391488	2638614	15	17
P3	69	391488	2638664	16	16
Q3	70	391488	2638714	16	16
R3	71	391488	2638764	14	15
S3	72	391488	2638814	14	16
T3	73	391488	2638864	15	15
U3	74	391488	2638914	17	16
V3	75	391488	2638964	16	16
W3	76	391488	2639014	15	16
X3	77	391488	2639064	13	14
W3	78	391488	2639114	15	15
Z3	79	391488	2639164	14	15
AA3	80	391488	2639214	15	15
BB3	81	391488	2639264	21	18
B4	82	391538	2637964	15	17
C4	83	391538	2638014	16	17
D4	84	391538	2638064	17	17
E4	85	391538	2638114	17	18
F4	86	391538	2638164	18	20
G4	87	391538	2638214	23	25
H4	88	391538	2638264	17	18
I4	89	391538	2638314	11	10
J4	90	391538	2638364	16	16
K4	91	391538	2638414	15	17
L4	92	391538	2638464	16	17
M4	93	391538	2638514	15	16
N4	94	391538	2638564	16	15
O4	95	391538	2638614	15	14
P4	96	391538	2638664	14	14
Q4	97	391538	2638714	14	14
R4	98	391538	2638764	15	14
S4	99	391538	2638814	16	16

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
T4	100	391538	2638864	15	16
U4	101	391538	2638914	16	19
V4	102	391538	2638964	15	16
W4	103	391538	2639014	15	15
X4	104	391538	2639064	16	15
Y4	105	391538	2639114	15	15
Z4	106	391538	2639164	14	16
AA4	107	391538	2639214	15	14
BB4	108	391538	2639264	15	15
B5	109	391588	2637964	17	17
C5	110	391588	2638014	18	16
D5	111	391588	2638064	19	18
E5	112	391588	2638114	16	17
F5	113	391588	2638164	20	22
G5	114	391588	2638214	20	20
H5	115	391588	2638264	17	18
I5	116	391588	2638314	18	18
J5	117	391588	2638364	20	18
K5	118	391588	2638414	18	18
L5	119	391588	2638464	15	16
M5	120	391588	2638514	15	16
N5	121	391588	2638564	17	16
O5	122	391588	2638614	18	17
P5	123	391588	2638664	18	17
Q5	124	391588	2638714	18	19
R5	125	391588	2638764	16	17
S5	126	391588	2638814	16	14
T5	127	391588	2638864	16	16
U5	128	391588	2638914	16	15
V5	129	391588	2638964	14	15
W5	130	391588	2639014	18	16
X5	131	391588	2639064	17	18
Y5	132	391588	2639114	19	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
Z5	133	391588	2639164	17	18
AA5	134	391588	2639214	21	19
BB5	135	391588	2639264	23	20
B6	136	391638	2637964	18	18
C6	137	391638	2638014	18	18
D6	138	391638	2638064	18	19
E6	139	391638	2638114	18	19
F6	140	391638	2638164	21	20
G6	141	391638	2638214	21	18
H6	142	391638	2638264	18	17
I6	143	391638	2638314	20	18
J6	144	391638	2638364	18	20
K6	145	391638	2638414	20	20
L6	146	391638	2638464	13	13
M6	147	391638	2638514	18	16
N6	148	391638	2638564	14	15
O6	149	391638	2638614	15	15
P6	150	391638	2638664	15	16
Q6	151	391638	2638714	16	15
R6	152	391638	2638764	16	16
S6	153	391638	2638814	17	18
T6	154	391638	2638864	14	14
U6	155	391638	2638914	16	17
V6	156	391638	2638964	19	18
W6	157	391638	2639014	18	16
X6	158	391638	2639064	17	16
Y6	159	391638	2639114	16	17
Z6	160	391638	2639164	18	18
AA6	161	391638	2639214	16	18
BB6	162	391638	2639264	16	15
B7	163	391688	2637964	17	18
C7	164	391688	2638014	16	16
D7	165	391688	2638064	17	18

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
E7	166	391688	2638114	22	21
F7	167	391688	2638164	20	20
G7	168	391688	2638214	19	19
H7	169	391688	2638264	18	19
I7	170	391688	2638314	19	18
J7	171	391688	2638364	18	21
K7	172	391688	2638414	18	16
L7	173	391688	2638464	17	17
M7	174	391688	2638514	18	19
N7	175	391688	2638564	16	17
O7	176	391688	2638614	17	16
P7	177	391688	2638664	15	15
Q7	178	391688	2638714	17	16
R7	179	391688	2638764	16	15
S7	180	391688	2638814	16	15
T7	181	391688	2638864	18	18
U7	182	391688	2638914	18	16
V7	183	391688	2638964	17	17
W7	184	391688	2639014	16	18
X7	185	391688	2639064	17	18
Y7	186	391688	2639114	18	18
Z7	187	391688	2639164	15	16
AA7	188	391688	2639214	18	16
BB7	189	391688	2639264	17	16
B8	190	391738	2637964	16	16
C8	191	391738	2638014	15	14
D8	192	391738	2638064	17	17
E8	193	391738	2638114	18	17
F8	194	391738	2638164	16	17
G8	195	391738	2638214	19	18
H8	196	391738	2638264	17	17
I8	197	391738	2638314	18	19
J8	198	391738	2638364	18	16

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
K8	199	391738	2638414	15	16
L8	200	391738	2638464	14	15
M8	201	391738	2638514	17	15
N8	202	391738	2638564	17	15
O8	203	391738	2638614	15	15
P8	204	391738	2638664	17	16
Q8	205	391738	2638714	16	16
R8	206	391738	2638764	18	19
S8	207	391738	2638814	15	16
T8	208	391738	2638864	15	15
U8	209	391738	2638914	16	16
V8	210	391738	2638964	16	16
W8	211	391738	2639014	17	17
X8	212	391738	2639064	17	16
Y8	213	391738	2639114	17	16
Z8	214	391738	2639164	15	15
AA8	215	391738	2639214	16	15
BB8	216	391738	2639264	15	16
B9	217	391788	2637964	15	15
C9	218	391788	2638014	16	15
D9	219	391788	2638064	17	16
E9	220	391788	2638114	17	18
F9	221	391788	2638164	17	17
G9	222	391788	2638214	20	20
H9	223	391788	2638264	17	18
I9	224	391788	2638314	17	18
J9	225	391788	2638364	17	17
K9	226	391788	2638414	17	17
L9	227	391788	2638464	18	17
M9	228	391788	2638514	17	17
N9	229	391788	2638564	16	17
O9	230	391788	2638614	17	18
P9	231	391788	2638664	18	18

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
Q9	232	391788	2638714	20	18
R9	233	391788	2638764	18	18
S9	234	391788	2638814	15	16
T9	235	391788	2638864	15	16
U9	236	391788	2638914	17	16
V9	237	391788	2638964	18	17
W9	238	391788	2639014	18	17
X9	239	391788	2639064	18	19
Y9	240	391788	2639114	16	17
Z9	241	391788	2639164	16	14
AA9	242	391788	2639214	16	16
BB9	243	391788	2639264	16	15
B10	244	391838	2637964	14	15
C10	245	391838	2638014	18	16
D10	246	391838	2638064	17	18
E10	247	391838	2638114	19	17
F10	248	391838	2638164	17	18
G10	249	391838	2638214	21	19
H10	250	391838	2638264	23	20
I10	251	391838	2638314	18	18
J10	252	391838	2638364	17	16
K10	253	391838	2638414	18	16
L10	254	391838	2638464	16	17
M10	255	391838	2638514	20	19
N10	256	391838	2638564	20	19
O10	257	391838	2638614	16	16
P10	258	391838	2638664	18	18
Q10	259	391838	2638714	17	18
R10	260	391838	2638764	17	18
S10	261	391838	2638814	15	16
T10	262	391838	2638864	16	16
U10	263	391838	2638914	18	16
V10	264	391838	2638964	17	17
W10	265	391838	2639014	17	16
X10	266	391838	2639064	17	17
Y10	267	391838	2639114	17	17
Z10	268	391838	2639164	15	15
AA10	269	391838	2639214	16	15
BB10	270	391838	2639264	15	16

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
B11	271	391888	2637964	16	17
C11	272	391888	2638014	18	19
D11	273	391888	2638064	16	15
E11	274	391888	2638114	19	17
F11	275	391888	2638164	20	20
G11	276	391888	2638214	16	16
H11	277	391888	2638264	17	18
I11	278	391888	2638314	17	16
J11	279	391888	2638364	22	20
K11	280	391888	2638414	18	20
L11	281	391888	2638464	19	17
M11	282	391888	2638514	20	20
N11	283	391888	2638564	17	19
O11	284	391888	2638614	17	17
P11	285	391888	2638664	18	18
Q11	286	391888	2638714	18	19
R11	287	391888	2638764	17	17
S11	288	391888	2638814	17	18
T11	289	391888	2638864	16	17
U11	290	391888	2638914	18	16
V11	291	391888	2638964	17	17
W11	292	391888	2639014	17	17
X11	293	391888	2639064	16	17
Y11	294	391888	2639114	17	18
Z11	295	391888	2639164	16	16
AA11	296	391888	2639214	16	15
BB11	297	391888	2639264	14	15
B12	298	391938	2637964	16	18
C12	299	391938	2638014	17	16
D12	300	391938	2638064	14	12
E12	301	391938	2638114	17	15
F12	302	391938	2638164	17	17
G12	303	391938	2638214	17	17
H12	304	391938	2638264	18	19
I12	305	391938	2638314	16	17
J12	306	391938	2638364	16	15
K12	307	391938	2638414	16	18
L12	308	391938	2638464	17	18
M12	309	391938	2638514	15	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
N12	310	391938	2638564	17	18
O12	311	391938	2638614	17	17
P12	312	391938	2638664	16	17
Q12	313	391938	2638714	17	17
R12	314	391938	2638764	18	17
S12	315	391938	2638814	19	18
T12	316	391938	2638864	19	17
U12	317	391938	2638914	16	17
V12	318	391938	2638964	18	19
W12	319	391938	2639014	16	17
X12	320	391938	2639064	16	18
Y12	321	391938	2639114	17	17
Z12	322	391938	2639164	16	16
AA12	323	391938	2639214	17	17
BB12	324	391938	2639264	17	16
B13	325	391988	2637964	17	16
C13	326	391988	2638014	17	18
D134	327	391988	2638064	18	19
E13	328	391988	2638114	19	18
F13	329	391988	2638164	21	19
G13	330	391988	2638214	18	18
H13	331	391988	2638264	19	18
I13	332	391988	2638314	21	20
J13	333	391988	2638364	17	17
K13	334	391988	2638414	17	18
L13	335	391988	2638464	17	18
M13	336	391988	2638514	17	18
N13	337	391988	2638564	17	17
O13	338	391988	2638614	18	17
P13	339	391988	2638664	17	17
Q13	340	391988	2638714	18	17
R13	341	391988	2638764	17	18
S13	342	391988	2638814	17	18
T13	343	391988	2638864	18	18
U13	344	391988	2638914	17	17
V13	345	391988	2638964	16	17
W13	346	391988	2639014	17	17
X13	347	391988	2639064	16	18
Y13	348	391988	2639114	18	18

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
Z13	349	391988	2639164	16	16
AA13	350	391988	2639214	17	16
BB13	351	391988	2639264	16	17
B14	352	392038	2637964	17	16
C14	353	392038	2638014	17	18
D14	354	392038	2638064	22	20
E14	355	392038	2638114	16	18
F14	356	392038	2638164	19	18
G14	357	392038	2638214	17	17
H14	358	392038	2638264	19	18
I14	359	392038	2638314	18	19
J14	360	392038	2638364	17	17
K14	361	392038	2638414	19	18
L14	362	392038	2638464	17	19
M14	363	392038	2638514	18	17
N14	364	392038	2638564	15	17
O14	365	392038	2638614	17	18
P14	366	392038	2638664	17	17
Q14	367	392038	2638714	16	16
R14	368	392038	2638764	17	16
S14	369	392038	2638814	16	17
T14	370	392038	2638864	19	18
U14	371	392038	2638914	18	19
V14	372	392038	2638964	16	17
W14	373	392038	2639014	17	17
X14	374	392038	2639064	16	17
Y14	375	392038	2639114	14	14
Z14	376	392038	2639164	16	15
AA14	377	392038	2639214	17	15
BB14	378	392038	2639264	16	17
B15	379	392088	2637964	16	16
C15	380	392088	2638014	20	18
D15	381	392088	2638064	15	16
E15	382	392088	2638114	16	17
F15	383	392088	2638164	16	18
G15	384	392088	2638214	14	14
H15	385	392088	2638264	17	19
I15	386	392088	2638314	17	18
J15	387	392088	2638364	17	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
K15	388	392088	2638414	17	19
L15	389	392088	2638464	17	18
M15	390	392088	2638514	18	18
N15	391	392088	2638564	18	17
O15	392	392088	2638614	18	18
P15	393	392088	2638664	17	19
Q15	394	392088	2638714	18	18
R15	395	392088	2638764	18	19
S15	396	392088	2638814	16	17
T15	397	392088	2638864	18	17
U15	398	392088	2638914	15	16
V15	399	392088	2638964	16	17
W15	400	392088	2639014	18	19
X15	401	392088	2639064	16	17
Y15	402	392088	2639114	16	18
Z15	403	392088	2639164	17	17
AA15	404	392088	2639214	16	16
BB15	405	392088	2639264	17	17
B16	406	392138	2637964	17	16
C16	407	392138	2638014	17	16
D16	408	392138	2638064	17	18
E16	409	392138	2638114	18	19
F16	410	392138	2638164	19	18
G16	411	392138	2638214	21	19
H16	412	392138	2638264	18	18
I16	413	392138	2638314	19	18
J16	414	392138	2638364	21	20
K16	415	392138	2638414	17	17
L16	416	392138	2638464	17	18
M16	417	392138	2638514	17	18
N16	418	392138	2638564	17	18
O16	419	392138	2638614	17	17
P16	420	392138	2638664	18	17
Q16	421	392138	2638714	16	17
R16	422	392138	2638764	17	17
S16	423	392138	2638814	18	19
T16	424	392138	2638864	17	18
U16	425	392138	2638914	17	15
V16	426	392138	2638964	19	19

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
W16	427	392138	2639014	19	18
X16	428	392138	2639064	17	17
Y16	429	392138	2639114	18	17
Z16	430	392138	2639164	14	15
AA16	431	392138	2639214	17	18
BB16	432	392138	2639264	19	18
B17	433	392188	2637964	19	17
C17	434	392188	2638014	20	20
D17	435	392188	2638064	17	15
E17	436	392188	2638114	18	17
F17	437	392188	2638164	17	17
G17	438	392188	2638214	17	19
H17	439	392188	2638264	18	19
I17	440	392188	2638314	17	18
J17	441	392188	2638364	18	19
K17	442	392188	2638414	19	19
L17	443	392188	2638464	21	20
M17	444	392188	2638514	17	17
N17	445	392188	2638564	16	17
O17	446	392188	2638614	18	18
P17	447	392188	2638664	19	19
Q17	448	392188	2638714	16	18
R17	449	392188	2638764	18	16
S17	450	392188	2638814	15	17
T17	451	392188	2638864	17	18
U17	452	392188	2638914	16	17
V17	453	392188	2638964	19	17
W17	454	392188	2639014	19	17
X17	455	392188	2639064	16	18
Y17	456	392188	2639114	16	18
Z17	457	392188	2639164	17	16
AA17	458	392188	2639214	18	18
BB17	459	392188	2639264	18	19
B18	460	392238	2637964	17	18
C18	461	392238	2638014	19	17
D18	462	392238	2638064	15	16
E18	463	392238	2638114	17	17
F18	464	392238	2638164	15	16
G18	465	392238	2638214	16	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
H18	466	392238	2638264	16	18
I18	467	392238	2638314	17	17
J18	468	392238	2638364	15	15
K18	469	392238	2638414	18	18
L18	470	392238	2638464	19	18
M18	471	392238	2638514	20	22
N18	472	392238	2638564	19	18
O18	473	392238	2638614	17	16
P18	474	392238	2638664	19	17
Q18	475	392238	2638714	16	18
R18	476	392238	2638764	17	16
S18	477	392238	2638814	19	18
T18	478	392238	2638864	16	18
U18	479	392238	2638914	18	16
V18	480	392238	2638964	17	17
W18	481	392238	2639014	15	16
X18	482	392238	2639064	19	17
Y18	483	392238	2639114	18	19
Z18	484	392238	2639164	19	17
AA18	485	392238	2639214	17	18
BB18	486	392238	2639264	17	17
B19	487	392288	2637964	17	18
C19	488	392288	2638014	18	19
D19	489	392288	2638064	20	19
E19	490	392288	2638114	19	20
F19	491	392288	2638164	17	18
G19	492	392288	2638214	17	18
H19	493	392288	2638264	17	18
I19	494	392288	2638314	19	18
J19	495	392288	2638364	17	19
K19	496	392288	2638414	18	19
L19	497	392288	2638464	19	18
M19	498	392288	2638514	17	18
N19	499	392288	2638564	19	17
O19	500	392288	2638614	19	17
P19	501	392288	2638664	16	15
Q19	502	392288	2638714	16	16
R19	503	392288	2638764	16	16
S19	504	392288	2638814	16	15

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
T19	505	392288	2638864	19	20
U19	506	392288	2638914	15	14
V19	507	392288	2638964	15	15
W19	508	392288	2639014	18	16
X19	509	392288	2639064	16	17
Y19	510	392288	2639114	17	17
Z19	511	392288	2639164	18	19
AA19	512	392288	2639214	18	16
BB19	513	392288	2639264	18	18
B20	514	392338	2637964	16	17
C20	515	392338	2638014	17	18
D20	516	392338	2638064	20	18
E20	517	392338	2638114	17	17
F20	518	392338	2638164	17	18
G20	519	392338	2638214	19	18
H20	520	392338	2638264	20	18
I20	521	392338	2638314	20	18
J20	522	392338	2638364	18	19
K20	523	392338	2638414	20	18
L20	524	392338	2638464	18	18
M20	525	392338	2638514	18	19
N20	526	392338	2638564	19	18
O20	527	392338	2638614	20	20
P20	528	392338	2638664	18	16
Q20	529	392338	2638714	15	16
R20	530	392338	2638764	17	16
S20	531	392338	2638814	16	16
T20	532	392338	2638864	16	15
U20	533	392338	2638914	18	17
V20	534	392338	2638964	21	19
W20	535	392338	2639014	18	18
X20	536	392338	2639064	14	16
Y20	537	392338	2639114	16	15
Z20	538	392338	2639164	17	17
AA20	539	392338	2639214	17	18
BB20	540	392338	2639264	19	17
B21	541	392388	2637964	16	17
C21	542	392388	2638014	18	17
D21	543	392388	2638064	17	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
E21	544	392388	2638114	17	17
F21	545	392388	2638164	20	18
G21	546	392388	2638214	20	19
H21	547	392388	2638264	20	18
I21	548	392388	2638314	18	18
J21	549	392388	2638364	17	18
K21	550	392388	2638414	17	18
L21	551	392388	2638464	19	19
M21	552	392388	2638514	18	17
N21	553	392388	2638564	18	18
O21	554	392388	2638614	17	17
P21	555	392388	2638664	15	17
Q21	556	392388	2638714	17	16
R21	557	392388	2638764	17	18
S21	558	392388	2638814	15	14
T21	559	392388	2638864	16	15
U21	560	392388	2638914	18	17
V21	561	392388	2638964	16	15
W21	562	392388	2639014	17	15
X21	563	392388	2639064	17	17
Y21	564	392388	2639114	16	17
Z21	565	392388	2639164	17	17
AA21	566	392388	2639214	18	17
BB21	567	392388	2639264	16	15
B22	568	392438	2637964	18	17
C22	569	392438	2638014	17	17
D22	570	392438	2638064	17	18
E22	571	392438	2638114	17	15
F22	572	392438	2638164	18	18
G22	573	392438	2638214	17	16
H22	574	392438	2638264	20	18
I22	575	392438	2638314	17	18
J22	576	392438	2638364	17	18
K22	577	392438	2638414	16	16
L22	578	392438	2638464	17	18
M22	579	392438	2638514	18	18
N22	580	392438	2638564	18	17
O22	581	392438	2638614	17	17
P22	582	392438	2638664	17	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
Q22	583	392438	2638714	16	16
R22	584	392438	2638764	15	16
S22	585	392438	2638814	18	18
T22	586	392438	2638864	17	17
U22	587	392438	2638914	14	14
V22	588	392438	2638964	16	16
W22	589	392438	2639014	17	16
X22	590	392438	2639064	17	18
Y22	591	392438	2639114	16	16
Z22	592	392438	2639164	17	17
AA22	593	392438	2639214	16	17
BB22	594	392438	2639264	17	16
B23	595	392488	2637964	21	20
C23	596	392488	2638014	16	17
D23	597	392488	2638064	17	17
E23	598	392488	2638114	17	16
F23	599	392488	2638164	16	17
G23	600	392488	2638214	18	19
H23	601	392488	2638264	18	18
I23	602	392488	2638314	17	17
J23	603	392488	2638364	15	15
K23	604	392488	2638414	17	17
L23	605	392488	2638464	19	18
M23	606	392488	2638514	18	19
N23	607	392488	2638564	18	19
O23	608	392488	2638614	17	17
P23	609	392488	2638664	18	18
Q23	610	392488	2638714	17	17
R23	611	392488	2638764	17	18
S23	612	392488	2638814	16	17
T23	613	392488	2638864	17	16
U23	614	392488	2638914	14	15
V23	615	392488	2638964	14	14
W23	616	392488	2639014	16	15
X23	617	392488	2639064	17	17
Y23	618	392488	2639114	14	15
Z23	619	392488	2639164	17	16
AA23	620	392488	2639214	17	17
BB23	621	392488	2639264	15	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
B24	622	392538	2637964	20	20
C24	623	392538	2638014	19	19
D24	624	392538	2638064	17	17
E24	625	392538	2638114	16	17
F24	626	392538	2638164	17	15
G24	627	392538	2638214	19	18
H24	628	392538	2638264	16	17
I24	629	392538	2638314	15	17
J24	630	392538	2638364	17	17
K24	631	392538	2638414	17	17
L24	632	392538	2638464	20	18
M24	633	392538	2638514	18	18
N24	634	392538	2638564	16	16
O24	635	392538	2638614	17	17
P24	636	392538	2638664	18	17
Q24	637	392538	2638714	20	18
R24	638	392538	2638764	19	17
S24	639	392538	2638814	17	17
T24	640	392538	2638864	17	16
U24	641	392538	2638914	16	17
V24	642	392538	2638964	17	17
W24	643	392538	2639014	18	17
X24	644	392538	2639064	18	18
Y24	645	392538	2639114	18	19
Z24	646	392538	2639164	17	17
AA24	647	392538	2639214	17	16
BB24	648	392538	2639264	18	18
B25	649	392588	2637964	18	19
C25	650	392588	2638014	17	17
D25	651	392588	2638064	19	19
E25	652	392588	2638114	17	17
F25	653	392588	2638164	15	14
G25	654	392588	2638214	16	17
H25	655	392588	2638264	17	16
I25	656	392588	2638314	15	16
J25	657	392588	2638364	16	17
K25	658	392588	2638414	16	17
L25	659	392588	2638464	17	17
M25	660	392588	2638514	18	19

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
N25	661	392588	2638564	17	18
O25	662	392588	2638614	16	16
P25	663	392588	2638664	16	17
Q25	664	392588	2638714	16	16
R25	665	392588	2638764	18	18
S25	666	392588	2638814	17	15
T25	667	392588	2638864	19	17
U25	668	392588	2638914	20	18
V25	669	392588	2638964	17	17
W25	670	392588	2639014	18	16
X25	671	392588	2639064	16	14
Y25	672	392588	2639114	17	16
Z25	673	392588	2639164	18	18
AA25	674	392588	2639214	16	17
BB25	675	392588	2639264	17	17
B26	676	392638	2637964	18	18
C26	677	392638	2638014	21	20
D26	678	392638	2638064	17	18
E26	679	392638	2638114	16	16
F26	680	392638	2638164	16	18
G26	681	392638	2638214	17	17
H26	682	392638	2638264	17	18
I26	683	392638	2638314	18	17
J26	684	392638	2638364	17	15
K26	685	392638	2638414	16	17
L26	686	392638	2638464	17	18
M26	687	392638	2638514	17	19
N26	688	392638	2638564	18	19
O26	689	392638	2638614	17	17
P26	690	392638	2638664	19	19
Q26	691	392638	2638714	17	17
R26	692	392638	2638764	17	16
S26	693	392638	2638814	16	17
T26	694	392638	2638864	18	17
U26	695	392638	2638914	18	17
V26	696	392638	2638964	20	18
W26	697	392638	2639014	13	16
X26	698	392638	2639064	15	15
Y26	699	392638	2639114	17	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
Z26	700	392638	2639164	15	15
AA26	701	392638	2639214	17	16
BB26	702	392638	2639264	16	16
B27	703	392688	2637964	18	18
C27	704	392688	2638014	17	18
D27	705	392688	2638064	18	17
E27	706	392688	2638114	20	18
F27	707	392688	2638164	14	14
G27	708	392688	2638214	16	15
H27	709	392688	2638264	15	14
I27	710	392688	2638314	17	16
J27	711	392688	2638364	17	17
K27	712	392688	2638414	16	15
L27	713	392688	2638464	20	17
M27	714	392688	2638514	17	17
N27	715	392688	2638564	17	17
O27	716	392688	2638614	16	17
P27	717	392688	2638664	16	17
Q27	718	392688	2638714	22	17
R27	719	392688	2638764	15	16
S27	720	392688	2638814	16	18
T27	721	392688	2638864	17	17
U27	722	392688	2638914	16	17
V27	723	392688	2638964	17	18
W27	724	392688	2639014	16	15
X27	725	392688	2639064	17	17
Y27	726	392688	2639114	19	18
Z27	727	392688	2639164	15	17
AA27	728	392688	2639214	18	17
BB27	729	392688	2639264	17	17
B28	730	392738	2637964	19	17
C28	731	392738	2638014	17	18
D28	732	392738	2638064	17	19
E28	733	392738	2638114	18	17
F28	734	392738	2638164	16	15
G28	735	392738	2638214	18	18
H28	736	392738	2638264	20	19
I28	737	392738	2638314	17	16
J28	738	392738	2638364	16	15

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
K28	739	392738	2638414	17	17
L28	740	392738	2638464	18	18
M28	741	392738	2638514	18	18
N28	742	392738	2638564	17	17
O28	743	392738	2638614	17	17
P28	744	392738	2638664	16	17
Q28	745	392738	2638714	17	18
R28	746	392738	2638764	17	16
S28	747	392738	2638814	18	17
T28	748	392738	2638864	15	16
U28	749	392738	2638914	16	15
V28	750	392738	2638964	21	19
W28	751	392738	2639014	19	18
X28	752	392738	2639064	16	18
Y28	753	392738	2639114	13	14
Z28	754	392738	2639164	15	16
AA28	755	392738	2639214	16	17
BB28	756	392738	2639264	17	18
B29	757	392788	2637964	18	20
C29	758	392788	2638014	20	18
D29	759	392788	2638064	17	18
E29	760	392788	2638114	17	16
F29	761	392788	2638164	15	16
G29	762	392788	2638214	19	18
H29	763	392788	2638264	15	15
I29	764	392788	2638314	17	17
J29	765	392788	2638364	19	20
K29	766	392788	2638414	17	16
L29	767	392788	2638464	16	17
M29	768	392788	2638514	20	18
N29	769	392788	2638564	17	17
O29	770	392788	2638614	18	19
P29	771	392788	2638664	17	19
Q29	772	392788	2638714	16	17
R29	773	392788	2638764	17	18
S29	774	392788	2638814	16	17
T29	775	392788	2638864	15	15
U29	776	392788	2638914	18	17
V29	777	392788	2638964	17	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
W29	778	392788	2639014	17	18
X29	779	392788	2639064	17	16
Y29	780	392788	2639114	16	15
Z29	781	392788	2639164	18	18
AA29	782	392788	2639214	17	17
BB29	783	392788	2639264	18	18
B30	784	392838	2637964	22	20
C30	785	392838	2638014	18	20
D30	786	392838	2638064	18	18
E30	787	392838	2638114	13	13
F30	788	392838	2638164	16	15
G30	789	392838	2638214	21	20
H30	790	392838	2638264	17	17
I30	791	392838	2638314	14	16
J30	792	392838	2638364	19	17
K30	793	392838	2638414	17	16
L30	794	392838	2638464	15	15
M30	795	392838	2638514	17	18
N30	796	392838	2638564	17	18
O30	797	392838	2638614	20	18
P30	798	392838	2638664	17	17
Q30	799	392838	2638714	17	18
R30	800	392838	2638764	19	17
S30	801	392838	2638814	19	18
T30	802	392838	2638864	18	18
U30	803	392838	2638914	19	19
V30	804	392838	2638964	18	16
W30	805	392838	2639014	17	18
X30	806	392838	2639064	17	17
Y30	807	392838	2639114	15	16
Z30	808	392838	2639164	18	16
AA30	809	392838	2639214	17	18
BB30	810	392838	2639264	20	17
B31	811	392888	2637964	19	19
C31	812	392888	2638014	17	16
D31	813	392888	2638064	17	17
E31	814	392888	2638114	16	16
F31	815	392888	2638164	18	20
G31	816	392888	2638214	19	18

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
H31	817	392888	2638264	16	17
I31	818	392888	2638314	17	16
J31	819	392888	2638364	15	15
K31	820	392888	2638414	18	17
L31	821	392888	2638464	17	16
M31	822	392888	2638514	17	17
N31	823	392888	2638564	17	17
O31	824	392888	2638614	18	16
P31	825	392888	2638664	20	19
Q31	826	392888	2638714	20	20
R31	827	392888	2638764	19	17
S31	828	392888	2638814	16	14
T31	829	392888	2638864	17	17
U31	830	392888	2638914	17	18
V31	831	392888	2638964	16	16
W31	832	392888	2639014	15	15
X31	833	392888	2639064	16	17
Y31	834	392888	2639114	15	14
Z31	835	392888	2639164	16	15
AA31	836	392888	2639214	16	16
B32	837	392938	2637964	17	18
C32	838	392938	2638014	17	17
D32	839	392938	2638064	16	17
E32	840	392938	2638114	17	16
F32	841	392938	2638164	15	16
G32	842	392938	2638214	14	16
H32	843	392938	2638264	17	17
I32	844	392938	2638314	16	17
J32	845	392938	2638364	18	17
K32	846	392938	2638414	15	15
L32	847	392938	2638464	14	13
M32	848	392938	2638514	15	16
N32	849	392938	2638564	17	17
O32	850	392938	2638614	16	16
P32	851	392938	2638664	18	16
Q32	852	392938	2638714	18	17
R32	853	392938	2638764	19	17
S32	854	392938	2638814	17	17
T32	855	392938	2638864	17	18

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
U32	856	392938	2638914	17	16
V32	857	392938	2638964	17	16
W32	858	392938	2639014	17	17
X32	859	392938	2639064	16	15
Y32	860	392938	2639114	12	14
Z32	861	392938	2639164	17	17
AA32	862	392938	2639214	16	15
B33	863	392988	2637964	17	16
C33	864	392988	2638014	17	17
D33	865	392988	2638064	15	17
E33	866	392988	2638114	18	17
F33	867	392988	2638164	17	17
G33	868	392988	2638214	17	17
H33	869	392988	2638264	18	17
I33	870	392988	2638314	17	19
J33	871	392988	2638364	17	17
K33	872	392988	2638414	16	17
L33	873	392988	2638464	16	15
M33	874	392988	2638514	17	18
N33	875	392988	2638564	17	18
O33	876	392988	2638614	17	17
P33	877	392988	2638664	17	16
Q33	878	392988	2638714	18	17
R33	879	392988	2638764	17	17
S33	880	392988	2638814	17	16
T33	881	392988	2638864	15	14
U33	882	392988	2638914	15	15
V33	883	392988	2638964	17	16
W33	884	392988	2639014	14	14
X33	885	392988	2639064	16	15
Y33	886	392988	2639114	18	18
Z33	887	392988	2639164	17	15
AA33	888	392988	2639214	17	15
B34	889	393038	2637964	18	17
C34	890	393038	2638014	16	15
D34	891	393038	2638064	16	15
E34	892	393038	2638114	16	16
F34	893	393038	2638164	16	17
G34	894	393038	2638214	17	16

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
H34	895	393038	2638264	15	15
I34	896	393038	2638314	18	18
J34	897	393038	2638364	18	18
K34	898	393038	2638414	17	17
L34	899	393038	2638464	17	16
M34	900	393038	2638514	15	17
N34	901	393038	2638564	15	16
O34	902	393038	2638614	17	17
P34	903	393038	2638664	20	17
Q34	904	393038	2638714	16	18
R34	905	393038	2638764	17	17
S34	906	393038	2638814	17	17
T34	907	393038	2638864	17	19
U34	908	393038	2638914	17	18
V34	909	393038	2638964	17	16
W34	910	393038	2639014	17	16
X34	911	393038	2639064	17	16
Y34	912	393038	2639114	16	17
Z34	913	393038	2639164	16	15
AA34	914	393038	2639214	17	17
B35	915	393088	2637964	16	16
C35	916	393088	2638014	15	15
D35	917	393088	2638064	17	17
E35	918	393088	2638114	17	19
F35	919	393088	2638164	17	16
G35	920	393088	2638214	17	17
H235	921	393088	2638264	18	18
I35	922	393088	2638314	19	17
J35	923	393088	2638364	18	19
K35	924	393088	2638414	18	18
L35	925	393088	2638464	17	17
M35	926	393088	2638514	18	17
N35	927	393088	2638564	19	17
O35	928	393088	2638614	19	17
P35	929	393088	2638664	18	19
Q35	930	393088	2638714	18	17
R35	931	393088	2638764	18	17
S35	932	393088	2638814	20	19
T35	933	393088	2638864	19	18

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
U35	934	393088	2638914	17	17
V35	935	393088	2638964	17	18
W35	936	393088	2639014	16	17
X35	937	393088	2639064	17	16
Y35	938	393088	2639114	16	17
Z35	939	393088	2639164	16	16
AA35	940	393088	2639214	16	16
B36	941	393138	2637964	17	16
C36	942	393138	2638014	18	16
D36	943	393138	2638064	18	18
E36	944	393138	2638114	18	16
F36	945	393138	2638164	16	15
G36	946	393138	2638214	19	18
H36	947	393138	2638264	18	17
I36	948	393138	2638314	17	16
J36	949	393138	2638364	21	18
K36	950	393138	2638414	18	18
L36	951	393138	2638464	18	17
M36	952	393138	2638514	19	17
N36	953	393138	2638564	18	18
O36	954	393138	2638614	18	18
P36	955	393138	2638664	18	17
Q36	956	393138	2638714	18	18
R36	957	393138	2638764	18	17
S36	958	393138	2638814	18	16
T36	959	393138	2638864	18	18
U36	960	393138	2638914	17	17
V36	961	393138	2638964	18	17
W36	962	393138	2639014	18	17
X36	963	393138	2639064	17	15
Y36	964	393138	2639114	16	16
Z36	965	393138	2639164	14	15
AA36	966	393138	2639214	17	16
B37	967	393188	2637964	17	17
C37	968	393188	2638014	17	16
D37	969	393188	2638064	15	15
E37	970	393188	2638114	17	16
F37	971	393188	2638164	13	14
G37	972	393188	2638214	19	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
H37	973	393188	2638264	17	17
I37	974	393188	2638314	17	16
J37	975	393188	2638364	17	18
K37	976	393188	2638414	17	17
L37	977	393188	2638464	19	16
M37	978	393188	2638514	19	19
N37	979	393188	2638564	19	17
O37	980	393188	2638614	17	17
P37	981	393188	2638664	18	16
Q37	982	393188	2638714	17	16
R37	983	393188	2638764	16	16
S37	984	393188	2638814	19	19
T37	985	393188	2638864	18	15
U37	986	393188	2638914	16	16
V37	987	393188	2638964	17	17
W37	988	393188	2639014	14	14
X37	989	393188	2639064	19	15
Y37	990	393188	2639114	16	14
Z37	991	393188	2639164	17	16
AA37	992	393188	2639214	18	16
A38	993	393238	2637914	17	17
B38	994	393238	2637964	17	16
C38	995	393238	2638014	16	16
D38	996	393238	2638064	16	15
E38	997	393238	2638114	14	14
F38	998	393238	2638164	16	16
G38	999	393238	2638214	18	17
H38	1000	393238	2638264	18	17
I38	1001	393238	2638314	16	17
J38	1002	393238	2638364	17	15
K38	1003	393238	2638414	22	18
L38	1004	393238	2638464	17	17
M38	1005	393238	2638514	19	18
N38	1006	393238	2638564	16	17
O38	1007	393238	2638614	20	17
P38	1008	393238	2638664	17	16
Q38	1009	393238	2638714	19	18
R38	1010	393238	2638764	18	17
S38	1011	393238	2638814	17	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
T38	1012	393238	2638864	20	17
U38	1013	393238	2638914	19	20
V38	1014	393238	2638964	17	19
W38	1015	393238	2639014	16	15
X38	1016	393238	2639064	19	16
Y38	1017	393238	2639114	19	16
Z38	1018	393238	2639164	15	16
AA38	1019	393238	2639214	16	17
A39	1020	393288	2637914	16	14
B39	1021	393288	2637964	16	15
C39	1022	393288	2638014	16	16
D39	1023	393288	2638064	17	15
E39	1024	393288	2638114	16	17
F39	1025	393288	2638164	17	15
G39	1026	393288	2638214	17	17
H39	1027	393288	2638264	18	17
I39	1028	393288	2638314	18	17
J39	1029	393288	2638364	18	17
K39	1030	393288	2638414	18	16
L39	1031	393288	2638464	18	16
M39	1032	393288	2638514	19	18
N39	1033	393288	2638564	21	17
O39	1034	393288	2638614	19	17
P39	1035	393288	2638664	18	18
Q39	1036	393288	2638714	18	17
R39	1037	393288	2638764	20	18
S39	1038	393288	2638814	16	19
T39	1039	393288	2638864	19	19
U39	1040	393288	2638914	30	30
V39	1041	393288	2638964	20	20
W39	1042	393288	2639014	19	20
X39	1043	393288	2639064	18	16
Y39	1044	393288	2639114	17	19
Z39	1045	393288	2639164	18	19
AA39	1046	393288	2639214	20	19
A40	1047	393338	2637914	16	15
B40	1048	393338	2637964	16	16
C40	1049	393338	2638014	15	14
D40	1050	393338	2638064	14	14

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
E40	1051	393338	2638114	16	15
F40	1052	393338	2638164	16	15
G40	1053	393338	2638214	17	17
H40	1054	393338	2638264	18	16
I40	1055	393338	2638314	16	18
J40	1056	393338	2638364	17	20
K40	1057	393338	2638414	19	18
L40	1058	393338	2638464	16	16
M40	1059	393338	2638514	17	16
N40	1060	393338	2638564	18	18
O40	1061	393338	2638614	16	19
P40	1062	393338	2638664	17	17
Q40	1063	393338	2638714	19	18
R40	1064	393338	2638764	19	17
S40	1065	393338	2638814	20	18
T40	1066	393338	2638864	18	20
U40	1067	393338	2638914	38	33
V40	1068	393338	2638964	20	23
W40	1069	393338	2639014	20	21
X40	1070	393338	2639064	18	19
Y40	1071	393338	2639114	19	18
Z40	1072	393338	2639164	17	17
AA40	1073	393338	2639214	16	17
A41	1074	393388	2637914	20	20
B41	1075	393388	2637964	24	25
C41	1076	393388	2638014	18	18
D41	1077	393388	2638064	18	18
E41	1078	393388	2638114	15	16
F41	1079	393388	2638164	17	17
G41	1080	393388	2638214	18	16
H41	1081	393388	2638264	17	15
I41	1082	393388	2638314	18	17
J41	1083	393388	2638364	17	17
K41	1084	393388	2638414	20	17
L41	1085	393388	2638464	20	18
M41	1086	393388	2638514	19	16
N41	1087	393388	2638564	18	17
O41	1088	393388	2638614	17	16
P41	1089	393388	2638664	18	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
Q41	1090	393388	2638714	18	17
R41	1091	393388	2638764	21	18
S41	1092	393388	2638814	20	20
T41	1093	393388	2638864	20	17
U41	1094	393388	2638914	23	23
V41	1095	393388	2638964	22	21
W41	1096	393388	2639014	19	19
X41	1097	393388	2639064	17	17
Y41	1098	393388	2639114	21	20
Z41	1099	393388	2639164	19	18
AA41	1100	393388	2639214	20	18
A42	1101	393438	2637914	17	16
B42	1102	393438	2637964	18	15
C42	1103	393438	2638014	19	18
D42	1104	393438	2638064	13	13
E42	1105	393438	2638114	14	16
F42	1106	393438	2638164	14	14
G422	1107	393438	2638214	17	16
H42	1108	393438	2638264	18	15
I42	1109	393438	2638314	18	14
J42	1110	393438	2638364	18	16
K42	1111	393438	2638414	17	16
L42	1112	393438	2638464	17	16
M42	1113	393438	2638514	17	17
N42	1114	393438	2638564	17	17
O42	1115	393438	2638614	21	18
P42	1116	393438	2638664	16	18
Q42	1117	393438	2638714	18	17
R42	1118	393438	2638764	18	17
S42	1119	393438	2638814	19	18
T42	1120	393438	2638864	20	18
U42	1121	393438	2638914	29	28
V42	1122	393438	2638964	25	30
W42	1123	393438	2639014	24	23
X42	1124	393438	2639064	16	17
Y42	1125	393438	2639114	17	19
Z42	1126	393438	2639164	17	22
AA42	1127	393438	2639214	19	16
A43	1128	393488	2637914	18	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
B43	1129	393488	2637964	17	19
C43	1130	393488	2638014	18	18
D43	1131	393488	2638064	19	19
E43	1132	393488	2638114	17	18
F43	1133	393488	2638164	18	18
G43	1134	393488	2638214	16	17
H43	1135	393488	2638264	18	19
I43	1136	393488	2638314	16	17
J43	1137	393488	2638364	16	16
K43	1138	393488	2638414	17	18
L43	1139	393488	2638464	18	19
M43	1140	393488	2638514	16	17
N43	1141	393488	2638564	17	18
O43	1142	393488	2638614	18	18
P43	1143	393488	2638664	18	16
Q43	1144	393488	2638714	17	19
R43	1145	393488	2638764	18	19
S43	1146	393488	2638814	20	19
T43	1147	393488	2638864	21	22
U43	1148	393488	2638914	25	28
V43	1149	393488	2638964	60	57
W43	1150	393488	2639014	63	53
X43	1151	393488	2639064	26	25
Y43	1152	393488	2639114	21	18
Z43	1153	393488	2639164	18	17
AA43	1154	393488	2639214	17	19
A44	1155	393538	2637914	16	18
B44	1156	393538	2637964	17	20
C44	1157	393538	2638014	18	18
D44	1158	393538	2638064	16	16
E44	1159	393538	2638114	17	16
F44	1160	393538	2638164	17	18
G44	1161	393538	2638214	16	19
H44	1162	393538	2638264	17	17
I44	1163	393538	2638314	19	18
J44	1164	393538	2638364	19	17
K44	1165	393538	2638414	17	18
L44	1166	393538	2638464	18	20
M44	1167	393538	2638514	16	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
N44	1168	393538	2638564	18	19
O44	1169	393538	2638614	20	21
P44	1170	393538	2638664	19	19
Q44	1171	393538	2638714	19	17
R44	1172	393538	2638764	19	19
S44	1173	393538	2638814	19	17
T44	1174	393538	2638864	20	20
U44	1175	393538	2638914	24	25
V44	1176	393538	2638964	85	90
W44	1177	393538	2639014	32	32
X44	1178	393538	2639064	32	30
Y44	1179	393538	2639114	18	20
Z44	1180	393538	2639164	17	18
AA44	1181	393538	2639214	17	20
A45	1182	393588	2637914	-	-
B45	1183	393588	2637964	-	-
C45	1184	393588	2638014	-	-
D45	1185	393588	2638064	16	15
E45	1186	393588	2638114	16	16
F45	1187	393588	2638164	17	16
G45	1188	393588	2638214	17	15
H45	1189	393588	2638264	16	16
I45	1190	393588	2638314	16	16
J45	1191	393588	2638364	14	14
K45	1192	393588	2638414	16	16
L45	1193	393588	2638464	15	15
M45	1194	393588	2638514	17	16
N45	1195	393588	2638564	16	15
O45	1196	393588	2638614	15	14
P45	1197	393588	2638664	16	17
Q45	1198	393588	2638714	19	19
R45	1199	393588	2638764	17	17
S45	1200	393588	2638814	17	17
T45	1201	393588	2638864	20	20
U45	1202	393588	2638914	21	24
V45	12023	393588	2638964	23	25
W45	1204	393588	2639014	120	130
X45	1205	393588	2639064	90	120
Y45	1206	393588	2639114	25	21

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
Z45	1207	393588	2639164	19	20
AA45	1208	393588	2639214	20	17
B46	1209	393638	2637964	-	-
C46	1210	393638	2638014	-	-
D46	1211	393638	2638064	-	-
E46	1212	393638	2638114	16	15
F46	1213	393638	2638164	17	15
G46	1214	393638	2638214	17	18
H46	1215	393638	2638264	17	16
I46	1216	393638	2638314	15	14
J46	1217	393638	2638364	15	14
K46	1218	393638	2638414	16	14
L46	1219	393638	2638464	14	15
M46	1220	393638	2638514	14	14
N46	1221	393638	2638564	14	15
O46	1222	393638	2638614	15	14
P46	1223	393638	2638664	16	15
Q46	1224	393638	2638714	19	17
R46	1225	393638	2638764	17	17
S46	1226	393638	2638814	16	16
T46	1227	393638	2638864	17	17
U46	1228	393638	2638914	20	20
V46	1229	393638	2638964	19	20
W46	1230	393638	2639014	80	70
X46	1231	393638	2639064	21	23
Y46	1232	393638	2639114	26	26
Z46	1233	393638	2639164	25	22
AA46	1234	393638	2639214	19	17
C47	1235	393688	2638014	-	-
D47	1236	393688	2638064	16	15
E47	1237	393688	2638114	15	14
F47	1238	393688	2638164	16	15
G47	1239	393688	2638214	16	16
H47	1240	393688	2638264	15	15
I47	1241	393688	2638314	16	17
J47	1242	393688	2638364	15	14
K47	1243	393688	2638414	14	14
L47	1244	393688	2638464	15	14
M47	1245	393688	2638514	16	17

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
N47	1246	393688	2638564	15	14
O47	1247	393688	2638614	16	14
P47	1248	393688	2638664	15	14
Q47	1249	393688	2638714	15	15
R47	1250	393688	2638764	15	15
S47	1251	393688	2638814	15	15
T47	1252	393688	2638864	16	16
U47	1253	393688	2638914	19	19
V47	1254	393688	2638964	17	18
W47	1255	393688	2639014	23	21
X47	1256	393688	2639064	40	35
Y47	1257	393688	2639114	32	30
Z47	1258	393688	2639164	38	38
AA47	1259	393688	2639214	22	22
D48	1260	393738	2638064	15	14
E48	1261	393738	2638114	16	15
F48	1262	393738	2638164	14	15
G48	1263	393738	2638214	14	15
H48	1264	393738	2638264	15	14
I48	1265	393738	2638314	15	13
J48	1266	393738	2638364	16	15
K48	1267	393738	2638414	16	17
L48	1268	393738	2638464	14	13
M48	1269	393738	2638514	15	15
N48	1270	393738	2638564	13	13
O48	1271	393738	2638614	15	14
P48	1272	393738	2638664	16	15
Q48	1273	393738	2638714	15	15
R48	1274	393738	2638764	15	15
S48	1275	393738	2638814	16	16
T48	1276	393738	2638864	16	15
U48	1277	393738	2638914	18	18
V48	1278	393738	2638964	18	19
W48	1279	393738	2639014	17	21
X48	1280	393738	2639064	34	35
Y48	1281	393738	2639114	50	52
Z48	1282	393738	2639164	60	60
AA48	1283	393738	2639214	26	30
E49	1284	393788	2638114	-	-

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
F49	1285	393788	2638164	-	-
G48	1286	393788	2638214	14	14
H49	1287	393788	2638264	17	15
I49	1288	393788	2638314	15	15
J49	1289	393788	2638364	13	12
K49	1290	393788	2638414	14	14
L49	1291	393788	2638464	14	15
M49	1292	393788	2638514	14	13
N49	1293	393788	2638564	14	14
O49	1294	393788	2638614	16	13
P49	1295	393788	2638664	15	13
Q49	1296	393788	2638714	15	15
R49	1297	393788	2638764	15	15
S49	1298	393788	2638814	15	15
T49	1299	393788	2638864	15	15
U49	1300	393788	2638914	16	16
V49	1301	393788	2638964	18	16
W49	1302	393788	2639014	20	20
X49	1303	393788	2639064	25	28
Y49	1304	393788	2639114	130	90
Z49	1305	393788	2639164	60	50
AA49	1306	393788	2639214	45	40
E50	1307	393838	2638114	-	-
F50	1308	393838	2638164	-	-
G50	1309	393838	2638214	15	15
H50	1310	393838	2638264	14	14
I50	1311	393838	2638314	14	15
J50	1312	393838	2638364	12	12
K50	1313	393838	2638414	15	15
L50	1314	393838	2638464	14	14
M50	1315	393838	2638514	15	12
N50	1316	393838	2638564	15	15
O50	1317	393838	2638614	14	14
P50	1318	393838	2638664	15	15
Q50	1319	393838	2638714	15	15
R50	1320	393838	2638764	15	15
S50	1321	393838	2638814	15	15
T50	1322	393838	2638864	15	15
U50	1323	393838	2638914	18	16

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
V50	1324	393838	2638964	17	17
W50	1325	393838	2639014	20	22
X50	1326	393838	2639064	65	60
Y50	1327	393838	2639114	60	70
Z50	1328	393838	2639164	25	25
AA50	1329	393838	2639214	49	47
F51	1330	393888	2638164	-	-
G51	1331	393888	2638214	-	-
H51	1332	393888	2638264	13	13
I51	1333	393888	2638314	14	12
J51	1334	393888	2638364	12	14
K51	1335	393888	2638414	14	12
L51	1336	393888	2638464	12	12
M51	1337	393888	2638514	14	12
N51	1338	393888	2638564	14	12
O51	1339	393888	2638614	14	14
P51	1340	393888	2638664	14	14
Q51	1341	393888	2638714	15	13
R51	1342	393888	2638764	15	15
S51	1343	393888	2638814	15	14
T51	1344	393888	2638864	15	15
U51	1345	393888	2638914	17	18
V51	1346	393888	2638964	20	18
W51	1347	393888	2639014	21	20
X51	1348	393888	2639064	31	39
Y51	1349	393888	2639114	30	27
Z51	1350	393888	2639164	20	23
AA51	1351	393888	2639214	-	-
G52	1352	393938	2638214	-	-
H52	1353	393938	2638264	12	12
I52	1354	393938	2638314	14	12
J52	1355	393938	2638364	12	12
K52	1356	393938	2638414	14	14
L52	1357	393938	2638464	14	12
M52	1358	393938	2638514	13	13
N52	1359	393938	2638564	14	12
O52	1360	393938	2638614	14	14
P52	1361	393938	2638664	14	12
Q52	1362	393938	2638714	15	13

Grid Node	Point	Northing	Easting	Ground Reading (µR/hr)	3 ft Reading (µR/hr)
R52	1363	393938	2638764	13	13
S52	1364	393938	2638814	13	13
T52	1365	393938	2638864	15	12
U52	1366	393938	2638914	14	13
V52	1367	393938	2638964	15	14
W52	1368	393938	2639014	15	15
X52	1369	393938	2639064	17	17
Y52	1370	393938	2639114	17	17
Z52	1371	393938	2639164	15	15
AA52	1372	393938	2639214	35	33
S53	1373	393988	2638814	12	12
T53	1374	393988	2638864	14	13
U53	1375	393988	2638914	13	13
V53	1376	393988	2638964	12	13
W53	1377	393988	2639014	13	13
X53	1378	393988	2639064	15	15
Y53	1379	393988	2639114	16	15
Z53	1380	393988	2639164	15	15
AA53	1381	393988	2639214	15	14

Brownfields Proposal

for

No Action Necessary

Tract 1 and 3 of the Former Broken Arrow Landfill
W/2 of NE/4 of Section 8, Township 18 North,
Range 15 East Broken Arrow, Wagoner County, Oklahoma

To **Obtain**
A Certificate of No Action Necessary
Pursuant to 27A § 2-15-01 et seq.
and OAC 252:221-1-1 et seq.

October 13, 2014

Participants:

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Prepared By:

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1.0 Introduction

The following Brownfield Proposal for a Certificate of No Action Necessary, submitted by JM Assets, is for property, hereafter referred to in this proposal as Tracts 1 and 3 of the former Broken Arrow Landfill ("Site") located in Broken Arrow, Wagoner County, Oklahoma (Figure Brownfield Plat, Appendix A). The Site is owned by JM Assets (the Participant) and this Proposal was prepared with the assistance of the Oklahoma Department of Environmental Quality (DEQ) Brownfields Program.

On March 24, 2009, JM Assets voluntarily entered into a Memorandum of Agreement and Consent Order for Site Characterization ("MACO") pursuant to the DEQ's Brownfields Program. See DEQ Case No. 09-057. Under the terms of the MACO, JM Assets was required to: (1) complete certain investigation and characterization activities at the Site under the supervision of the DEQ, and (2) enter into a new consent order for remediation prior to beginning any remedial work at the Site.

Site Characterization Activities were conducted with approval by DEQ in 2010, 2011, and 2013. Field activities were subsequently completed in December 2013, and the results submitted to DEQ.

Based upon the analytical data resulting from those efforts, JM Assets broke the property up into 4 Tracts to address varying environmental conditions encountered across the site. These Tracts can be seen on the plat map in Appendix A. This proposal addresses the environmental conditions found in Tract 1 and 3. This proposal for No Action Necessary is based on limiting the use of the property for commercial/industrial purposes (i.e., non-residential), which is consistent with the intended redevelopment of the Site. A deed notice will be placed in the County land records in accordance with 27A O.S. § 2-7-123. JM Assets is seeking liability relief for potential environmental impacts to the Site and requests issuance of a Brownfield Certificate of No Action Necessary.

A&M Engineering submitted a Brownfields Proposal on behalf of JM Assets for the Site in October 2011 and JM Assets has been working with DEQ to produce a Proposal in response to further sampling activities onsite. To simplify review of the existing record, this Brownfields Proposal will replace the previously- submitted information presented in the 2011 Proposal.

2.0 Eligibility

The DEQ has determined that the site participants are eligible under 27A § 2-15-104(D) and the property is an eligible response site under 42 USC 9601 §101(41). The participants entered into a Memorandum of Agreement and Consent Order for Site Characterization (OAC 252:221-3-1) on March 24, 2009.

3.0 Current and Proposed Uses of the Site

3.1 Current Use of the Site

The site is currently unoccupied land. Below the surface is the former Broken Arrow Landfill that operated from 1973 until 1976. Sampling data indicates that the fill area of the landfill is located in Tract 2. Prior to being used for a landfill, the property was part of a large surface coal mine.

3.2 Current Use of Adjacent Properties

The properties around the site are a mix of residential and commercial use as well as pasture land. To the north, there are commercial buildings and residential properties. To the east, there is pasture land and residential development. To the south, there is unoccupied land with surface water and residential housing. To the west is more of the former strip mine, which is now largely unoccupied except for one residence and an oil tank to the very north of the property.

3.3 Current Use of Groundwater in the vicinity

Currently, groundwater is not used onsite. A deed notice will be placed on the property to prevent the use of groundwater for anything other than monitoring purposes.

The nearest water well is 0.4 miles to the north of the site and is for domestic use and is owned by J.T. Rader. It is situated at 138 ft. of depth.

3.4 Current Use of Surface Water

The former strip mine extends beyond the site boundaries and over several neighboring properties. The drainage feature to the northwest of the property is part of a larger feature created by the furthest west lift of the coal mine. This is not a natural water feature and sediments in the drainage feature are impacted by the former strip mine.

The closest water supply intake is Broken Arrow's water intake on the Verdigris River and is roughly 8.5 miles northeast of the site and potentially downgradient in the watershed. However, it is uncertain whether the drainage feature associated with the former strip mine is perennial, or if it connects with the watershed at all. The OWRB Map viewer indicates that it may not be connected, and it is not recognized as a natural water feature by OWRB.

3.5 Proposed Future Use of the site

The proposed future use of the site is Commercial/Industrial. Residential use of the site will not be allowed and a deed restriction will be filed with the Brownfield Certificate in the county land records restricting the use of the property to commercial/industrial.

4.0 Site Characterization

4.1 Site Description and Historical Information

4.1.1 *Latitude/Longitude*

The current entrance to the site is located at (36.060798°, -95.730975°). It is anticipated that redevelopment will alter access to the site. The site will not remain accessible through the Tract 2 entrance.

4.1.2 *Legal Description*

The full legal definition of the site as it was entered into the Brownfield Program is:

Part of W/2 of NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, according to the U.S. Government Survey thereof, being more particularly described as follows: Beginning at a point 50 feet South of the NE corner of said W/2 of NE/4, Thence S 01°17'51" E along the East line of said W/2 of NE/4 2595.97 feet to the SE corner of said W/2 of NE/4, Thence S 88°49'1" W along the South line of said W/2 of NE/4 1320.16 feet to the SW corner of said W/2 of NE/4, Thence N 01°19'88"E along the West line of said W/2 of NE/4 1473.60 feet, Thence N 88°40'28"a distance of 1261.08 feet to a point that is 60 feet West of the East line of said W/2 of NE/4, Thence N 01°17'51" W and parallel to said East line a distance of 1118.97 feet to a point on the South right-of-way line of East Kenosha Ave. (E. 71st St. South), Thence N 88°40'28" E along said right-of-way 60 feet to the Point of Beginning.

The site was surveyed on February 6, 2014 and broken into three separate Tracts as follows:

TRACT 1

A tract of land that is port of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows: Commencing at the NW Corner of the NE/4, Thence S01'19'59"E along the West line of NE/4 50.00 feet; thence N88'40'18"E 73.54 feet; thence S88'27'57"E 200.25 feet; thence N88'40'18"E 100.00 feet to the Point of Beginning; thence N84'51'37"E 150.33 feet; thence N88'40'28"E 462.22 feet: thence S01'17' 51 "E 331.61 feet; thence WEST 100.00 feet; thence SOUTH 250.00 feet; thence WEST 500.00 feet; thence SOUTH 200.00 feet; thence S88'40'28"W 375.24 feet to a point on said West line of NE/4; thence N01'19'59"W along said West line 222.93 feet; thence N33'30'32"E 653.83 feet to the Point of Beginning, containing 11.73 acres, more or less.

TRACT 2

A tract of land that is part of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows: Beginning at a point 50.00 feet South of the Northeast corner of said W/2 NE/4; thence S01'17'51"E along the East line of said W/2 NE/4 1600.13 feet; thence WEST 1011.89 feet; thence SOUTH 250.00 feet; thence S88'40'28"W 303.15 to a point on the West line of said W/2 NE/4; thence N01'19'8"E along said West line 948.59 feet; thence N88'40'28"E 375.24 feet; thence NORTH 200.00 feet; thence EAST 500.00 feet; thence NORTH 250.00 feet; thence EAST 100.00 feet: thence N01'17'51 "W 331.61 feet to a point on the south right of way line of E. Kenosha Ave. (E. 71 st St. So.); thence N88'40'28"E along said right of way 336.02 feet to the Point of Beginning, containing 32.16 acres, more or less.

TRACT 3

A tract of land that is part of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows: Beginning at a point 1650.13 feet South of the Northeast corner of said W/2 NE/4; thence S01'17'51"E along the East line of said W/2 NE/4 1127.76 feet to the Southeast corner of said W/2 NE/4; thence S88'49'19"W along the south line of said W/2 NE/4 1320.16 feet to the Southwest corner of said W/2 NE/4; thence N01"19'58"E along the West line of said W/2 NE/4 874.39 feet; thence N88'40'28"E 303.15 feet; thence NORTH 250.00 feet; thence EAST 1011.89 feet to the Point of Beginning, containing 32.38 acres, more or less.

This Proposal addresses conditions only on Tract 1 and Tract 3.

4.1.3 *Current Conditions/Historical Conditions*

The Site consists of approximately 76 acres of undeveloped land with brush, grassland, and trees located throughout a majority of the Site. Denser woodland is situated in the southeast section of the Site and along the western border. A drainage feature associated with the final lift of the strip mine borders the Site's northwestern boundary.

The Site currently does not have any improvements (buildings, tanks, parking lots, etc.), except for an earthen access road and a fence with a lockable gate restricting access to the property. The Site can be accessed from the northern adjacent road (East 71st Street/Kenosha Street) via a concrete driveway that leads into an earthen/gravel access road. The access road extends along the eastern section of the Site for approximately 1,200 feet and turns to the southwest for approximately 650 feet. The road then extends to the west/southwest through the south central section of the Site.

A sanitary sewer easement is situated along the western boundary and several manholes are situated along the easement. In addition, a natural gas pipeline easement is situated throughout the center of the Site that extends from west to east.

The Topographic Map and the Site Layout are provided in Appendix A. The property and surrounding area are zoned as commercial by the City of Broken Arrow and reflect historic and current industrial and commercial use.

According to historical resources and the site inspection, the Site was formerly a coal strip mine that was eventually used as a landfill. Prior to being used for fill operations, the Site was coal strip mined in the 1920s and 1930s, with some additional mining in the 1960s. Mining activities occurred prior to the Surface Mining Control and Reclamation Act of 1977.

The landfill was first permitted for hazardous waste by the manufacturer of acetylene on February 15, 1973 through the Oklahoma State Department of Health (OSDH). OSDH stamped this first permit "invalid" with a remark of "Sold to Broken Arrow of S.L." OSDH reissued Permit No. 3573002 on June 15, 1973 to the City of Broken Arrow for a sanitary landfill. The same permit was closed on September 25, 1976. This permitting record indicates that the Site was utilized only for a maximum of 2.5 years by the City of Broken Arrow for disposing municipal waste.

A Phase I Environmental Site Assessment (ESA) was originally conducted in February 2008 and was updated in December 2008 and January 2009. Historically, the Site had been strip mined and later permitted as a municipal landfill for the City of Broken Arrow to accept sanitary waste. During the Phase I ESA, two (2) disposal areas were determined at the Site (Appendix A).

4.2 **Environmental Setting**

4.2.1 *General*

Broken Arrow is surrounded by gentle hills stretching toward the Ozark foothills and lies near the Arkansas River at a latitude providing a moderate climate. Winters are generally mild with light snowfall, and the high temperatures of mid- to late-summer are often moderated by low relative humidity and southerly breezes. Tornadoes and

windstorms characterize spring and early summer, but sunny days and cool nights prevail throughout the fall. Rainfall is heaviest in the spring.

The average temperature for winter months is 36.7° F and for summer months 82.0° F. Average rainfall is 38.77 inches. Winds across Wagoner County are predominantly from the south to southeast, averaging nearly 7 miles-per-hour. Relative humidity, on average, ranges from 47% to 92% during the day. Relative humidity is slightly lower from February – April, but increases dramatically with the spring rains. The percentage of possible sunshine ranges from an average of less than 50% in winter to nearly 80% in summer.

4.2.2 *Topography*

The northern portion of the site slopes to the west/northwest in the direction of a drainage feature associated with the former strip mine, and the remaining portions of the site generally slope to the southwest in the direction of a pond located on the south adjacent property. The topography of the site has changed over the last 80 years due to strip mine activities and then the mined areas being filled by the City of Broken Arrow Landfill. Currently, the Site is leveled and there is no visible effect of past mining and landfill activities. According to the Oneta Quadrangle 7.5- Minute Topographic Map, the elevation of the site ranges from 630 to 670 feet above mean sea level (MSL). The surrounding topography is best described as gently sloping to sloping. The Topographic Map is provided in Appendix A.

4.2.3 *Geology*

According to the Hydrologic Atlas 2 – Reconnaissance of the Water Resources of the Tulsa Quadrangle-Northeastern Oklahoma, underlying sediment consists of the Senora Group. The Senora Group consists of shale, sandstone, and coal beds with minor limestone beds. The Geology Map is provided in Appendix A.

According to the Oklahoma Water Resources Board (OWRB), there are no drinking water wells within a quarter mile of the Site. The yield of the uppermost aquifer at this site is very low, less than 1-2 gallons a minute.

4.2.4 *Hydrology*

4.2.4.1 Surface Water

A drainage feature associated with the final lift of the strip mine borders the northwest Site boundary and flows northward. Part of the Site drains into this feature and part of the Site drains to the south into a large impoundment adjacent to the south boundary of the Site.

The source of domestic water for the Site and the area is from Yahola Lake, with services provided by the City of Tulsa. Yahola Lake is over fifteen miles away from the site. It is not anticipated that the site could have impacts on Yahola Lake.

4.2.4.2 Flood Plains

According to the Federal Emergency Management Agency (FEMA), the site is situated outside the 100 year and 500 year flood plains (Zone X). No visual evidence of recent flooding or prolonged water retention was observed on-site

during the inspection. The Flood Map (Flood Insurance Rate Map) is provided in Appendix A.

4.2.5 *Utilities*

A sanitary sewer easement is situated along the western boundary and several manholes are situated along the easement. In addition, a natural gas pipeline easement is situated through the center of the Site and extends from west to east.

It is not anticipated that development of the property and installation of utilities will be complicated by conditions on Tract 1 or Tract 3.

4.2.6 *Area Resources*

The property to the east of the site is in use as pasture land. The site and the property to the west were intermittently used as strip mines from the 1920s to 1960s.

There is limited use of groundwater in the area. According to the Oklahoma Water Resources Board (OWRB) online data viewer, the closest groundwater well is domestic and is a half mile to the northeast of the site. Shallow groundwater and surface water flow appears to be to the west/northwest toward a drainage feature associated with the former strip mine. Sampling was performed in the drainage feature, and it does not appear to be impacted by conditions limited to the site. See Section 4.3 for more information on investigation activities.

4.2.7 *Nearby Sensitive Environments*

The closest school or day care center is Park Lane Elementary, which is just over a mile to the southeast. There are no known sensitive ecological environments in the area of the site. Areas around the site are predominantly pasture land, residential, or commercial/industrial.

4.3 **Results of Environmental Investigation**

Sampling events occurred in 2008, 2010, 2011, 2012 and 2014 and were conducted by A&M Engineering. Media sampled during these sampling events include surface and subsurface soil, surface and ground water, soil gas, and radiation surveys.

2008 Preliminary Sampling

In February 2008, three (3) surface soil samples were collected on-site and two (2) surface water samples were collected from a ponded area and the drainage feature located in the northwest corner of the Site. The landfill areas appeared to be covered with a mix of clay and silty loam soil with gravel and grass. The landfill surface areas appeared somewhat homogeneous. In some limited areas throughout the Site, trash was observed. No ponding or standing water was observed in the landfilled areas or anywhere onsite. The Previous Sample Locations With Updated Waste Area Map is provided in Appendix A.

The analytical parameters for the January 2008 preliminary sampling event included: Chloride, Specific Conductance, Metals (Barium, Iron, Magnesium, and Manganese), Nitrate, pH, Total Dissolved Solids (water only), and Sulfate. Concentrations of Metals and Sulfate were detected in all of the soil samples. In addition, the pH in soil samples S-1 and S-2 were relatively lower than the background sample (S-3). The TDS, Metals, and Sulfate were elevated in both water samples. Additionally, the Chloride level was elevated in the Creek Sample (C-1) and the pH was lower than

the surface water sample, which indicated impact from an off-site source. The Sample Location Map (Figure Previous Sample Locations With Updated Waste Area Map) is provided in Appendix A.

2010 Sampling

To characterize the site for DEQ's Brownfield Program, soil, sediment, surface water, and groundwater were sampled at the Site following the DEQ approved Brownfield Sampling & Analysis Plan. Four (4) piezometers were completed on August 3, 2010, and two gas probes were completed on August 4, 2010, both using a CME ATV drill rig.

Depths of the piezometers ranged from 15 feet to 20 feet at the Site. Groundwater was encountered in all four (4) piezometers and groundwater samples were collected from all of the piezometers on August 4, 2010. Additional water samples were collected from each piezometer on October 28, 2010.

Four (4) surface soil grab samples (0 to 6 inches deep) were collected on August 4, 2010, from the Site. In addition, two (2) sediment and two (2) water samples were collected from the drainage feature associated with the former strip mine on August 3, 2010.

All of the drilling and sampling activities were implemented according to the Sampling & Analysis Plan.

The Site is bordered along the northwest boundary by a drainage feature created by the last lift of the strip coal mine. Sediment at the bottom of the feature was sampled at its entry and exit point of the Site. The Sample Location Map (Figure Previous Sample Locations With Updated Waste Area Map) is provided in Appendix A. Two (2) sediment samples were collected from the drainage feature with CS-1 being the upgradient sample. The samples were dark gray and reddish fine to medium coarse and moist.

The water of the drainage feature was also sampled at the entry of the drainage feature to the Site (CW-1) and at the exit point of the drainage feature from the Site (CW-2). At each sampling location, a bottom sediment and surface water sample was collected.

Four (4) surface soil grab samples (0 to 6 inches deep) were collected on August 4, 2010 from the Site. The Site Characterization Sample Location Map is provided in Appendix A.

Approximately one (1) inch of grass and topsoil were encountered in each surface sample. In addition, five (5) to six (6) inches of loose (brown/grey) spoil, which is the turned over material remaining from mining activities, was encountered in each surface sample.

All surface samples and the split barrel samples from the piezometers were scanned using a photo ionization detector (PID). No elevated readings were detected in the surface samples. No elevated readings were detected in the split barrel samples; therefore, no soil samples were collected from the piezometers.

Field observations revealed that the Site is underlain by loose spoil from previous mining activities. No staining or visual impact was observed in the split barrel samples. In addition, no unusual odors were observed during sampling.

Four (4) piezometer wells were drilled at the Site. After the wells were developed and purged, groundwater samples were collected from each well. The groundwater samples were analyzed for pH, Conductivity, Arsenic, Cadmium, Chloride, Sodium, Sulphate, Phosphorus, Manganese, Iron, Lead, Chromium, Magnesium, Nitrate, Barium, Mercury, semi-volatiles (Method 8270), and volatiles (Method 8260). The Duplicate sample was collected from PZ-2.

In order to determine if the landfill was generating methane gas, two (2) gas probes were installed within the delineated waste areas to monitor the waste generated gas. The probes were sampled for methane.

The purpose of these two (2) gas probes was to determine gas generation within the waste areas to assist with the design phase for the site development.

The gas probe locations were initially proposed according to the delineated landfill area from previous data; however, after attempting to drill the gas probes in the proposed locations, no trash was encountered. It took three (3) attempts to locate trash for GP-1. GP-1a was drilled to a depth of 15 feet and GP-1b was drilled to a depth of 12 feet. Only mine spoil was encountered in GP-1a and GP-1b. GP-1c was drilled to a depth of 7.5 feet and trash was encountered at 4 to 6 feet. The trash consisted of paper, plastic sheeting, and plastic bags. The gas probe was installed at the GP-1c location, approximately 500 feet south/southwest of the proposed location. The Previous Sample Locations With Updated Waste Area is provided in Appendix A and shows all the GP locations.

GP-2 took five (5) attempts to locate trash. GP-2a through GP-2d were all drilled to a depth of 15 feet and only loose gray/brown mine spoil was encountered. GP-2e was drilled to a depth of 9 feet and trash was encountered at 5 to 6.5 feet. The trash consisted of paper, plastic sheeting, and fabric. The gas probe was installed at the GP-2e location, approximately 1,000 feet north/northwest of the proposed location. The Previous Sample Locations With Updated Waste Area Map is provided in Appendix A.

During gas probe drilling, all the penetrated spoil-soil sections and waste were scanned using the PID and no PID readings were detected in the spoil and waste samples.

Radiation Surveys

Preliminary radiation surveys were conducted in October 2010, June 2011, and September 2011. Based on these preliminary surveys it was determined that there was a radiation source present on the site. A more detailed survey made up of a 100ftx100ft grid was conducted in March of 2012. The survey was intended to determine whether there were impacts on the northern third of the property, but when the survey confirmed the radiation issues in the northern third of the property, the survey was extended to random nodes throughout the southern two-thirds of the property as well. Based on concerns raised by the confirmatory survey, DEQ offered assistance to JM Assets. DEQ staff pulled four soil samples from areas determined to have radiation issues and sent the samples to be analyzed. The result of the sampling indicated that thorium and uranium were present in a lens of soil approximately 6 inches below the surface. Based on concerns that more of the radioactive material might be on site, a full survey with a 50ftx50ft grid was conducted in December of 2013. A report produced in May of 2014 indicates that the impacted area is limited to the northeastern portion of the site, in what is now labeled Tract 2a. Tract 2a is not a part of this Proposal. It will be addressed separately.

4.3.1 *Soil*

4.3.1.1 Impacts onsite

A letter from Blackshare Environmental regarding investigations from 2007 and an A&M conducted investigation in 2010 indicate that there are metal levels onsite that are elevated above EPA industrial screening levels and published USGS background levels. Analytical results from the 2007 investigation were not available for review, but a letter from Blackshare Environmental to Western Capital Partners describing the sampling results indicates that metal levels in groundwater exceeded MCLs (See Appendix B). Sampling performed in 2010 by A&M Engineering indicates that the only metals to exceed screening levels for industrial use are arsenic and thallium. Arsenic is naturally occurring in Oklahoma soils and according to the United States Geological Survey (USGS), background levels for arsenic range from 1.007 to 8.982 mg/kg in Wagoner County. All samples collected onsite exceeded these arsenic background levels, ranging from 11.1 to 22.6 in soils, and 48.3 to 52.9 in sediment samples from the drainage feature. Thallium levels on site exceed protection of ground water levels and EPA residential screening levels, but not EPA industrial screening levels. Thallium levels in surface soils range from 0.297 mg/kg to 0.802 mg/kg. According to the United States Geological Survey, arsenic is associated with coal mines and according the Agency for Toxic Substances and Disease Registry (ATSDR), thallium is associated with mines in general, including coal mines. Since the area is part of a large coal strip mine, elevated levels may be attributed to former strip mining activities onsite. See Tables 1 and 3 in Appendix B for sample results.

Based on gas sampling results there seems to be limited methane gas generation in the area near the footprint of the old landfill. From sampling, it does not appear that the methane generation will impact Tract 1 or Tract 3. Boundaries of Tracts 1 and 3 are over 100 feet away from the suspected fill area of the landfill.

4.3.1.2 Delineation of Potential Off-Site Migration

The former strip mine covers a large area that goes beyond the boundaries of the site. Sediment samples collected in the drainage feature have elevated levels of arsenic, in the range of 50 mg/kg. The similarity in value between the upgradient sample (48.3 mg/kg) and the downgradient sample (52.9 mg/kg) indicates that the impacts to the drainage feature are consistent within the area of the strip mine. No sediment samples were collected offsite.

4.3.1.3 Impacts to Neighboring Properties

No sampling data has been collected offsite. There is impact from the former strip mine present in the sediment of the drainage feature to the northwest of the site. The strip mine extends beyond the site boundaries.

4.3.1.4 Closest Public Water Supplies

The closest water supply intake is Broken Arrow's water intake on the Verdigris River and is roughly 8.5 miles to the northeast of the site and potentially downgradient in the watershed. However, it is uncertain whether the drainage feature associated with the former strip mine is continuous at all times, or if it

connects with the watershed at all. Map data from the DEQ ArcGIS Viewer and from the OWRB Map viewer indicates that it may not be connected.

4.3.1.5 Nearest domestic wells

The nearest domestic water well is 0.4 miles to the north of the site and is owned by J.T. Rader. It is situated at 138 ft. of depth. Based on data collected by A&M engineering in 2010, metals in soils are not affecting groundwater (see 4.3.1.6). Groundwater results can be found in Appendix B, Table 4.

4.3.1.6 Movement of COCs to groundwater

COCs have been detected in groundwater above MCLs according to the May 22, 2007 Blackshare letter (See Appendix C). Sampling performed by A&M Engineering in 2010 indicate detectable limits of RCRA metals in unfiltered groundwater samples (See Table 4, Appendix B), but there were no detectable limits in filtered samples indicating that there is likely no impact to groundwater from COCs onsite. When metals are detectable in unfiltered samples, but not in filtered samples this indicates that the metals that were detected in the unfiltered samples were the result of suspended particles that were dissolved during lab analysis, and not dissolved metals in the groundwater.

4.3.2 *Groundwater*

4.3.2.1 Impacts onsite

A letter report from Blackshare in 2007 indicates that metals were detected above screening levels (MCLs) in groundwater. Analytical data from 2010 indicates that metals were only detected in unfiltered samples, so metal levels in these samples are likely not representative of an issue with dissolved metals in groundwater. Any metal levels present are likely a result of impacts from the former strip mine, which extends beyond the boundaries of the site.

4.3.2.2 Delineation of Potential Off-Site Migration

No sampling occurred offsite, but any metal levels present are likely a result of impacts from the former strip mine, which extends beyond the boundaries of the site. Arsenic and thallium were found to be elevated onsite over the published USGS background levels. However, according to the USGS, arsenic is associated with coal mines and according the ATSDR, thallium is associated with mines in general, including coal mines. Since, the area is part of a large coal strip mine, elevated levels may be attributed to former strip mining activities.

4.3.2.3 Impacts to Neighboring Properties

No sampling has occurred offsite. The former strip mine extended to neighboring properties in all directions.

4.3.2.4 Closest Public Water Supplies

The closest water supply intake is Broken Arrow's water intake on the Verdigris River and is roughly 8.5 miles to the northeast of the site and potentially downgradient in the watershed. However, it is uncertain whether the drainage

feature associated with the former strip mine is continuous at all times, or if it connects with the watershed at all. Map data from the DEQ ArcGIS Viewer and from the OWRB Map viewer indicate that it may not be connected.

4.3.2.5 Nearest domestic wells

According to the OWRB data viewer, the nearest domestic water well is 0.4 miles to the north of the site and is owned by J.T. Rader. It is situated at 138 ft. of depth. Groundwater flow onsite likely flows to the west toward the drainage feature. This well is likely upgradient from the site.

4.3.3 *Surface Water*

Two (2) Surface water samples were collected during the 2010 sampling event for the property, metals did not exceed MCLs in either sample. Drainage feature sediment samples were collected and these results are discussed in Section 4.3.1.

4.3.4 *Impacts to Indoor Air*

The footprint of the landfill disposal area is contained within Tract 2. Soil gas readings indicated that while some methane is being generated by the landfill it is at low levels and is unlikely to impact areas outside of Tract 2b, because Tracts 1 and 3 are located over 100 feet away from the area where methane generation could occur. Issues with methane gas generation will be addressed during the cleanup of Tract 2.

5.0 **Risk Evaluation**

To meet the requirements of the Oklahoma Brownfield Program, a risk evaluation was performed to determine whether the contamination on the property poses a threat to human health and the environment in light of the proposed future use of the property. Therefore, an evaluation of the risks the site poses was performed using DEQ's guidance document, "Risk-Based Decision Making for Site Cleanup." DEQ defines risk-based decision making as "evaluating real and potential risk to both human health and the environment posed by a contaminated Site and making responsible and practical decisions to mitigate those risks in a timely fashion."

Actual and potential exposure pathways and receptors were evaluated. The risks are evaluated on the property in its current condition and for the impact it might have on the proposed future development of the property. If the site is deemed to pose a risk, remediation will occur. If the property's planned use is anything other than "unrestricted residential use," institutional controls must be put in place to ensure that the use category (e.g., industrial) does not change over time, without DEQ input.

Currently, there are no residents on the site. The site is unoccupied and is zoned for agricultural use, but will be developed for commercial use. A commercial occupant is currently considering development onsite in Tract 1. A deed notice will be placed in the County Land Records to prevent residential use of the property and restrict groundwater use. Development at this time will be limited to Tracts 1 and 3, which are only impacted by the former strip mine that is present throughout the site and extends across all neighboring properties. Separate plans will be developed for Tracts 2A and 2.

The entire site occurs within the remnants of a surface mining coal mine. The coal mine covers a large area around the site. The coal tailings affect the surface soils and general water quality in the area. The property was operated as a municipal landfill; however, landfill impacts are limited to Tract 2,

which is being addressed separately under the DEQ Brownfield Program. Sampling data indicates that Tracts 1 and 3 are over 100 feet from the former fill area of the landfill and unlikely to be affected by the former landfilling operations, and therefore, the participant is requesting that DEQ issue a determination that no action is necessary on these tracts for the proposed commercial reuse.

5.1 **Residents**

5.1.1 *Surface Soil and Water*

The land is currently vacant. No residences are currently onsite and the property is being developed for commercial use. The proposed future use of the property is commercial/industrial and a restriction on property use will be placed in the County deed records to help ensure the property is not converted to residential use in the future without additional investigation and cleanup. Residents will not be directly exposed to contaminated surface soils. This pathway is considered incomplete.

Surface water from the property flows into a discontinuous drainage feature. There seem to be some impacts to drainage feature sediment from the previous strip mining activities in the area. The strip mine extends far beyond the boundary of the site, impacts to the drainage feature from the surrounding mined area will continue. This pathway is considered complete.

5.1.2 *Subsurface Soil and Groundwater*

There are no residences or other developments on the Site. No large scale remediation efforts that could potentially expose neighboring residents to contaminated subsurface soils are planned for the site, but digging and grading could expose subsurface soils and create fugitive dust. Fugitive dust is discussed in section 5.1.3. The participant intends for the property to only be used for commercial or industrial purposes in the future. Therefore, a restriction (i.e., institutional control) will be placed on the property stating that the property shall not be used for residential purposes; therefore, potential exposure pathways for residents are incomplete.

Groundwater at the Site is not impacted above EPA risk-based screening levels (MCLs) for groundwater. The restriction placed on the property will limit future groundwater use other than for monitoring purposes only; therefore, this exposure pathway is considered incomplete.

5.1.3 *Air*

Currently, in Tracts 1 and 3 there are no sources of potential impacts to the air with the exception of fugitive dust. The landfill and any methane it may generate will be addressed through Tract 2b development and remediation efforts. Sampling data indicates that Tracts 1 and 3 are over 100 feet from the former fill area of the landfill; therefore vapor intrusion of methane gas is unlikely. This pathway is considered complete.

5.2 **Indoor Industrial Workers**

5.2.1 *Surface Soil and Water*

Currently, there are no industrial/commercial workers and no buildings or structures on the Site. If indoor industrial/commercial workers are present in the future, it would be unlikely that they would be exposed to contaminated surface soil, because redevelopment of the site, similar to other commercial development in the area (i.e. installation of roads, parking lots, foundations of buildings), would prevent exposure to surface soils. Indoor workers adjacent to the property could potentially come into contact with contaminated soils that are less than six inches below ground surface during construction onsite**.**

Surface water from the property flows into a discontinuous drainage feature associated with the former strip mine. There are elevated levels of arsenic that exceed EPA RSLs for industrial soil and exceed published USGS background levels in the sediment in the drainage feature from the previous use of the property as a strip mine. However, as the strip mine extends beyond the boundary of the site, impacts to the sediment from the surrounding area will continue. While it is not impossible for indoor industrial workers to access the surface water in the drainage feature, it is very unlikely that they would seek to do so. This pathway is considered complete.

5.2.2 *Subsurface Soil and Groundwater*

There are currently no indoor industrial/commercial workers present or immediately adjacent to the site. It is not anticipated that indoor industrial/commercial workers will come in contact with subsurface soils. Use of groundwater onsite will be restricted through a deed notice. Based on the non-volatile nature of the impacts present on these portions of the Site and the absence of contamination in the groundwater above MCLs, it is not anticipated that indoor industrial/commercial workers will be exposed to contamination onsite or offsite. This pathway is considered incomplete.

5.2.3 *Air*

Currently, there are no industrial/commercial workers and no buildings or structures present on or immediately adjacent to the Site. Fugitive dust may expose neighboring properties to contamination. This pathway is considered complete.

5.3 **Outdoor Industrial Workers**

5.3.1 *Surface Soil and Water*

Currently, there are no industrial workers on the site; however, the intended reuse of the site is commercial/industrial. Outdoor industrial/commercial workers could be exposed to contaminated surface soil. This pathway is considered complete for future outside industrial workers.

Surface water from the property flows into a discontinuous drainage feature. Arsenic in sediment in the drainage feature from the former strip mine exceeds EPA RSLs for industrial soil and exceeds published USGS background levels. However, as the strip mine extends beyond the boundary of the site, impacts to the drainage feature from the surrounding area will continue. This pathway is considered complete.

5.3.2 *Subsurface Soil and Groundwater*

Currently, there are no industrial workers on the site; however, the intended reuse of the site is commercial/industrial. Outdoor industrial/commercial workers could be exposed to contaminated subsurface soil if digging occurs onsite. This pathway is considered complete.

A restriction will be placed on the property disallowing the use of groundwater for any purpose beyond monitoring. Outdoor industrial/commercial workers may be exposed to groundwater if digging occurs onsite. However, based on the absence of groundwater contaminated above conservative cleanup levels, it is not anticipated that they will be exposed to contamination via the groundwater. This pathway is considered incomplete.

5.3.3 *Air*

Currently, there are no industrial workers on the site; however the intended reuse of the site is commercial/industrial. Due to the nature impacted soils onsite, it is not anticipated that there could be exposure to volatile vapors from Tracts 1 or 3. Fugitive dust from contaminated soil may be a source of exposure on and adjacent to the site. This pathway is considered complete.

5.4 **Construction/Remediation/Utility Workers**

5.4.1 *Surface Soil and Water*

There are currently no construction, remediation, or utility worker activities occurring at the Site. Future construction, remediation, and/or utility workers may potentially come in contact with metal contaminated surface soil during construction/remedial activities. This exposure pathway is considered complete.

Surface water from the property flows into a discontinuous drainage feature. Arsenic in sediment in the drainage feature from the former strip mine exceeds EPA RSLs for industrial soil and exceeds published USGS background levels. However, as the strip mine extends beyond the boundary of the site, impacts to the drainage feature from the surrounding area will continue. This pathway is considered complete.

5.4.2 *Subsurface Soil and Groundwater*

There are currently no construction, remediation, or utility worker activities occurring at the Site. Future construction, remediation, and/or utility workers may potentially come in periodic contact with metal contaminated subsurface soil during construction/remedial activities. This exposure pathway is complete.

A restriction will be placed on the property disallowing the use of groundwater for any purpose beyond monitoring. Construction, remediation, or utility workers may be exposed to groundwater if digging occurs onsite. However, based on the absence of groundwater contaminated above MCLs, it is not anticipated that they will be exposed to contamination via the groundwater. This pathway is considered incomplete.

5.4.3 *Air*

There are currently no construction, remediation, or utility worker activities occurring at the Site; however, there will be in the future. Due to the nature of the impacts to soils on these portions of the site, it is not anticipated that there could be exposure to volatile vapors from Tract 1 or 3. Fugitive dust may be a source of exposure on and offsite. This pathway is considered complete.

5.5 **Ecological Receptors**

During site characterization, no sensitive habitats, aquatic ecosystems, or endangered species were identified at the Site. The area will be zoned for commercial use and is developed residential to the north and east. The Site has been used for industrial purposes in the past and will be developed for industrial/commercial use in the future. The properties around the Site are developed commercial properties with major highways that serve the area industries. There is no evidence that migration from contamination onsite is impacting sensitive ecological environments. The ecological receptor pathway is considered incomplete.

5.6 **Recreational Receptors**

Currently, there are no recreational-type activities or recreational receptors at the Site; therefore, the exposure pathways for all media are incomplete. Future land use/redevelopment of the site shall remain commercial/industrial.

5.7 **Trespassers**

5.7.1 *Surface Soil and Water*

Trespassers could be exposed to arsenic contaminated surface soil or water. The site is currently fenced with a locked gate. This pathway is considered complete.

5.7.2 *Subsurface Soil and Groundwater*

It is currently not anticipated that trespassers will come in contact with subsurface soils or groundwater. This pathway is considered incomplete.

5.7.3 *Air*

There are currently no structures onsite and due to the lack of volatile chemicals impacting the soil, it is not anticipated that trespassers will be affected by fumes or vapor intrusion. Fugitive dust may be a source of exposure on and offsite. This pathway is considered complete.

6.0 **Proposal for No Action Necessary**

Based on the limited impacts to soils in Tract 1 and Tract 3 and the proposed future use of the site, JM Assets is seeking a Certificate of No Action Necessary for Tract 1 and Tract 3 of the Former Broken Arrow Landfill. The impacts from the footprint of the former landfill and the area of elevated radiation will be addressed in Brownfield Proposals for Tract 2b and 2a respectively.

Levels of arsenic in surface soils are above levels for industrial property use, and exceed USGS background levels. Background levels of arsenic provided by USGS are in the range of 3 mg/kg to 4 mg/kg, but all representative samples reported by USGS were collected outside the footprint of the former strip mine. USGS does not provide background levels of thallium for Oklahoma. Levels of arsenic onsite range from 11.1 to 22.6 in soils, and 48.3 to 52.9 in sediment samples from the drainage feature. Thallium levels on site range from 0.297 mg/kg to 0.802 mg/kg, which exceed EPA residential screening levels of 0.78mg/kg, but not the industrial levels of 10mg/kg. According to USGS arsenic can be associated with coal and coal mines, and according to ATSDR thallium is associated with mining generally, including coal mines. The strip mine associated with the site extends beyond the boundaries of the site and there is no way for the current operators of the site to control contamination sources beyond the boundary of the property. The future use of the site will be commercial/industrial. Tenants of the property will likely develop retail stores with concrete slabs and solid surface parking. This will limit any exposure to surface or subsurface soils to any future occupants of the property. Potential construction workers may be exposed to soils with arsenic levels that exceed RSLs for industrial use.

Site characterization has been completed for this site and the site is appropriate for industrial/commercial redevelopment.

7.0 **Proposed Engineering or Institutional Controls**

7.1 **Description of Institutional Controls**

A deed notice will be placed in county land records. The deed notice will:

- Restrict use of groundwater onsite for any purpose other than monitoring.
- Restrict use of the site to commercial or industrial use only.

7.2 Potential for Redevelopment to Impact Controls

Redevelopment will not impact the institutional controls. A notice will be placed on the deed. The current use of the site is agricultural. When the Brownfield Certificate is in place on the site, JM Assets will seek to have the zoning changed from agricultural use to commercial use.

7.3 Proposed Plan for Financial Assurance for long term stewardship

No long term stewardship is necessary for Tracts 1 and 3, since no long term engineering controls will be utilized.

8.0 Proposed After Action Monitoring

No After Action monitoring will be necessary for Tracts 1 and 3.

9.0 Public Review and Comment

The purpose of this document is to inform the public that the participant has performed site characterization, risk evaluation, has filed a Brownfield Proposal for a No Action Necessary Determination with the DEQ, and is ready for redevelopment. The DEQ reviewed the brownfield proposal for compliance with the Brownfield Voluntary Redevelopment Act [27A O.S. Section 2-15-101 et seq.] and the rules of the DEQ OAC 252:221. The participants have performed these actions to receive liability relief from the federal Comprehensive Environmental Response, Compensation, and Liability Act as provided by 27A O.S. Section 2-15-101 et seq.

Issuance of the Certificate will resolve JM Assets' civil and administrative liability to the DEQ for historical contamination on the surface of the Site (27A O.S. §2-15-108(A)), and this protection extends to future lenders, lessees, successors, or assigns (27A. O.S. §2-15-18(B)). The protection remains in effect as long as the property is in compliance with the Certificate of No Action Necessary and any post-certification conditions or requirements specified in the consent order, this Brownfield Proposal, and/or the Brownfield Certificate. The release of liability from administrative penalties and any civil actions authorized by the Oklahoma Brownfields Voluntary Redevelopment Act does not apply to pollution that occurs outside the scope of the consent order or the certificate, pollution caused or resulting from any subsequent redevelopment of the property, or existing pollution not addressed during the project.

The Site is an Eligible Response Site as defined by the 2002 Brownfield Amendments to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as documented in a March 24, 2009, Consent Order. Therefore, the issuance of the Certificate also bars the U.S. Environmental Protection Agency from pursuing actions at the Site under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. § 9628 (b)(10)).

Comments on this proposal will be accepted from the public for twenty working days after the issuance of the Proposal (OAC 252:221-3-5). DEQ will consider comments and concerns from the public in its final determination, and will prepare a response to comments in the final approval or denial of the plan. DEQ, at the request of concerned citizens, may hold a public forum to address relevant environmental concerns before final determination.

9.1 Time period for Comment

The time period for public Comment will be 20 working days from publication of a notice in a local newspaper.

Public notice was issued on _____.

Comments will be accepted in writing until _____.

9.2 All comments on this proposal and any request for a public forum to discuss the project should be in writing and sent to:

Rachel Francks
Oklahoma Department of Environmental Quality
Land Protection - Brownfields Program
707 North Robinson
P.O Box 1677
Oklahoma City, OK 73101
rachel.francks@deq.ok.gov

9.3 Questions about the proposed cleanup or the technical aspects of this proposal should be directed to:

Rachel Francks
Oklahoma Department of Environmental Quality
Land Protection - Brownfields Program
707 North Robinson
P.O Box 1677
Oklahoma City, OK 73101
rachel.francks@deq.ok.gov

9.4 Repository

Broken Arrow Library/South
Available at the front desk
3600 S. Chestnut
Broken Arrow, OK

10.0 References

1.0 Kolker, A., Palmer, C., Bragg, L., & Bunnell, J. (2006, February 1). Arsenic in Coal. Retrieved October 13, 2014, from http://pubs.usgs.gov/fs/2005/3152/fs2005-3152.pdf

2.0 Thallium, CAS # 7440-28-0. (2013, June 1). Retrieved October 13, 2014, from http://www.atsdr.cdc.gov/toxfaqs/tfacts54.pdf

3.0 Oklahoma Water Resources Board. OWRB Custom Map Viewer-Data Driven Map Viewers. Last accessed September 30, 2014. http://www.owrb.ok.gov/maps/server/wims.php.

4.0 Oklahoma Department of Environmental Quality. ODEQ Online Data Viewer. Last accessed September 30, 2014. http://maps.scigis.com/deq_wq/

5.0 B.J. Allaway and John Wiley & Sons, Inc, Heavy Metals in Soils: Edited by New York. 1990.

6.0 ASTM - OS 64 - Table 11 (Background Concentrations of Elements in Soils) in the Cleanup Criteria for Contaminated Soil and Groundwater.

7.0 FEMA Flood Insurance Rate Map. Panel40143 C 0561 H. Dated September 22, 1999.

8.0 Oklahoma Geological Survey. Reconnaissance of the Water Resources of the Tulsa Quadrangle- Northeastern Oklahoma. Map HA-2, Sheet 2 of 4. Dated 1971, Second printing 1988.

9.0 Teklab, Inc. Analytical Reports dated August 17, 2010, November 3, 2010, and November 18, 2010.

10.0 Tulsa Geological Survey. Tulsa's Physical Environment. Tulsa Geological Society Digest, Vol. 31, Map 1. Dated 1972.

11.0 USGS Topographic Map. On eta Quadrangle- Wagoner County, Oklahoma. 1982.

Appendix A

Site Location Maps

Identified Historical Uses Map

Topographic Map

Boring/Well/Sample Locations Map

Property and Tract Survey

N

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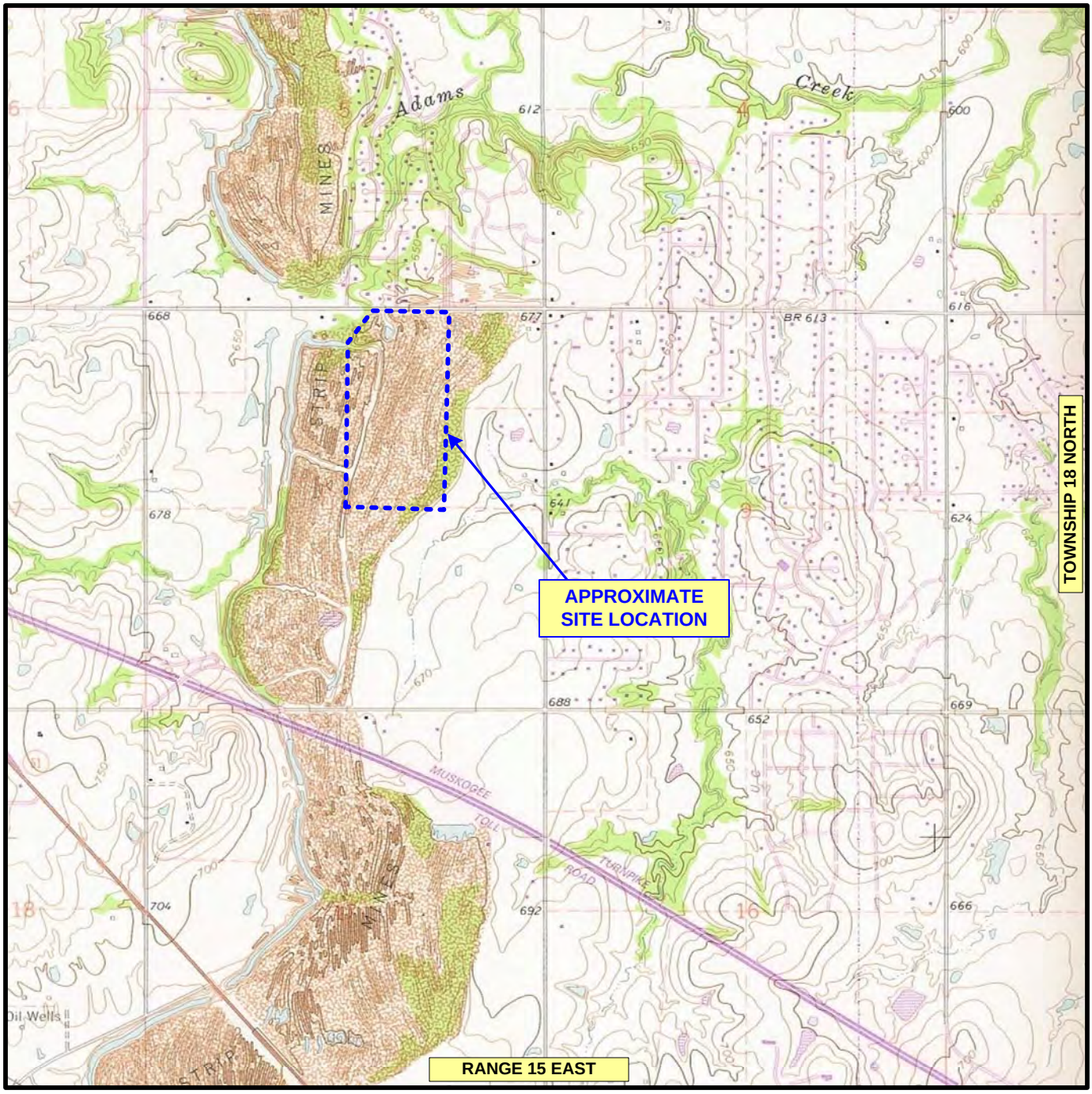
SITE LOCATION MAP

76-ACRE DEATHERAGE SITE

W/2 NE/4 SEC. 8, T-18-N, R-15-E – WAGONER COUNTY, OK

SCALE:	DATE:	FIGURE NO.
NOT TO SCALE	02/14/2008	FIGURE 1
APPROVED BY:	DRAWN BY:	PROJECT NO.
IT	ALG	2028-001



7.5-MINUTE TOPOGRAPHIC MAP
ONETA QUADRANGLE – WAGONER COUNTY, OKLAHOMA
LATITUDE: 36° 03' 28.8" LONGITUDE: 95° 43' 58.8"

RECEIVED
March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

N

SCALE

0 0.25 0.50 0.75 1 mile

****CONTOUR INTERVALS ARE AT 10' INTERVALS***

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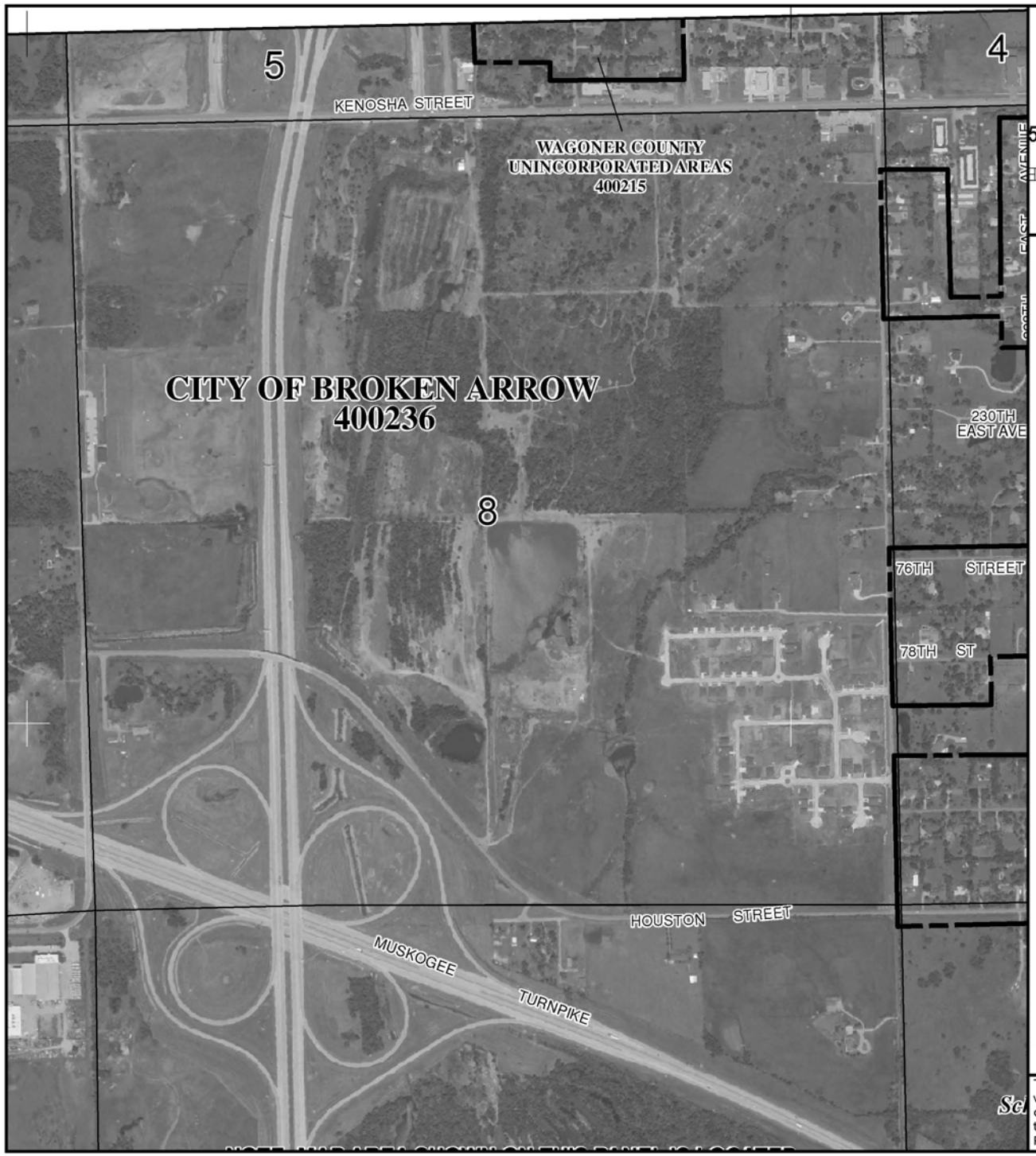
TOPOGRAPHIC MAP

76-ACRE DEATHERAGE SITE
W/2 NE/4 SEC. 8, T-18-N, R-15-E – WAGONER COUNTY, OK

SCALE:	DATE:	FIGURE NO.
AS SHOWN	02/14/2008	FIGURE 2
APPROVED BY:	DRAWN BY:	PROJECT NO.
IT	ALG	2028-001



MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

METE

PANEL 0115H

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

WAGONER COUNTY, OKLAHOMA

AND INCORPORATED AREAS

PANEL 115 OF 525

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

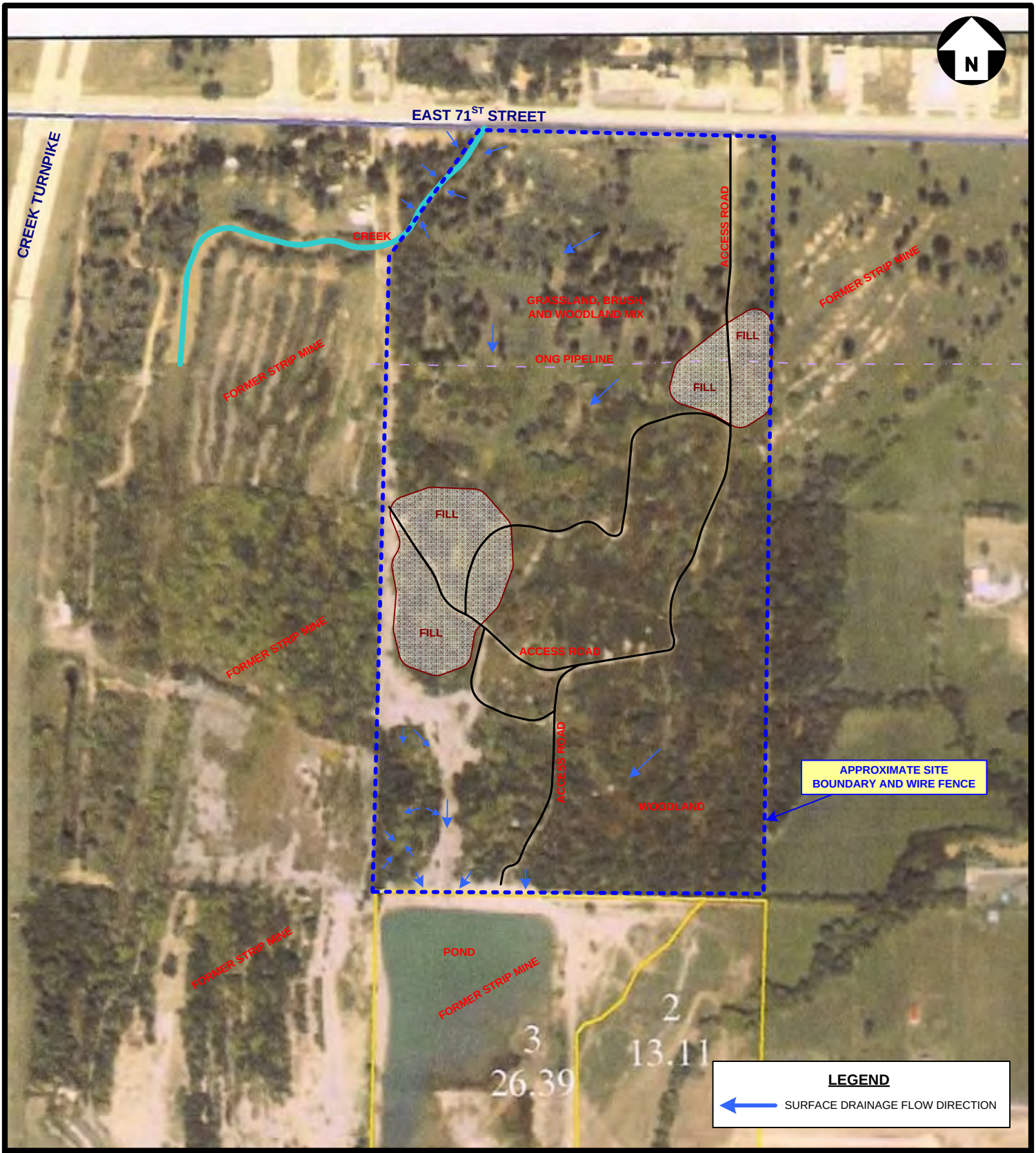
COMMUNITY	NUMBER	PANEL	SUFFIX
WAGONER COUNTY	400215	0115	H
BROKEN ARROW, CITY OF	400236	0115	H
COWETA, CITY OF	400216	0115	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
40145C0115H

EFFECTIVE DATE
APRIL 17, 2012

Federal Emergency Management Agency



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BROKEN ARROW
PLAN DEVELOPMENT

SITE LAYOUT

76-ACRE DEATHERAGE SITE

W/2 NE/4 SEC. 8, T-18-N, R-15-E – WAGONER COUNTY, OK

SCALE:	DATE:	FIGURE NO.
AS SHOWN	02/14/2008	FIGURE 3
APPROVED BY:	DRAWN BY:	PROJECT NO.
IT	ALG	2028-001

SOURCE: NATURAL RESOURCE CONSERVATION SERVICE
WEB SOIL SURVEY URL: http://websoilsurvey.nrcs.usda.gov

N

LEGEND

DnB	Dennis silt loam (1-3% slopes)
DxE	Dennis-Radley complex (0-15% slopes)
KnF	Kanima gravelly silty clay loam (3-50% slopes)
OkA	Okemah silt loam (0-1% slopes)
Os	Osage silty clay loam (0-1% slopes, occasionally flooded)

SCALE

0 750 1,500 2,250 3,000 feet

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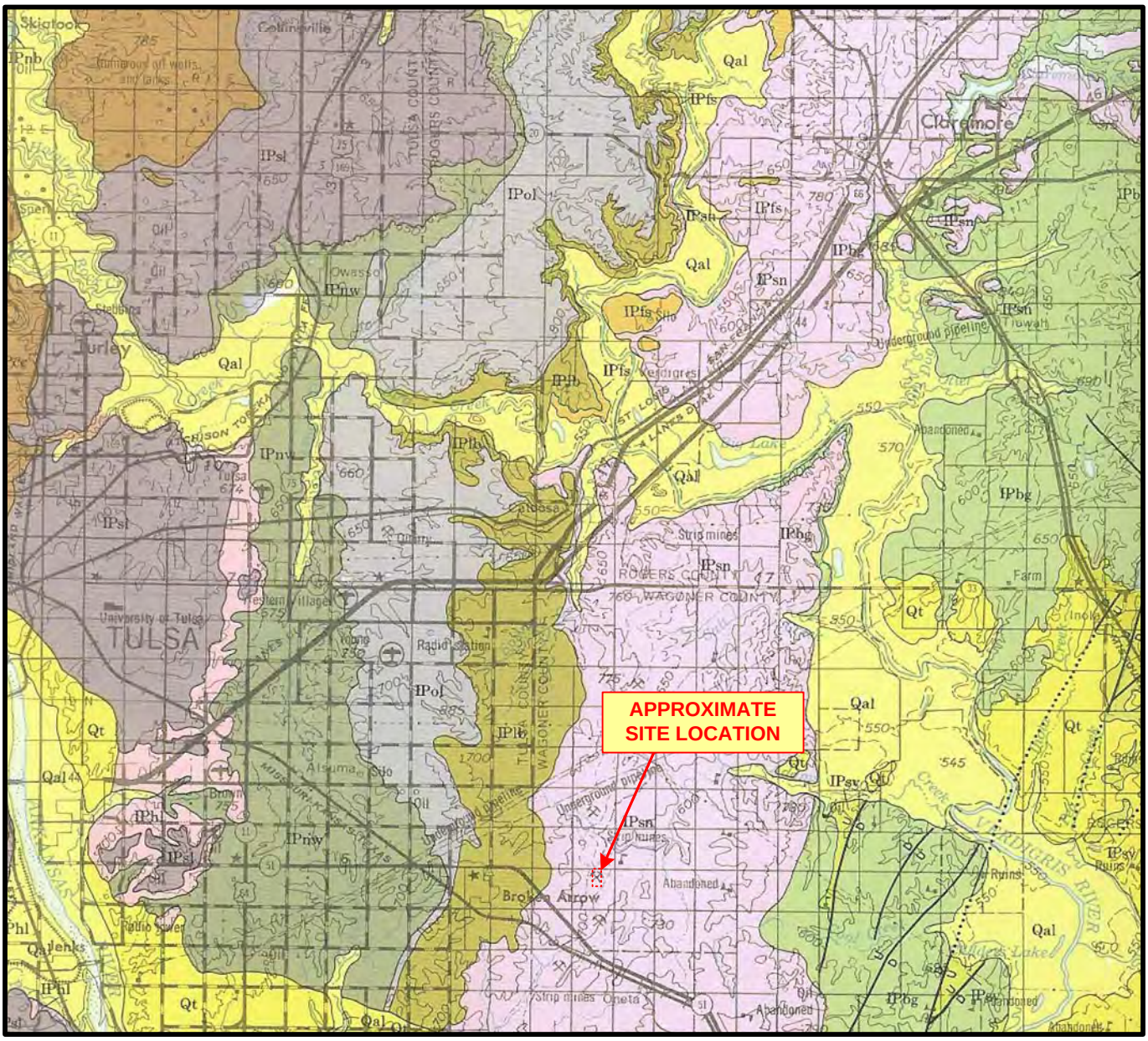
SOIL MAP

76-ACRE DEATHERAGE SITE
W/2 NE/4 SEC. 8, T-18-N, R-15-E – WAGONER COUNTY, OK

SCALE:	DATE:	FIGURE NO.
AS SHOWN	02/14/2008	FIGURE 4
APPROVED BY:	DRAWN BY:	PROJECT NO.
IT	ALG	2028-001



SOURCE: OKLAHOMA GEOLOGICAL SURVEY
HYDROLOGIC ATLAS 2 – RECONNAISSANCE OF THE WATER RESOURCES
OF THE TULSA QUADRANGLE, NORTHEASTERN OKLAHOMA
DATED 1971

LEGEND

IPcc	Coffeyville Formation and Checkerboard Limestone	IPa	Ada Group
IPva	Vamoosa Formation	IPnw	Nowata Formation
IPv	Vanoss Group	IPw	Wellington Formation
IPnh	Nellie Bly Formation and Hogshooter Limestone	IPh	Holdenville Shale
IPht	Senora Formation	IPsl	Seminole Formation
IPd	Duncan Sandstone	IPbd	Barnsdall Formation
IPlb	Labette Formation	IPch	Chanute Formation
		Qal	Alluvium
		Qt	Terrace Deposits

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PLAN DEVELOPMENT

Scale 1: 250 000

5 0 5 10 15 20 Miles

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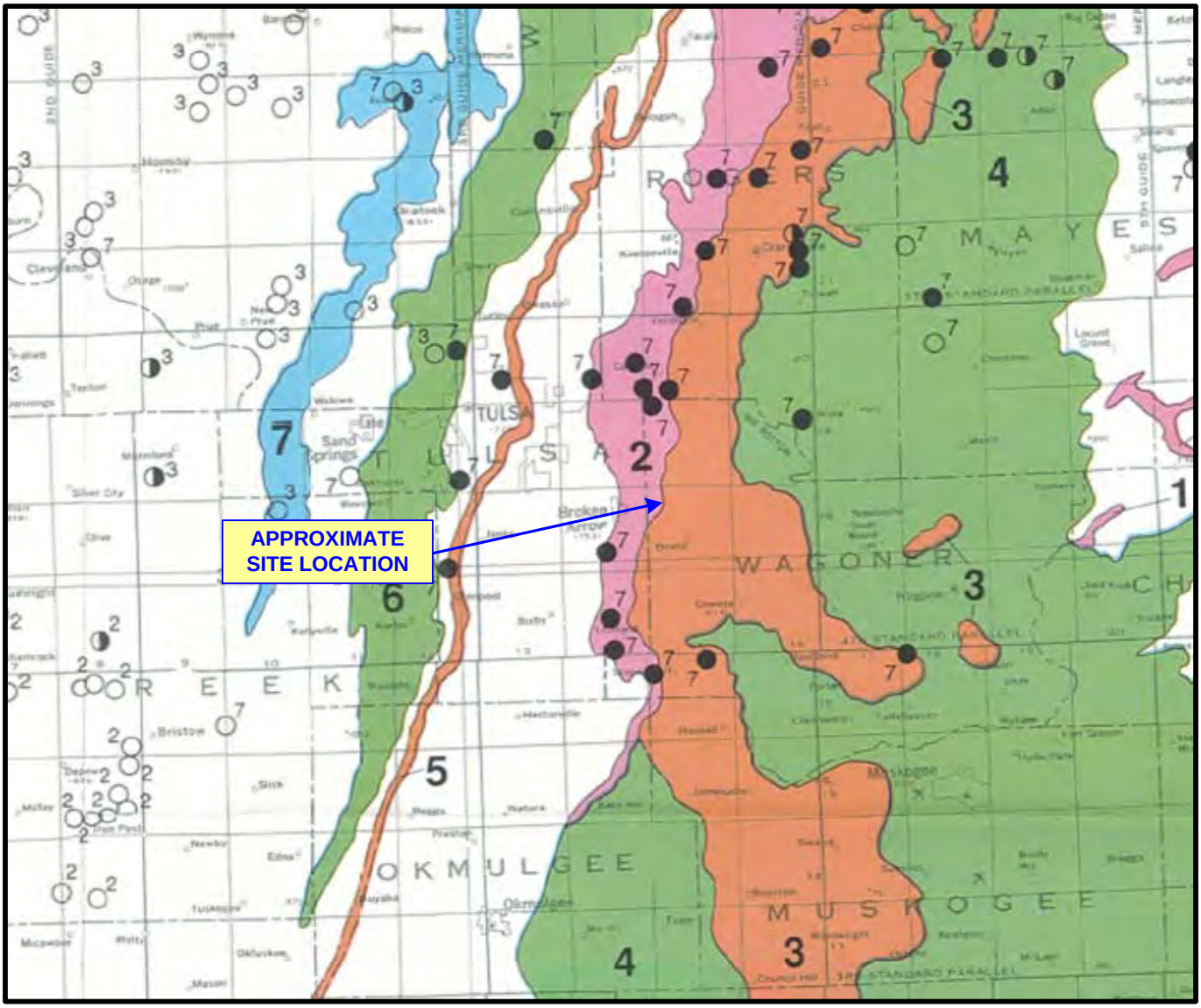
GEOLOGY MAP

61st & LYNN LANE #222567
14337b EAST 31st STREET – TULSA,, OKLAHOMA

SCALE:	DATE:	FIGURE NO.
AS SHOWN	02/01/2008	FIGURE 5
APPROVED BY:	DRAWN BY:	PROJECT NO.
IT	ALG	1407-230



Radon Potential Map of Oklahoma (GM-32). Oklahoma Geologic Survey. Dated 1972.

RADON POTENTIAL

- LOCALLY MODERATE TO HIGH (Areas 1,2,15,18,19)
- LOCALLY MODERATE (Areas 3,5,9,10,11,13,20,23,24)
- LOCALLY LOW TO MODERATE (Areas 4,6,14,21,22)
- GENERALLY LOW (Areas 7,8,12,16,17,25,26)
- GENERALLY VERY LOW
- Boundary between areas of different radon potential; dashed where inferred

RECEIVED
March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

Scale 1: 750 000

10 0 10 20 30 40 50 Miles

N

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RADON MAP

76-ACRE DEATHERAGE SITE
W/2 NE/4 SEC. 8, T-18-N, R-15-E – WAGONER COUNTY, OK

SCALE:	DATE:	FIGURE NO.
AS SHOWN	02/14/2008	FIGURE 6
APPROVED BY:	DRAWN BY:	PROJECT NO.
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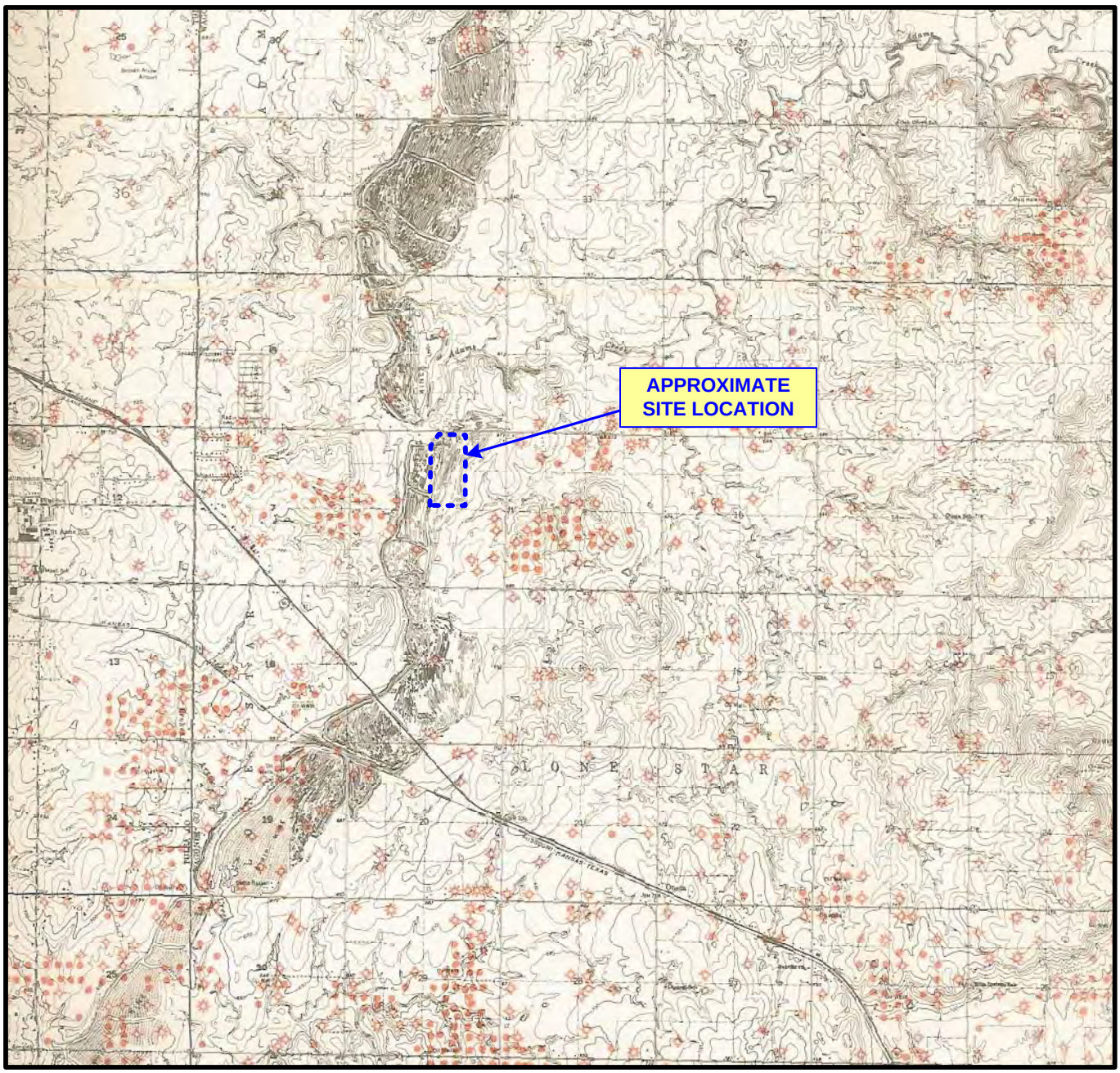

OIL WELLS, GAS WELLS, AND DRY HOLES
DRILLED IN TULSA COUNTY
PRIOR TO JANUARY 1, 1971
OKLAHOMA GEOLOGICAL SURVEY

LEGEND

● OIL WELL ☼ GAS WELL ☼ DRY HOLE

N

SCALE

1 1/2 0 1 2 3 4 MILES

3000 0 3000 6000 9000 12000 15000 18000 21000 FEET

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OIL AND GAS MAP

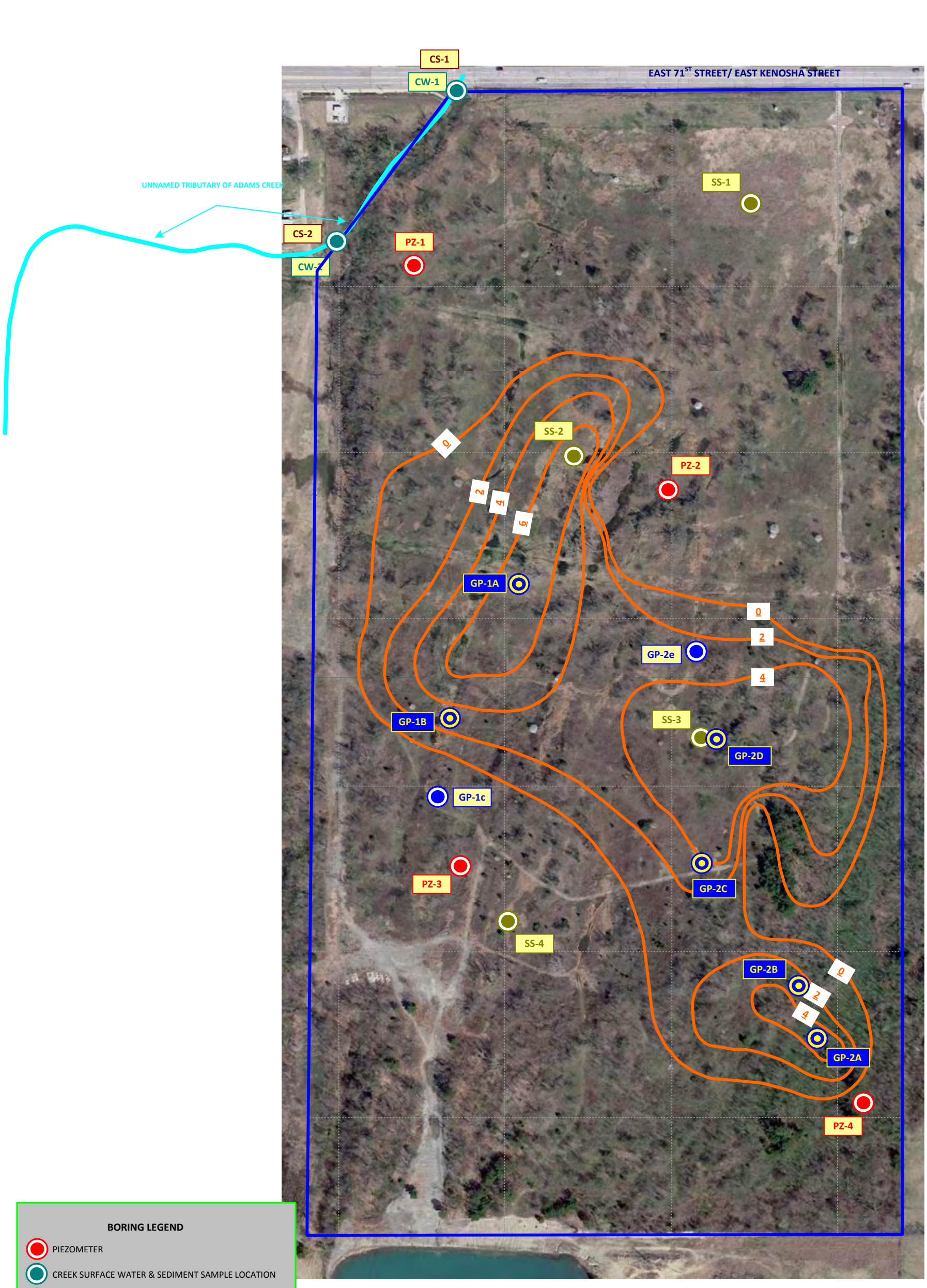
76-ACRE DEATHERAGE SITE
W/2 NE/4 SEC. 8, T-18-N, R-15-E – WAGONER COUNTY, OK

SCALE:	DATE:	FIGURE NO.
AS SHOWN	02/14/2008	FIGURE 7
APPROVED BY:	DRAWN BY:	PROJECT NO.
IT	ALG	2028-001

Partial Historical Extent of the Strip Mine in the area of the former Broken Arrow Landfill

Former Broken Arrow Landfill

Footprint of the former Strip Mine



BORING LEGEND

- PIEZOMETER
- CREEK SURFACE WATER & SEDIMENT SAMPLE LOCATION
- SURFACE SOIL SAMPLE LOCATION
- GAS PROBE LOCATION
- GAS PROBE (ATTEMPTED PROBE – NO TRASH)
- DELINEATED SURFACE REFUSE THICKNESS MAP (HEMPHILL DRILLING REPORT – SEPTEMBER 13, 1972)

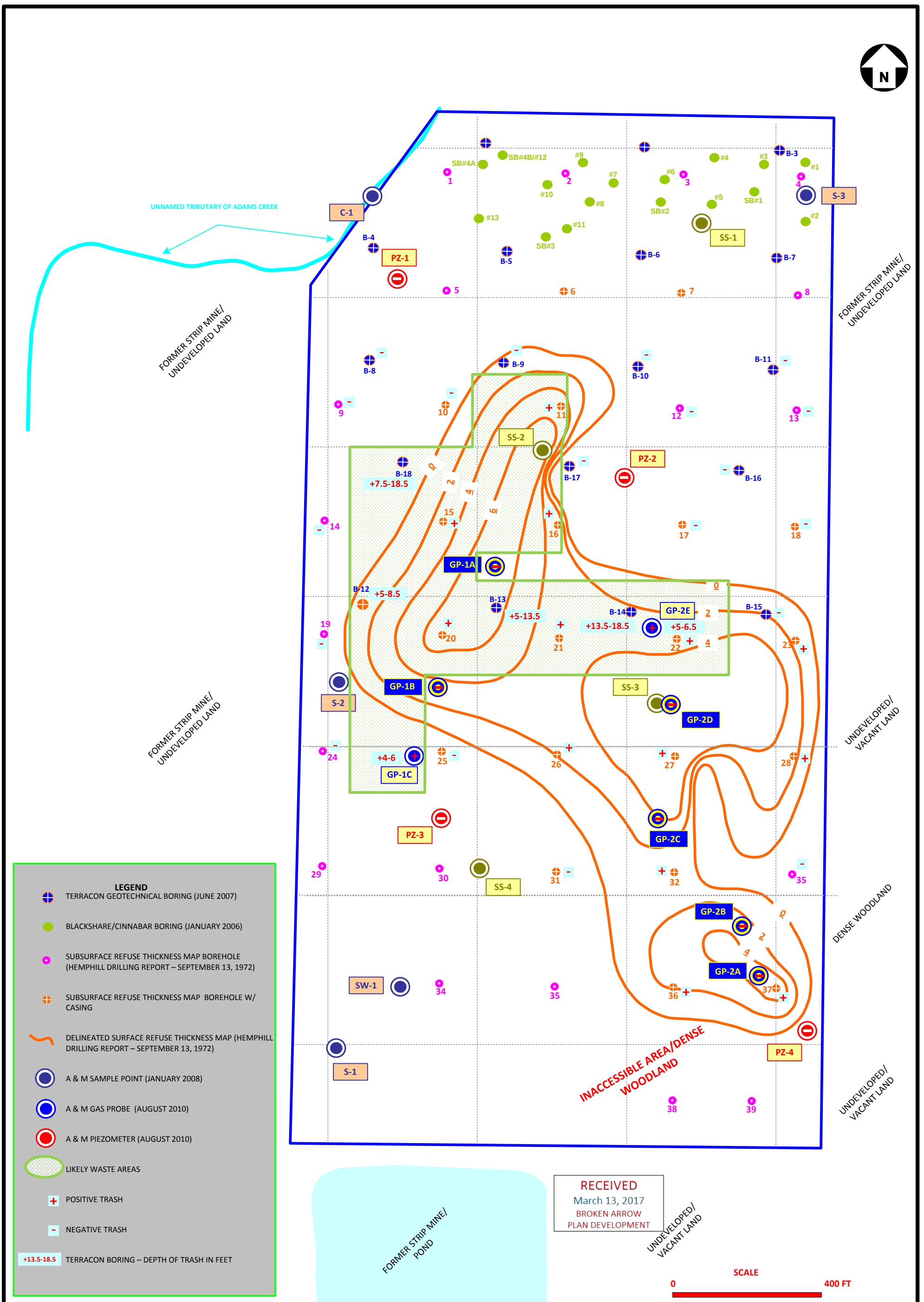
SCALE
0 400 FT

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
ENGINEERING • ENVIRONMENTAL • CONSTRUCTION

SAMPLE LOCATIONS

FORMER BROKEN ARROW LANDFILL – JM ASSETS
SEC. 8 – T18N – R15E - BROKEN ARROW, WAGONER COUNTY, OKLAHOMA

SCALE:	DATE:	FIGURE NO.
AS SHOWN	06/08/2011	FIGURE 7
APPROVED BY:	DRAWN BY:	PROJECT NO.
IT	AML	2028-004



A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

ENGINEERING • ENVIRONMENTAL • CONSTRUCTION

PREVIOUS SAMPLE LOCATIONS WITH UPDATED WASTE AREA

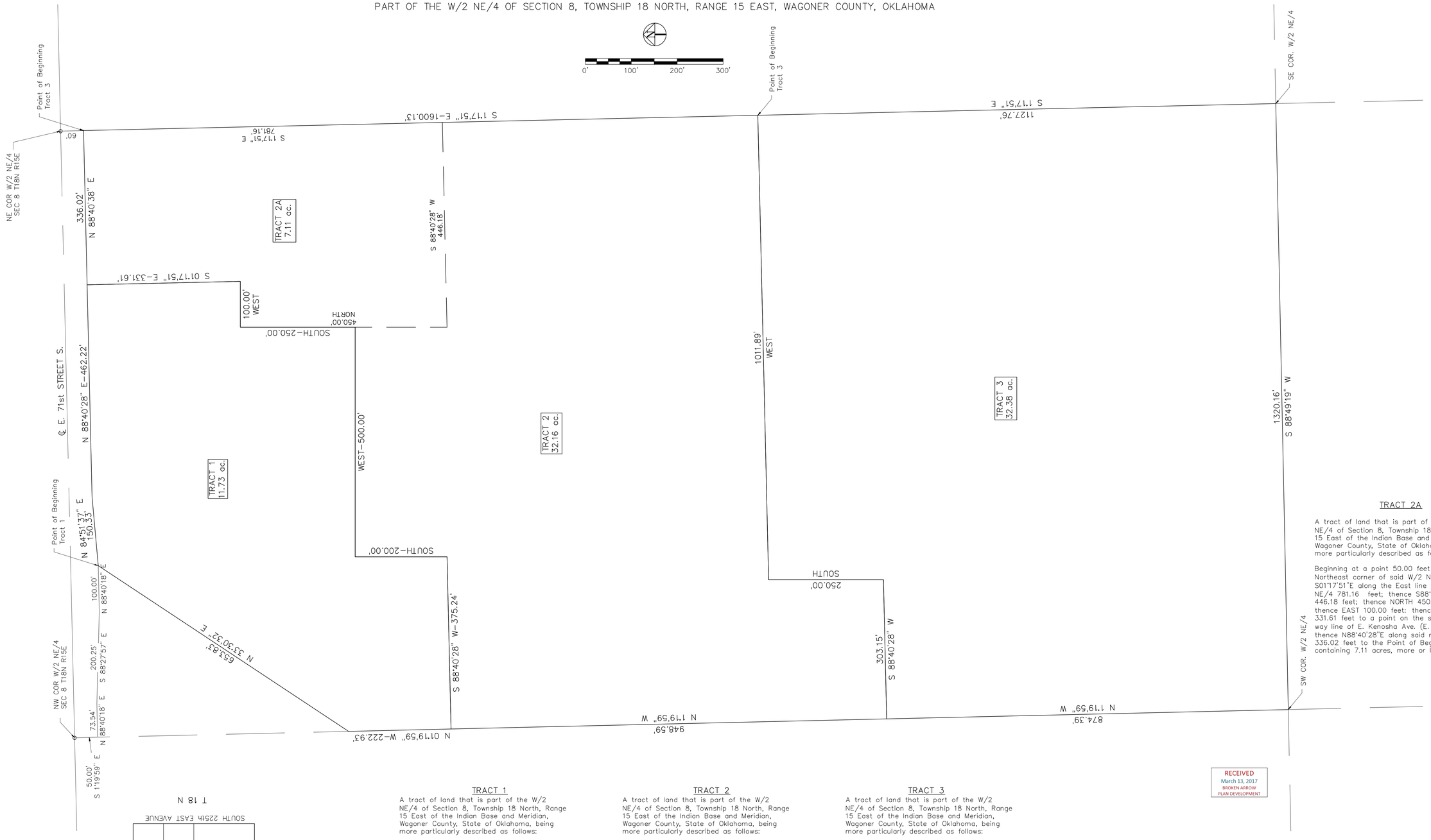
FORMER BROKEN ARROW LANDFILL – JM ASSETS

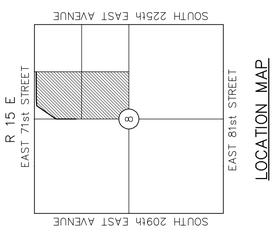
SEC. 8 – T18N – R15E - BROKEN ARROW, WAGONER COUNTY, OKLAHOMA

SCALE:	DATE:	FIGURE NO.
AS SHOWN	05/18/2011	FIGURE 10
APPROVED BY:	DRAWN BY:	PROJECT NO.
IT	AML	2028-004

BROWNFIELD PLAT

PART OF THE W/2 NE/4 OF SECTION 8, TOWNSHIP 18 NORTH, RANGE 15 EAST, WAGONER COUNTY, OKLAHOMA





LOCATION MAP

TRACT 1

A tract of land that is part of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows:

Commencing at the NW Corner of the NE/4, Thence S01°19'59"E along the West line of NE/4 50.00 feet; thence N88°40'18"E 73.54 feet; thence S88°27'57"E 200.25 feet; thence N88°40'18"E 100.00 feet to the Point of Beginning; thence N84°51'37"E 150.33 feet; thence N88°40'28"E 462.22 feet: thence S01°17'51"E 331.61 feet; thence WEST 100.00 feet; thence SOUTH 250.00 feet; thence WEST 500.00 feet; thence SOUTH 200.00 feet; thence S88°40'28"W 375.24 feet to a point on said West line of NE/4; thence N01°19'59"W along said West line 222.93 feet; thence N33°30'32"E 653.83 feet to the Point of Beginning, containing 11.73 acres, more or less.

TRACT 2

A tract of land that is part of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows:

Beginning at a point 50.00 feet South of the Northeast corner of said W/2 NE/4; thence S01°17'51"E along the East line of said W/2 NE/4 1600.13 feet; thence WEST 1011.89 feet; thence SOUTH 250.00 feet; thence S88°40'28"W 303.15 to a point on the West line of said W/2 NE/4; thence N01°19'8"E along said West line 948.59 feet; thence N88°40'28"E 375.24 feet; thence NORTH 200.00 feet; thence EAST 500.00 feet; thence NORTH 250.00 feet; thence EAST 100.00 feet: thence N01°17'51"W 331.61 feet to a point on the south right of way line of E. Kenosha Ave. (E. 71st St. So.); thence N88°40'28"E along said right of way 336.02 feet to the Point of Beginning, containing 32.16 acres, more or less.

TRACT 3

A tract of land that is part of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows:

Beginning at a point 1650.13 feet South of the Northeast corner of said W/2 NE/4; thence S01°17'51"E along the East line of said W/2 NE/4 1127.76 feet to the Southeast corner of said W/2 NE/4; thence S88°49'19"W along the south line of said W/2 NE/4 1320.16 feet to the Southwest corner of said W/2 NE/4; thence N01°19'58"E along the West line of said W/2 NE/4 874.39 feet; thence N88°40'28"E 303.15 feet; thence NORTH 250.00 feet; thence EAST 1011.89 feet to the Point of Beginning, containing 32.38 acres, more or less.

TRACT 2A

A tract of land that is part of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows:

Beginning at a point 50.00 feet South of the Northeast corner of said W/2 NE/4; thence S01°17'51"E along the East line of said W/2 NE/4 781.16 feet; thence S88°40'28"W 446.18 feet; thence NORTH 450.00 feet; thence EAST 100.00 feet: thence N01°17'51"W 331.61 feet to a point on the south right of way line of E. Kenosha Ave. (E. 71st St. So.); thence N88°40'28"E along said right of way 336.02 feet to the Point of Beginning, containing 7.11 acres, more or less.

RECEIVED
March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

I, William E. Lewis, a licensed land surveyor in the State of Oklahoma, do hereby certify that this plat is a true and accurate representation of the described tracts of land.

CERTIFIED this 6th day of February, 2014.

William E. Lewis. PLS #728

REGISTERED LAND SURVEYOR
WILLIAM E. LEWIS
L.S. 728
OKLAHOMA

Note:
1. The basis of bearings is Oklahoma State Plane Coordinate system.

2. This plat meets the Oklahoma Minimum Standards for the Practice of Land Surveying as adopted by the Oklahoma State Board of Registration for Professional Engineers and Land Surveyors.

LEWIS ENGINEERING, P.L.L.C.
6420 S. 221st E. Ave.
Broken Arrow, OK 74014
918/254-4689
CA No. 3460 Exp. Date 6-30-15

Appendix B

Table 1 Sediment Sample Analytical Results for the Unnamed Tributary of Adams

Table 2 Surface Water from Adams Creek Sample Analytical Results for Detected Parameters

Table 3 Soil Sample Analytical Results for Detected Parameters (Updated June 2011)

Table 4 Groundwater Sample Analytical Results for Detected Parameters

TABLE 1 - SEDIMENT SAMPLE ANALYTICAL RESULTS FOR THE UNNAMED TRIBUTARY OF ADAMS CREEK (UPDATED JUNE 2011)

FORMER BROKEN ARROW LANDFILL - BROKEN ARROW, OKLAHOMA

ODEQ-LPD CASE NO. 09-057

SAMPLE DATES: AUGUST 4, 2010 & NOVEMBER 10, 2010

Parameter / Sample Depth	CS-1 SEDIMENT (08/04/10)	CS-1 SEDIMENT (11/10/10)	CS-2 SEDIMENT (08/04/10)	CS-2 SEDIMENT (11/10/10)	Industrial Soil Screening Level
Antimony	2.8	N/A	< 5	N/A	410
Arsenic	**52.9**	N/A	**48.3**	N/A	1.6
Beryllium	5.66	N/A	5.45	N/A	2,000
Cadmium	4.39	N/A	3.16	N/A	800
Chromium	24.3	N/A	21.4	N/A	180,000*
Copper	29.2	N/A	21.3	N/A	41,000
Lead	66.8	N/A	37.1	N/A	800
Mercury	0.018	N/A	< 0.033	N/A	43
Nickel	439	N/A	401	N/A	2,000
Selenium	41	N/A	43	N/A	5,130
Silver	2.4	N/A	2.06	N/A	5,130
Thallium	< 0.192	0.099	< 0.2	0.099	1
Zinc	1130	N/A	906	N/A	310,000
pH (S.U.)	7.48	N/A	7.82	N/A	
Specific Conductance	1530 *umhos/cm*	N/A	958 *umhos/cm*	N/A	

All values are in mg/Kg or ppm unless otherwise noted

MCL values are based on the Regional Screening Level Summary Table (May 2011)

* Protection of Groundwater SSL values (according to the Regional Screening Level Summary Table (May 2011)

** ODEQ Risk Based Cleanup Levels

Concentrations in **BOLD** are above the Industrial Soil Screening Level
N/A: Not Analyzed

TABLE 2 - SURFACE WATER FROM ADAMS CREEK SAMPLE ANALYTICAL RESULTS FOR DETECTED PARAMETERS
FORMER BROKEN ARROW LANDFILL - BROKEN ARROW, WAGONER COUNTY, OKLAHOMA
ODEQ-LPD CASE NO. 09-057
SAMPLE DATES: AUGUST 4, 2010 & OCTOBER 28, 2010

Parameter	CW-1 Unfiltered (8/4/2010)	CW-1 Filtered (8/4/2010)	CW-1 Unfiltered (10/28/2010)	CW-2 Unfiltered (8/4/2010)	CW-2 Filtered (8/4/2010)	CW-2 Unfiltered (10/28/2010)	MCL
Antimony	< 0.05	< 0.05	< 0.005	<0.05	< 0.05	< 0.005	0.006
Arsenic	0.011	< 0.025		< 0.025	< 0.025		0.05
Beryllium	0.004	0.0038		0.0039	0.0038		0.004
Cadmium	0.0016	0.0016		0.0015	0.0017		0.01
Chromium	0.0052	**0.0111**		0.0069	< 0.01		0.05
Copper	< 0.01	< 0.01		< 0.01	< 0.01		1.3
Lead	0.0087	0.014		0.015	0.015		0.05
Nickel	0.0836	0.783		0.85	0.813		
Selenium	0.045	0.03		0.046	0.031		0.05
Silver	0.0064	0.0081		0.0057	0.0051		0.1*
Thallium	< 0.002	< 0.002		< 0.002	< 0.002		0.002
Zinc	0.958	0.914		0.985	0.951		5*
Mercury	< 0.0002	< 0.0002		< 0.0002	< 0.0002		0.002
Phosphorus	0.045	N/A		0.051	N/A		
Nitrogen/Nitrite	< 0.01	N/A		0.01	N/A		1*
Nitrogen/Nitrate	0.054	N/A		0.038	N/A		10*
2-Methylnaphthalene	< 0.023	N/A		< 0.024	N/A		
Benzene	< 0.002	N/A		< 0.002	N/A		0.005
pH (S.U.)	3.52	N/A		3.53	N/A		6.5-8.5*
Specific Conductance	3330	N/A		3420	N/A		

All values are in mg/L or ppm unless otherwise noted
*Based on EPA Primary and Secondary Drinking Water Standards or groundwater protection
N/A - Not Analyzed
Concentrations in **BOLD** are above the MCL

TABLE 3 - SOIL SAMPLE ANALYTICAL RESULTS FOR DETECTED PARAMETERS (UPDATED JUNE 2011)
FORMER BROKEN ARROW LANDFILL - BROKEN ARROW, OKLAHOMA
ODEQ-LPD CASE NO. 09-057
SAMPLE DATE: AUGUST 4, 2010

Parameter / Sample Depth	SS-1 (0-6")	SS-2 (0-6")	SS-3 (0-6")	SS-4 (0-6")	DUP/SS-2 (0-6")	Industrial Soil Screening Level
Antimony	< 4.9	< 4.9	< 4.81	3.6	< 5	410
Arsenic	**13.8**	**19.2**	**11.1**	**22.6**	**15.7**	1.6
Beryllium	0.84	1.27	0.59	1.3	1.27	2,000
Cadmium	0.38	1.87	0.29	0.99	1.12	800
Chromium	22.8	59.4	30.2	48.4	34.9	180,000*
Copper	21.1	95.2	29.7	59.7	40.1	41,000
Lead	20.4	30	21.4	28.7	22.7	800
Mercury	0.03	0.12	0.051	0.1	0.055	43
Nickel	22.4	170	22.6	91.5	89.3	2,000
Selenium	< 3.77	< 3.85	< 3.92	< 3.7	< 4.81	5,130
Silver	< 0.52	0.87	< 0.54	< 0.51	< 0.53	5,130
Thallium	0.13	0.802	0.297	0.443	0.378	10
Zinc	65.4	341	87	204	189	310,000
pH (S.U.)	7.66	5.88	4.89	4.37	6.51	
Specific Conductance	409 *umhos/cm*	1510 *umhos/cm*	183 *umhos/cm*	677 *umhos/cm*	1530 *umhos/cm*	

All values are in mg/Kg or ppm unless otherwise noted

* Protection of Groundwater SSL values (according to the Regional Screening Level Summary Table (May 2011)

** ODEQ Risk Based Cleanup Levels

Concentrations in **BOLD** are above the Industrial Soil Screening Level

TABLE 4 - GROUNDWATER SAMPLE ANALYTICAL RESULTS FOR DETECTED PARAMETERS
FORMER BROKEN ARROW LANDFILL - BROKEN ARROW, WAGONER COUNTY, OKLAHOMA
ODEQ-LPD CASE NO. 09-057
SAMPLE DATES: AUGUST 4, 2010 & OCTOBER 28, 2010

Parameter	PZ-1 Unfiltered	PZ-1 Filtered	PZ-2 Unfiltered	PZ-2 Filtered	PZ-3 Unfiltered	PZ-3 Filtered	PZ-4 Unfiltered	PZ-4 Filtered	DUP Unfiltered	DUP Filtered	MCL
Antimony (08/04/2010)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.006
Antimony (10/28/2010)	< 0.005	N/A	< 0.005	N/A	< 0.005	N/A	< 0.005	N/A	< 0.005	N/A	0.006
Arsenic	**0.069**	< 0.025	0.038	< 0.025	0.018	< 0.025	0.016	< 0.025	< 0.025	< 0.025	0.05
Beryllium	0.0038	< 0.001	0.0014	< 0.001	0.0004	< 0.001	0.0036	0.0005	0.0007	< 0.001	0.004
Cadmium	0.003	0.0004	0.0042	0.0031	0.0017	0.0012	**0.0183**	0.0094	0.0028	0.0035	0.01
Chromium	**0.174**	0.0043	**0.0506**	< 0.01	0.0241	0.0066	**0.0975**	0.022	0.0234	0.009	0.05
Copper	0.142	< 0.01	0.0501	< 0.01	0.0116	< 0.01	0.0655	< 0.01	0.0187	< 0.01	1.3
Lead	**0.0904**	< 0.04	0.034	0.012	0.016	0.0094	**0.0909**	0.021	0.024	0.013	0.05
Nickel	0.244	0.0218	1.14	0.871	0.451	0.417	1.2	1.05	1.06	0.983	
Selenium	0.024	0.025	0.04	0.024	0.03	0.035	< 0.05	0.024	0.032	0.026	0.05
Silver	< 0.01	< 0.01	0.0069	0.006	0.0057	0.0038	**0.0103**	0.0068	0.0063	0.005	0.11*
Thallium	0.0017	< 0.002	0.0013	< 0.002	0.0006	< 0.002	0.001	< 0.002	< 0.002	< 0.002	0.002
Zinc	0.06	0.0096	0.537	0.256	0.328	0.311	0.898	0.556	0.388	0.294	5*
Mercury	0.00043	< 0.0002	0.00022	< 0.0002	0.00009	< 0.0002	0.00034	< 0.0002	0.00011	< 0.0002	0.002
Phosphorus	8.99	N/A	4.95	N/A	2.63	N/A	4.82	N/A	0.963	N/A	
Nitrogen/Nitrite	0.01	N/A	0.01	N/A	0.01	N/A	0.02	N/A	0.01	N/A	1*
Nitrogen/Nitrate	0.061	N/A	0.05	N/A	0.041	N/A	0.093	N/A	0.045	N/A	10*
2-Methylnaphthalene	0.003	N/A	< 0.022	N/A	< 0.023	N/A	< 0.031	N/A	< 0.025	N/A	
Benzene	0.0009	N/A	< 0.002	N/A	< 0.002	N/A	< 0.002	N/A	< 0.002	N/A	0.005
pH (S.U.)	6.69	N/A	6.08	N/A	5.93	N/A	5.88	N/A	6.01	N/A	6.5-8.5*
Specific Conductance	3560	N/A	3570	N/A	3230	N/A	3570	N/A	3520	N/A	

All values are in mg/L or ppm unless otherwise noted
*Based on EPA Primary and Secondary Drinking Water Standards or groundwater protection
N/A - Not Analyzed
Concentrations in **BOLD** are above the MCL

Appendix C

Previous Investigation Reports

Boring Logs

Lab reports

Field notes

BLACKSHARE
ENVIRONMENTAL SOLUTIONS

May 22, 2007

Mr. Brian J. Shloss
Underwriting Associate
Western Capital Partners, LLC
Historic Alta Court Offices
1490 Lafayette Street, Suite 306
Denver, CO 80218

Subject: Limited Phase II Investigation of
Undeveloped Property
South side of 71st Street between S. 217th E. and S. 222nd E. Avenue
Broken Arrow, OK
CES Project #866-06

Dear Mr. Shloss:

Western Capital Partners, LLC, its successors, and/or assigns may rely on the referenced report dated February 10, 2006 which was prepared by our firm under our former company name - Cinnabar Environmental Services. To summarize the results from the report:

- The results of the soil gas survey revealed no measurable concentrations of methane in any of the borings.
- If the groundwater were pumped and discharged, a permit would have to be obtained from the Oklahoma Department of Environmental Quality (ODEQ). In addition, according to the ODEQ, as long as the water is not used for drinking water purposes, the levels of metals in the groundwater are not a threat to human health or the environment.

We trust that this letter provides you with the information you need to provide financing to Mr. Rusty Russell with Russell Capital Acquisitions. If you require any additional information, please don not hesitate to call our Tulsa office at (918) 388-0970.

Sincerely,

Blackshare Environmental Solutions

Derek T. Blackshare

Derek T. Blackshare, P.E., CHMM
CEO & President

TULSA: 5121 S. Wheeling Avenue • Tulsa, OK 74105-6421 • TEL: 918.388.0970 • FAX: 918.388.0971 • www.blackshare-env.com
OKLAHOMA CITY: 5601 N.W. 72nd, Ste. 312 • Oklahoma City, OK 73132 • TEL: 405.603.2500 • FAX: 405.470.0084 • www.blackshare-env.com

Cinnabar Environmental Services
Environmental Engineering & Consulting

February 10, 2006

Mr. Bill Deatherage
The Deatherage Companies
1805 North Sixteenth Street
Broken Arrow, OK 74012-9339

Subject: Limited Phase II Investigation of
Undeveloped Property
South side of 71st Street between S. 217th E. and S. 222nd E. Avenue
Broken Arrow, OK
CES Project #866-06

Dear Mr. Deatherage:

The following summarizes the results of the referenced project conducted by Cinnabar Environmental Services (Cinnabar). This letter report is organized as follows:

- Background
- Description of Field Sampling Activities and Results

Background

At least parts of the property were formerly used as a municipal landfill. Cinnabar was contracted to investigate whether or not the past use of the property as a landfill had implications for the future development of the property. Specifically, the site was to be investigated for the presence of methane gas in the soil or elevated concentrations of metals in the groundwater. Representatives of Cinnabar met with the engineer for the developer and locations for soil borings/survey were chosen based on the anticipated development and the topography of the property in relation to the historic landfill operations. A topographic map of the subject property is included as Attachment A.

Description of Field Sampling Activities and Results

Soil Borings

Field activities were conducted on January 13, 2006 by Mr. Jon Boyd and Mr. Manuel Barrett of Cinnabar. A total of seventeen (17) soil borings were advanced by either a hand probe or geoprobe. The geoprobe was operated by Great Plains Probing Services, LLC. The purpose of the borings were to allow soil gas samples to be collected to conduct a methane survey. The borings were advanced to depths ranging from three to eight feet. A site aerial map, which indicates the approximate locations of the borings in relation to pertinent structures and general site boundaries, is attached to this report as Attachment B.

3121 S. Wheeling Ave. · Tulsa, OK 74105-6421 · TEL: 918.742.0082 · FAX: 918.742.0097 · cestulsa@cinnabar.cc

In addition, a total of five (5) soil borings were advanced by geoprobe to auger refusal or the presence of water for the purpose of collecting ground water samples.

Soil Gas Survey

Soil gas samples were collected from each of the borings referenced above and analyzed utilizing a Gas-Ranger™ detector for the presence of methane. The Gas-Ranger™ detector is capable of reading 0 to 100% by volume of methane, and is used frequently to conduct field screening of methane when a source is suspected and/or in instances of development. **The results of the soil gas survey revealed no measurable concentrations of methane in any of the borings and are summarized in the table in Attachment C to this report.**

In addition, the five (5) Geoprobe wells were also sampled for the presence of methane using the above referenced techniques. No measurable concentrations of methane were observed, as noted in the previously referenced table.

Ground Water Sampling

A total of five (5) temporary wells were installed to test for the presence of metals in the groundwater. A hollow core sampling unit was advanced using the Geoprobe unit to refusal or groundwater. The sampling equipment was decontaminated prior to commencement of the project and following the completion of each soil boring using an Alconox® detergent and potable water wash followed by a potable water rinse. Water samples were collected from four of the five holes (one hole was advanced to a layer of coal and no groundwater was available for sampling. Noted as SB#4A on the site map) by using disposable bailers dedicated to each well to prevent cross contamination of samples.

The collected samples were containerized in the proper sample bottles using Nitric acid as a preservative. Water samples were analyzed for the presence of eight (8) Resource Conservation and Recovery Act (RCRA) metals by Green Country Testing using EPA method 245.2 for Mercury in water and EPA method E200.7 for the remaining seven (7) RCRA metals.

The temporary wells were compliantly plugged after sampling was conducted by employing the use of bentonite clay in accordance with Oklahoma Water Resources Board (OWRB) protocol.

All soil cuttings were containerized and compliantly disposed of by Cinnabar. Water samples were taken in only the amounts required for laboratory analysis and therefore no excess water was collected.

Boring logs are included in Attachment D to this report detailing the soil types encountered and the depths of the borings. The results from of analysis received from Green Country Testing are included in Attachment E. The results are above EPA primary drinking water maximum contaminant levels (MCLs). However, MCLs do not apply in this instance for the following reasons.

* The water is not from a recognized or categorized aquifer but instead from a perched water aquifer held within the former coal strip mining pit.

- There are no groundwater wells in the area and the use of groundwater as a drinking water source is not necessary as the area is supplied with city water.

Cinnabar consulted with the Oklahoma Department of Mines regarding the metals in the groundwater. The Department of Mines referred us to the abandoned mines section of the Oklahoma Conservation Commission (OCC) as the agency that would establish action levels for cleanup, if any. Mr. Mike Kastl, Director with the Abandoned Mine Land Reclamation section of the OCC, stated that unless the groundwater is pumped for discharge, metals would cause no public health concerns with surface activities above it and that it has never been addressed in any of the projects the OCC has been involved with. He also stated that if the groundwater were pumped and discharged, a permit would have to be obtained from the Oklahoma Department of Environmental Quality (ODEQ). In addition, according to the ODEQ, as long as the water is not used for drinking water purposes, the levels of metals in the groundwater are not a threat to human health or the environment.

If there are any questions regarding this report or any of the associated findings, please feel free to call our Tulsa office at (918) 742-0082.

Sincerely,

Cinnabar Environmental Services

Jon Boyd
Environmental Specialist

Attachments:
A – Topographic Map
B – Site Aerial Map
C – Soil Gas Survey Results Table
D – Boring Logs
E – Laboratory Analytical Results

July 5, 2007

Mr. Rusty Russell
Russell Capital Acquisitions
25695 E. 71st Street, Suite B
Broken Arrow, OK 74014

Subject: Environmental Review of Property South of 71st Street and between 217th E. and 222nd E. Avenue
Broken Arrow, OK

Dear Mr. Russell:

Following our conference call with Western Capital Partners, I was tasked with reviewing all known reports for the subject property and issuing an opinion on what, if any, further environmental investigation should be completed since the various reports covered different portions of the property. I have completed my review and this letter contains a summary of my findings and recommendations.

The reports that were reviewed for this analysis include:

- Hemphill Report of Test Borings dated September 13, 1972
- Enercon Preliminary Investigation & Report dated January 28, 1997
- Kleinfelder Phase I ESA Report dated July 16, 2004
- Cinnabar Limited Phase II Investigation Report dated February 10, 2006
- Terracon Preliminary Geotechnical Engineering Report dated June 15, 2007

The first comment is to note that the reports were commissioned by various entities for various purposes and covered different portions of the property. Therefore, items that were a concern in one report were not covered by another report and this fact confuses the issue(s).

The fact that part of the property was used as a municipal landfill is well documented and has been analyzed in most of the reports for various purposes and concerns. Conditions related to this activity seem to be adequately characterized and, at least from an environmental perspective, appear to have minimal consequence on future development of the property.

The fact that most of the property was also used for strip mining of coal is also well documented. And similar to the municipal landfill concern, from an environmental perspective, this issue also appears to have minimal consequence on the future development of the property.

It appears, however, that the permitting of a hazardous waste disposal facility in the far southwest corner of the property, identified in the Kleinfelder Phase I report, has not been investigated in the same depth of other concerns. The remainder of this letter will focus on that activity.

In summary, we do not believe the fact that the property was permitted as a hazardous waste facility requires any further action for the following reasons:

- The small piece of property (400' x 800') is not on the subject property being considered for development or included in this loan.
- Knowledge of the property does not indicate that any facility was ever built or that any activities were actually conducted on the property by the entity that obtained the permit (USPCI).
- Groundwater results from other portions of the property do not indicate any influence by possible contaminants that would have resulted from the hazardous waste operations.

Since the loan from Western Capital Partners involves only the front (north) 40 or 50 acres of the 80-acre tract, we believe that all issues have been adequately addressed and that no further action is necessary from an environmental perspective.

Note that this opinion does not have any affect on the geotechnical and/or engineering aspects of development.

If you have any questions or would like to discuss this matter in more detail, please do not hesitate to call our Tulsa office at (918) 388-0970.

Sincerely,

Blackshare Environmental Solutions

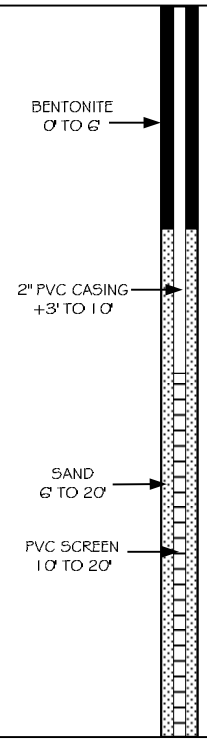
Derek T. Blackshare, P.E., CHMM
CEO & President

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER	BORING NO. PZ-1
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD: SPLIT SPOON	SHEET 1 OF 1
		DRILLING START TIME: 8:30 / FINISH TIME: 8:54
WEATHER: SUNNY TEMP: 91°	WATER LEVEL: / TIME:	
G.L. ELEV:	DATE:	DATE START: 8/3/10 / FINISH: 8/3/10
DATUM: TOC ELEV: 649.367	CASING DEPTH:	
DRILL RIG: CME ATV	TYPE OF GRAVEL: SAND #20/40	CASING DIA: 2" / SCREEN DIA: 2"
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM	SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS		

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL
	0 ppm		0' - 1': TOPSOIL, BROWN – NO ODOR
	0 ppm		
	0 ppm		1' - 5': BROWN, BLACK LOOSE SPOIL – NO ODOR
	0 ppm		
5	0 ppm		
			5' - 6': NO RECOVERY
	0 ppm		6' – 7.5': BROWN, BLACK LOOSE SPOIL – NO ODOR
	0 ppm		7.5' - 8': GREY LOOSE SPOIL – NO ODOR
	0 ppm		8' - 10': BROWN, BLACK LOOSE SPOIL – NO ODOR
10	0 ppm		
			10' - 12': NO RECOVERY
	0 ppm		12' - 13': WET GREY LOOSE SPOIL – NO ODOR
	0 ppm		13' - 14': MOIST LIGHT BROWN LOOSE SPOIL – NO ODOR
15	0 ppm		14' - 15': WET GREY LOOSE SPOIL – NO ODOR
			15' – 18.5': NO RECOVERY
20	0 ppm		18.5' - 20': WET GREY LOOSE SPOIL – NO ODOR
			TOTAL DEPTH: 20'
25			
30			

AS-BUILT DRAWING & DESCRIPTION



RECEIVED
March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

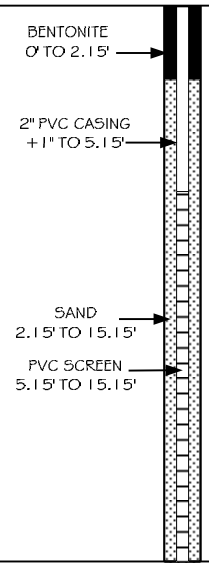
DRILLING CONTRACTOR: MOHAWK DRILLING, INC.
DRILLER: ERIK CHRISTIAN
LOGGED BY: ABBY LAZAR
CHECKED BY: IT
DATE: 3 AUGUST 2010

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER	BORING NO. PZ-2
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD: SPLIT SPOON	SHEET 1 OF 1
		DRILLING START TIME: 1420 / FINISH TIME: 1445
WEATHER: SUNNY TEMP: 105°	WATER LEVEL: / TIME: / DATE: / CASING DEPTH:	DATE: 8/3/10 / DATE: 8/3/10
G.L. ELEV: / DATUM: / TOC ELEV: 660.685		
DRILL RIG: CME ATV	TYPE OF GRAVEL: SAND #20/40	CASING DIA: 2" / SCREEN DIA: 2"
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM	SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS		

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL
			0' - 2': NO RECOVERY
	0 ppm		2' - 5': BROWN, GREY LOOSE SPOIL – NO ODOR
	0 ppm		
5	0 ppm		
			5' - 7': NO RECOVERY
	0 ppm		
	0 ppm		
10	0 ppm		
	0 ppm		7' - 15': BLACK/GREY LOOSE SPOIL – NO ODOR
	0 ppm		
	0 ppm		
	0 ppm		
15	0 ppm		
			TOTAL DEPTH: 15.15'
20			
25			DUPLICATE WATER SAMPLE COLLECTED FROM PZ-2
30			

AS-BUILT DRAWING & DESCRIPTION



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PLAN DEVELOPMENT

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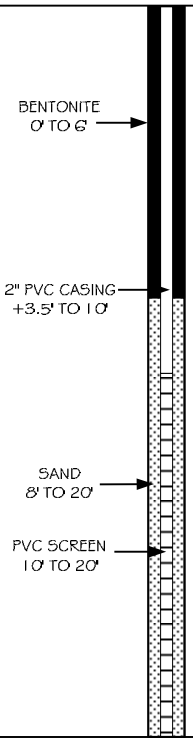
DRILLER: ERIK CHRISTIAN
LOGGED BY: ABBY LAZAR
CHECKED BY: IT
DATE: 3 AUGUST 2010

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER	BORING NO. PZ-3
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD: SPLIT SPOON	SHEET 1 OF 1
		DRILLING START TIME: 1245 / FINISH TIME: 1315
WEATHER: SUNNY TEMP: 104°	WATER LEVEL: / TIME: / DATE:	DATE: 8/3/10 / DATE: 8/3/10
G.L. ELEV:	CASING DEPTH:	
DATUM: TOC ELEV: 660.486		
DRILL RIG: CME ATV	TYPE OF GRAVEL: SAND #20/40	CASING DIA: 2" / SCREEN DIA: 2"
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM	SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS		

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL
	0 ppm		0' - 2': GREY, LOOSE SPOIL – NO ODOR
	0 ppm		
	0 ppm		2' - 3': GREY, BROWN LOOSE SPOIL – NO ODOR
5			3' - 6': NO RECOVERY
	0 ppm		
	0 ppm		6' – 10': GREY, BROWN, BLACK LOOSE SPOIL – NO ODOR
	0 ppm		
10	0 ppm		
			10' - 12': NO RECOVERY
	0 ppm		12' - 13': WET GREY LOOSE SPOIL – NO ODOR
	0 ppm		13' - 15': MOIST GREY LOOSE SPOIL – NO ODOR
15	0 ppm		
			15' – 19': NO RECOVERY
20	0 ppm		19' - 20': GREY LOOSE SPOIL – NO ODOR
			TOTAL DEPTH: 20'
25			
30			

AS-BUILT DRAWING & DESCRIPTION



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BROKEN ARROW
PLAN DEVELOPMENT

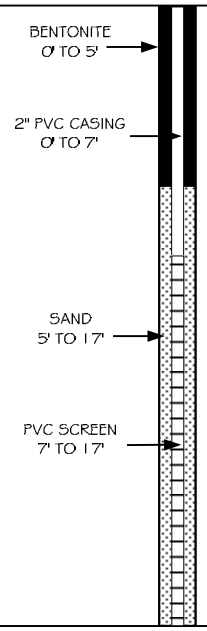
DRILLING CONTRACTOR: MOHAWK DRILLING, INC.
DRILLER: ERIK CHRISTIAN
LOGGED BY: ABBY LAZAR
CHECKED BY: IT
DATE: 3 AUGUST 2010

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER	BORING NO. PZ-4
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD: SPLIT SPOON	SHEET 1 OF 1
		DRILLING START TIME 1100 / FINISH TIME 1135
WEATHER: SUNNY TEMP: 105°	WATER LEVEL: / TIME:	
G.L. ELEV:	DATE:	DATE 8/3/10 / DATE 8/3/10
DATUM: TOC ELEV: 660.875	CASING DEPTH:	
DRILL RIG: CME ATV	TYPE OF GRAVEL: SAND #20/40	CASING DIA: 2" / SCREEN DIA: 2"
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM	SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS		

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL
			0' – 1.5': NO RECOVERY
	0 ppm		
	0 ppm		1.5' - 5': BROWN, GREY LOOSE SPOIL – NO ODOR
5	0 ppm		
			5' – 6.5': NO RECOVERY
	0 ppm		
	0 ppm		6.5' - 10': BROWN/GREY LOOSE SPOIL – NO ODOR
	0 ppm		
10	0 ppm		
			10' – 12.5': NO RECOVERY
	0 ppm		
	0 ppm		12.5' - 15': BROWN/GREY LOOSE SPOIL – NO ODOR
15	0 ppm		
	0 ppm		15' - 16': GREY LOOSE SPOIL – NO ODOR
	0 ppm		16' - 17': BLACK COAL – NO ODOR
			TOTAL DEPTH: 17'
20			
25			
30			

AS-BUILT DRAWING & DESCRIPTION



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DRILLER: ERIK CHRISTIAN
LOGGED BY: ABBY LAZAR
CHECKED BY: IT
DATE: 3 AUGUST 2010

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER CONTINUOUS CORE		BORING NO. GP-1a
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD:		SHEET 1 OF 1
			DRILLING START TIME: 750 / FINISH TIME: 810
WEATHER: SUNNY TEMP: 73°	WATER LEVEL: / TIME:		
G.L. ELEV:	DATE:		DATE START: 8/4/10 / DATE FINISH: 8/4/10
DATUM: TOC ELEV:	CASING DEPTH:		
DRILL RIG: CME ATV	TYPE OF GRAVEL:	CASING DIA:	SCREEN DIA:
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM		SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS			

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL	AS-BUILT DRAWING & DESCRIPTION
	0 ppm		0' - 1': TOPSOIL, BROWN – NO ODOR	NO WELL SET. NO TRASH ENCOUNTERED
	0 ppm			
	0 ppm			
	0 ppm			
5	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm		1' - 15': BROWN, BLACK LOOSE SPOIL – NO ODOR	
	0 ppm			
10	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
15	0 ppm			
			TOTAL DEPTH: 15'	
20				
25				
30				

DRILLING CONTRACTOR: MOHAWK DRILLING, INC.

DRILLER: ERIK CHRISTIAN

LOGGED BY: ABBY LAZAR

DATE: 4 AUGUST 2010

CHECKED BY: IT

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER CONTINUOUS CORE		BORING NO. GP-16
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD:		SHEET 1 OF 1
			DRILLING START: 8/4/10 TIME: 820 FINISH: 8/4/10 TIME: 835
WEATHER: SUNNY TEMP: 76°	WATER LEVEL: / TIME: / DATE: / CASING DEPTH:		
G.L. ELEV: / DATUM: / TOC ELEV:			
DRILL RIG: CME ATV	TYPE OF GRAVEL:	CASING DIA:	SCREEN DIA:
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM		SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS			

DRILLING CONTRACTOR: MOHAWK DRILLING, INC.

DRILLER: ERIK CHRISTIAN

LOGGED BY: ABBY LAZAR

CHECKED BY: IT

DATE: 4 AUGUST 2010

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL	AS-BUILT DRAWING & DESCRIPTION
	0 ppm		0' - 1': TOPSOIL, BROWN – NO ODOR	
	0 ppm			
	0 ppm			
	0 ppm			
5	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm		1' - 15': BROWN, BLACK LOOSE SPOIL – NO ODOR	NO WELL SET. NO TRASH ENCOUNTERED
10	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
15	0 ppm			
			TOTAL DEPTH: 15'	
20				
25				
30				

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER CONTINUOUS CORE	BORING NO. GP-1c
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD:	SHEET 1 OF 1
		DRILLING START TIME: 845 / FINISH TIME: 900
WEATHER: SUNNY TEMP: 79°	WATER LEVEL: / TIME:	
G.L. ELEV:	DATE:	DATE: 8/4/10 / DATE: 8/4/10
DATUM: TOC ELEV: 659.51	CASING DEPTH:	
DRILL RIG: CME ATV	TYPE OF GRAVEL: SAND #20/40	CASING DIA: 1" / SCREEN DIA: 1"
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM	SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS		

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL	AS-BUILT DRAWING & DESCRIPTION
	0 ppm		0' - 1': TOPSOIL, BROWN – NO ODOR	BENTONITE 0' TO 1' / 1" PVC CASING +3' TO 1'
	0 ppm			
	0 ppm		1' - 4': BROWN, BLACK LOOSE SPOIL – NO ODOR	
	0 ppm			SAND 1' TO 7.5'
5	0 ppm		4' - 6': TRASH (PAPER WRAPPINGS, PLASTIC SHEETING, PLASTIC BAGS) NO ODOR	PVC SCREEN 0.5' TO 7.5'
	0 ppm			
	0 ppm		6' – 7.5': GREY LOOSE SPOIL – NO ODOR	
10			TOTAL DEPTH: 7.5'	
15				
20				
25				
30				

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BROKEN ARROW
PLAN DEVELOPMENT

DRILLING CONTRACTOR: MOHAWK DRILLING, INC.
DRILLER: ERIK CHRISTIAN
LOGGED BY: ABBY LAZAR
CHECKED BY: IT
DATE: 4 AUGUST 2010

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER CONTINUOUS CORE	BORING NO. GP-2a
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD:	SHEET 1 OF 1
		DRILLING START: TIME 925 / DATE 8/4/10; FINISH: TIME 940 / DATE 8/4/10
WEATHER: SUNNY TEMP: 84°	WATER LEVEL: / TIME:	
G.L. ELEV:	DATE:	
DATUM: TOC ELEV:	CASING DEPTH:	
DRILL RIG: CME ATV	TYPE OF GRAVEL:	CASING DIA: / SCREEN DIA:
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM	SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS		

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL	AS-BUILT DRAWING & DESCRIPTION
	0 ppm		0' - 1': TOPSOIL, BROWN – NO ODOR	
	0 ppm			
	0 ppm			
	0 ppm			
5	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm		1' - 15': BROWN, BLACK LOOSE SPOIL – NO ODOR	NO WELL SET. NO TRASH ENCOUNTERED
10	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
15	0 ppm			
			TOTAL DEPTH: 15'	
20				
25				
30				

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BROKEN ARROW
PLAN DEVELOPMENT

DRILLING CONTRACTOR: MOHAWK DRILLING, INC. DRILLER: ERIK CHRISTIAN

LOGGED BY: ABBY LAZAR CHECKED BY: IT

DATE: 4 AUGUST 2010

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER CONTINUOUS CORE		BORING NO. GP-2b
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD:		SHEET 1 OF 1
			DRILLING START: TIME 950, DATE 8/4/10
			DRILLING FINISH: TIME 1005, DATE 8/4/10
WEATHER: SUNNY TEMP: 85°	WATER LEVEL: / TIME:		
G.L. ELEV:	DATE:		
DATUM: TOC ELEV:	CASING DEPTH:		
DRILL RIG: CME ATV	TYPE OF GRAVEL:	CASING DIA:	SCREEN DIA:
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM		SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS			

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL	AS-BUILT DRAWING & DESCRIPTION
	0 ppm		0' - 1': TOPSOIL, BROWN – NO ODOR	
	0 ppm			
	0 ppm			
	0 ppm			
5	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm		1' - 15': BROWN, BLACK LOOSE SPOIL – NO ODOR	NO WELL SET. NO TRASH ENCOUNTERED
10	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
15	0 ppm			
			TOTAL DEPTH: 15'	
20				
25				
30				

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PLAN DEVELOPMENT

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DRILLER: ERIK CHRISTIAN

LOGGED BY: ABBY LAZAR
CHECKED BY: IT
DATE: 4 AUGUST 2010

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER CONTINUOUS CORE		BORING NO. GP-2c
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD:		SHEET 1 OF 1
			DRILLING START: TIME 1015 / DATE 8/4/10; FINISH: TIME 1025 / DATE 8/4/10
WEATHER: SUNNY TEMP: 86°	WATER LEVEL: / TIME:		
G.L. ELEV:	DATE:		
DATUM: TOC ELEV:	CASING DEPTH:		
DRILL RIG: CME ATV	TYPE OF GRAVEL:	CASING DIA:	SCREEN DIA:
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM		SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS			

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL	AS-BUILT DRAWING & DESCRIPTION
	0 ppm		0' - 1': TOPSOIL, BROWN – NO ODOR	
	0 ppm			
	0 ppm			
	0 ppm			
5	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm		1' - 15': BROWN, BLACK LOOSE SPOIL – NO ODOR	NO WELL SET. NO TRASH ENCOUNTERED
10	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
15	0 ppm			
			TOTAL DEPTH: 15'	
20				
25				
30				

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BROKEN ARROW
PLAN DEVELOPMENT

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DRILLER: ERIK CHRISTIAN

LOGGED BY: ABBY LAZAR
CHECKED BY: IT
DATE: 4 AUGUST 2010

SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER CONTINUOUS CORE	BORING NO. GP-2d
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD:	SHEET 1 OF 1
		DRILLING START: TIME 1035, DATE 8/4/10
	WATER LEVEL:	FINISH: TIME 1050, DATE 8/4/10
WEATHER: SUNNY TEMP: 89°	TIME:	
G.L. ELEV:	DATE:	
DATUM: TOC ELEV:	CASING DEPTH:	
DRILL RIG: CME ATV	TYPE OF GRAVEL:	CASING DIA: / SCREEN DIA:
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM	SLOT SIZE
SAMPLE HAMMER TORQUE: FT-LBS		

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL	AS-BUILT DRAWING & DESCRIPTION
	0 ppm		0' - 1': TOPSOIL, BROWN – NO ODOR	
	0 ppm			
	0 ppm			
	0 ppm			
5	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm		1' - 15': BROWN, BLACK LOOSE SPOIL – NO ODOR	NO WELL SET. NO TRASH ENCOUNTERED
10	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
	0 ppm			
15	0 ppm			
			TOTAL DEPTH: 15'	
20				
25				
30				

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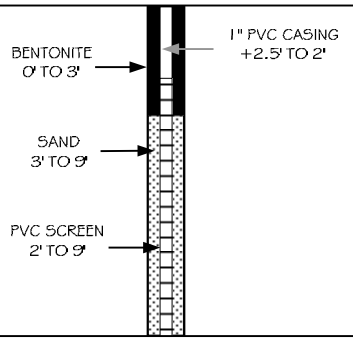
SOIL BORING AND WELL COMPLETION LOG

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.	DRILLING METHOD: CME ATV – ROTARY AUGER CONTINUOUS CORE	BORING NO. GP-2e
SITE NAME AND LOCATION: FORMER BROKEN ARROW LANDFILL, BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, A&M JOB NO. 2028-001	SAMPLING METHOD:	SHEET 1 OF 1
		DRILLING START: TIME 1105, DATE 8/4/10
		DRILLING FINISH: TIME 1120, DATE 8/4/10
WEATHER: SUNNY TEMP: 91°	WATER LEVEL: TIME:	
G.L. ELEV:	DATE:	
DATUM: TOC ELEV:	CASING DEPTH:	
DRILL RIG: CME ATV	TYPE OF GRAVEL: SAND #20/40	CASING DIA: 1"
ANGLE: VERTICAL BEARING:	TYPE OF BENTONITE: SODIUM	SCREEN DIA: 1"
SAMPLE HAMMER TORQUE: FT-LBS		SLOT SIZE

DEPTH IN FEET	PID READING	SYMBOL	DESCRIPTION OF MATERIAL	AS-BUILT DRAWING & DESCRIPTION
	0 ppm		0' – 1': TOPSOIL, BROWN – NO ODOR	
	0 ppm			
	0 ppm		1' – 5': BROWN, BLACK LOOSE SPOIL – NO ODOR	
	0 ppm			
5	0 ppm		5' – 6.5': TRASH (PAPER , PLASTIC SHEETING, FABRIC) NO ODOR	
	0 ppm			
	0 ppm			
	0 ppm		6.5' – 9': GREY LOOSE SPOIL – NO ODOR	
	0 ppm			
10			TOTAL DEPTH: 9'	
15				
20				
25				
30				

DRILLING CONTRACTOR: MOHAWK DRILLING, INC.

DRILLER: ERIK CHRISTIAN

LOGGED BY: ABBY LAZAR

CHECKED BY: IT

DATE: 4 AUGUST 2010

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

August 17, 2010

Abby Lazar
A&M Engineering
10010 E. 16th St.
Tulsa, OK 74128
TEL: (918) 665-6575
FAX: (918) 665-6576

ACCREDITED IN ACCORDANCE WITH nelac

NELAP Accredited #100226

RE: BA Landfill 2028-004

WorkOrder: 10080226

Dear Abby Lazar:

TEKLAB, INC received 16 samples on 8/5/2010 11:00:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Richard H. Mannz
Project Manager
(618)344-1004 ex 38

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: A&M Engineering
Project: BA Landfill 2028-004
LabOrder: 10080226
Report Date: 17-Aug-10

CASE NARRATIVE

Cooler Receipt Temp: 5.8 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

Qualifiers

DF - Dilution Factor	**B** - Analyte detected in the associated Method Blank	**C** - Client requested RL below PQL
RL - Reporting Limit	**J** - Analyte detected below reporting limits	**D** - Diluted out of sample
ND - Not Detected at the Reporting Limit	**R** - RPD outside accepted recovery limits	**E** - Value above quantitation range
Surr - Surrogate Standard added by lab	**S** - Spike Recovery outside accepted recovery limits	**H** - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	**X** - Value exceeds Maximum Contaminant Level	**MI** - Matrix interference
Q - QC criteria failed or noncompliant **CCV**	**#** - Unknown hydrocarbon	**DNI** - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	**IDPH** - IL Dept. of Public Health	

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TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-001
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-1
Collection Date: 8/4/2010 1:00:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.300		8.99	mg/L	4	8/6/2010 2:18:49 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)								
Nitrogen, Nitrite (as N)	NELAP	0.01		0.01	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		0.061	mg/L	1	8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Antimony	NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 12:41:16 PM	LAL
Arsenic	NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 4:32:12 PM	LAL
Beryllium	NELAP	0.0010		< 0.0010	mg/L	1	8/10/2010 12:41:16 PM	LAL
Cadmium	NELAP	0.0020	J	0.0004	mg/L	1	8/9/2010 4:32:12 PM	LAL
Chromium	NELAP	0.0100	J	0.0043	mg/L	1	8/10/2010 12:41:16 PM	LAL
Copper	NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 12:41:16 PM	LAL
Lead	NELAP	0.0400		< 0.0400	mg/L	1	8/7/2010 2:06:46 AM	LAL
Nickel	NELAP	0.0100		0.0218	mg/L	1	8/9/2010 4:32:12 PM	LAL
Selenium	NELAP	0.0500	J	0.025	mg/L	1	8/9/2010 4:32:12 PM	LAL
Silver	NELAP	0.0100		< 0.0100	mg/L	1	8/11/2010 9:49:26 AM	JMW
Zinc	NELAP	0.0100	J	0.0096	mg/L	1	8/9/2010 4:32:12 PM	LAL
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		< 0.0500	mg/L	1	8/9/2010 2:56:54 PM	LAL
Arsenic	NELAP	0.0250		0.0690	mg/L	1	8/9/2010 2:56:54 PM	LAL
Beryllium	NELAP	0.0010		0.0038	mg/L	1	8/9/2010 2:56:54 PM	LAL
Cadmium	NELAP	0.0020		0.0030	mg/L	1	8/9/2010 2:56:54 PM	LAL
Chromium	NELAP	0.0100		0.174	mg/L	1	8/9/2010 2:56:54 PM	LAL
Copper	NELAP	0.0100		0.142	mg/L	1	8/9/2010 2:56:54 PM	LAL
Lead	NELAP	0.0400		0.0904	mg/L	1	8/7/2010 3:46:52 AM	LAL
Nickel	NELAP	0.0100		0.244	mg/L	1	8/9/2010 2:56:54 PM	LAL
Selenium	NELAP	0.0500	J	0.024	mg/L	1	8/9/2010 2:56:54 PM	LAL
Silver	NELAP	0.0100		< 0.0100	mg/L	1	8/9/2010 2:56:54 PM	LAL
Zinc	NELAP	0.0100		0.600	mg/L	1	8/9/2010 2:56:54 PM	LAL
SW-846 3005A, METALS BY GFAA (DISSOLVED)								
Thallium 7841	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 4:37:24 PM	MEK
SW-846 3020A, METALS BY GFAA (TOTAL)								
Thallium 7841	NELAP	0.0020	J	0.0017	mg/L	1	8/12/2010 5:42:40 PM	MEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
4,4'-DDE	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
4,4'-DDT	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Alachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-001
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-1
Collection Date: 8/4/2010 1:00:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150		103.0	%REC	1	8/8/2010 8:02:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		65.8	%REC	1	8/8/2010 8:02:00 PM	HE
SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Surr: Decachlorobiphenyl		5-174		87.7	%REC	1	8/9/2010 12:59:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139		65.2	%REC	1	8/9/2010 12:59:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-001
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-1
Collection Date: 8/4/2010 1:00:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4-Dinitrophenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,4-Dinitrotoluene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2-Chloronaphthalene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2-Chlorophenol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2-Methoxy-4-methylphenol		0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2-Methylnaphthalene	NELAP	0.029	J	0.003	mg/L	1	8/10/2010 1:29:00 AM	DMH
2-Nitroaniline	NELAP	0.118		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2-Nitrophenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
3,3´-Dichlorobenzidine	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
3-Nitroaniline	NELAP	0.118		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
4-Chloroaniline	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
4-Nitroaniline	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
4-Nitrophenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Acenaphthene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Acenaphthylene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Aniline	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Anthracene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Azobenzene		0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzidine	NELAP	0.118		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzo(a)anthracene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzo(a)pyrene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzoic acid	NELAP	0.147		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzyl alcohol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.018		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Carbazole	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Chrysene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-001
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-1
Collection Date: 8/4/2010 1:00:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Dibenzo(a,h)anthracene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Dibenzofuran	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Diethyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Dimethyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Fluoranthene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Fluorene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Hexachlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Hexachlorobutadiene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Hexachloroethane	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Isophorone	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
m,p-Cresol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Naphthalene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Nitrobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
o-Cresol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Pentachlorophenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Phenanthrene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Phenol	NELAP	0.015		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Pyrene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Pyridine	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Quinoline		0.015		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Surr: 2,4,6-Tribromophenol		27.7-149		81.4	%REC	1	8/10/2010 1:29:00 AM	DMH
Surr: 2-Fluorobiphenyl		44.9-116		58.4	%REC	1	8/10/2010 1:29:00 AM	DMH
Surr: 2-Fluorophenol		10.6-78.7		30.0	%REC	1	8/10/2010 1:29:00 AM	DMH
Surr: Nitrobenzene-d5		41.4-104		62.5	%REC	1	8/10/2010 1:29:00 AM	DMH
Surr: Phenol-d5		9.04-52.9		20.2	%REC	1	8/10/2010 1:29:00 AM	DMH
Surr: p-Terphenyl-d14		23.5-114		49.2	%REC	1	8/10/2010 1:29:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-001
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-1
Collection Date: 8/4/2010 1:00:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Benzene	NELAP	2.0	J	0.9	µg/L	1	8/5/2010 5:17:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF

TEKLAB, INC.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-001
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-1
Collection Date: 8/4/2010 1:00:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Iodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-001
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-1
Collection Date: 8/4/2010 1:00:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		102.4	%REC	1	8/5/2010 5:17:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		100.7	%REC	1	8/5/2010 5:17:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		100.0	%REC	1	8/5/2010 5:17:00 PM	CCF
Surr: Toluene-d8		84.3-114		96.1	%REC	1	8/5/2010 5:17:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		0.00043	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	0		6.69		1	8/5/2010 2:16:00 PM	CS
SW-846 9050A								
Conductivity	NELAP	1		3560	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-002
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-2
Collection Date: 8/4/2010 1:10:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.300		**4.95**	mg/L	4	8/6/2010 2:18:49 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)								
Nitrogen, Nitrite (as N)	NELAP	0.01		**0.01**	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**0.079**	mg/L	1	8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/10/2010 12:47:56 PM	LAL
Arsenic	NELAP	0.0250		**< 0.0250**	mg/L	1	8/9/2010 5:03:59 PM	LAL
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	1	8/10/2010 12:47:56 PM	LAL
Cadmium	NELAP	0.0020		**0.0031**	mg/L	1	8/11/2010 10:17:19 AM	JMW
Chromium	NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 12:47:56 PM	LAL
Copper	NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 12:47:56 PM	LAL
Lead	NELAP	0.0400	J	**0.012**	mg/L	1	8/7/2010 2:13:28 AM	LAL
Nickel	NELAP	0.0100		**0.871**	mg/L	1	8/9/2010 5:03:59 PM	LAL
Selenium	NELAP	0.0500	J	**0.024**	mg/L	1	8/10/2010 12:47:56 PM	LAL
Silver	NELAP	0.0100	J	**0.0060**	mg/L	1	8/11/2010 9:52:55 AM	JMW
Zinc	NELAP	0.0100		**0.256**	mg/L	1	8/9/2010 5:03:59 PM	LAL
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/9/2010 3:03:31 PM	LAL
Arsenic	NELAP	0.0500	J	**0.038**	mg/L	2	8/10/2010 3:37:25 PM	LAL
Beryllium	NELAP	0.0010		**0.0014**	mg/L	1	8/9/2010 3:03:31 PM	LAL
Cadmium	NELAP	0.0020		**0.0042**	mg/L	1	8/11/2010 11:21:19 AM	JMW
Chromium	NELAP	0.0100	B	**0.0506**	mg/L	1	8/9/2010 3:03:31 PM	LAL
Copper	NELAP	0.0100		**0.0501**	mg/L	1	8/9/2010 3:03:31 PM	LAL
Lead	NELAP	0.0400	J	**0.034**	mg/L	1	8/7/2010 3:53:30 AM	LAL
Nickel	NELAP	0.0100		**1.14**	mg/L	1	8/9/2010 3:03:31 PM	LAL
Selenium	NELAP	0.0500	J	**0.040**	mg/L	1	8/10/2010 2:16:15 PM	LAL
Silver	NELAP	0.0100	BJ	**0.0069**	mg/L	1	8/9/2010 3:03:31 PM	LAL
Zinc	NELAP	0.0100		**0.537**	mg/L	1	8/9/2010 3:03:31 PM	LAL
SW-846 3005A, METALS BY GFAA (DISSOLVED)								
Thallium 7841	NELAP	0.0020		**< 0.0020**	mg/L	1	8/12/2010 4:47:44 PM	MEK
SW-846 3020A, METALS BY GFAA (TOTAL)								
Thallium 7841	NELAP	0.0020	J	**0.0013**	mg/L	1	8/12/2010 5:32:16 PM	MEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4´-DDD	NELAP	0.05		**ND**	µg/L	1	8/8/2010 8:27:00 PM	HE
4,4´-DDE	NELAP	0.05		**ND**	µg/L	1	8/8/2010 8:27:00 PM	HE
4,4´-DDT	NELAP	0.05		**ND**	µg/L	1	8/8/2010 8:27:00 PM	HE
Alachlor	NELAP	0.05		**ND**	µg/L	1	8/8/2010 8:27:00 PM	HE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-002
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-2
Collection Date: 8/4/2010 1:10:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150		73.1	%REC	1	8/8/2010 8:27:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		74.7	%REC	1	8/8/2010 8:27:00 PM	HE
SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Surr: Decachlorobiphenyl		5-174		65.5	%REC	1	8/9/2010 1:16:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139		71.2	%REC	1	8/9/2010 1:16:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-002
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-2
Collection Date: 8/4/2010 1:10:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4-Dinitrophenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,4-Dinitrotoluene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2-Chloronaphthalene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2-Chlorophenol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2-Methoxy-4-methylphenol		0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2-Methylnaphthalene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2-Nitroaniline	NELAP	0.087		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2-Nitrophenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
3,3'-Dichlorobenzidine	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
3-Nitroaniline	NELAP	0.087		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
4-Chloroaniline	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
4-Nitroaniline	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
4-Nitrophenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Acenaphthene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Acenaphthylene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Aniline	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Anthracene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Azobenzene		0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Benzidine	NELAP	0.087		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Benzo(a)anthracene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Benzo(a)pyrene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Benzoic acid	NELAP	0.109		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Benzyl alcohol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.013		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Carbazole	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Chrysene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH

TEKLAB, INC.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-002
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-2
Collection Date: 8/4/2010 1:10:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Dibenzo(a,h)anthracene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Dibenzofuran	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Diethyl phthalate	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Dimethyl phthalate	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Fluoranthene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Fluorene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Hexachlorobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Hexachlorobutadiene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Hexachloroethane	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Isophorone	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
m,p-Cresol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Naphthalene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Nitrobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
o-Cresol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Pentachlorophenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Phenanthrene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Phenol	NELAP	0.011		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Pyrene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Pyridine	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Quinoline		0.011		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Surr: 2,4,6-Tribromophenol		27.7-149		79.8	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: 2-Fluorobiphenyl		44.9-116		51.2	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: 2-Fluorophenol		10.6-78.7		28.6	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: Nitrobenzene-d5		41.4-104		48.0	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: Phenol-d5		9.04-52.9		18.5	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: p-Terphenyl-d14		23.5-114		59.3	%REC	1	8/10/2010 2:01:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-002
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-2
Collection Date: 8/4/2010 1:10:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-002
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-2
Collection Date: 8/4/2010 1:10:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Iodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-002
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-2
Collection Date: 8/4/2010 1:10:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		102.2	%REC	1	8/5/2010 5:47:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		101.9	%REC	1	8/5/2010 5:47:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		99.8	%REC	1	8/5/2010 5:47:00 PM	CCF
Surr: Toluene-d8		84.3-114		94.7	%REC	1	8/5/2010 5:47:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		0.00022	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	0		6.08		1	8/5/2010 2:16:00 PM	CS
SW-846 9050A								
Conductivity	NELAP	1		3570	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3005A, 6010B, Metals by ICP (Total)

As - Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

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5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-003
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-3
Collection Date: 8/4/2010 1:20:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.300		**2.63**	mg/L	4	8/6/2010 2:18:49 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)								
Nitrogen, Nitrite (as N)	NELAP	0.01		**0.01**	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050	J	**0.041**	mg/L	1	8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/10/2010 12:55:01 PM	LAL
Arsenic	NELAP	0.0250		**< 0.0250**	mg/L	1	8/9/2010 5:11:03 PM	LAL
Beryllium	NELAP	0.0010		**< 0.0010**	mg/L	1	8/10/2010 12:55:01 PM	LAL
Cadmium	NELAP	0.0020	J	**0.0012**	mg/L	1	8/9/2010 5:11:03 PM	LAL
Chromium	NELAP	0.0100	J	**0.0066**	mg/L	1	8/9/2010 5:11:03 PM	LAL
Copper	NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 12:55:01 PM	LAL
Lead	NELAP	0.0400	J	**0.0094**	mg/L	1	8/7/2010 2:20:31 AM	LAL
Nickel	NELAP	0.0100		**0.417**	mg/L	1	8/9/2010 5:11:03 PM	LAL
Selenium	NELAP	0.0500	J	**0.035**	mg/L	1	8/9/2010 5:11:03 PM	LAL
Silver	NELAP	0.0100	J	**0.0038**	mg/L	1	8/11/2010 9:56:26 AM	JMW
Zinc	NELAP	0.0100		**0.311**	mg/L	1	8/9/2010 5:11:03 PM	LAL
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/9/2010 3:10:33 PM	LAL
Arsenic	NELAP	0.0250	J	**0.018**	mg/L	1	8/9/2010 3:10:33 PM	LAL
Beryllium	NELAP	0.0010	J	**0.0004**	mg/L	1	8/9/2010 3:10:33 PM	LAL
Cadmium	NELAP	0.0020	J	**0.0017**	mg/L	1	8/9/2010 3:10:33 PM	LAL
Chromium	NELAP	0.0100		**0.0241**	mg/L	1	8/9/2010 3:10:33 PM	LAL
Copper	NELAP	0.0100		**0.0116**	mg/L	1	8/10/2010 2:23:13 PM	LAL
Lead	NELAP	0.0400	J	**0.016**	mg/L	1	8/7/2010 4:00:34 AM	LAL
Nickel	NELAP	0.0100		**0.451**	mg/L	1	8/9/2010 3:10:33 PM	LAL
Selenium	NELAP	0.0500	J	**0.030**	mg/L	1	8/10/2010 2:23:13 PM	LAL
Silver	NELAP	0.0100	J	**0.0057**	mg/L	1	8/11/2010 11:04:21 AM	JMW
Zinc	NELAP	0.0100		**0.328**	mg/L	1	8/9/2010 3:10:33 PM	LAL
SW-846 3005A, METALS BY GFAA (DISSOLVED)								
Thallium 7841	NELAP	0.0020		**< 0.0020**	mg/L	1	8/12/2010 4:51:08 PM	MEK
SW-846 3020A, METALS BY GFAA (TOTAL)								
Thallium 7841	NELAP	0.0020	J	**0.0006**	mg/L	1	8/12/2010 5:35:44 PM	MEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	0.05		**ND**	µg/L	1	8/8/2010 8:51:00 PM	HE
4,4'-DDE	NELAP	0.05		**ND**	µg/L	1	8/8/2010 8:51:00 PM	HE
4,4'-DDT	NELAP	0.05		**ND**	µg/L	1	8/8/2010 8:51:00 PM	HE
Alachlor	NELAP	0.05		**ND**	µg/L	1	8/8/2010 8:51:00 PM	HE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-003
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-3
Collection Date: 8/4/2010 1:20:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150		83.0	%REC	1	8/8/2010 8:51:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		63.2	%REC	1	8/8/2010 8:51:00 PM	HE
SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Surr: Decachlorobiphenyl		5-174		73.0	%REC	1	8/9/2010 1:33:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139		61.0	%REC	1	8/9/2010 1:33:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH

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LABORATORY RESULTS

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Lab ID: 10080226-003
Report Date: 17-Aug-10

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Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4-Dinitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,4-Dinitrotoluene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2-Chloronaphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2-Chlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2-Methoxy-4-methylphenol		0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2-Methylnaphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2-Nitroaniline	NELAP	0.091		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2-Nitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
3,3'-Dichlorobenzidine	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
3-Nitroaniline	NELAP	0.091		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Chloroaniline	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Nitroaniline	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Nitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Acenaphthene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Acenaphthylene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Aniline	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Azobenzene		0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzidine	NELAP	0.091		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(a)anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(a)pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzoic acid	NELAP	0.114		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzyl alcohol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.014		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Carbazole	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Chrysene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-003
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-3
Collection Date: 8/4/2010 1:20:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Dibenzo(a,h)anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Dibenzofuran	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Diethyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Dimethyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Fluorene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Hexachlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Hexachlorobutadiene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Hexachloroethane	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Isophorone	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
m,p-Cresol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Naphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Nitrobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
o-Cresol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Pentachlorophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Phenanthrene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Phenol	NELAP	0.011		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Pyridine	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Quinoline		0.011		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Surr: 2,4,6-Tribromophenol		27.7-149		72.8	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: 2-Fluorobiphenyl		44.9-116		47.9	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: 2-Fluorophenol		10.6-78.7		25.1	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: Nitrobenzene-d5		41.4-104		47.9	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: Phenol-d5		9.04-52.9		16.6	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: p-Terphenyl-d14		23.5-114		46.7	%REC	1	8/10/2010 2:33:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF

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Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-003
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-3
Collection Date: 8/4/2010 1:20:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Iodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-003
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-3
Collection Date: 8/4/2010 1:20:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		102.4	%REC	1	8/5/2010 6:16:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		101.7	%REC	1	8/5/2010 6:16:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		99.8	%REC	1	8/5/2010 6:16:00 PM	CCF
Surr: Toluene-d8		84.3-114		96.6	%REC	1	8/5/2010 6:16:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020	J	0.00009	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	0		5.93		1	8/5/2010 2:43:00 PM	CS
SW-846 9050A								
Conductivity	NELAP	1		3230	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-004
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-4
Collection Date: 8/4/2010 1:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.300		**4.82**	mg/L	4	8/6/2010 2:18:49 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)								
Nitrogen, Nitrite (as N)	NELAP	0.01		**0.02**	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**0.093**	mg/L	1	8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/10/2010 1:02:00 PM	LAL
Arsenic	NELAP	0.0250		**< 0.0250**	mg/L	1	8/9/2010 5:18:00 PM	LAL
Beryllium	NELAP	0.0010	J	**0.0005**	mg/L	1	8/10/2010 1:02:00 PM	LAL
Cadmium	NELAP	0.0020		**0.0094**	mg/L	1	8/11/2010 9:59:56 AM	JMW
Chromium	NELAP	0.0100		**0.0220**	mg/L	1	8/9/2010 5:18:00 PM	LAL
Copper	NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 1:02:00 PM	LAL
Lead	NELAP	0.0400	J	**0.021**	mg/L	1	8/7/2010 2:27:32 AM	LAL
Nickel	NELAP	0.0100		**1.05**	mg/L	1	8/10/2010 1:02:00 PM	LAL
Selenium	NELAP	0.0500	J	**0.024**	mg/L	1	8/10/2010 1:02:00 PM	LAL
Silver	NELAP	0.0100	J	**0.0068**	mg/L	1	8/11/2010 9:59:56 AM	JMW
Zinc	NELAP	0.0100		**0.556**	mg/L	1	8/9/2010 5:18:00 PM	LAL
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/9/2010 3:17:34 PM	LAL
Arsenic	NELAP	0.0250	J	**0.016**	mg/L	1	8/9/2010 3:17:34 PM	LAL
Beryllium	NELAP	0.0010		**0.0036**	mg/L	1	8/9/2010 3:17:34 PM	LAL
Cadmium	NELAP	0.0020		**0.0183**	mg/L	1	8/11/2010 11:07:51 AM	JMW
Chromium	NELAP	0.0100		**0.0975**	mg/L	1	8/9/2010 3:17:34 PM	LAL
Copper	NELAP	0.0100		**0.0655**	mg/L	1	8/9/2010 3:17:34 PM	LAL
Lead	NELAP	0.0400		**0.0909**	mg/L	1	8/9/2010 3:17:34 PM	LAL
Nickel	NELAP	0.0100		**1.20**	mg/L	1	8/9/2010 3:17:34 PM	LAL
Selenium	NELAP	0.0500		**< 0.0500**	mg/L	1	8/9/2010 3:17:34 PM	LAL
Silver	NELAP	0.0100		**0.0103**	mg/L	1	8/11/2010 11:07:51 AM	JMW
Zinc	NELAP	0.0100		**0.898**	mg/L	1	8/9/2010 3:17:34 PM	LAL
SW-846 3005A, METALS BY GFAA (DISSOLVED)								
Thallium 7841	NELAP	0.0020		**< 0.0020**	mg/L	1	8/12/2010 4:54:32 PM	MEK
SW-846 3020A, METALS BY GFAA (TOTAL)								
Thallium 7841	NELAP	0.0020	J	**0.0010**	mg/L	1	8/12/2010 5:39:12 PM	MEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	0.05		**ND**	µg/L	1	8/8/2010 9:16:00 PM	HE
4,4'-DDE	NELAP	0.05		**ND**	µg/L	1	8/8/2010 9:16:00 PM	HE
4,4'-DDT	NELAP	0.05		**ND**	µg/L	1	8/8/2010 9:16:00 PM	HE
Alachlor	NELAP	0.05		**ND**	µg/L	1	8/8/2010 9:16:00 PM	HE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-004
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-4
Collection Date: 8/4/2010 1:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150		48.1	%REC	1	8/8/2010 9:16:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		49.7	%REC	1	8/8/2010 9:16:00 PM	HE
SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Surr: Decachlorobiphenyl		5-174		40.9	%REC	1	8/9/2010 1:50:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139		47.0	%REC	1	8/9/2010 1:50:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-004
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-4
Collection Date: 8/4/2010 1:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4-Dinitrophenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,4-Dinitrotoluene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2-Chloronaphthalene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2-Chlorophenol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2-Methoxy-4-methylphenol		0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2-Methylnaphthalene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2-Nitroaniline	NELAP	0.125		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2-Nitrophenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
3,3´-Dichlorobenzidine	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
3-Nitroaniline	NELAP	0.125		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
4-Chloroaniline	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
4-Nitroaniline	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
4-Nitrophenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Acenaphthene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Acenaphthylene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Aniline	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Anthracene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Azobenzene		0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Benzidine	NELAP	0.125		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Benzo(a)anthracene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Benzo(a)pyrene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Benzoic acid	NELAP	0.156		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Benzyl alcohol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.019		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Carbazole	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Chrysene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH

TEKLAB, INC.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-004
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-4
Collection Date: 8/4/2010 1:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Dibenzo(a,h)anthracene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Dibenzofuran	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Diethyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Dimethyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Fluoranthene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Fluorene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Hexachlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Hexachlorobutadiene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Hexachloroethane	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Isophorone	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
m,p-Cresol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Naphthalene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Nitrobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
o-Cresol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Pentachlorophenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Phenanthrene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Phenol	NELAP	0.016		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Pyrene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Pyridine	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Quinoline		0.016		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
Surr: 2,4,6-Tribromophenol		27.7-149		86.0	%REC	1	8/10/2010 3:05:00 AM	DMH
Surr: 2-Fluorobiphenyl		44.9-116		57.0	%REC	1	8/10/2010 3:05:00 AM	DMH
Surr: 2-Fluorophenol		10.6-78.7		35.5	%REC	1	8/10/2010 3:05:00 AM	DMH
Surr: Nitrobenzene-d5		41.4-104		63.6	%REC	1	8/10/2010 3:05:00 AM	DMH
Surr: Phenol-d5		9.04-52.9		21.0	%REC	1	8/10/2010 3:05:00 AM	DMH
Surr: p-Terphenyl-d14		23.5-114		64.4	%REC	1	8/10/2010 3:05:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-004
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-4
Collection Date: 8/4/2010 1:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF

TEKLAB, INC.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-004
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-4
Collection Date: 8/4/2010 1:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Iodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-004
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: PZ-4
Collection Date: 8/4/2010 1:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		102.6	%REC	1	8/5/2010 6:46:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		100.6	%REC	1	8/5/2010 6:46:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		98.3	%REC	1	8/5/2010 6:46:00 PM	CCF
Surr: Toluene-d8		84.3-114		95.7	%REC	1	8/5/2010 6:46:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		0.00034	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	0		5.88		1	8/5/2010 2:43:00 PM	CS
SW-846 9050A								
Conductivity	NELAP	1		3570	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

TEKLAB, INC.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-005
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-1
Collection Date: 8/4/2010 12:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.075	J	**0.045**	mg/L	1	8/6/2010 2:18:49 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)								
Nitrogen, Nitrite (as N)	NELAP	0.01		**< 0.01**	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050		**0.054**	mg/L	1	8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/10/2010 1:08:58 PM	LAL
Arsenic	NELAP	0.0250		**< 0.0250**	mg/L	1	8/9/2010 5:24:59 PM	LAL
Beryllium	NELAP	0.0010		**0.0038**	mg/L	1	8/10/2010 1:08:58 PM	LAL
Cadmium	NELAP	0.0020	J	**0.0016**	mg/L	1	8/9/2010 5:24:59 PM	LAL
Chromium	NELAP	0.0100		**0.0111**	mg/L	1	8/9/2010 5:24:59 PM	LAL
Copper	NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 1:08:58 PM	LAL
Lead	NELAP	0.0400	J	**0.014**	mg/L	1	8/7/2010 2:34:31 AM	LAL
Nickel	NELAP	0.0100		**0.783**	mg/L	1	8/9/2010 5:24:59 PM	LAL
Selenium	NELAP	0.0500	J	**0.030**	mg/L	1	8/10/2010 1:08:58 PM	LAL
Silver	NELAP	0.0100	J	**0.0081**	mg/L	1	8/10/2010 1:08:58 PM	LAL
Zinc	NELAP	0.0100		**0.914**	mg/L	1	8/9/2010 5:24:59 PM	LAL
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/10/2010 2:37:23 PM	LAL
Arsenic	NELAP	0.0250	J	**0.011**	mg/L	1	8/9/2010 3:57:30 PM	LAL
Beryllium	NELAP	0.0010		**0.0040**	mg/L	1	8/10/2010 2:37:23 PM	LAL
Cadmium	NELAP	0.0020	J	**0.0016**	mg/L	1	8/9/2010 3:57:30 PM	LAL
Chromium	NELAP	0.0100	J	**0.0052**	mg/L	1	8/9/2010 3:57:30 PM	LAL
Copper	NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 2:37:23 PM	LAL
Lead	NELAP	0.0400	J	**0.0087**	mg/L	1	8/7/2010 4:14:37 AM	LAL
Nickel	NELAP	0.0100		**0.836**	mg/L	1	8/9/2010 3:57:30 PM	LAL
Selenium	NELAP	0.0500	J	**0.045**	mg/L	1	8/9/2010 3:57:30 PM	LAL
Silver	NELAP	0.0100	J	**0.0064**	mg/L	1	8/11/2010 11:11:21 AM	JMW
Zinc	NELAP	0.0100		**0.958**	mg/L	1	8/9/2010 3:57:30 PM	LAL
SW-846 3005A, METALS BY GFAA (DISSOLVED)								
Thallium 7841	NELAP	0.0020		**< 0.0020**	mg/L	1	8/12/2010 4:57:56 PM	MEK
SW-846 3020A, METALS BY GFAA (TOTAL)								
Thallium 7841	NELAP	0.0020	S	**< 0.0020**	mg/L	1	8/12/2010 5:56:24 PM	MEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	0.05		**ND**	µg/L	1	8/8/2010 9:40:00 PM	HE
4,4'-DDE	NELAP	0.05		**ND**	µg/L	1	8/8/2010 9:40:00 PM	HE
4,4'-DDT	NELAP	0.05		**ND**	µg/L	1	8/8/2010 9:40:00 PM	HE
Alachlor	NELAP	0.05		**ND**	µg/L	1	8/8/2010 9:40:00 PM	HE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-005
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-1
Collection Date: 8/4/2010 12:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150		55.8	%REC	1	8/8/2010 9:40:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		56.6	%REC	1	8/8/2010 9:40:00 PM	HE
SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Surr: Decachlorobiphenyl		5-174		47.5	%REC	1	8/9/2010 2:07:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139		53.0	%REC	1	8/9/2010 2:07:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-005
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-1
Collection Date: 8/4/2010 12:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4-Dinitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,4-Dinitrotoluene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2-Chloronaphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2-Chlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2-Methoxy-4-methylphenol		0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2-Methylnaphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2-Nitroaniline	NELAP	0.091		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2-Nitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
3,3´-Dichlorobenzidine	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
3-Nitroaniline	NELAP	0.091		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
4-Chloroaniline	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
4-Nitroaniline	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
4-Nitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Acenaphthene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Acenaphthylene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Aniline	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Azobenzene		0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Benzidine	NELAP	0.091		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Benzo(a)anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Benzo(a)pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Benzoic acid	NELAP	0.114		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Benzyl alcohol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.014		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Carbazole	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Chrysene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-005
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-1
Collection Date: 8/4/2010 12:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Dibenzo(a,h)anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Dibenzofuran	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Diethyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Dimethyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Fluorene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Hexachlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Hexachlorobutadiene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Hexachloroethane	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Isophorone	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
m,p-Cresol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Naphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Nitrobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
o-Cresol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Pentachlorophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Phenanthrene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Phenol	NELAP	0.011		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Pyridine	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Quinoline		0.011		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Surr: 2,4,6-Tribromophenol		27.7-149		59.8	%REC	1	8/10/2010 3:37:00 AM	DMH
Surr: 2-Fluorobiphenyl		44.9-116		51.8	%REC	1	8/10/2010 3:37:00 AM	DMH
Surr: 2-Fluorophenol		10.6-78.7		29.8	%REC	1	8/10/2010 3:37:00 AM	DMH
Surr: Nitrobenzene-d5		41.4-104		60.2	%REC	1	8/10/2010 3:37:00 AM	DMH
Surr: Phenol-d5		9.04-52.9		21.1	%REC	1	8/10/2010 3:37:00 AM	DMH
Surr: p-Terphenyl-d14		23.5-114		44.9	%REC	1	8/10/2010 3:37:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-005
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-1
Collection Date: 8/4/2010 12:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-005
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-1
Collection Date: 8/4/2010 12:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Iodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-005
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-1
Collection Date: 8/4/2010 12:35:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		101.5	%REC	1	8/5/2010 7:15:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		101.0	%REC	1	8/5/2010 7:15:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		99.4	%REC	1	8/5/2010 7:15:00 PM	CCF
Surr: Toluene-d8		84.3-114		96.0	%REC	1	8/5/2010 7:15:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	0		3.52		1	8/5/2010 2:43:00 PM	CS
SW-846 9050A								
Conductivity	NELAP	1		3330	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3020A, Metals by GFAA (Total)

TI- Matrix interference present in sample.

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

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ENVIRONMENTAL TESTING LABORATORY

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-006
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-2
Collection Date: 8/4/2010 12:15:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.075	J	**0.051**	mg/L	1	8/6/2010 2:18:49 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)								
Nitrogen, Nitrite (as N)	NELAP	0.01		**0.01**	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050	J	**0.038**	mg/L	1	8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/10/2010 1:16:03 PM	LAL
Arsenic	NELAP	0.0250		**< 0.0250**	mg/L	1	8/9/2010 5:32:01 PM	LAL
Beryllium	NELAP	0.0010		**0.0038**	mg/L	1	8/10/2010 1:16:03 PM	LAL
Cadmium	NELAP	0.0020	J	**0.0017**	mg/L	1	8/9/2010 5:32:01 PM	LAL
Chromium	NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 1:16:03 PM	LAL
Copper	NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 1:16:03 PM	LAL
Lead	NELAP	0.0400	J	**0.015**	mg/L	1	8/7/2010 2:41:36 AM	LAL
Nickel	NELAP	0.0100		**0.813**	mg/L	1	8/9/2010 5:32:01 PM	LAL
Selenium	NELAP	0.0500	J	**0.031**	mg/L	1	8/10/2010 1:16:03 PM	LAL
Silver	NELAP	0.0100	J	**0.0051**	mg/L	1	8/11/2010 10:06:58 AM	JMW
Zinc	NELAP	0.0100		**0.951**	mg/L	1	8/9/2010 5:32:01 PM	LAL
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		**< 0.0500**	mg/L	1	8/10/2010 2:44:21 PM	LAL
Arsenic	NELAP	0.0250		**< 0.0250**	mg/L	1	8/9/2010 4:04:32 PM	LAL
Beryllium	NELAP	0.0010		**0.0039**	mg/L	1	8/10/2010 2:44:21 PM	LAL
Cadmium	NELAP	0.0020	J	**0.0015**	mg/L	1	8/10/2010 2:44:21 PM	LAL
Chromium	NELAP	0.0100	J	**0.0069**	mg/L	1	8/9/2010 4:04:32 PM	LAL
Copper	NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 2:44:21 PM	LAL
Lead	NELAP	0.0400	J	**0.015**	mg/L	1	8/9/2010 4:04:32 PM	LAL
Nickel	NELAP	0.0100		**0.850**	mg/L	1	8/9/2010 4:04:32 PM	LAL
Selenium	NELAP	0.0500	J	**0.046**	mg/L	1	8/9/2010 4:04:32 PM	LAL
Silver	NELAP	0.0100	J	**0.0057**	mg/L	1	8/11/2010 11:14:49 AM	JMW
Zinc	NELAP	0.0100		**0.985**	mg/L	1	8/9/2010 4:04:32 PM	LAL
SW-846 3005A, METALS BY GFAA (DISSOLVED)								
Thallium 7841	NELAP	0.0020		**< 0.0020**	mg/L	1	8/12/2010 5:01:22 PM	MEK
SW-846 3020A, METALS BY GFAA (TOTAL)								
Thallium 7841	NELAP	0.0020		**< 0.0020**	mg/L	1	8/12/2010 5:17:38 PM	MEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	0.05		**ND**	µg/L	1	8/8/2010 10:05:00 PM	HE
4,4'-DDE	NELAP	0.05		**ND**	µg/L	1	8/8/2010 10:05:00 PM	HE
4,4'-DDT	NELAP	0.05		**ND**	µg/L	1	8/8/2010 10:05:00 PM	HE
Alachlor	NELAP	0.05		**ND**	µg/L	1	8/8/2010 10:05:00 PM	HE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-006
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-2
Collection Date: 8/4/2010 12:15:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150		47.8	%REC	1	8/8/2010 10:05:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		49.0	%REC	1	8/8/2010 10:05:00 PM	HE
SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Surr: Decachlorobiphenyl		5-174		41.8	%REC	1	8/9/2010 2:24:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139		46.1	%REC	1	8/9/2010 2:24:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-006
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-2
Collection Date: 8/4/2010 12:15:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4-Dinitrophenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2,4-Dinitrotoluene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2-Chloronaphthalene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2-Chlorophenol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2-Methoxy-4-methylphenol		0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2-Methylnaphthalene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2-Nitroaniline	NELAP	0.095		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2-Nitrophenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
3,3'-Dichlorobenzidine	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
3-Nitroaniline	NELAP	0.095		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
4-Chloroaniline	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
4-Nitroaniline	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
4-Nitrophenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Acenaphthene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Acenaphthylene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Aniline	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Anthracene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Azobenzene		0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzidine	NELAP	0.095		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzo(a)anthracene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzo(a)pyrene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzoic acid	NELAP	0.119		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzyl alcohol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.014		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Carbazole	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Chrysene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-006
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-2
Collection Date: 8/4/2010 12:15:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Dibenzo(a,h)anthracene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Dibenzofuran	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Diethyl phthalate	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Dimethyl phthalate	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Fluoranthene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Fluorene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Hexachlorobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Hexachlorobutadiene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Hexachloroethane	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Isophorone	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
m,p-Cresol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Naphthalene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Nitrobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
o-Cresol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Pentachlorophenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Phenanthrene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Phenol	NELAP	0.012		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Pyrene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Pyridine	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Quinoline		0.012		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Surr: 2,4,6-Tribromophenol		27.7-149		66.4	%REC	1	8/10/2010 4:09:00 AM	DMH
Surr: 2-Fluorobiphenyl		44.9-116		49.2	%REC	1	8/10/2010 4:09:00 AM	DMH
Surr: 2-Fluorophenol		10.6-78.7		30.0	%REC	1	8/10/2010 4:09:00 AM	DMH
Surr: Nitrobenzene-d5		41.4-104		55.2	%REC	1	8/10/2010 4:09:00 AM	DMH
Surr: Phenol-d5		9.04-52.9		19.7	%REC	1	8/10/2010 4:09:00 AM	DMH
Surr: p-Terphenyl-d14		23.5-114		65.4	%REC	1	8/10/2010 4:09:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-006
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-2
Collection Date: 8/4/2010 12:15:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Acetone	NELAP	25.0	J	5.2	µg/L	1	8/5/2010 7:44:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-006
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-2
Collection Date: 8/4/2010 12:15:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Iodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-006
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: CS-2
Collection Date: 8/4/2010 12:15:00 PM
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		101.2	%REC	1	8/5/2010 7:44:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		103.1	%REC	1	8/5/2010 7:44:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		98.6	%REC	1	8/5/2010 7:44:00 PM	CCF
Surr: Toluene-d8		84.3-114		95.2	%REC	1	8/5/2010 7:44:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	0		3.53		1	8/5/2010 2:43:00 PM	CS
SW-846 9050A								
Conductivity	NELAP	1		3420	µmhos/cm	1	8/6/2010	KNS

Sample Narrative
SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS
Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-007
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: GROUNDWATER

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 365.4 (TOTAL)									
Phosphorus, Total (as P)		NELAP	0.075		0.963	mg/L	1	8/6/2010 2:18:49 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)									
Nitrogen, Nitrite (as N)		NELAP	0.01		0.01	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)									
Nitrogen, Nitrate (as N)		NELAP	0.050	J	0.045	mg/L	1	8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)									
Antimony		NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 1:23:06 PM	LAL
Arsenic		NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 5:39:03 PM	LAL
Beryllium		NELAP	0.0010		< 0.0010	mg/L	1	8/10/2010 1:23:06 PM	LAL
Cadmium		NELAP	0.0020		0.0035	mg/L	1	8/9/2010 5:39:03 PM	LAL
Chromium		NELAP	0.0100	J	0.0090	mg/L	1	8/9/2010 5:39:03 PM	LAL
Copper		NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 1:23:06 PM	LAL
Lead		NELAP	0.0400	J	0.013	mg/L	1	8/7/2010 2:48:42 AM	LAL
Nickel		NELAP	0.0100		0.983	mg/L	1	8/9/2010 5:39:03 PM	LAL
Selenium		NELAP	0.0500	J	0.026	mg/L	1	8/10/2010 1:23:06 PM	LAL
Silver		NELAP	0.0100	J	0.0050	mg/L	1	8/11/2010 10:10:27 AM	JMW
Zinc		NELAP	0.0100		0.294	mg/L	1	8/9/2010 5:39:03 PM	LAL
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Antimony		NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 2:51:21 PM	LAL
Arsenic		NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 4:11:35 PM	LAL
Beryllium		NELAP	0.0010	J	0.0007	mg/L	1	8/10/2010 2:51:21 PM	LAL
Cadmium		NELAP	0.0020		0.0028	mg/L	1	8/11/2010 11:28:59 AM	JMW
Chromium		NELAP	0.0100		0.0234	mg/L	1	8/9/2010 4:11:35 PM	LAL
Copper		NELAP	0.0100		0.0187	mg/L	1	8/10/2010 2:51:21 PM	LAL
Lead		NELAP	0.0400	J	0.024	mg/L	1	8/9/2010 4:11:35 PM	LAL
Nickel		NELAP	0.0100		1.06	mg/L	1	8/9/2010 4:11:35 PM	LAL
Selenium		NELAP	0.0500	J	0.032	mg/L	1	8/10/2010 2:51:21 PM	LAL
Silver		NELAP	0.0100	J	0.0063	mg/L	1	8/11/2010 11:18:18 AM	JMW
Zinc		NELAP	0.0100		0.388	mg/L	1	8/9/2010 4:11:35 PM	LAL
SW-846 3005A, METALS BY GFAA (DISSOLVED)									
Thallium	7841	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 5:04:46 PM	MEK
SW-846 3020A, METALS BY GFAA (TOTAL)									
Thallium	7841	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 5:21:02 PM	MEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD									
4,4'-DDD		NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
4,4'-DDE		NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
4,4'-DDT		NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Alachlor		NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-007
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 10:29:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150		61.6	%REC	1	8/8/2010 10:29:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		60.2	%REC	1	8/8/2010 10:29:00 PM	HE
SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Surr: Decachlorobiphenyl		5-174		53.6	%REC	1	8/9/2010 2:41:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139		55.2	%REC	1	8/9/2010 2:41:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-007
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4-Dinitrophenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,4-Dinitrotoluene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2-Chloronaphthalene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2-Chlorophenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2-Methoxy-4-methylphenol		0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2-Methylnaphthalene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2-Nitroaniline	NELAP	0.100		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2-Nitrophenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
3,3´-Dichlorobenzidine	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
3-Nitroaniline	NELAP	0.100		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
4-Chloroaniline	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
4-Nitroaniline	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
4-Nitrophenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Acenaphthene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Acenaphthylene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Aniline	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Anthracene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Azobenzene		0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzidine	NELAP	0.100		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(a)anthracene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(a)pyrene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzoic acid	NELAP	0.125		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzyl alcohol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.015		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Carbazole	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Chrysene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-007
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Dibenzo(a,h)anthracene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Dibenzofuran	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Diethyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Dimethyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Fluoranthene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Fluorene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Hexachlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Hexachlorobutadiene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Hexachloroethane	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Isophorone	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
m,p-Cresol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Naphthalene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Nitrobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
o-Cresol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Pentachlorophenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Phenanthrene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Phenol	NELAP	0.012		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Pyrene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Pyridine	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Quinoline		0.012		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Surr: 2,4,6-Tribromophenol		27.7-149		75.6	%REC	1	8/10/2010 4:41:00 AM	DMH
Surr: 2-Fluorobiphenyl		44.9-116		57.0	%REC	1	8/10/2010 4:41:00 AM	DMH
Surr: 2-Fluorophenol		10.6-78.7		37.8	%REC	1	8/10/2010 4:41:00 AM	DMH
Surr: Nitrobenzene-d5		41.4-104		64.0	%REC	1	8/10/2010 4:41:00 AM	DMH
Surr: Phenol-d5		9.04-52.9		24.6	%REC	1	8/10/2010 4:41:00 AM	DMH
Surr: p-Terphenyl-d14		23.5-114		41.4	%REC	1	8/10/2010 4:41:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-007
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-007
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Iodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF

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5445 HORSESHOE LAKE ROAD
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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-007
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		101.4	%REC	1	8/5/2010 8:14:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		101.4	%REC	1	8/5/2010 8:14:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		98.9	%REC	1	8/5/2010 8:14:00 PM	CCF
Surr: Toluene-d8		84.3-114		95.7	%REC	1	8/5/2010 8:14:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020	J	0.00011	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	0		6.01		1	8/5/2010 2:43:00 PM	CS
SW-846 9050A								
Conductivity	NELAP	1		3520	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-008
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: FIELD
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 365.4 (TOTAL)									
Phosphorus, Total (as P)		NELAP	0.075	J	**0.045**	mg/L	1	8/6/2010 2:18:49 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)									
Nitrogen, Nitrite (as N)		NELAP	0.01		**0.01**	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)									
Nitrogen, Nitrate (as N)		NELAP	0.050	J	**0.042**	mg/L	1	8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)									
Antimony		NELAP	0.0500		**< 0.0500**	mg/L	1	8/10/2010 1:30:10 PM	LAL
Arsenic		NELAP	0.0250		**< 0.0250**	mg/L	1	8/9/2010 5:46:06 PM	LAL
Beryllium		NELAP	0.0010		**< 0.0010**	mg/L	1	8/10/2010 1:30:10 PM	LAL
Cadmium		NELAP	0.0020	J	**0.0004**	mg/L	1	8/9/2010 5:46:06 PM	LAL
Chromium		NELAP	0.0100	J	**0.0085**	mg/L	1	8/9/2010 5:46:06 PM	LAL
Copper		NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 1:30:10 PM	LAL
Lead		NELAP	0.0400		**< 0.0400**	mg/L	1	8/7/2010 2:55:46 AM	LAL
Nickel		NELAP	0.0100		**< 0.0100**	mg/L	1	8/9/2010 5:46:06 PM	LAL
Selenium		NELAP	0.0500	J	**0.040**	mg/L	1	8/9/2010 5:46:06 PM	LAL
Silver		NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 1:30:10 PM	LAL
Zinc		NELAP	0.0100	J	**0.0048**	mg/L	1	8/9/2010 5:46:06 PM	LAL
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)									
Antimony		NELAP	0.0500		**< 0.0500**	mg/L	1	8/10/2010 2:58:20 PM	LAL
Arsenic		NELAP	0.0250		**< 0.0250**	mg/L	1	8/9/2010 4:18:37 PM	LAL
Beryllium		NELAP	0.0010		**< 0.0010**	mg/L	1	8/10/2010 2:58:20 PM	LAL
Cadmium		NELAP	0.0020		**< 0.0020**	mg/L	1	8/9/2010 4:18:37 PM	LAL
Chromium		NELAP	0.0100	J	**0.0085**	mg/L	1	8/9/2010 4:18:37 PM	LAL
Copper		NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 2:58:20 PM	LAL
Lead		NELAP	0.0400		**< 0.0400**	mg/L	1	8/9/2010 4:18:37 PM	LAL
Nickel		NELAP	0.0100		**< 0.0100**	mg/L	1	8/9/2010 4:18:37 PM	LAL
Selenium		NELAP	0.0500	J	**0.027**	mg/L	1	8/9/2010 4:18:37 PM	LAL
Silver		NELAP	0.0100		**< 0.0100**	mg/L	1	8/10/2010 2:58:20 PM	LAL
Zinc		NELAP	0.0100	J	**0.0060**	mg/L	1	8/9/2010 4:18:37 PM	LAL
SW-846 3005A, METALS BY GFAA (DISSOLVED)									
Thallium	7841	NELAP	0.0020		**< 0.0020**	mg/L	1	8/12/2010 5:08:12 PM	MEK
SW-846 3020A, METALS BY GFAA (TOTAL)									
Thallium	7841	NELAP	0.0020		**< 0.0020**	mg/L	1	8/12/2010 5:10:54 PM	MEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD									
4,4´-DDD		NELAP	0.05		**ND**	µg/L	1	8/8/2010 10:54:00 PM	HE
4,4´-DDE		NELAP	0.05		**ND**	µg/L	1	8/8/2010 10:54:00 PM	HE
4,4´-DDT		NELAP	0.05		**ND**	µg/L	1	8/8/2010 10:54:00 PM	HE
Alachlor		NELAP	0.05		**ND**	µg/L	1	8/8/2010 10:54:00 PM	HE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-008
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: FIELD
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150		68.5	%REC	1	8/8/2010 10:54:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		59.2	%REC	1	8/8/2010 10:54:00 PM	HE
SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Surr: Decachlorobiphenyl		5-174		60.9	%REC	1	8/9/2010 2:59:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139		67.0	%REC	1	8/9/2010 2:59:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-008
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: FIELD
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4-Dinitrophenol	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,4-Dinitrotoluene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2-Chloronaphthalene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2-Chlorophenol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2-Methoxy-4-methylphenol		0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2-Methylnaphthalene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2-Nitroaniline	NELAP	0.105		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2-Nitrophenol	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
3,3´-Dichlorobenzidine	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
3-Nitroaniline	NELAP	0.105		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
4-Chloroaniline	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
4-Nitroaniline	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
4-Nitrophenol	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Acenaphthene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Acenaphthylene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Aniline	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Anthracene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Azobenzene		0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Benzidine	NELAP	0.105		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Benzo(a)anthracene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Benzo(a)pyrene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Benzoic acid	NELAP	0.132		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Benzyl alcohol	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.016		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Carbazole	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Chrysene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-008
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: FIELD
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Dibenzo(a,h)anthracene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Dibenzofuran	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Diethyl phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Dimethyl phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Fluoranthene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Fluorene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Hexachlorobenzene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Hexachlorobutadiene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Hexachloroethane	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Isophorone	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
m,p-Cresol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Naphthalene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Nitrobenzene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
o-Cresol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Pentachlorophenol	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Phenanthrene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Phenol	NELAP	0.013		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Pyrene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Pyridine	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Quinoline		0.013		ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
Surr: 2,4,6-Tribromophenol		27.7-149		74.6	%REC	1	8/10/2010 5:13:00 AM	DMH
Surr: 2-Fluorobiphenyl		44.9-116		56.9	%REC	1	8/10/2010 5:13:00 AM	DMH
Surr: 2-Fluorophenol		10.6-78.7		33.0	%REC	1	8/10/2010 5:13:00 AM	DMH
Surr: Nitrobenzene-d5		41.4-104		58.3	%REC	1	8/10/2010 5:13:00 AM	DMH
Surr: Phenol-d5		9.04-52.9		21.0	%REC	1	8/10/2010 5:13:00 AM	DMH
Surr: p-Terphenyl-d14		23.5-114		86.8	%REC	1	8/10/2010 5:13:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-008
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: FIELD
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-008
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: FIELD
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Iodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-008
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: FIELD
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		101.5	%REC	1	8/5/2010 4:48:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		102.4	%REC	1	8/5/2010 4:48:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		100.2	%REC	1	8/5/2010 4:48:00 PM	CCF
Surr: Toluene-d8		84.3-114		95.7	%REC	1	8/5/2010 4:48:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	0		7.99		1	8/5/2010 2:43:00 PM	CS
SW-846 9050A								
Conductivity	NELAP	1		519	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-009
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: EQUIP
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 365.4 (TOTAL)								
Phosphorus, Total (as P)	NELAP	0.107	J	0.068	mg/L	1	8/11/2010 8:05:44 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)								
Nitrogen, Nitrite (as N)	NELAP	0.01		0.01	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)								
Nitrogen, Nitrate (as N)	NELAP	0.050	J	0.046	mg/L	1	8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)								
Antimony	NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 1:37:01 PM	LAL
Arsenic	NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 5:52:51 PM	LAL
Beryllium	NELAP	0.0010		< 0.0010	mg/L	1	8/10/2010 1:37:01 PM	LAL
Cadmium	NELAP	0.0020	J	0.0003	mg/L	1	8/9/2010 5:52:51 PM	LAL
Chromium	NELAP	0.0100	J	0.0079	mg/L	1	8/9/2010 5:52:51 PM	LAL
Copper	NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 1:37:01 PM	LAL
Lead	NELAP	0.0400		< 0.0400	mg/L	1	8/7/2010 3:14:53 AM	LAL
Nickel	NELAP	0.0100		< 0.0100	mg/L	1	8/9/2010 5:52:51 PM	LAL
Selenium	NELAP	0.0500	J	0.042	mg/L	1	8/9/2010 5:52:51 PM	LAL
Silver	NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 1:37:01 PM	LAL
Zinc	NELAP	0.0100	J	0.0077	mg/L	1	8/9/2010 5:52:51 PM	LAL
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Antimony	NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 3:05:10 PM	LAL
Arsenic	NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 4:25:24 PM	LAL
Beryllium	NELAP	0.0010		< 0.0010	mg/L	1	8/10/2010 3:05:10 PM	LAL
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	8/9/2010 4:25:24 PM	LAL
Chromium	NELAP	0.0100	J	0.0073	mg/L	1	8/9/2010 4:25:24 PM	LAL
Copper	NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 3:05:10 PM	LAL
Lead	NELAP	0.0400		< 0.0400	mg/L	1	8/9/2010 4:25:24 PM	LAL
Nickel	NELAP	0.0100		< 0.0100	mg/L	1	8/9/2010 4:25:24 PM	LAL
Selenium	NELAP	0.0500	J	0.023	mg/L	1	8/9/2010 4:25:24 PM	LAL
Silver	NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 3:05:10 PM	LAL
Zinc	NELAP	0.0100		0.0460	mg/L	1	8/9/2010 4:25:24 PM	LAL
SW-846 3005A, METALS BY GFAA (DISSOLVED)								
Thallium 7841	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 5:11:38 PM	MEK
SW-846 3020A, METALS BY GFAA (TOTAL)								
Thallium 7841	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 5:14:16 PM	MEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
4,4'-DDE	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
4,4'-DDT	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Alachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE

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LABORATORY RESULTS

Client: A&M Engineering
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Lab ID: 10080226-009
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: EQUIP
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150		42.6	%REC	1	8/8/2010 11:18:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		45.8	%REC	1	8/8/2010 11:18:00 PM	HE
SW-846 3510C, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Surr: Decachlorobiphenyl		5-174		37.0	%REC	1	8/9/2010 3:16:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139		49.5	%REC	1	8/9/2010 3:16:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-009
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: EQUIP
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4-Dinitrophenol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,4-Dinitrotoluene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Chloronaphthalene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Chlorophenol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Methoxy-4-methylphenol		0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Methylnaphthalene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Nitroaniline	NELAP	0.040		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Nitrophenol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
3,3'-Dichlorobenzidine	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
3-Nitroaniline	NELAP	0.040		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Chloroaniline	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Nitroaniline	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Nitrophenol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Acenaphthene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Acenaphthylene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Aniline	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Anthracene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Azobenzene		0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzidine	NELAP	0.040		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(a)anthracene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(a)pyrene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzoic acid	NELAP	0.050		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzyl alcohol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.006		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Carbazole	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Chrysene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-009
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: EQUIP
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Dibenzo(a,h)anthracene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Dibenzofuran	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Diethyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Dimethyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Fluoranthene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Fluorene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Hexachlorobenzene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Hexachlorobutadiene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Hexachloroethane	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Isophorone	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
m,p-Cresol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Naphthalene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Nitrobenzene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
o-Cresol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Pentachlorophenol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Phenanthrene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Phenol	NELAP	0.005		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Pyrene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Pyridine	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Quinoline		0.005		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Surr: 2,4,6-Tribromophenol		27.7-149		88.0	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: 2-Fluorobiphenyl		44.9-116		75.8	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: 2-Fluorophenol		10.6-78.7		40.1	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: Nitrobenzene-d5		41.4-104		79.6	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: Phenol-d5		9.04-52.9		24.2	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: p-Terphenyl-d14		23.5-114		95.6	%REC	1	8/10/2010 5:44:00 AM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-009
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: EQUIP
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Acetone	NELAP	25.0	J	5.2	µg/L	1	8/5/2010 4:18:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-009
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: EQUIP
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Iodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-009
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: EQUIP
Collection Date: 8/4/2010
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		101.6	%REC	1	8/5/2010 4:18:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		100.4	%REC	1	8/5/2010 4:18:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		100.6	%REC	1	8/5/2010 4:18:00 PM	CCF
Surr: Toluene-d8		84.3-114		96.4	%REC	1	8/5/2010 4:18:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANALYZED								
Lab pH	NELAP	0		8.05		1	8/5/2010 2:43:00 PM	CS
SW-846 9050A								
Conductivity	NELAP	1		525	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-010
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-1
Collection Date: 8/4/2010 8:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 2-78-054 METHOD 3.2.18.1								
Specific Conductance, Solid		1		409	µmhos/cm	1	8/9/2010	NJM
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture		0.1		12.9	%	1	8/5/2010 2:00:00 PM	MK
STANDARD METHODS 18TH ED. 2540 G								
Total Solids		0.1		87.1	%	1	8/5/2010 2:00:00 PM	MK
SW-846 3050B, 6010B, METALS BY ICP								
Antimony	NELAP	4.90		< 4.90	mg/Kg-dry	1	8/9/2010 12:59:31 PM	LAL
Arsenic	NELAP	2.36		13.8	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
Beryllium	NELAP	0.09		0.84	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
Cadmium	NELAP	0.19		0.38	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
Chromium	NELAP	0.94		22.8	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
Copper	NELAP	0.94		21.1	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
Lead	NELAP	3.77		20.4	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
Nickel	NELAP	0.94		22.4	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
Selenium	NELAP	3.77		< 3.77	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
Silver	NELAP	0.52		< 0.52	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
Zinc	NELAP	0.94		65.4	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL
SW-846 3050B, METALS BY GFAA								
Thallium 7841	NELAP	0.200	J	0.13	mg/Kg-dry	1	8/12/2010 4:26:58 PM	MEK
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
4,4'-DDE	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
4,4'-DDT	NELAP	470		ND	µg/Kg-dry	250	8/16/2010 2:27:00 AM	HE
Alachlor	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Aldrin	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
alpha-BHC	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
alpha-Chlordane	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
beta-BHC	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Chlordane	NELAP	188		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
delta-BHC	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Dieldrin	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Endosulfan I	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Endosulfan II	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Endosulfan sulfate	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Endrin	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Endrin aldehyde	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Endrin ketone	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
gamma-BHC	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-010
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-1
Collection Date: 8/4/2010 8:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
gamma-Chlordane	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Heptachlor	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Heptachlor epoxide	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Methoxychlor	NELAP	470		ND	µg/Kg-dry	250	8/16/2010 2:27:00 AM	HE
Toxaphene	NELAP	1690		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE
Surr: Decachlorobiphenyl		48-149		99.6	%REC	50	8/11/2010 3:12:00 AM	HE
Surr: Tetrachloro-m-xylene		19-145		85.8	%REC	50	8/11/2010 3:12:00 AM	HE
SW-846 3550B, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE
Aroclor 1221	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE
Aroclor 1232	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE
Aroclor 1242	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE
Aroclor 1248	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE
Aroclor 1254	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE
Aroclor 1260	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE
Surr: Decachlorobiphenyl		5-156		68.0	%REC	1	8/9/2010 6:41:00 PM	HE
Surr: Tetrachloro-meta-xylene		7.35-123		67.5	%REC	1	8/9/2010 6:41:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
1,2-Dichlorobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
1,3-Dichlorobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
1,4-Dichlorobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2,4-Dichlorophenol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2,4-Dimethylphenol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2,4-Dinitrophenol	NELAP	28.7		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2,4-Dinitrotoluene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2,6-Dinitrotoluene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2-Chloronaphthalene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2-Chlorophenol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2-Methoxy-4-methylphenol		18.6		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2-Methylnaphthalene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2-Nitroaniline	NELAP	28.7		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
2-Nitrophenol	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
3,3'-Dichlorobenzidine	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
3-Nitroaniline	NELAP	28.7		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	28.7		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-010
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-1
Collection Date: 8/4/2010 8:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
4-Bromophenyl phenyl ether	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
4-Chloro-3-methylphenol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
4-Chloroaniline	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
4-Chlorophenyl phenyl ether	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
4-Nitroaniline	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
4-Nitrophenol	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Acenaphthene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Acenaphthylene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Aniline	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Anthracene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Azobenzene		10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Benzidine	NELAP	30.3		see note	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Benzo(a)anthracene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Benzo(a)pyrene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Benzo(b)fluoranthene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Benzo(g,h,i)perylene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Benzo(k)fluoranthene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Benzoic acid	NELAP	43.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Benzyl alcohol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Butyl benzyl phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Carbazole		14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Chrysene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Dibenzofuran	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Diethyl phthalate	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Dimethyl phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Di-n-butyl phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Di-n-octyl phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Fluoranthene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Fluorene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Hexachlorobenzene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Hexachlorobutadiene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Hexachloroethane	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-010
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-1
Collection Date: 8/4/2010 8:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Indeno(1,2,3-cd)pyrene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Isophorone	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
m,p-Cresol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Naphthalene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Nitrobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
N-Nitrosodimethylamine	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
o-Cresol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Pentachlorophenol	NELAP	57.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Phenanthrene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Phenol	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Pyrene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Pyridine	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
1,2-Diphenylhydrazine		24.1		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Surr: 2,4,6-Tribromophenol		32.7-130		79.8	%REC	25	8/10/2010 12:15:00 PM	DMH
Surr: 2-Fluorobiphenyl		34.1-116		87.6	%REC	25	8/10/2010 12:15:00 PM	DMH
Surr: 2-Fluorophenol		30.5-99		79.1	%REC	25	8/10/2010 12:15:00 PM	DMH
Surr: Nitrobenzene-d5		34.1-101		86.8	%REC	25	8/10/2010 12:15:00 PM	DMH
Surr: Phenol-d5		34.9-110		84.2	%REC	25	8/10/2010 12:15:00 PM	DMH
Surr: p-Terphenyl-d14		41.7-124		82.2	%REC	25	8/10/2010 12:15:00 PM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,1,1-Trichloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,1,2,2-Tetrachloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,1,2-Trichloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,1-Dichloro-2-propanone		77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,1-Dichloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,1-Dichloroethene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,1-Dichloropropene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2,3-Trichlorobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2,3-Trichloropropane	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2,3-Trimethylbenzene		7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2,4-Trichlorobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2,4-Trimethylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2-Dibromo-3-chloropropane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2-Dibromoethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-010
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-1
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Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2-Dichloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2-Dichloropropane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,3,5-Trimethylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,3-Dichlorobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,3-Dichloropropane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,4-Dichlorobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1-Chlorobutane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
2,2-Dichloropropane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
2-Butanone	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
2-Chlorotoluene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
2-Hexanone	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
2-Nitropropane	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
4-Chlorotoluene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
4-Methyl-2-pentanone	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Acetone	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Acrolein	NELAP	156		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Acrylonitrile	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Allyl chloride	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Benzene	NELAP	1.56		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Bromobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Bromochloromethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Bromodichloromethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Bromoform	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Bromomethane	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Carbon disulfide	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Carbon tetrachloride	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Chlorobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Chloroethane	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Chloroform	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Chloromethane	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
cis-1,2-Dichloroethene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
cis-1,3-Dichloropropene	NELAP	6.23		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Cyclohexanone		156		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Dibromochloromethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Dibromomethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Dichlorodifluoromethane	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Ethyl acetate	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-010
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-1
Collection Date: 8/4/2010 8:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethyl ether	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Ethyl methacrylate	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Ethylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Heptane		31.1		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Hexachlorobutadiene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Hexachloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Iodomethane	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Isopropylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
m,p-Xylenes	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Methacrylonitrile	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Methyl Methacrylate	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Methyl tert-butyl ether	NELAP	3.11		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Methylacrylate		15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Methylene chloride	NELAP	7.78	J	4.3	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Naphthalene	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
n-Butylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
n-Hexane		31.1		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Nitrobenzene	NELAP	156		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
n-Propylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
o-Xylene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Pentachloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
p-Isopropyltoluene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Propionitrile	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
sec-Butylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Styrene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
tert-Butylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Tetrachloroethene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Tetrahydrofuran	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Toluene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
trans-1,2-Dichloroethene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
trans-1,3-Dichloropropene	NELAP	6.23		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Trichloroethene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Trichlorofluoromethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Vinyl acetate	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Vinyl chloride	NELAP	3.11		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Surr: 1,2-Dichloroethane-d4		72.2-131		102.8	%REC	1	8/6/2010 11:46:00 AM	RWE
Surr: 4-Bromofluorobenzene		82.1-116		96.1	%REC	1	8/6/2010 11:46:00 AM	RWE
Surr: Dibromofluoromethane		77.7-120		102.9	%REC	1	8/6/2010 11:46:00 AM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-010
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-1
Collection Date: 8/4/2010 8:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: Toluene-d8		86-116		**98.7**	%REC	1	8/6/2010 11:46:00 AM	RWE
SW-846 7471A								
Mercury	NELAP	0.011		**0.030**	mg/Kg-dry	1	8/6/2010	MEK
SW-846 9045C								
pH (1:1)	NELAP	1.00		**7.66**		1	8/6/2010 8:46:00 AM	KNS

Sample Narrative

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD
Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS
Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.
LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.
Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS
RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.
Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-011
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-2
Collection Date: 8/4/2010 9:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 2-78-054 METHOD 3.2.18.1								
Specific Conductance, Solid		1		**1510**	µmhos/cm	1	8/9/2010	NJM
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture		0.1		**16.8**	%	1	8/5/2010 2:00:00 PM	MK
STANDARD METHODS 18TH ED. 2540 G								
Total Solids		0.1		**83.2**	%	1	8/5/2010 2:00:00 PM	MK
SW-846 3050B, 6010B, METALS BY ICP								
Antimony	NELAP	4.90		**< 4.90**	mg/Kg-dry	1	8/9/2010 1:06:48 PM	LAL
Arsenic	NELAP	4.81		**19.2**	mg/Kg-dry	2	8/11/2010 10:04:13 AM	LAL
Beryllium	NELAP	0.19		**1.27**	mg/Kg-dry	2	8/11/2010 10:04:13 AM	LAL
Cadmium	NELAP	0.38		**1.87**	mg/Kg-dry	2	8/11/2010 10:04:13 AM	LAL
Chromium	NELAP	0.96		**59.4**	mg/Kg-dry	1	8/10/2010 4:49:21 PM	LAL
Copper	NELAP	1.92		**95.2**	mg/Kg-dry	2	8/11/2010 10:04:13 AM	LAL
Lead	NELAP	7.69		**30.0**	mg/Kg-dry	2	8/11/2010 10:04:13 AM	LAL
Nickel	NELAP	1.92		**170**	mg/Kg-dry	2	8/11/2010 10:04:13 AM	LAL
Selenium	NELAP	3.85		**< 3.85**	mg/Kg-dry	1	8/10/2010 4:49:21 PM	LAL
Silver	NELAP	0.53		**0.87**	mg/Kg-dry	1	8/10/2010 4:49:21 PM	LAL
Zinc	NELAP	1.92		**341**	mg/Kg-dry	2	8/11/2010 10:04:13 AM	LAL
SW-846 3050B, METALS BY GFAA								
Thallium 7841	NELAP	0.200		**0.802**	mg/Kg-dry	1	8/12/2010 4:37:06 PM	MEK
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
4,4'-DDE	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
4,4'-DDT	NELAP	501		**ND**	µg/Kg-dry	250	8/16/2010 2:51:00 AM	HE
Alachlor	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Aldrin	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
alpha-BHC	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
alpha-Chlordane	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
beta-BHC	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Chlordane	NELAP	20.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
delta-BHC	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Dieldrin	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Endosulfan I	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Endosulfan II	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Endosulfan sulfate	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Endrin	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Endrin aldehyde	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Endrin ketone	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
gamma-BHC	NELAP	10.0		**ND**	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-011
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-2
Collection Date: 8/4/2010 9:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
gamma-Chlordane	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Heptachlor	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Heptachlor epoxide	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Methoxychlor	NELAP	501		ND	µg/Kg-dry	250	8/16/2010 2:51:00 AM	HE
Toxaphene	NELAP	180		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE
Surr: Decachlorobiphenyl		48-149		85.1	%REC	5	8/11/2010 3:36:00 AM	HE
Surr: Tetrachloro-m-xylene		19-145		57.7	%REC	5	8/11/2010 3:36:00 AM	HE
SW-846 3550B, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE
Aroclor 1221	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE
Aroclor 1232	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE
Aroclor 1242	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE
Aroclor 1248	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE
Aroclor 1254	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE
Aroclor 1260	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE
Surr: Decachlorobiphenyl		5-156		75.7	%REC	1	8/9/2010 6:58:00 PM	HE
Surr: Tetrachloro-meta-xylene		7.35-123		57.3	%REC	1	8/9/2010 6:58:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
1,2-Dichlorobenzene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
1,3-Dichlorobenzene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
1,4-Dichlorobenzene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2,4-Dichlorophenol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2,4-Dimethylphenol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2,4-Dinitrophenol	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2,4-Dinitrotoluene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2,6-Dinitrotoluene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2-Chloronaphthalene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2-Chlorophenol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2-Methoxy-4-methylphenol		0.779		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2-Methylnaphthalene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2-Nitroaniline	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
2-Nitrophenol	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
3,3'-Dichlorobenzidine	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
3-Nitroaniline	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-011
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-2
Collection Date: 8/4/2010 9:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
4-Bromophenyl phenyl ether	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
4-Chloro-3-methylphenol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
4-Chloroaniline	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
4-Nitroaniline	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
4-Nitrophenol	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Acenaphthene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Acenaphthylene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Aniline	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Anthracene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Azobenzene		0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzidine	NELAP	1.27		see note	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(a)anthracene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(a)pyrene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(b)fluoranthene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(g,h,i)perylene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(k)fluoranthene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzoic acid	NELAP	1.80		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzyl alcohol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Butyl benzyl phthalate	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Carbazole		0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Chrysene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Dibenzofuran	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Diethyl phthalate	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Dimethyl phthalate	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Di-n-butyl phthalate	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Di-n-octyl phthalate	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Fluoranthene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Fluorene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Hexachlorobenzene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Hexachlorobutadiene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Hexachloroethane	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH

TEKLAB, INC.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-011
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-2
Collection Date: 8/4/2010 9:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Indeno(1,2,3-cd)pyrene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Isophorone	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
m,p-Cresol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Naphthalene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Nitrobenzene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
N-Nitrosodimethylamine	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
o-Cresol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Pentachlorophenol	NELAP	2.40		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Phenanthrene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Phenol	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Pyrene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Pyridine	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
1,2-Diphenylhydrazine		1.01		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Surr: 2,4,6-Tribromophenol		32.7-130		90.5	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: 2-Fluorobiphenyl		34.1-116		86.0	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: 2-Fluorophenol		30.5-99		72.6	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: Nitrobenzene-d5		34.1-101		83.3	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: Phenol-d5		34.9-110		78.1	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: p-Terphenyl-d14		41.7-124		115.4	%REC	1	8/8/2010 6:20:00 PM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1,1-Trichloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1,2-Trichloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1-Dichloro-2-propanone		94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1-Dichloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1-Dichloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1-Dichloropropene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2,3-Trichloropropane	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2,3-Trimethylbenzene		9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2-Dibromoethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-011
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-2
Collection Date: 8/4/2010 9:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2-Dichloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2-Dichloropropane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,3-Dichlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,3-Dichloropropane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,4-Dichlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1-Chlorobutane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
2,2-Dichloropropane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
2-Butanone	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
2-Chlorotoluene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
2-Hexanone	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
2-Nitropropane	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
4-Chlorotoluene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
4-Methyl-2-pentanone	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Acetone	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Acrolein	NELAP	188		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Acrylonitrile	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Allyl chloride	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Benzene	NELAP	1.88		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Bromobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Bromochloromethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Bromodichloromethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Bromoform	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Bromomethane	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Carbon disulfide	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Carbon tetrachloride	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Chlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Chloroethane	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Chloroform	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Chloromethane	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	7.54		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Cyclohexanone		188		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Dibromochloromethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Dibromomethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Dichlorodifluoromethane	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Ethyl acetate	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-011
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-2
Collection Date: 8/4/2010 9:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethyl ether	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Ethyl methacrylate	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Ethylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Heptane		37.7		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Hexachlorobutadiene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Hexachloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Iodomethane	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Isopropylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
m,p-Xylenes	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Methacrylonitrile	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Methyl Methacrylate	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Methyl tert-butyl ether	NELAP	3.77		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Methylacrylate		18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Methylene chloride	NELAP	9.42	J	5.0	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Naphthalene	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
n-Butylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
n-Hexane		37.7		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Nitrobenzene	NELAP	188		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
n-Propylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
o-Xylene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Pentachloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
p-Isopropyltoluene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Propionitrile	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
sec-Butylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Styrene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
tert-Butylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Tetrachloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Tetrahydrofuran	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Toluene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	7.54		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Trichloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Trichlorofluoromethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Vinyl acetate	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Vinyl chloride	NELAP	3.77		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Surr: 1,2-Dichloroethane-d4		72.2-131		99.1	%REC	1	8/6/2010 1:11:00 PM	RWE
Surr: 4-Bromofluorobenzene		82.1-116		87.3	%REC	1	8/6/2010 1:11:00 PM	RWE
Surr: Dibromofluoromethane		77.7-120		105.1	%REC	1	8/6/2010 1:11:00 PM	RWE

TEKLAB, INC.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-011
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-2
Collection Date: 8/4/2010 9:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: Toluene-d8		86-116		**104.8**	%REC	1	8/6/2010 1:11:00 PM	RWE
SW-846 7471A								
Mercury	NELAP	0.012		**0.120**	mg/Kg-dry	1	8/6/2010	MEK
SW-846 9045C								
pH (1:1)	NELAP	1.00		**5.88**		1	8/6/2010 8:46:00 AM	KNS

Sample Narrative

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD
Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS
Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.
LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS
RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.
Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-012
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-3
Collection Date: 8/4/2010 11:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 2-78-054 METHOD 3.2.18.1								
Specific Conductance, Solid		1		**183**	µmhos/cm	1	8/9/2010	NJM
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture		0.1		**13.5**	%	1	8/5/2010 2:00:00 PM	MK
STANDARD METHODS 18TH ED. 2540 G								
Total Solids		0.1		**86.5**	%	1	8/5/2010 2:00:00 PM	MK
SW-846 3050B, 6010B, METALS BY ICP								
Antimony	NELAP	4.81		**< 4.81**	mg/Kg-dry	1	8/9/2010 1:14:18 PM	LAL
Arsenic	NELAP	2.45		**11.1**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
Beryllium	NELAP	0.10		**0.59**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
Cadmium	NELAP	0.20		**0.29**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
Chromium	NELAP	0.98		**30.2**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
Copper	NELAP	0.98		**29.7**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
Lead	NELAP	3.92		**21.4**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
Nickel	NELAP	0.98		**22.6**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
Selenium	NELAP	3.92		**< 3.92**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
Silver	NELAP	0.54		**< 0.54**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
Zinc	NELAP	0.98		**87.0**	mg/Kg-dry	1	8/10/2010 4:56:51 PM	LAL
SW-846 3050B, METALS BY GFAA								
Thallium 7841	NELAP	0.196		**0.297**	mg/Kg-dry	1	8/12/2010 4:40:28 PM	MEK
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
4,4'-DDE	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
4,4'-DDT	NELAP	477		**ND**	µg/Kg-dry	250	8/16/2010 3:14:00 AM	HE
Alachlor	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Aldrin	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
alpha-BHC	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
alpha-Chlordane	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
beta-BHC	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Chlordane	NELAP	19.1		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
delta-BHC	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Dieldrin	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Endosulfan I	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Endosulfan II	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Endosulfan sulfate	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Endrin	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Endrin aldehyde	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Endrin ketone	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
gamma-BHC	NELAP	9.53		**ND**	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-012
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-3
Collection Date: 8/4/2010 11:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
gamma-Chlordane	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Heptachlor	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Heptachlor epoxide	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Methoxychlor	NELAP	477		ND	µg/Kg-dry	250	8/16/2010 3:14:00 AM	HE
Toxaphene	NELAP	171		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Surr: Decachlorobiphenyl		48-149		91.8	%REC	5	8/11/2010 3:59:00 AM	HE
Surr: Tetrachloro-m-xylene		19-145		65.8	%REC	5	8/11/2010 3:59:00 AM	HE
SW-846 3550B, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1221	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1232	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1242	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1248	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1254	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1260	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Surr: Decachlorobiphenyl		5-156		80.2	%REC	1	8/9/2010 7:15:00 PM	HE
Surr: Tetrachloro-meta-xylene		7.35-123		66.0	%REC	1	8/9/2010 7:15:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
1,2-Dichlorobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
1,3-Dichlorobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
1,4-Dichlorobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4-Dichlorophenol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4-Dimethylphenol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4-Dinitrophenol	NELAP	1.15		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4-Dinitrotoluene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,6-Dinitrotoluene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Chloronaphthalene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Chlorophenol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Methoxy-4-methylphenol		0.745		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Methylnaphthalene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Nitroaniline	NELAP	1.15		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Nitrophenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
3,3´-Dichlorobenzidine	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
3-Nitroaniline	NELAP	1.15		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	1.15		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-012
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-3
Collection Date: 8/4/2010 11:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
4-Bromophenyl phenyl ether	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4-Chloro-3-methylphenol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4-Chloroaniline	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4-Nitroaniline	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4-Nitrophenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Acenaphthene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Acenaphthylene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Aniline	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Anthracene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Azobenzene		0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Benzidine	NELAP	1.21		see note	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Benzo(a)anthracene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Benzo(a)pyrene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Benzoic acid	NELAP	1.72		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Benzyl alcohol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Butyl benzyl phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Carbazole		0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Chrysene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Dibenzofuran	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Diethyl phthalate	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Dimethyl phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Di-n-butyl phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Di-n-octyl phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Fluoranthene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Fluorene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Hexachlorobenzene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Hexachlorobutadiene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Hexachloroethane	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-012
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-3
Collection Date: 8/4/2010 11:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Indeno(1,2,3-cd)pyrene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Isophorone	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
m,p-Cresol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Naphthalene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Nitrobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
N-Nitrosodimethylamine	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
o-Cresol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Pentachlorophenol	NELAP	2.29		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Phenanthrene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Phenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Pyrene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Pyridine	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
1,2-Diphenylhydrazine		0.963		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Surr: 2,4,6-Tribromophenol		32.7-130		98.0	%REC	1	8/8/2010 6:52:00 PM	DMH
Surr: 2-Fluorobiphenyl		34.1-116		89.8	%REC	1	8/8/2010 6:52:00 PM	DMH
Surr: 2-Fluorophenol		30.5-99		80.3	%REC	1	8/8/2010 6:52:00 PM	DMH
Surr: Nitrobenzene-d5		34.1-101		84.8	%REC	1	8/8/2010 6:52:00 PM	DMH
Surr: Phenol-d5		34.9-110		80.1	%REC	1	8/8/2010 6:52:00 PM	DMH
Surr: p-Terphenyl-d14		41.7-124		105.5	%REC	1	8/8/2010 6:52:00 PM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1,1-Trichloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1,2-Trichloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1-Dichloro-2-propanone		93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1-Dichloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1-Dichloroethene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1-Dichloropropene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,3-Trichloropropane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,3-Trimethylbenzene		9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2-Dibromoethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-012
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-3
Collection Date: 8/4/2010 11:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2-Dichloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2-Dichloropropane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,3-Dichlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,3-Dichloropropane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,4-Dichlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1-Chlorobutane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
2,2-Dichloropropane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
2-Butanone	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
2-Chlorotoluene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
2-Hexanone	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
2-Nitropropane	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
4-Chlorotoluene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
4-Methyl-2-pentanone	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Acetone	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Acrolein	NELAP	186		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Acrylonitrile	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Allyl chloride	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Benzene	NELAP	1.86		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromochloromethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromodichloromethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromoform	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromomethane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Carbon disulfide	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Carbon tetrachloride	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Chlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Chloroethane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Chloroform	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Chloromethane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	7.46		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Cyclohexanone		186		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Dibromochloromethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Dibromomethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Dichlorodifluoromethane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Ethyl acetate	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-012
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-3
Collection Date: 8/4/2010 11:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethyl ether	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Ethyl methacrylate	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Ethylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Heptane		37.3		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Hexachlorobutadiene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Hexachloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Iodomethane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Isopropylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
m,p-Xylenes	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Methacrylonitrile	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Methyl Methacrylate	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Methyl tert-butyl ether	NELAP	3.73		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Methylacrylate		18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Methylene chloride	NELAP	9.32	J	3.5	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Naphthalene	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
n-Butylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
n-Hexane		37.3		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Nitrobenzene	NELAP	186		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
n-Propylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
o-Xylene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Pentachloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
p-Isopropyltoluene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Propionitrile	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
sec-Butylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Styrene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
tert-Butylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Tetrachloroethene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Tetrahydrofuran	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Toluene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	7.46		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Trichloroethene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Trichlorofluoromethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Vinyl acetate	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Vinyl chloride	NELAP	3.73		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Surr: 1,2-Dichloroethane-d4		72.2-131		101.1	%REC	1	8/6/2010 1:39:00 PM	RWE
Surr: 4-Bromofluorobenzene		82.1-116		88.7	%REC	1	8/6/2010 1:39:00 PM	RWE
Surr: Dibromofluoromethane		77.7-120		108.2	%REC	1	8/6/2010 1:39:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-012
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-3
Collection Date: 8/4/2010 11:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: Toluene-d8		86-116		**103.9**	%REC	1	8/6/2010 1:39:00 PM	RWE
SW-846 7471A								
Mercury	NELAP	0.012		**0.051**	mg/Kg-dry	1	8/6/2010	MEK
SW-846 9045C								
pH (1:1)	NELAP	1.00		**4.89**		1	8/6/2010 8:46:00 AM	KNS

Sample Narrative

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD
Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS
Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.
LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS
RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.
Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-013
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-4
Collection Date: 8/4/2010 10:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 2-78-054 METHOD 3.2.18.1								
Specific Conductance, Solid		1		**677**	µmhos/cm	1	8/9/2010	NJM
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture		0.1		**10.7**	%	1	8/5/2010 2:00:00 PM	MK
STANDARD METHODS 18TH ED. 2540 G								
Total Solids		0.1		**89.3**	%	1	8/5/2010 2:00:00 PM	MK
SW-846 3050B, 6010B, METALS BY ICP								
Antimony	NELAP	4.90	J	**3.6**	mg/Kg-dry	1	8/8/2010 10:41:41 PM	LAL
Arsenic	NELAP	2.31		**22.6**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
Beryllium	NELAP	0.09		**1.30**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
Cadmium	NELAP	0.19		**0.99**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
Chromium	NELAP	0.93		**48.4**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
Copper	NELAP	0.93		**59.7**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
Lead	NELAP	3.70		**28.7**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
Nickel	NELAP	0.93		**91.5**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
Selenium	NELAP	3.70		**< 3.70**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
Silver	NELAP	0.51		**< 0.51**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
Zinc	NELAP	0.93		**204**	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL
SW-846 3050B, METALS BY GFAA								
Thallium 7841	NELAP	0.189		**0.443**	mg/Kg-dry	1	8/12/2010 4:43:50 PM	MEK
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
4,4'-DDE	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
4,4'-DDT	NELAP	465		**ND**	µg/Kg-dry	250	8/16/2010 3:38:00 AM	HE
Alachlor	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Aldrin	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
alpha-BHC	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
alpha-Chlordane	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
beta-BHC	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Chlordane	NELAP	18.6		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
delta-BHC	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Dieldrin	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Endosulfan I	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Endosulfan II	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Endosulfan sulfate	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Endrin	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Endrin aldehyde	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Endrin ketone	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
gamma-BHC	NELAP	9.30		**ND**	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-013
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-4
Collection Date: 8/4/2010 10:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
gamma-Chlordane	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Heptachlor	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Heptachlor epoxide	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Methoxychlor	NELAP	465		ND	µg/Kg-dry	250	8/16/2010 3:38:00 AM	HE
Toxaphene	NELAP	167		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE
Surr: Decachlorobiphenyl		48-149		84.4	%REC	5	8/11/2010 4:23:00 AM	HE
Surr: Tetrachloro-m-xylene		19-145		63.4	%REC	5	8/11/2010 4:23:00 AM	HE
SW-846 3550B, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1221	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1232	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1242	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1248	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1254	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1260	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Surr: Decachlorobiphenyl		5-156		81.4	%REC	1	8/9/2010 7:32:00 PM	HE
Surr: Tetrachloro-meta-xylene		7.35-123		63.0	%REC	1	8/9/2010 7:32:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
1,2-Dichlorobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
1,3-Dichlorobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
1,4-Dichlorobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4-Dichlorophenol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4-Dimethylphenol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4-Dinitrophenol	NELAP	1.11		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4-Dinitrotoluene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,6-Dinitrotoluene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Chloronaphthalene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Chlorophenol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Methoxy-4-methylphenol		0.724		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Methylnaphthalene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Nitroaniline	NELAP	1.11		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Nitrophenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
3,3´-Dichlorobenzidine	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
3-Nitroaniline	NELAP	1.11		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	1.11		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-013
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-4
Collection Date: 8/4/2010 10:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
4-Bromophenyl phenyl ether	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
4-Chloro-3-methylphenol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
4-Chloroaniline	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
4-Nitroaniline	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
4-Nitrophenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Acenaphthene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Acenaphthylene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Aniline	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Anthracene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Azobenzene		0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Benzidine	NELAP	1.18		see note	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Benzo(a)anthracene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Benzo(a)pyrene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Benzo(b)fluoranthene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Benzo(g,h,i)perylene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Benzo(k)fluoranthene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Benzoic acid	NELAP	1.67		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Benzyl alcohol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Butyl benzyl phthalate	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Carbazole		0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Chrysene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Dibenzofuran	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Diethyl phthalate	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Dimethyl phthalate	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Di-n-butyl phthalate	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Di-n-octyl phthalate	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Fluoranthene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Fluorene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Hexachlorobenzene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Hexachlorobutadiene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Hexachloroethane	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-013
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-4
Collection Date: 8/4/2010 10:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Indeno(1,2,3-cd)pyrene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Isophorone	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
m,p-Cresol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Naphthalene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Nitrobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
N-Nitrosodimethylamine	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
o-Cresol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Pentachlorophenol	NELAP	2.23		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Phenanthrene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Phenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Pyrene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Pyridine	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
1,2-Diphenylhydrazine		0.936		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Surr: 2,4,6-Tribromophenol		32.7-130		92.5	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: 2-Fluorobiphenyl		34.1-116		79.1	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: 2-Fluorophenol		30.5-99		70.5	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: Nitrobenzene-d5		34.1-101		73.4	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: Phenol-d5		34.9-110		72.2	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: p-Terphenyl-d14		41.7-124		104.0	%REC	1	8/8/2010 7:24:00 PM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1,1-Trichloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1,2-Trichloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1-Dichloro-2-propanone		76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1-Dichloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1-Dichloroethene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1-Dichloropropene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2,3-Trichloropropane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2,3-Trimethylbenzene		7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2-Dibromoethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-013
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-4
Collection Date: 8/4/2010 10:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2-Dichloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2-Dichloropropane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,3-Dichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,3-Dichloropropane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,4-Dichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1-Chlorobutane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2,2-Dichloropropane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2-Butanone	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2-Chlorotoluene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2-Hexanone	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2-Nitropropane	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
4-Chlorotoluene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
4-Methyl-2-pentanone	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Acetone	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Acrolein	NELAP	153		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Acrylonitrile	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Allyl chloride	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Benzene	NELAP	1.53		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromochloromethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromodichloromethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromoform	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromomethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Carbon disulfide	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Carbon tetrachloride	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Chlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Chloroethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Chloroform	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Chloromethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	6.13		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Cyclohexanone		153		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Dibromochloromethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Dibromomethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Dichlorodifluoromethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Ethyl acetate	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-013
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-4
Collection Date: 8/4/2010 10:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethyl ether	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Ethyl methacrylate	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Ethylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Heptane		30.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Hexachlorobutadiene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Hexachloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Iodomethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Isopropylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
m,p-Xylenes	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Methacrylonitrile	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Methyl Methacrylate	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Methyl tert-butyl ether	NELAP	3.07		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Methylacrylate		15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Methylene chloride	NELAP	7.67	J	4.8	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Naphthalene	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
n-Butylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
n-Hexane		30.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Nitrobenzene	NELAP	153		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
n-Propylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
o-Xylene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Pentachloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
p-Isopropyltoluene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Propionitrile	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
sec-Butylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Styrene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
tert-Butylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Tetrachloroethene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Tetrahydrofuran	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Toluene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	6.13		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Trichloroethene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Trichlorofluoromethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Vinyl acetate	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Vinyl chloride	NELAP	3.07		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Surr: 1,2-Dichloroethane-d4		72.2-131		103.0	%REC	1	8/6/2010 2:07:00 PM	RWE
Surr: 4-Bromofluorobenzene		82.1-116		86.8	%REC	1	8/6/2010 2:07:00 PM	RWE
Surr: Dibromofluoromethane		77.7-120		109.2	%REC	1	8/6/2010 2:07:00 PM	RWE

TEKLAB, INC.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-013
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: SS-4
Collection Date: 8/4/2010 10:30:00 AM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: Toluene-d8		86-116		**102.6**	%REC	1	8/6/2010 2:07:00 PM	RWE
SW-846 7471A								
Mercury	NELAP	0.011		**0.100**	mg/Kg-dry	1	8/6/2010	MEK
SW-846 9045C								
pH (1:1)	NELAP	1.00		**4.37**		1	8/6/2010 8:46:00 AM	KNS

Sample Narrative

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD
Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS
Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.
LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS
RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.
Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

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TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-014
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 2-78-054 METHOD 3.2.18.1								
Specific Conductance, Solid		1		1530	µmhos/cm	1	8/9/2010	NJM
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture		0.1		17.6	%	1	8/5/2010 2:00:00 PM	MK
STANDARD METHODS 18TH ED. 2540 G								
Total Solids		0.1		82.4	%	1	8/5/2010 2:00:00 PM	MK
SW-846 3050B, 6010B, METALS BY ICP								
Antimony	NELAP	5.00		< 5.00	mg/Kg-dry	1	8/8/2010 10:48:59 PM	LAL
Arsenic	NELAP	2.40		15.7	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL
Beryllium	NELAP	0.10		1.27	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL
Cadmium	NELAP	0.19		1.12	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL
Chromium	NELAP	0.96		34.9	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL
Copper	NELAP	0.96		40.1	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL
Lead	NELAP	3.85		22.7	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL
Nickel	NELAP	0.96		89.3	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL
Selenium	NELAP	4.81		< 4.81	mg/Kg-dry	1	8/11/2010 10:24:42 AM	LAL
Silver	NELAP	0.53		< 0.53	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL
Zinc	NELAP	0.96		189	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL
SW-846 3050B, METALS BY GFAA								
Thallium 7841	NELAP	0.182		0.378	mg/Kg-dry	1	8/12/2010 4:47:10 PM	MEK
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4´-DDD	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
4,4´-DDE	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
4,4´-DDT	NELAP	501		ND	µg/Kg-dry	250	8/16/2010 4:02:00 AM	HE
Alachlor	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Aldrin	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
alpha-BHC	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
alpha-Chlordane	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
beta-BHC	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Chlordane	NELAP	20.1		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
delta-BHC	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Dieldrin	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Endosulfan I	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Endosulfan II	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Endosulfan sulfate	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Endrin	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Endrin aldehyde	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Endrin ketone	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
gamma-BHC	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-014
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
gamma-Chlordane	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Heptachlor	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Heptachlor epoxide	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Methoxychlor	NELAP	501		ND	µg/Kg-dry	250	8/16/2010 4:02:00 AM	HE
Toxaphene	NELAP	180		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE
Surr: Decachlorobiphenyl		48-149		96.1	%REC	5	8/11/2010 4:47:00 AM	HE
Surr: Tetrachloro-m-xylene		19-145		63.6	%REC	5	8/11/2010 4:47:00 AM	HE
SW-846 3550B, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1221	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1232	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1242	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1248	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1254	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1260	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Surr: Decachlorobiphenyl		5-156		96.1	%REC	1	8/9/2010 7:49:00 PM	HE
Surr: Tetrachloro-meta-xylene		7.35-123		70.7	%REC	1	8/9/2010 7:49:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
1,2-Dichlorobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
1,3-Dichlorobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
1,4-Dichlorobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4-Dichlorophenol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4-Dimethylphenol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4-Dinitrophenol	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4-Dinitrotoluene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,6-Dinitrotoluene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Chloronaphthalene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Chlorophenol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Methoxy-4-methylphenol		0.782		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Methylnaphthalene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Nitroaniline	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Nitrophenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
3,3'-Dichlorobenzidine	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
3-Nitroaniline	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-014
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
4-Bromophenyl phenyl ether	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
4-Chloro-3-methylphenol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
4-Chloroaniline	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
4-Nitroaniline	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
4-Nitrophenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Acenaphthene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Acenaphthylene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Aniline	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Anthracene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Azobenzene		0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzidine	NELAP	1.27		see note	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzo(a)anthracene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzo(a)pyrene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzo(b)fluoranthene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzo(g,h,i)perylene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzo(k)fluoranthene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzoic acid	NELAP	1.80		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzyl alcohol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.421	J	0.15	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Butyl benzyl phthalate	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Carbazole		0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Chrysene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Dibenzofuran	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Diethyl phthalate	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Dimethyl phthalate	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Di-n-butyl phthalate	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Di-n-octyl phthalate	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Fluoranthene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Fluorene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Hexachlorobenzene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Hexachlorobutadiene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Hexachloroethane	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-014
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Indeno(1,2,3-cd)pyrene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Isophorone	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
m,p-Cresol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Naphthalene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Nitrobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
N-Nitrosodimethylamine	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
o-Cresol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Pentachlorophenol	NELAP	2.41		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Phenanthrene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Phenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Pyrene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Pyridine	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
1,2-Diphenylhydrazine		1.01		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Surr: 2,4,6-Tribromophenol		32.7-130		76.7	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: 2-Fluorobiphenyl		34.1-116		76.4	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: 2-Fluorophenol		30.5-99		63.0	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: Nitrobenzene-d5		34.1-101		75.7	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: Phenol-d5		34.9-110		68.3	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: p-Terphenyl-d14		41.7-124		104.8	%REC	1	8/8/2010 7:57:00 PM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1,1-Trichloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1,2-Trichloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1-Dichloro-2-propanone		95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1-Dichloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1-Dichloroethene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1-Dichloropropene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,3-Trichloropropane	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,3-Trimethylbenzene		9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2-Dibromoethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-014
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2-Dichloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2-Dichloropropane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,3-Dichlorobenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,3-Dichloropropane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,4-Dichlorobenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1-Chlorobutane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2,2-Dichloropropane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2-Butanone	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2-Chlorotoluene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2-Hexanone	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2-Nitropropane	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
4-Chlorotoluene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
4-Methyl-2-pentanone	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Acetone	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Acrolein	NELAP	191		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Acrylonitrile	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Allyl chloride	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Benzene	NELAP	1.91		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromobenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromochloromethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromodichloromethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromoform	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromomethane	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Carbon disulfide	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Carbon tetrachloride	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Chlorobenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Chloroethane	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Chloroform	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Chloromethane	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	7.63		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Cyclohexanone		191		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Dibromochloromethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Dibromomethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Dichlorodifluoromethane	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Ethyl acetate	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-014
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethyl ether	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Ethyl methacrylate	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Ethylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Heptane		38.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Hexachlorobutadiene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Hexachloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Iodomethane	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Isopropylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
m,p-Xylenes	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methacrylonitrile	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methyl Methacrylate	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methyl tert-butyl ether	NELAP	3.81		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methylacrylate		19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methylene chloride	NELAP	9.54	J	3.2	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Naphthalene	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
n-Butylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
n-Hexane		38.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Nitrobenzene	NELAP	191		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
n-Propylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
o-Xylene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Pentachloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
p-Isopropyltoluene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Propionitrile	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
sec-Butylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Styrene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
tert-Butylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Tetrachloroethene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Tetrahydrofuran	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Toluene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	7.63		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Trichloroethene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Trichlorofluoromethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Vinyl acetate	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Vinyl chloride	NELAP	3.81		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Surr: 1,2-Dichloroethane-d4		72.2-131		104.0	%REC	1	8/6/2010 2:35:00 PM	RWE
Surr: 4-Bromofluorobenzene		82.1-116		87.0	%REC	1	8/6/2010 2:35:00 PM	RWE
Surr: Dibromofluoromethane		77.7-120		111.0	%REC	1	8/6/2010 2:35:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-014
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: DUP
Collection Date: 8/4/2010
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: Toluene-d8		86-116		**103.1**	%REC	1	8/6/2010 2:35:00 PM	RWE
SW-846 7471A								
Mercury	NELAP	0.012		**0.055**	mg/Kg-dry	1	8/6/2010	MEK
SW-846 9045C								
pH (1:1)	NELAP	1.00		**6.51**		1	8/6/2010 8:46:00 AM	KNS

Sample Narrative

SW-846 3050B, 6010B, Metals by ICP
Se - Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD
Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS
Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.
LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS
RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.
Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-015
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-1
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 2-78-054 METHOD 3.2.18.1								
Specific Conductance, Solid		1		**1530**	µmhos/cm	1	8/9/2010	NJM
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture		0.1		**80.1**	%	1	8/5/2010 2:00:00 PM	MK
STANDARD METHODS 18TH ED. 2540 G								
Total Solids		0.1		**19.9**	%	1	8/5/2010 2:00:00 PM	MK
SW-846 3050B, 6010B, METALS BY ICP								
Antimony	NELAP	4.81	J	**2.8**	mg/Kg-dry	1	8/8/2010 10:56:32 PM	LAL
Arsenic	NELAP	48.1		**52.9**	mg/Kg-dry	20	8/11/2010 12:54:04 PM	LAL
Beryllium	NELAP	0.10		**5.66**	mg/Kg-dry	1	8/10/2010 5:19:02 PM	LAL
Cadmium	NELAP	0.19		**4.39**	mg/Kg-dry	1	8/12/2010 11:37:40 AM	JMW
Chromium	NELAP	0.96		**24.3**	mg/Kg-dry	1	8/10/2010 5:19:02 PM	LAL
Copper	NELAP	19.2		**29.2**	mg/Kg-dry	20	8/11/2010 12:54:04 PM	LAL
Lead	NELAP	19.2		**66.8**	mg/Kg-dry	5	8/11/2010 12:13:57 PM	LAL
Nickel	NELAP	19.2		**439**	mg/Kg-dry	20	8/11/2010 12:54:04 PM	LAL
Selenium	NELAP	76.9	J	**41**	mg/Kg-dry	20	8/11/2010 12:54:04 PM	LAL
Silver	NELAP	0.53		**2.40**	mg/Kg-dry	1	8/12/2010 11:37:40 AM	JMW
Zinc	NELAP	19.2		**1130**	mg/Kg-dry	20	8/11/2010 12:54:04 PM	LAL
SW-846 3050B, METALS BY GFAA								
Thallium 7841	NELAP	0.192		**< 0.192**	mg/Kg-dry	1	8/12/2010 4:50:32 PM	MEK
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4´-DDD	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
4,4´-DDE	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
4,4´-DDT	NELAP	2080		**ND**	µg/Kg-dry	250	8/16/2010 4:25:00 AM	HE
Alachlor	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Aldrin	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
alpha-BHC	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
alpha-Chlordane	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
beta-BHC	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Chlordane	NELAP	416		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
delta-BHC	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Dieldrin	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Endosulfan I	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Endosulfan II	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Endosulfan sulfate	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Endrin	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Endrin aldehyde	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Endrin ketone	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
gamma-BHC	NELAP	208		**ND**	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-015
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-1
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
gamma-Chlordane	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Heptachlor	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Heptachlor epoxide	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Methoxychlor	NELAP	2080		ND	µg/Kg-dry	250	8/16/2010 4:25:00 AM	HE
Toxaphene	NELAP	3740		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Surr: Decachlorobiphenyl		48-149		118.8	%REC	25	8/11/2010 5:11:00 AM	HE
Surr: Tetrachloro-m-xylene		19-145		68.4	%REC	25	8/11/2010 5:11:00 AM	HE
SW-846 3550B, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	187		ND	µg/Kg-dry	1	8/9/2010 8:06:00 PM	HE
Aroclor 1221	NELAP	187		ND	µg/Kg-dry	1	8/9/2010 8:06:00 PM	HE
Aroclor 1232	NELAP	187		ND	µg/Kg-dry	1	8/9/2010 8:06:00 PM	HE
Aroclor 1242	NELAP	187		ND	µg/Kg-dry	1	8/9/2010 8:06:00 PM	HE
Aroclor 1248	NELAP	187		ND	µg/Kg-dry	1	8/9/2010 8:06:00 PM	HE
Aroclor 1254	NELAP	187		ND	µg/Kg-dry	1	8/9/2010 8:06:00 PM	HE
Aroclor 1260	NELAP	187		ND	µg/Kg-dry	1	8/9/2010 8:06:00 PM	HE
Surr: Decachlorobiphenyl		5-156		89.0	%REC	1	8/9/2010 8:06:00 PM	HE
Surr: Tetrachloro-meta-xylene		7.35-123		76.5	%REC	1	8/9/2010 8:06:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
1,2-Dichlorobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
1,3-Dichlorobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
1,4-Dichlorobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4-Dichlorophenol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4-Dimethylphenol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4-Dinitrophenol	NELAP	25.4		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4-Dinitrotoluene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,6-Dinitrotoluene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Chloronaphthalene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Chlorophenol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Methoxy-4-methylphenol		16.5		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Methylnaphthalene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Nitroaniline	NELAP	25.4		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Nitrophenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
3,3´-Dichlorobenzidine	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
3-Nitroaniline	NELAP	25.4		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	25.4		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-015
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-1
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
4-Bromophenyl phenyl ether	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
4-Chloro-3-methylphenol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
4-Chloroaniline	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
4-Chlorophenyl phenyl ether	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
4-Nitroaniline	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
4-Nitrophenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Acenaphthene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Acenaphthylene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Aniline	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Anthracene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Azobenzene		8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Benzidine	NELAP	26.8		see note	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Benzo(a)anthracene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Benzo(a)pyrene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Benzo(b)fluoranthene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Benzo(g,h,i)perylene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Benzo(k)fluoranthene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Benzoic acid	NELAP	38.0		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Benzyl alcohol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Butyl benzyl phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Carbazole		12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Chrysene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Dibenzofuran	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Diethyl phthalate	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Dimethyl phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Di-n-butyl phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Di-n-octyl phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Fluoranthene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Fluorene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Hexachlorobenzene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Hexachlorobutadiene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Hexachloroethane	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH

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TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-015
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-1
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Indeno(1,2,3-cd)pyrene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Isophorone	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
m,p-Cresol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Naphthalene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Nitrobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
N-Nitrosodimethylamine	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
o-Cresol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Pentachlorophenol	NELAP	50.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Phenanthrene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Phenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Pyrene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Pyridine	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
1,2-Diphenylhydrazine		21.3		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Surr: 2,4,6-Tribromophenol		32.7-130		96.5	%REC	5	8/10/2010 12:48:00 PM	DMH
Surr: 2-Fluorobiphenyl		34.1-116		83.0	%REC	5	8/10/2010 12:48:00 PM	DMH
Surr: 2-Fluorophenol		30.5-99		83.2	%REC	5	8/10/2010 12:48:00 PM	DMH
Surr: Nitrobenzene-d5		34.1-101		95.5	%REC	5	8/10/2010 12:48:00 PM	DMH
Surr: Phenol-d5		34.9-110		89.6	%REC	5	8/10/2010 12:48:00 PM	DMH
Surr: p-Terphenyl-d14		41.7-124		95.9	%REC	5	8/10/2010 12:48:00 PM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1,1-Trichloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1,2-Trichloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1-Dichloro-2-propanone		371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1-Dichloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1-Dichloroethene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1-Dichloropropene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,3-Trichloropropane	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,3-Trimethylbenzene		37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2-Dibromoethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE

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5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-015
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-1
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2-Dichloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2-Dichloropropane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,3-Dichlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,3-Dichloropropane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,4-Dichlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1-Chlorobutane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
2,2-Dichloropropane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
2-Butanone	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
2-Chlorotoluene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
2-Hexanone	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
2-Nitropropane	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
4-Chlorotoluene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
4-Methyl-2-pentanone	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Acetone	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Acrolein	NELAP	742		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Acrylonitrile	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Allyl chloride	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Benzene	NELAP	7.42		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Bromobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Bromochloromethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Bromodichloromethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Bromoform	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Bromomethane	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Carbon disulfide	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Carbon tetrachloride	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Chlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Chloroethane	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Chloroform	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Chloromethane	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	29.7		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Cyclohexanone		742		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Dibromochloromethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Dibromomethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Dichlorodifluoromethane	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Ethyl acetate	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-015
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-1
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethyl ether	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Ethyl methacrylate	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Ethylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Heptane		148		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Hexachlorobutadiene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Hexachloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Iodomethane	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Isopropylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
m,p-Xylenes	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Methacrylonitrile	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Methyl Methacrylate	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Methyl tert-butyl ether	NELAP	14.8		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Methylacrylate		74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Methylene chloride	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Naphthalene	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
n-Butylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
n-Hexane		148		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Nitrobenzene	NELAP	742		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
n-Propylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
o-Xylene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Pentachloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
p-Isopropyltoluene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Propionitrile	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
sec-Butylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Styrene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
tert-Butylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Tetrachloroethene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Tetrahydrofuran	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Toluene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	29.7		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Trichloroethene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Trichlorofluoromethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Vinyl acetate	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Vinyl chloride	NELAP	14.8		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Surr: 1,2-Dichloroethane-d4		72.2-131		104.9	%REC	1	8/6/2010 3:03:00 PM	RWE
Surr: 4-Bromofluorobenzene		82.1-116		100.2	%REC	1	8/6/2010 3:03:00 PM	RWE
Surr: Dibromofluoromethane		77.7-120		107.7	%REC	1	8/6/2010 3:03:00 PM	RWE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-015
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-1
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: Toluene-d8		86-116		**94.3**	%REC	1	8/6/2010 3:33:00 PM	RWE
SW-846 7471A								
Mercury	NELAP	0.050	J	**0.018**	mg/Kg-dry	1	8/6/2010	MEK
SW-846 9045C								
pH (1:1)	NELAP	1.00		**7.48**		1	8/6/2010 8:46:00 AM	KNS

Sample Narrative

SW-846 3050B, 6010B, Metals by ICP
Se - Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD
Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS
Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.
LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.
Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS
RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.
Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-016
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-2
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
EPA 600 2-78-054 METHOD 3.2.18.1								
Specific Conductance, Solid		1		958	µmhos/cm	1	8/9/2010	NJM
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture		0.1		69.2	%	1	8/5/2010 2:00:00 PM	MK
STANDARD METHODS 18TH ED. 2540 G								
Total Solids		0.1		30.8	%	1	8/5/2010 2:00:00 PM	MK
SW-846 3050B, 6010B, METALS BY ICP								
Antimony	NELAP	5.00		< 5.00	mg/Kg-dry	1	8/8/2010 11:03:41 PM	LAL
Arsenic	NELAP	46.3		48.3	mg/Kg-dry	20	8/11/2010 1:00:57 PM	LAL
Beryllium	NELAP	0.09		5.45	mg/Kg-dry	1	8/10/2010 5:26:11 PM	LAL
Cadmium	NELAP	0.19		3.16	mg/Kg-dry	1	8/12/2010 11:41:24 AM	JMW
Chromium	NELAP	0.93		21.4	mg/Kg-dry	1	8/10/2010 5:26:11 PM	LAL
Copper	NELAP	18.5		21.3	mg/Kg-dry	20	8/11/2010 1:00:57 PM	LAL
Lead	NELAP	18.5		37.1	mg/Kg-dry	5	8/11/2010 12:20:47 PM	LAL
Nickel	NELAP	18.5		401	mg/Kg-dry	20	8/11/2010 1:00:57 PM	LAL
Selenium	NELAP	74.1	J	43	mg/Kg-dry	20	8/11/2010 1:00:57 PM	LAL
Silver	NELAP	0.51		2.06	mg/Kg-dry	1	8/12/2010 11:41:24 AM	JMW
Zinc	NELAP	18.5		906	mg/Kg-dry	20	8/11/2010 1:00:57 PM	LAL
SW-846 3050B, METALS BY GFAA								
Thallium 7841	NELAP	0.200		< 0.200	mg/Kg-dry	1	8/12/2010 5:00:48 PM	MEK
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
4,4'-DDD	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
4,4'-DDE	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
4,4'-DDT	NELAP	1290		ND	µg/Kg-dry	250	8/16/2010 4:49:00 AM	HE
Alachlor	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Aldrin	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
alpha-BHC	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
alpha-Chlordane	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
beta-BHC	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Chlordane	NELAP	258		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
delta-BHC	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Dieldrin	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Endosulfan I	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Endosulfan II	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Endosulfan sulfate	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Endrin	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Endrin aldehyde	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Endrin ketone	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
gamma-BHC	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE

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LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-016
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-2
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD								
gamma-Chlordane	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Heptachlor	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Heptachlor epoxide	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Methoxychlor	NELAP	1290		ND	µg/Kg-dry	250	8/16/2010 4:49:00 AM	HE
Toxaphene	NELAP	2320		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Surr: Decachlorobiphenyl		48-149		120.4	%REC	25	8/11/2010 5:34:00 AM	HE
Surr: Tetrachloro-m-xylene		19-145		70.9	%REC	25	8/11/2010 5:34:00 AM	HE
SW-846 3550B, 8082, POLYCHLORINATED BIPHENYLS (PCBS) BY GC/ECD								
Aroclor 1016	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1221	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1232	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1242	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1248	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1254	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1260	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Surr: Decachlorobiphenyl		5-156		82.1	%REC	1	8/9/2010 8:23:00 PM	HE
Surr: Tetrachloro-meta-xylene		7.35-123		68.8	%REC	1	8/9/2010 8:23:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trichlorobenzene	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
1,2-Dichlorobenzene	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
1,3-Dichlorobenzene	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
1,4-Dichlorobenzene	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2,4-Dichlorophenol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2,4-Dimethylphenol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2,4-Dinitrophenol	NELAP	16.1		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2,4-Dinitrotoluene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2,6-Dinitrotoluene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2-Chloronaphthalene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2-Chlorophenol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2-Methoxy-4-methylphenol		10.5		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2-Methylnaphthalene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2-Nitroaniline	NELAP	16.1		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
2-Nitrophenol	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
3,3'-Dichlorobenzidine	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
3-Nitroaniline	NELAP	16.1		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	16.1		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH

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LABORATORY RESULTS

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WorkOrder: 10080226
Lab ID: 10080226-016
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-2
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
4-Bromophenyl phenyl ether	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
4-Chloro-3-methylphenol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
4-Chloroaniline	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
4-Chlorophenyl phenyl ether	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
4-Nitroaniline	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
4-Nitrophenol	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Acenaphthene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Acenaphthylene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Aniline	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Anthracene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Azobenzene		5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Benzidine	NELAP	17.0		see note	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Benzo(a)anthracene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Benzo(a)pyrene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Benzo(b)fluoranthene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Benzo(g,h,i)perylene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Benzo(k)fluoranthene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Benzoic acid	NELAP	24.2		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Benzyl alcohol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Butyl benzyl phthalate	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Carbazole		8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Chrysene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Dibenzofuran	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Diethyl phthalate	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Dimethyl phthalate	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Di-n-butyl phthalate	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Di-n-octyl phthalate	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Fluoranthene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Fluorene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Hexachlorobenzene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Hexachlorobutadiene	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Hexachloroethane	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH

TEKLAB, INC.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-016
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-2
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Indeno(1,2,3-cd)pyrene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Isophorone	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
m,p-Cresol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Naphthalene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Nitrobenzene	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
N-Nitrosodimethylamine	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
o-Cresol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Pentachlorophenol	NELAP	32.2		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Phenanthrene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Phenol	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Pyrene	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Pyridine	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
1,2-Diphenylhydrazine		13.5		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Surr: 2,4,6-Tribromophenol		32.7-130		80.9	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: 2-Fluorobiphenyl		34.1-116		81.5	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: 2-Fluorophenol		30.5-99		81.1	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: Nitrobenzene-d5		34.1-101		88.0	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: Phenol-d5		34.9-110		85.7	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: p-Terphenyl-d14		41.7-124		87.7	%REC	5	8/10/2010 1:20:00 PM	DMH
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1,1-Trichloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1,2-Trichloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1-Dichloro-2-propanone		269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1-Dichloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1-Dichloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1-Dichloropropene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,3-Trichloropropane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,3-Trimethylbenzene		26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2-Dibromoethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-016
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-2
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2-Dichloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2-Dichloropropane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,3-Dichlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,3-Dichloropropane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,4-Dichlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1-Chlorobutane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
2,2-Dichloropropane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
2-Butanone	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
2-Chlorotoluene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
2-Hexanone	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
2-Nitropropane	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
4-Chlorotoluene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
4-Methyl-2-pentanone	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Acetone	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Acrolein	NELAP	538		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Acrylonitrile	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Allyl chloride	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Benzene	NELAP	5.38		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Bromobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Bromochloromethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Bromodichloromethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Bromoform	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Bromomethane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Carbon disulfide	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Carbon tetrachloride	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Chlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Chloroethane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Chloroform	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Chloromethane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	21.5		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Cyclohexanone		538		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Dibromochloromethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Dibromomethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Dichlorodifluoromethane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Ethyl acetate	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-016
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-2
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethyl ether	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Ethyl methacrylate	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Ethylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Heptane		108		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Hexachlorobutadiene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Hexachloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Iodomethane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Isopropylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
m,p-Xylenes	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Methacrylonitrile	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Methyl Methacrylate	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Methyl tert-butyl ether	NELAP	10.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Methylacrylate		53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Methylene chloride	NELAP	26.9	J	18	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Naphthalene	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
n-Butylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
n-Hexane		108		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Nitrobenzene	NELAP	538		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
n-Propylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
o-Xylene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Pentachloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
p-Isopropyltoluene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Propionitrile	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
sec-Butylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Styrene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
tert-Butylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Tetrachloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Tetrahydrofuran	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Toluene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	21.5		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Trichloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Trichlorofluoromethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Vinyl acetate	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Vinyl chloride	NELAP	10.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Surr: 1,2-Dichloroethane-d4		72.2-131		102.7	%REC	1	8/6/2010 3:31:00 PM	RWE
Surr: 4-Bromofluorobenzene		82.1-116		96.7	%REC	1	8/6/2010 3:31:00 PM	RWE
Surr: Dibromofluoromethane		77.7-120		109.4	%REC	1	8/6/2010 3:31:00 PM	RWE

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10080226
Lab ID: 10080226-016
Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004
Client Sample ID: C-2
Collection Date: 8/4/2010 12:30:00 PM
Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Surr: Toluene-d8		86-116		**96.6**	%REC	1	8/6/2010 3:31:00 PM	RWE
SW-846 7471A								
Mercury	NELAP	0.033		**< 0.033**	mg/Kg-dry	1	8/6/2010	MEK
SW-846 9045C								
pH (1:1)	NELAP	1.00		**7.82**		1	8/6/2010 8:46:00 AM	KNS

Sample Narrative

SW-846 3050B, 6010B, Metals by ICP
Se - Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD
Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS
Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.
LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.
Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS
RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.
Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

TEKLAB, INC.

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COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

RECEIVING CHECK LIST

Client: A&M Engineering
Project: BA Landfill 2028-004
Lab Order: 10080226
Report Date: 17-Aug-10

Carrier: FedEx

Received By: MLD

Completed by: Marvin L. Darling II
On: 05-Aug-10
Marvin L. Darling

Reviewed by: Richard H. Mannz
On: 05-Aug-10
Richard H. Mannz

Pages to follow: Chain of custody [2] Extra pages included [0]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 5.8
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☑	NA ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials ☐
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	

Any No responses must be detailed below or on the COC.

Additional nitric acid was needed upon arrival at the laboratory for PZ-1 and PZ-4. DB 8/5/10

Samples were filtered and preserved for the dissolved parameters upon arrival at the laboratory.

TEKLAB, INC.

ENVIRONMENTAL TESTING LABORATORY

CHAIN OF CUSTODY RECORD

QUOTE#

Page: 1

100802226

Customer Information	
PO:	
WO:	
Company:	A&M Engineering
Report to:	Abby Lazar
Address:	10010 E. 16th Street
	Tulsa, OK 74128
E-mail:	alazar@aandmengineering.com
Phone:	918.665.6575
Fax:	918.665.6576

Project Information	
Project Name:	BA Landfill
Project Number:	2028-004
Bill To:	
Invoice ATTN:	
Address:	
Phone:	
Fax:	

Analysis/Methods			
A	VOCs	K	
B	SVOCs	L	
C	PCBs, Pesticides	M	
D	Priority Pollutant Metals	N	
E	Dissolved PPM	O	
F	pH, Conductivity	P	
G	Nitrates (Nitrite)	Q	
H	Phosphorus	R	
I		Other:	
J			

No.	Sample Description	Preservation	Date	Time	Type	Matrix	# Containers	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	100802226
1	PZ-1		8/4/10	1300	WATER			V	V	V	V	V	V	V	V								-01
2	PZ-2			1310				V	V	V	V	V	V	V	V								-02
3	PZ-3			1320				V	V	V	V	V	V	V	V								-03
4	PZ-4			1335				V	V	V	V	V	V	V	V								-04
5	CS-1			1235				V	V	V	V	V	V	V	V								-05
6	CS-2			1215				V	V	V	V	V	V	V	V								-06
7	DUP							V	V	V	V	V	V	V	V								-07
8	FIELD							V	V	V	V	V	V	V	V								-08
9	EQUIP							V	V	V	V	V	V	V	V								-09
10																							

Sampler:

Shipment Method:

Date Due (fax):

1. Relinquished by:	Date: 8/4/10	2. Received by: Marvin D. Darling III	Date: 8/5/10	3. Relinquished by:	Date:	4. Received by:	Date:
Company: A&M	Time: 1645	Company: (FedEx)	Time: 1100	Company:	Time:	Company:	Time:
1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:

Comments: **48hr Hold on Nitrate/Nitrite**

Added Nitric to PZ-1 and PZ-4 DB 8/5/10

custody seal intact on coolers, initial 8/5/10 Headspace OK. mL 8/5/10

Standard turn	Other
Rush turn	Cooler Temp: 5, 8 °C ICE

TEKLAB, INC.
5445 Horseshoe Lake Road
Collinsville, IL 62234

Project Manager: Rich Mannz

Phone: 877.344.1003

Fax: 618.344.1005

TEKLAB, INC.

ENVIRONMENTAL TESTING LABORATORY

CHAIN OF CUSTODY RECORD

QUOTE#

Page: 1 of 1

100802226

Customer Information		Project Information		Analysis/Methods			
PO:		Project Name:	BA Landfill	A	VOCs	K	
WO:		Project Number:	2026-004	B	SVOCs	L	
Company:	A&M Engineering	Bill To:		C	PCBs, Pesticides	M	
Report to:	Abby Lazar	Invoice ATTN:		D	Priority Pollutant Metals	N	
Address:	10010 E. 16th Street	Address:		E	Dissolved PPM	O	
	Tulsa, OK 74128			F	pH, Conductivity	P	
				G	Nitrates (Nitrite)	Q	
E-mail:	alazar@aandmengineering.com			H	Phosphorus	R	
Phone:	918.665.6575	Phone:		I		Other:	
Fax:	918.665.6576	Fax:		J			

No.	Sample Description	Preservation	Date	Time	Type	Matrix	# Containers	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	100802226
1	SS-1		8/4	820				√	√	√	√	√	√										-010
2	SS-2		8/4	930				√	√	√	√	√	√										-011
3	SS-3		8/4	1130				√	√	√	√	√	√										-012
4	SS-4		8/4	1030				√	√	√	√	√	√										-013
5	DUP		8/4					√	√	√	√	√	√										-014
6	C-1		8/4	1230				√	√	√	√	√	√										-015
7	C-2		8/4	1330				√	√	√	√	√	√										-016
8																							
9																							
10																							

Sampler:

Shipment Method:

Date Due (fax):

1. Relinquished by:	Date: 8/4	2. Received by: Marvin L. Darling II	Date: 8/5/10	3. Relinquished by:	Date:	4. Received by:	Date:
Company: J&M	Time: 1645	Company: (FedEx)	Time: 1100	Company:	Time:	Company:	Time:
1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:

Comments:	48hr Hold on Nitrate/Nitrite	Standard turn	Other
		Rush turn	Cooler Temp: 5.8°C IR

TEKLAB, INC.
5445 Horseshoe Lake Road
Collinsville, IL 62234

Project Manager: Rich Mannz

Phone: 877.344.1003

Fax: 618.344.1005

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

November 03, 2010

Abby Lazar
A&M Engineering
10010 E. 16th St.
Tulsa, OK 74128
TEL: (918) 665-6575
FAX: (918) 665-6576

NELAP Accredited #100226

RE: 2028-004

WorkOrder: 10110003

Dear Abby Lazar:

TEKLAB, INC received 7 samples on 10/30/2010 10:10:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Richard H. Mannz
Project Manager
(618)344-1004 ex 38

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: A&M Engineering
Project: 2028-004
LabOrder: 10110003
Report Date: 03-Nov-10

CASE NARRATIVE

Cooler Receipt Temp: 1.6 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

Qualifiers

DF - Dilution Factor	**B** - Analyte detected in the associated Method Blank	**C** - Client requested RL below PQL
RL - Reporting Limit	**J** - Analyte detected below reporting limits	**D** - Diluted out of sample
ND - Not Detected at the Reporting Limit	**R** - RPD outside accepted recovery limits	**E** - Value above quantitation range
Surr - Surrogate Standard added by lab	**S** - Spike Recovery outside accepted recovery limits	**H** - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	**X** - Value exceeds Maximum Contaminant Level	**MI** - Matrix interference
Q - QC criteria failed or noncompliant CCV	**#** - Unknown hydrocarbon	**DNI** - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	**IDPH** - IL Dept. of Public Health	

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10110003
Lab ID: 10110003-001
Report Date: 03-Nov-10

Client Project: 2028-004
Client Sample ID: PZ01
Collection Date: 10/28/2010 1:56:00 PM
Matrix: GROUNDWATER

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020A, METALS BY GFAA (TOTAL)									
Antimony	7041	NELAP	0.0050		< 0.0050	mg/L	1	11/3/2010 9:46:26 AM	MEK

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10110003
Lab ID: 10110003-002
Report Date: 03-Nov-10

Client Project: 2028-004
Client Sample ID: PZ02
Collection Date: 10/28/2010 12:00:00 PM
Matrix: GROUNDWATER

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020A, METALS BY GFAA (TOTAL)									
Antimony	7041	NELAP	0.0050		**< 0.0050**	mg/L	1	11/3/2010 9:49:42 AM	MEK

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10110003
Lab ID: 10110003-003
Report Date: 03-Nov-10

Client Project: 2028-004
Client Sample ID: PZ03
Collection Date: 10/28/2010 10:25:00 AM
Matrix: GROUNDWATER

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020A, METALS BY GFAA (TOTAL)									
Antimony	7041	NELAP	0.0050		**< 0.0050**	mg/L	1	11/3/2010 9:52:56 AM	MEK

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10110003
Lab ID: 10110003-004
Report Date: 03-Nov-10

Client Project: 2028-004
Client Sample ID: PZ04
Collection Date: 10/28/2010 9:20:00 AM
Matrix: GROUNDWATER

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020A, METALS BY GFAA (TOTAL)									
Antimony	7041	NELAP	0.0050		**< 0.0050**	mg/L	1	11/3/2010 10:22:42 AM	MEK

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10110003
Lab ID: 10110003-005
Report Date: 03-Nov-10

Client Project: 2028-004
Client Sample ID: CW01
Collection Date: 10/28/2010 3:00:00 PM
Matrix: GROUNDWATER

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020A, METALS BY GFAA (TOTAL)									
Antimony	7041	NELAP	0.0050		**< 0.0050**	mg/L	1	11/3/2010 10:06:10 AM	MEK

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10110003
Lab ID: 10110003-006
Report Date: 03-Nov-10

Client Project: 2028-004
Client Sample ID: CW02
Collection Date: 10/28/2010 2:45:00 PM
Matrix: GROUNDWATER

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020A, METALS BY GFAA (TOTAL)									
Antimony	7041	NELAP	0.0050		**< 0.0050**	mg/L	1	11/3/2010 10:16:04 AM	MEK

Sample Narrative

RECEIVED
March 13, 2017
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PLAN DEVELOPMENT

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10110003
Lab ID: 10110003-007
Report Date: 03-Nov-10

Client Project: 2028-004
Client Sample ID: DUP
Collection Date: 10/28/2010
Matrix: GROUNDWATER

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020A, METALS BY GFAA (TOTAL)									
Antimony	7041	NELAP	0.0050		**< 0.0050**	mg/L	1	11/3/2010 10:19:22 AM	MEK

Sample Narrative

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TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

RECEIVING CHECK LIST

Client: A&M Engineering
Project: 2028-004
Lab Order: 10110003
Report Date: 03-Nov-10

Carrier: FedEx

Received By: DB

Completed by: Timothy W. Mathis
On: 01-Nov-10

Reviewed by: Elizabeth A. Hurley
On: 01-Nov-10

Pages to follow: Chain of custody [1] Extra pages included [0]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 1.6
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water - vials have zero headspace?	Yes ☐	No ☐	No VOA vials	☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers	☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐		

Any No responses must be detailed below or on the COC.

Custody seal(s) intact on shipping container/cooler. DB 10/30/10

RECEIVED
March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

CHAIN OF CUSTODY

pg. ____ of ____ Work Order # 1D11D003

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: ADM ENGINEERING
Address: 10010 E 16th ST
City / State / Zip: TULSA, OK 74105
Contact: ABBY LAZAR Phone: 918-665-6575
E-Mail: alazar@admengineering.com Fax: 918-665-6576

Samples on: ☒ Ice ☐ Blue Ice ☐ No Ice 1.6 °C
Preserved in: ☐ Lab ☒ Field TM
FOR LAB USE ONLY
Lab Notes: Custody Seal Intact 173 10/30/10

Comments:
* DETECTION LIMIT NEEDS TO BE 0.006 mg/L OR LESS!

- Are these samples known to be involved in litigation? If yes, a surcharge will apply. ☐ Yes ☒ No
- Are these samples known to be hazardous? ☐ Yes ☒ No
- Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in comment section. ☒ Yes ☐ No

Project Name / Number: 2028-004
Sample Collector's Name: ABBY LAZAR

Results Requested: ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other_____ ☐ 3 Day (50% Surcharge)
Billing Instructions:

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO3	NaOH	H2SO4	HCL	MeOH	NaHSO4	Other	MATRIX: Water	Drinking Water	Soil	Sludge	Sp. Waste	INDICATE ANALYSIS REQUESTED: ANTIMONY
1D11D003 001	PZ-1	10/28/10 1350		X							X					X
002	PZ-2	1200		X							X					X
003	PZ-3	1025		X							X					X
004	PZ-4	920		X							X					X
005	CW-1	1500		X							X					X
006	CW-2	1445		X							X					X
007	DUP			X							X					X

Relinquished By	Date / Time	Received By	Date / Time
	10/29/2010 @ 1030am	Fedex	10/30/10 1010

RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

The individual signing this agreement on behalf of client acknowledges that he/she has read and understands the terms and conditions of this agreement, on the reverse side, and that he/she has the authority to sign on behalf of client.

WHITE & YELLOW – LAB PINK – SAMPLER'S COPY

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

November 18, 2010

Abby Lazar
A&M Engineering
10010 E. 16th St.
Tulsa, OK 74128
TEL: (918) 665-6575
FAX: (918) 665-6576

ACCREDITED IN ACCORDANCE WITH nelac

NELAP Accredited #100226

RE: 2028-004

WorkOrder: 10110538

Dear Abby Lazar:

TEKLAB, INC received 2 samples on 11/11/2010 11:25:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Richard H. Mannz
Project Manager
(618)344-1004 ex 38

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

Client: A&M Engineering
Project: 2028-004
LabOrder: 10110538
Report Date: 18-Nov-10

CASE NARRATIVE

Cooler Receipt Temp: 3.8 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0 | LA: NELAP #166493

Qualifiers

DF - Dilution Factor	**B** - Analyte detected in the associated Method Blank	**C** - Client requested RL below PQL
RL - Reporting Limit	**J** - Analyte detected below reporting limits	**D** - Diluted out of sample
ND - Not Detected at the Reporting Limit	**R** - RPD outside accepted recovery limits	**E** - Value above quantitation range
Surr - Surrogate Standard added by lab	**S** - Spike Recovery outside accepted recovery limits	**H** - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	**X** - Value exceeds Maximum Contaminant Level	**MI** - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	**DNI** - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	**IDPH** - IL Dept. of Public Health	

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10110538
Lab ID: 10110538-001
Report Date: 18-Nov-10

Client Project: 2028-004
Client Sample ID: CS-1
Collection Date: 11/10/2010 12:35:00 PM
Matrix: SOLID

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3050B, METALS BY GFAA									
Thallium	7841	NELAP	0.137	J	**0.099**	mg/Kg-dry	1	11/16/2010 1:02:32 PM	MEK

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering
WorkOrder: 10110538
Lab ID: 10110538-002
Report Date: 18-Nov-10

Client Project: 2028-004
Client Sample ID: CS-2
Collection Date: 11/10/2010 1:00:00 PM
Matrix: SOLID

Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3050B, METALS BY GFAA									
Thallium	7841	NELAP	0.132	J	0.099	mg/Kg-dry	1	11/16/2010 1:05:54 PM	MEK

Sample Narrative

TEKLAB, INC.

5445 HORSESHOE LAKE ROAD
COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004
FAX: 618-344-1005

RECEIVING CHECK LIST

Client: A&M Engineering
Project: 2028-004
Lab Order: 10110538
Report Date: 18-Nov-10

Carrier: FedEx

Received By: DB

Completed by: Timothy W. Mathis
On: 11-Nov-10

Reviewed by: Elizabeth A. Hurley
On: 11-Nov-10

Pages to follow: Chain of custody [1] Extra pages included [0]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 3.8
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water - vials have zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	

Any No responses must be detailed below or on the COC.

Custody seal(s) intact on shipping container/cooler. DB 11/11/10

RECEIVED
March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

CHAIN OF CUSTODY

pg. 1 of 1 Work Order # 1010538

445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

SINEERING
L ST
OK 74128
Phone: 918 665 6575
eering.com Fax: 918 665 6576

Samples on: ☒ Ice ☐ Blue Ice ☐ No Ice 3-8 °C
Preserved in: ☐ Lab ☐ Field FOR LAB USE ONLY
Lab Notes: Custody seal intact on cooler OB 11/11/10

Comments:
X REPORTING LIMIT NEEDS TO BE UNDER 0.14 mg/kg

itigation? If yes, a surcharge will apply. ☐ Yes ☒ No
☐ Yes ☒ No
met on the requested analysis? If yes, please provide

Sample Collector's Name: ABBY LAZAR

Billing Instructions

Date/Time Sampled	# and Type of Containers: UNPRES	HNO_3	NaOH	H_2SO_4	HCL	MeOH	$NaHSO_4$	Other	MATRIX: Water	Drinking Water	Soil	Sludge	Sp. Waste	INDICATE ANALYSIS REQUESTED: THALLIUM
11/10/10 1235											X			X
11/10/10 1300											X			X

Date / Time	Received By	Date / Time
11/10/10 1505	2 Btl FedEx	11/11/10 1925

half of client acknowledges that he/she has read and understands the terms and side, and that he/she has the authority to sign on behalf of client.

WHITE & YELLOW – LAB PINK – SAMPLER'S COPY

RECEIVED
March 13, 2017
BROKEN ARROW
PLAN DEVELOPMENT

CERTIFICATE OF NO ACTION NECESSARY AND LAND USE DISCLOSURE

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Fees: $23.00 Doc: $0.00
Lori Hendricks, County Clerk
Wagoner County - State of Oklahoma

JM ASSET, LP

TRACT 1 AND 3 OF THE FORMER BROKEN ARROW LANDFILL

OKLAHOMA BROWNFIELDS VOLUNTARY REDEVELOPMENT ACT
27A O.S. § 2-15-101 *et seq.*
DEPARTMENT OF ENVIRONMENTAL QUALITY

PARTIES. The JM Asset, LP, through John Muhich, President of A-A-A Storage, LLC as General Partner of JM Assets, LP, (hereinafter "Participant") approved a Brownfields Proposal for a No Action Necessary Determination (hereinafter "Proposal") to the Oklahoma Department of Environmental Quality ("DEQ") on October 13, 2014.

LEGAL DESCRIPTION. On March 24, 2009, DEQ and the Participant entered into a Brownfield Consent Order for Site Characterization and Risk-Based Remediation ("CO") CO No. 09-057 for Tract 1 and 3 of the former Broken Arrow Landfill site (hereinafter "Affected Property") located at South 219th East Ave, East 71st South in Broken Arrow, Oklahoma and generally described as an area bound on the north by East 71st, with commercial buildings and residential properties, bound on the east by pasture land and residential development, bound on the south by unoccupied land with surface water and residential housing, and bound on the west by remnants a former strip mine which is now largely unoccupied except for one residence and an oil tank to the very north of the property. It is more specifically described as:

Part of W/2 of NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, according to the U.S. Government Survey thereof, being more particularly described as follows: Beginning at a point 50 feet South of the NE corner of said W/2 of NE/4, Thence S 01°17'51" E along the East line of said W/2 of NE/4 2595.97 feet to the SE corner of said W/2 of NE/4, Thence S 88°49'1" W along the South line of said W/2 of NE/4 1320.16 feet to the SW corner of said W/2 of NE/4, Thence N 01°19'88"E along the West line of said W/2 of NE/4 1473.60 feet, Thence N 88°40'28"a distance of 1261.08 feet to a point that is 60 feet West of the East line of said W/2 of NE/4, Thence N 01°17'51" W and parallel to said East line a distance of 1118.97 feet to a point on the South right-of-way line of East Kenosha Ave. (E. 71st St. South), Thence N 88°40'28" E along said right-of-way 60 feet to the Point of Beginning.

The property has been divided into three separate tracts and the portions of the above property that are subject to this Certificate are Tracts 1 and 3 as more specifically described as follows:

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TRACT 1

A tract of land that is port of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows: Commencing at the NW Corner of the NE/4, Thence S01'19'59"E along the West line of NE/4 50.00 feet; thence N88'40'18"E 73.54 feet; thence S88'27'57"E 200.25 feet; thence N88'40'18"E 100.00 feet to the Point of Beginning; thence N84'51'37"E 150.33 feet; thence N88'40'28"E 462.22 feet: thence S01'17' 51 "E 331.61 feet; thence WEST 100.00 feet; thence SOUTH 250.00 feet; thence WEST 500.00 feet; thence SOUTH 200.00 feet; thence S88'40'28"W 375.24 feet to a point on said West line of NE/4; thence N01'19'59"W along said West line 222.93 feet; thence N33'30'32"E 653.83 feet to the Point of Beginning, containing 11.73 acres, more or less.

TRACT 3

A tract of land that is part of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows: Beginning at a point 1650.13 feet South of the Northeast corner of said W/2 NE/4; thence S01'17'51"E along the East line of said W/2 NE/4 1127.76 feet to the Southeast corner of said W/2 NE/4; thence S88'49'19"W along the south line of said W/2 NE/4 1320.16 feet to the Southwest corner of said W/2 NE/4; thence N01"19'58"E along the West line of said W/2 NE/4 874.39 feet; thence N88'40'28"E 303.15 feet; thence NORTH 250.00 feet; thence EAST 1011.89 feet to the Point of Beginning, containing 32.38 acres, more or less.

RISK EVALUATION. Site Characterization Activities were conducted with approval of DEQ in 2010, 2011 and 2013. Property investigation was subsequently completed in December 2013 and was performed under DEQ oversight.

Levels of arsenic in surface soils are above screening levels for industrial property use, and exceed USGS background levels for the county. According to the USGS arsenic can be associated with coal and coal mines such as the mine that was a former use of the property. The levels of arsenic present on the property are considered background levels within the footprint of the strip mine. No remedial action will be required for the proposed future use of the property.

An evaluation of the risk the contamination presents to human health and the environment was performed using DEQ published methods. DEQ has determined that potential exposure to the contamination can be adequately controlled by the physical barriers to the contamination, namely the concrete building slabs and a solid surface parking lot.

PUBLIC NOTICE. On October 15, 2014, the Participant published a Public Legal Notice of the Proposal for a No Action Determination in compliance with the Brownfields Voluntary Redevelopment act, 27A O.S. § 2-15-101 *et seq.*, and the rules of the DEQ, Oklahoma Administrative Code ("OAC") Title 252, Chapter 221. A notarized and dated Publisher's Affidavit from Coweta American newspaper in Coweta, Oklahoma, is on file as part of the Proposal. The Legal Notice notified the public of the opportunity to review and comment on the Proposal and provided an opportunity to request a public forum to discuss the Proposal. No comments were received.

LAND USE RESTRICTIONS. The intended future use specified in the Proposal for the Affected Property is restricted to commercial use. Investigation of the Affected Property has shown contamination in exceedance of conservative, risk-based screening levels that are protective of human health and the environment which will be managed by this Brownfield Certificate which acts as a land use control. The Land use restrictions imposed on the property are:

1. No use of groundwater and no drilling of wells.

2. No residential use of the property. Residential use is defined for exposure evaluation as having the potential for someone to live on site for 350 days a year for 30 years. Property may not be used for day cares, preK-12 schools, or edible agriculture uses.

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The owner of the Affected Property and all persons using the Affected Property shall comply with all land use restrictions. Said restrictions and controls shall apply to the Affected Property and to the persons who own and/or use the property until such time as the DEQ files a subsequent Notice of Remediation that changes or removes one or more of them. The land use may not be changed until after the DEQ has filed a recordable notice of remediation pursuant to 27A O.S. §2-7-123 and/or other applicable law in the land records in the office of the county clerk where the site is located designating the new land use.

CHANGING LAND USE RESTRICTIONS. Changes to land use restrictions must be approved by the Department of Environmental Quality or its successor agency. The person requesting the change in land use must demonstrate to the DEQ's satisfaction that contamination at the site has reached levels appropriate for the proposed new land uses and that further remediation is not necessary or that additional institutional or engineering controls are adequate to achieve levels protective of human health and the environment for the proposed uses.

The DEQ may require oversight costs, work plans, sampling, reports, and public participation as part of its review of the new information to support the requested change in land us restrictions. The person requesting the change will be required to follow agency procedures effective at the time of the request.

The DEQ at its discretion may determine, based on the new information submitted, that contaminants are present at the site at levels that will not pose a risk to human health or the environment if the new land use restrictions being requested are allowed. Upon making this determination, the DEQ will file a recordable notice of remediation pursuant to state law in the land records in the office of the county clerk where the Site is located designating the new land use restrictions.

This Certificate and the restrictions and requirements contained herein run with the land and no change of ownership of the Affect Property will change the Land Use Restrictions.

NO ACTION NECESSARY DETERMINATION. Investigation of the Affected Property has shown the existence of pollutants in the surface soil at levels above DEQ screening levels for arsenic. Given the intended future use of the property, which is commercial, the site does not pose an unreasonable risk to human health and safety or to the environment as determined by the DEQ as long as the use is in compliance with the restrictions enumerated below. Based on the controls placed on the property, no remediation is necessary.

TERMS, CONDITIONS, AND RELEASE OF LIABILITY. In accordance with the Oklahoma Brownfields Voluntary Redevelopment Act, 27A O.S. § 2-15-101 et seq.:

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1. The Department shall not pursue administrative penalties and civil actions against the Participant(s), lenders, lessees, and successors (including successors in title) and assigns associated with actions taken to remediate the contamination caused by regulated substances which is the subject of the Certificate of Completion,

2. The Department shall not pursue administrative penalties and civil actions against the Participant(s), lenders, lessees, and successors (including successors in title) and assigns are in compliance with any post-certification conditions or requirements specified in the Certificate of Completion,

3. The Participant(s) and all lenders, lessees, and successors (including successors in title) and assigns shall not be subject to civil liability with regard to the remedial actions taken by the Participant(s) for pollution, as required by the Certificate of Completion if the remedial action is not performed in a reckless or negligent manner,

4. The Department of Environmental Quality shall not assess against a Participant administrative penalties or pursue civil actions associated with the pollution which is the subject of the Certificate of Completion if:

   a. the Participant is in compliance with the consent order during remediation or with the Certificate of Completion, and

   b. the Participant is in compliance with any post-certification conditions or requirements specified in the Certificate of Completion,

5. After issuance of the Certificate of Completion, the Department shall not assess administrative penalties or pursue civil actions associated with the contamination which is the subject of the Certificate of Completion against any lender, lessee, or successor (including successors in title) or assign if the lender, lessee, or successor or assign is in compliance with any post-certification conditions or requirements as specified in the Certificate of Completion,

6. Failure of the Participant(s) and any lenders, lessees, or successors (including successors in title) or assigns to materially comply with the Certificate of Completion entered into pursuant to the Oklahoma Brownfields Voluntary Redevelopment Act shall render the Certificate of Completion voidable,

7. Submission of any false or materially misleading information by the Participant(s), knowing such information to be false or misleading shall render the Certificate of Completion voidable,

8. The Participants and each of the Participant's lenders, lessees, or successors (including successors in title) or assigns, or any other person, this state or a local political subdivision thereof, or any other legal entity acquiring, in good faith, the property which was subject to the Oklahoma Brownfields Voluntary Redevelopment Act shall not be subject to civil

liability regarding the pollution which was the subject of the Consent Order or this Certificate so long as the participant is in compliance with any post-certification conditions or requirements specified in the Consent Order or this Certificate.

9. The Certificate of Completion shall remain effective as long as the Affected Property is in substantial compliance with the Certificate of Completion,

10. The issuance of this Certificate of Completion shall not be construed or relied upon in any manner as a determination by the DEQ that the Affected Property has not been or is not environmentally contaminated by pollution.

11. This Certificate applies only to conditions caused by pollution on the Affected Property, to applicable state and federal laws and to applicable rules and standards promulgated by the Board of Environmental Quality that existed at the time of submission of the Brownfield Proposal.

12. The release of liability from administrative penalties and any civil actions authorized by the Oklahoma Brownfields Voluntary Redevelopment Act shall not apply to:

a. any pollution and consequences thereof that the participant causes or has caused outside the scope of this Certificate,

b. any pollution caused or resulting from any subsequent redevelopment of the property,

c. existing pollution not addressed prior to issuance of this Certificate, or

d. any person responsible for pollution who has not participated in the voluntary remediation of the Affected Property.

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FOR THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

12-8-14

Scott A. Thompson, Executive Director
Executive Director

Date

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ACKNOWLEDGMENT

STATE OF OKLAHOMA)
) SS:
COUNTY OF OKLAHOMA)

Before me, Deborah Ray, in and for said county and state, on this 8th day of December, 2014, personally appeared Scott Thompson, Executive Director, Oklahoma Department of Environmental Quality, to me known to be the identical person who subscribed the name of the maker thereof to the foregoing Certificate of No Action Necessary and acknowledged before me that he executed the same as his free and voluntary act and deed, and as the free and voluntary act and deed of such governmental agency, for the uses and purposes therein set forth.

Deborah Ray
Notary Public

DEBORAH RAY NOTARY # 13000313 EXP. 01/10/17 PUBLIC STATE OF OKLAHOMA

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