NM1 - ___50___

PART 36 PERMIT APPLICATION

April 8, 2013

Crowe Blanco Properties, LLC

Operated By: Industrial Ecosystems, Inc.

Surface Waste Management Facility (19.15.36 NMAC)

Permit Application (4th Submittal) Reply to Tentative Decision



Adam G. Rankin Phone 505-954-7294 Fax 505-983-6043 AGRankin@hollandhart.com

April 8, 2013

HAND-DELIVERY

Ms. Jami Bailey, Director
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

781 APR -8 T

Re: Application of Crowe Blanco Properties, LLC for Authorization to Permit a New Commercial Waste Management Facility to be Operated by Industrial Ecosystems Inc., San Juan County, New Mexico.

Dear Ms. Bailey:

Enclosed in triplicate is the Application of Crowe Blanco Properties, LLC, in the above-referenced case, as well as a copy of a proposed legal advertisement. Crowe Blanco Properties, LLC, requests that this matter be placed on the Hearing Examiner Docket scheduled for June 27, 2013.

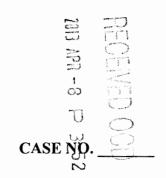
Adam G. Rankin

Enclosures

cc: Marcella Marquez, Industrial Ecosystems, Inc.

STATE OF NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

APPLICATION OF CROWE BLANCO PROPERTIES, LLC FOR AUTHORIZATION TO PERMIT A NEW COMMERCIAL SURFACE WASTE MANAGEMENT FACILITY TO BE OPERATED BY INDUSTRIAL ECOSYSTEMS INC., SAN JUAN COUNTY, NEW MEXICO.



APPLICATION FOR HEARING

Crowe Blanco Properties, LLC ("Crowe Blanco") through its attorneys, Holland and Hart LLP, makes application for an order (1) finding that an acceptable application has been filed; (2) finding that the conditions of 19.15.36.9 NMAC and 19.15.36.11 NMAC have been met; (3) finding that the proposed commercial surface waste management facility can be constructed and operated in compliance with applicable statutes and rules without endangering fresh water, public heath, safety or the environment; and (4) approving a permit for a new commercial surface waste management facility, pursuant to 19.15.36.1 through 19.15.36.20 NMAC, to be operated by Industrial Ecosystems Inc. A copy of the complete permit application with all exhibits and attachments is attached hereto as Exhibit A. In support of its application, Crowe Blanco further states:

- 1. The proposed new commercial surface waste management facility is to be located in the W/2 and SW/4 SE/4 of Section 16, Township 29 North, Range 9 West, N.M.P.M., San Juan County, New Mexico.
- 2. The Division has determined that the commercial surface waste management facility permit application filed by Crowe Blanco and attached as Exhibit A is administratively complete. See Notice of Administrative Completeness, attached hereto as Exhibit B. After a technical review of the application, the Division issued a Tentative Decision letter on February 7, 2013, stating that

the Division proposed disapproval of the application. *See* Tentative Decision Letter, attached hereto as Exhibit C.

- 3. Because the Division proposed tentative disapproval, Crowe Blanco hereby requests a hearing on its application before a Division Hearing Examiner, pursuant to Rule 19.15.36.10(A) NMAC.
- 4. Rule 19.15.36.10 NMAC provides that the Division shall schedule a public hearing on an application if, in addition to the requirements of 19.15.36.10 NMAC, the Division has proposed to deny the application. As proof that Crowe Blanco has complied with the requirements of 19.15.36.10 NMAC, a copy of the public notice required by Rule 19.15.36.9(A) and (E) NMAC is attached hereto as Exhibits D and E, respectively.
- Pursuant to 19.15.36.15(C)(4) NMAC, Crowe Blanco proposes in its application to remediate oil field wastes using biopiles. In order to maintain the integrity of the biopiles during remediation, Crowe Blanco proposes in its application several alternative monitoring protocols. Crowe Blanco proposes a treatment zone monitoring process, described at Section 7.1 in Binder Tab 19.15.36.8.C.6 (Operational/Management Plan) of the attached permit application, Exhibit A, that is an alternative to the process described in 19.15.36.15(D) NMAC. Similarly, Crowe Blanco proposes a vadose zone monitoring process, described at Section 7.2 in Binder Tab 19.15.36.8.C.6 (Operational/Management Plan) of the attached permit application, Exhibit A, that is an alternative to the process described in 19.15.36.15(E)(1) NMAC. Crowe Blanco also proposes a process to determine when remediation in biopiles has achieved the treatment zone closure standards, which is described in Binder Tab 19.15.36.8.C.9 (Closure/Post-Closure Plan) of the attached application, Exhibit A, that is an alternative to the process described in 19.15.36.15(F) NMAC.

- 6. The Division may approve alternatives to the requirements of 19.15.36 NMAC if the Division "determines that the proposed alternatives will provide equivalent protection of fresh water, public health, safety and the environment." 19.15.36.19(A) NMAC.
- 7. Crowe Blanco's proposed alternatives provide equivalent, or better, protection of fresh water, public health, safety and the environment and should be approved.

WHEREFORE, Crowe Blanco requests that this matter be set for hearing before an Examiner of the Oil Conservation Division on June 27, 2013, and, after notice and hearing as required by law, that the Division enter its order granting this application.

Respectfully submitted,

HOLLAND & HART, LLP

Michael H. Feldewert

Adam G. Rankin Jeffrey M. Kendall

Post Office Box 2208

Santa Fe, New Mexico 87504

Telephone: (505) 988-4421

ATTORNEYS FOR CROWE BLANCO PROPERTIES, LLC

CASE NO. ____:

Application of Crowe Blanco Properties, LLC for Authorization to Permit a New Commercial Surface Waste Management Facility to be Operated by Industrial Ecosystems Inc., San Juan County, New Mexico. Applicant Crowe Blanco Properties, LLC seeks an order that (1) an acceptable application has been filed; (2) that the conditions of 19.15.36.9 NMAC and 19.15.36.11 NMAC have been met; (3) that the proposed commercial surface waste management facility can be constructed and operated in compliance with applicable statutes and rules without endangering fresh water, public heath, safety or the environment; and (4) approving a permit for a new commercial surface waste management facility, pursuant to 19.15.36.1 through 19.15.36.20 NMAC, to be operated by Industrial Ecosystems Inc. Pursuant to 19.15.36.15(C)(4) NMAC, Crowe Blanco proposes to remediate oil field wastes using biopiles. In order to maintain the integrity of the biopiles during remediation, Crowe Blanco proposes several alternative monitoring protocols. Crowe Blanco, therefore, seeks Division approval of three alternative monitoring processes: (1) an alternative treatment zone monitoring process, (2) an alternative vadose zone monitoring process, and (3) an alternative process to determine when biopiles achieve the treatment zone closure standards. Pursuant to 19.15.36.19(A) NMAC, the Division may approve alternatives to the requirements of 19.15.36 NMAC if the Division determines that the proposed alternatives will provide equivalent protection of fresh water, public health, safety and the environment. The proposed facility is to be located in the W/2 and SW/4 SE/4 of Section 16, Township 29 North, Range 9 West, N.M.P.M., San Juan County, New Mexico. Said area is located approximately 2 miles East of Blanco, New Mexico.



Industrial Ecosystems Inc. Soil Reclamation Center

P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

March 27, 2013

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

Re:

Request for Additional Information – Reply to Tentative Decision Letter dated 02/07/13 Tentative Decision for Proposed Commercial SWMF

Crowe Blanco Properties, LLC Operated by Industrial Ecosystems, Inc.

Brad:

This letter is being sent to you along with the requested/noted corrections, additions, and modifications identified in the tentative decision.

The corrections, additions and modifications will be found in each corresponding section of this binder which is in order according to 19.15.36.8 NMAC – SWMF Permits & Application Requirements.

There are a few items noted in the letter which do not fall under any specific section of 19.15.36 NMAC and/or specific items which we would like address/clarify in this cover letter as follows:

- Recycle/Reuse "Centrate" or Storm water to add moisture to biopile(s). The "Allowable Chloride in Water Calculation" form is a spreadsheet and contains formulas, therefore, the one provided in the application uses "fictitious/sample" CL-in soil (Enter soil Chloride Concentration) amounts. An electronic version has been enclosed for your reference/review.
- Treatment Zone Monitoring (19.15.36.15.D NMAC) only discusses the use of "lifts" and IEI will be utilizing "biopiles", an alternative process has been proposed to meet the requirements:
- Vadose Zone Monitoring (19.15.36.15.E.1 NMAC) states, "the operator shall monitor the vadose zone beneath the treatment zone in each landfarm cell". The operator shall take the vadose zone samples from soils between three and four feet below the cell's original ground surface. As 19.15.36.15.D NMAC-Treatment Zone Monitoring only discusses the use of "lifts" and IEI will be utilizing "biopiles", an alternative process has been proposed to meet the requirements:

As always, please feel free to contact me by phone or email if you should have any questions or if additional information is needed.

Respectfully,

Marcella Marquez HSE Administrator

Marceleamarquez

EXHIBIT

A

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PRINCIPAL OFFICERS/OWNERS/MANAGEMENT (19.15.36.8.C.1 NMAC)

Crowe Blanco Properties, LLC Operated by Industrial Ecosystems, Inc.

President/Treasurer:

John J. Kiely 401 S. LaSalle, Suite 606 Chicago, IL 60605

Vice President/Assistant Secretary:

Jeff Mohajir 1701 Walnut Kansas City, MO 64108

Secretary:

John P. Crowe 1015 W. 54th Street Kansas City, MO 64112

Owner 25% or more:

John P. Crowe

Individual(s) Primary Responsible for Management of Facility:

Industrial Ecosystems, Inc. Terry Lattin 49 CR 3150 Aztec, NM 87410

Plat & Topographic Map(s) (19.15.36.8.C.2 NMAC)

PLAT & TOPOGRAPHIC MAPS

Sheet 1 of 17 Boundary Survey

Sheet 2 of 17 On/Off Site Topography

Sheet 12 of 17 Off-Site Topography

MAP OF HIGHWAYS & ROADS GIVING ACCES TO THE SITE

Sheet 1 of 17 Boundary Survey

Also refer to Binder Section 19.15.36.8.C.4-Description of Facility & Diagram (Sheet 7 of 17-Operation Facility Site Plan, Sheets 8 of 17 & 9 of 17-Plan and Profile Entrance Road)

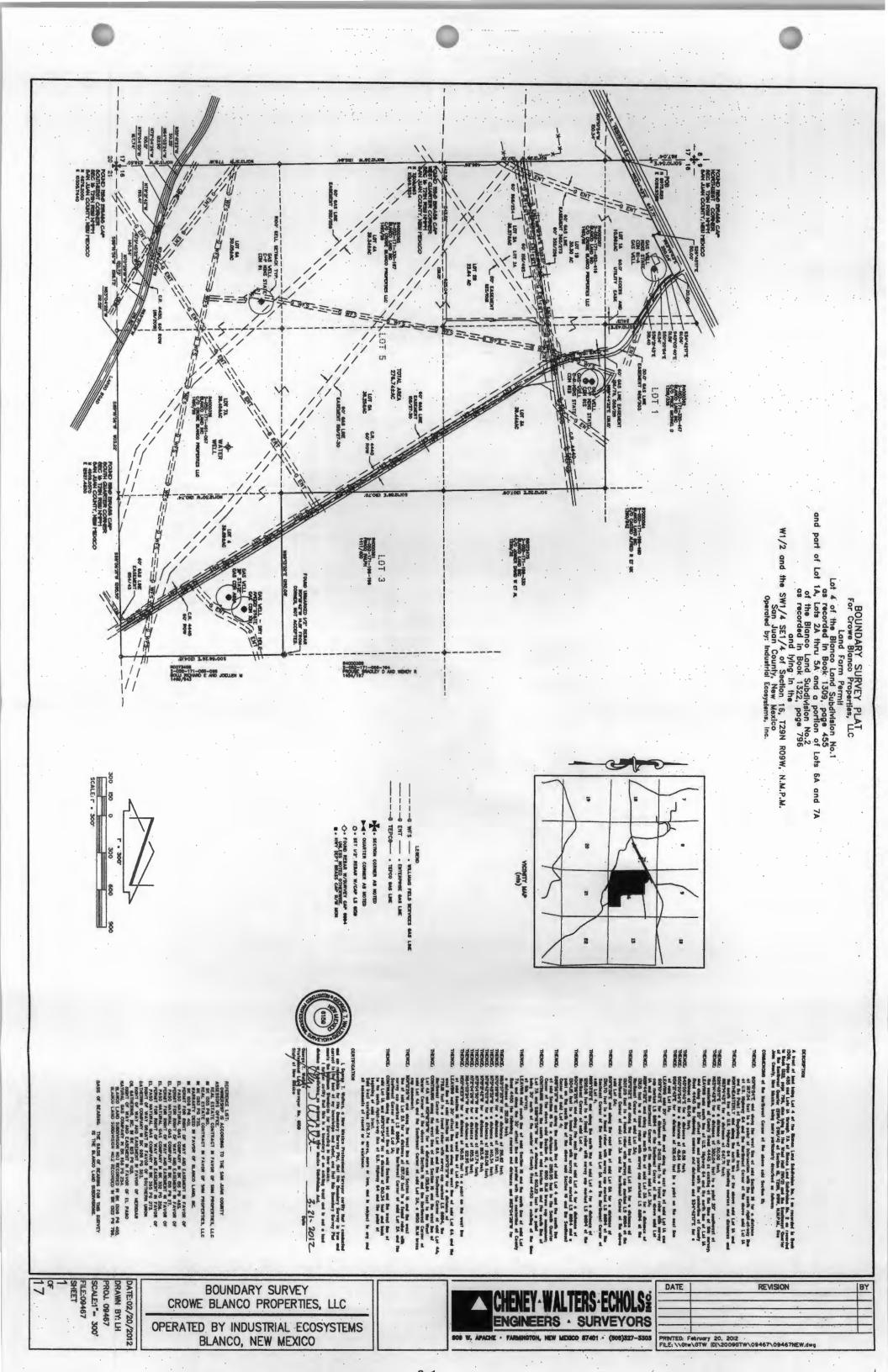
WATERCOURSES, FRESH WATER SOURCES (INCLUDING WELLS & SPRINGS)

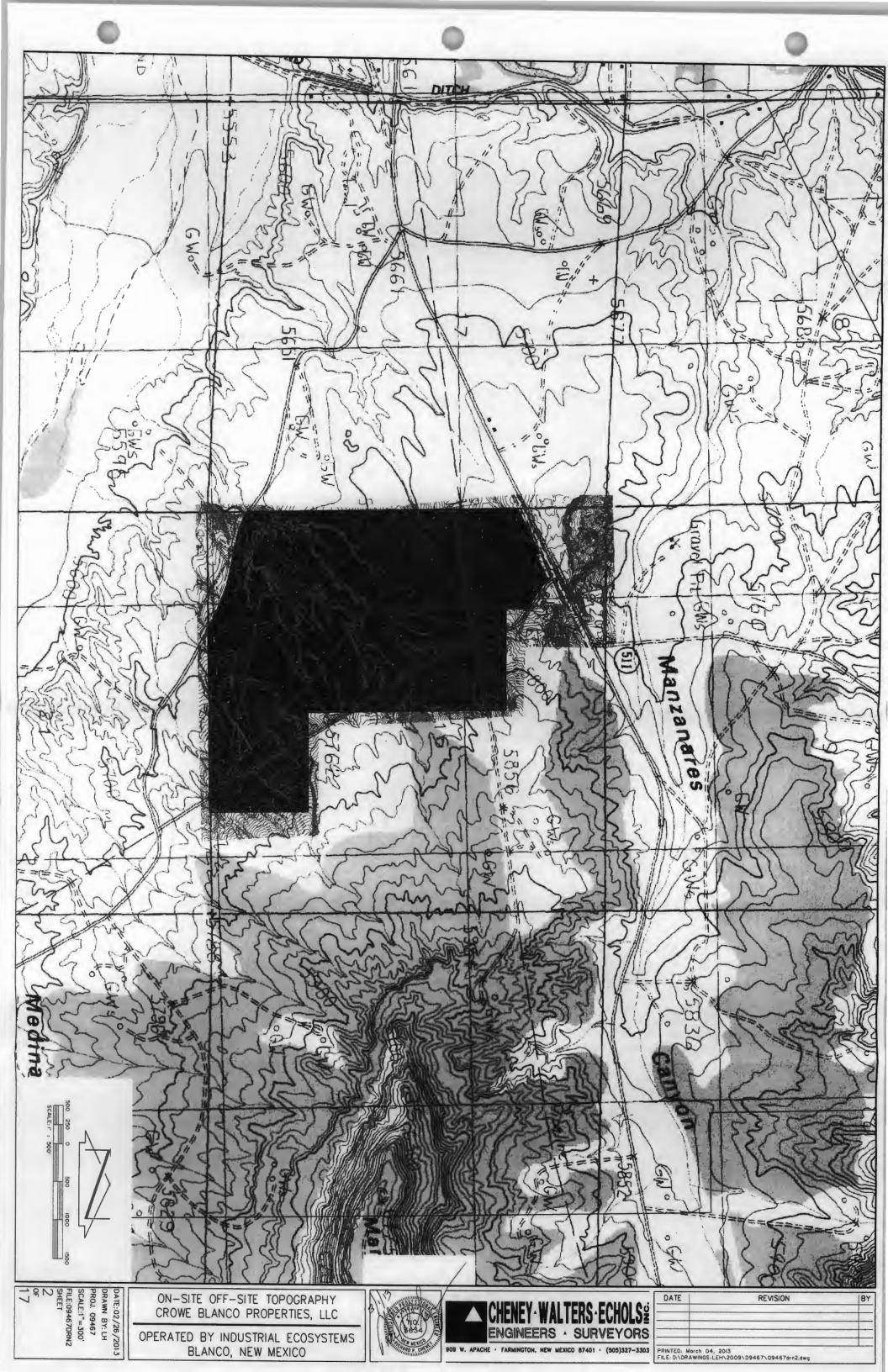
Sheet 3 of 17 On-Site Waterways & Setbacks

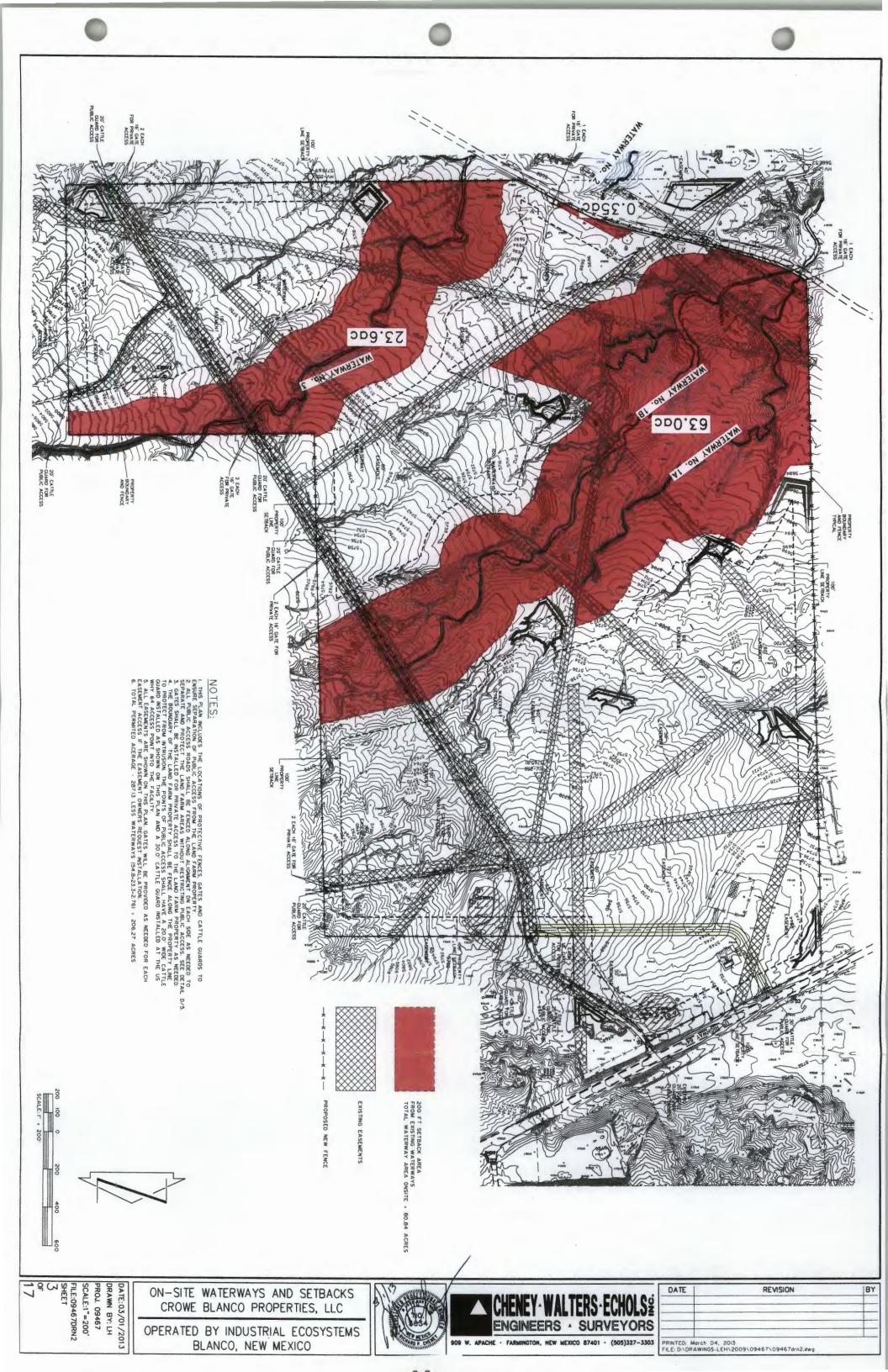
Sheet 10 of 17 Water Wells Within 1 Mile (see notes regarding springs)

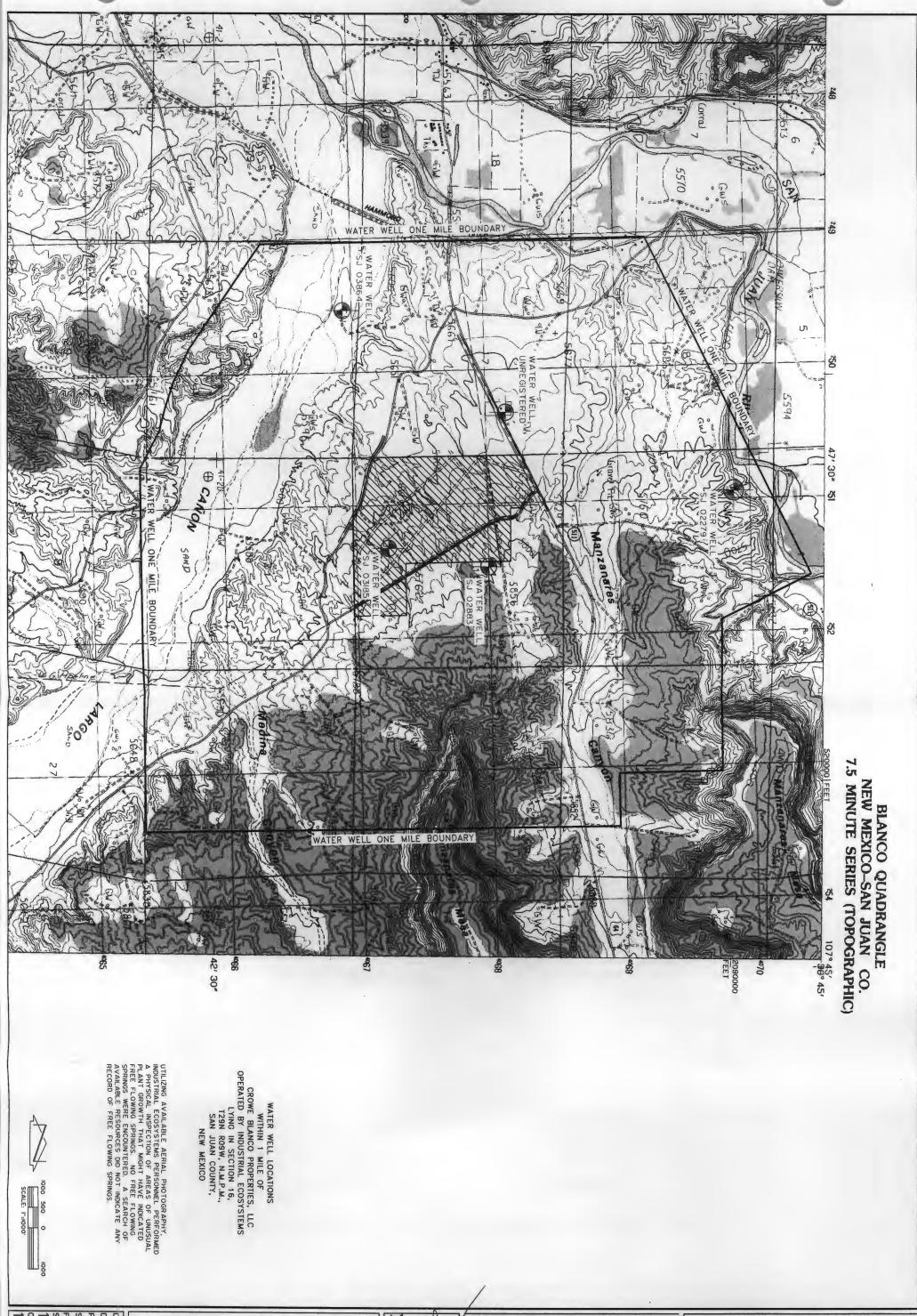
INHABITED BUILDINGS WITHIN 1 MILE OF SITE'S PERIMETER

Sheet 11 of 17 Homes Within 1 Mile









DATE:03/01/2013
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PROJ. 09467
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WATER WELLS WITHIN 1 MILE OF CROWE BLANCO PROPERTIES, LLC

OPERATED BY INDUSTRIAL ECOSYSTEMS BLANCO, NEW MEXICO





PRINTED: March 04, 2013
FILE: D\DRAWINGS-LEH\2009\09467\9467SETDDN.dwg

NOTE:

L PHOTO IMAGE IS FROM GOOGLE EARTH MAPPING.

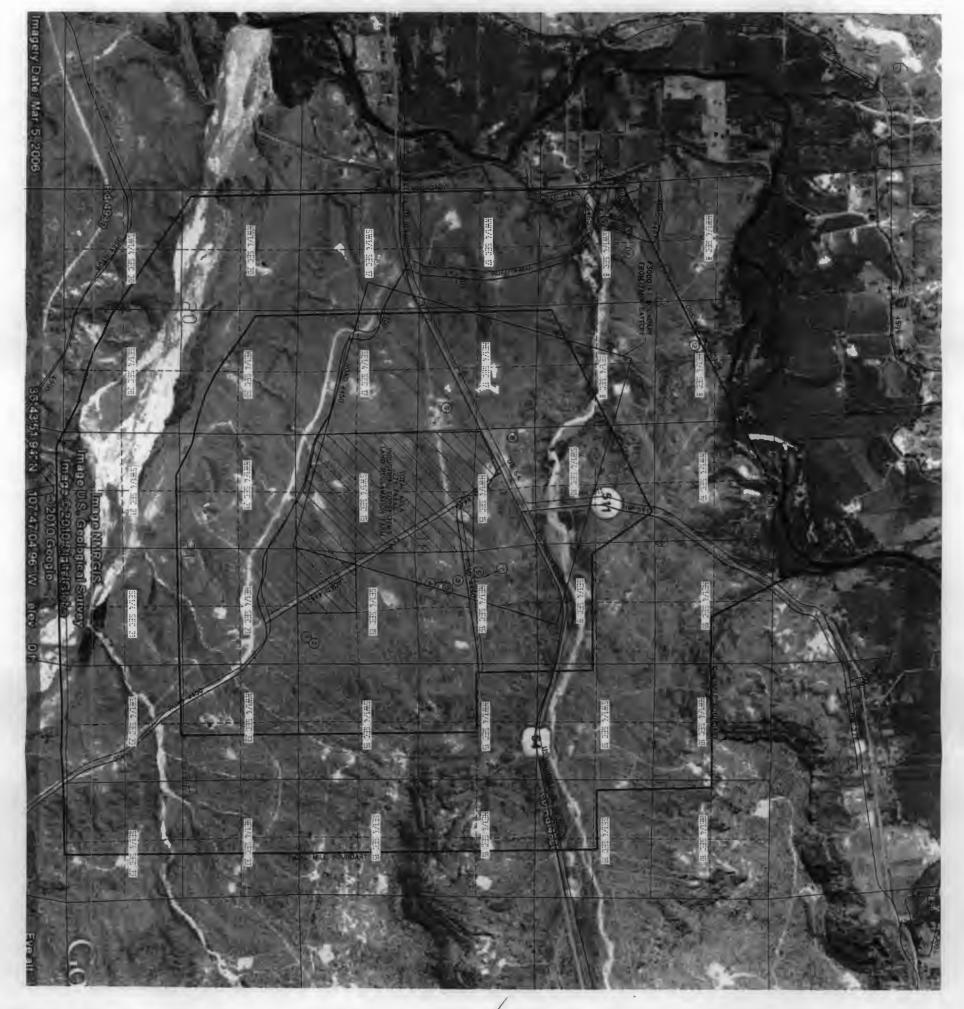
2. THE LOCATIONS OF THE KEYED NOTES ON THIS PLAN ARE PER SAN JUAN COUNTY ADDRESSING QPS LOCATIONS.

1000 300 0 1000 2000 3000 SCALE: T = 10000

HOMES WITHIN ONE MILE
OF
CROWE BLANCO PROPERTIES, LLC
OPERATED BY INDUSTRIAL ECOSYSTEMS
LYING IN SECTION 16,
T29N RO9W, N.M.P.M.,
SAN JUAN COUNTY,
BLANCO, NEW MEXICO

ADDRESS KEYED NOTES:

1) 103 ROAD 4445 - 507
2) 105 ROAD 4440 - 630
4) 44 ROAD 4440 - 639
3) 45 ROAD 4440 - 639
6) 41 ROAD 4440 - 539
6) 42 ROAD 4440 - 539
6) 43 ROAD 4460 - 3395
6) 35 ROAD 4460 - 3508
6) 36 ROAD 4460 - 5582
6) 313 ROAD 4460 - 5582
6) 313 ROAD 4460 - 5582
6) 314 ROAD 4460 - 5582
6) 315 ROAD 4460 - 5595
6) 31 ROAD 4460 - 5095
6) 3288 ROAD 4460 - 5095



DATE:02/26/2013
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HOMES WITHIN ONE MILE CROWE BLANCO PROPERTIES, LLC

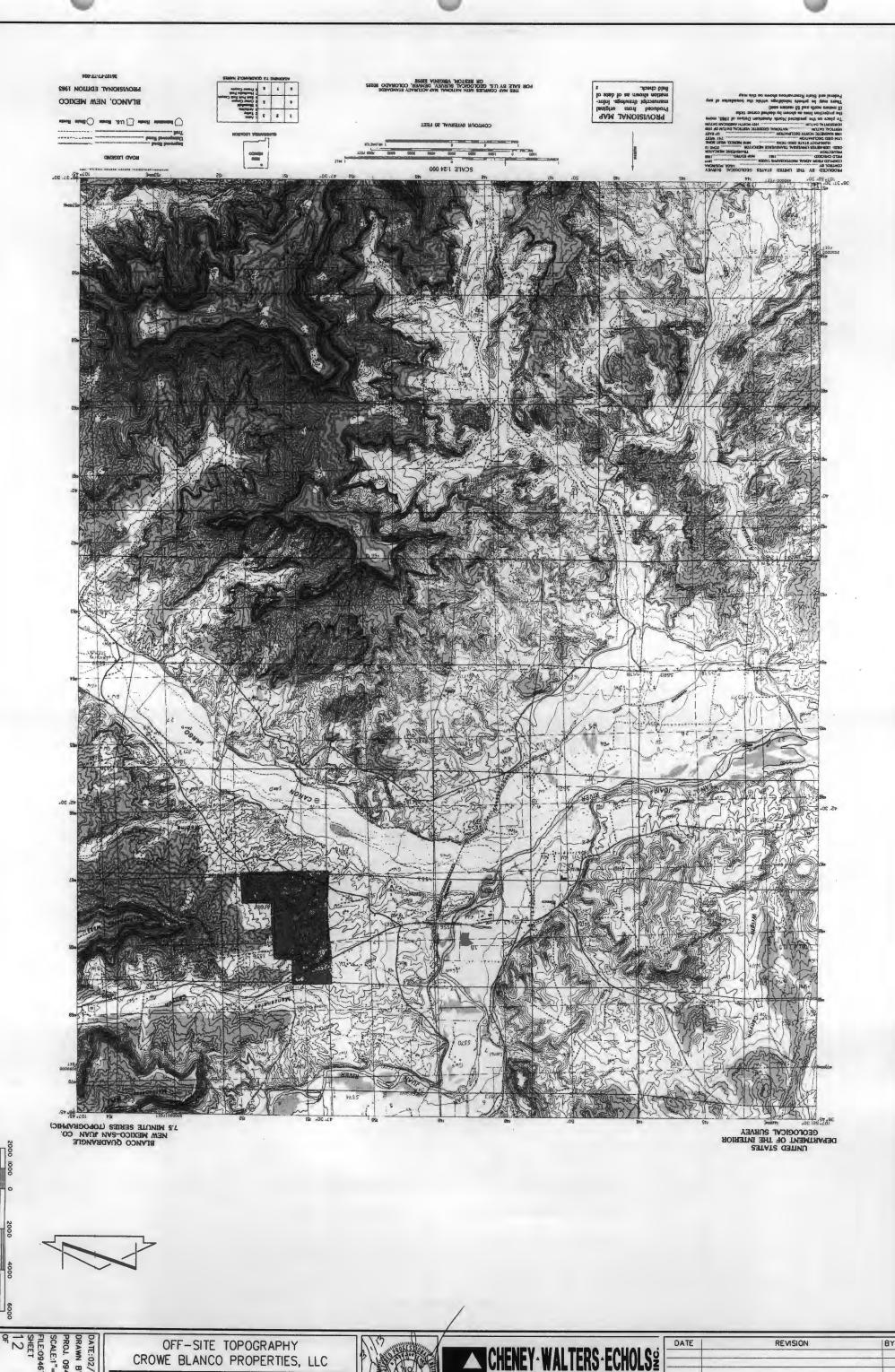
OPERATED BY INDUSTRIAL ECOSYSTEMS
BLANCO, NEW MEXICO





909 W. APACHE - FARMINGTON, NEW MEXICO 87401 - (505)327-3303

DATE	REVISION	BY
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17

OPERATED BY INDUSTRIAL ECOSYSTEMS BLANCO, NEW MEXICO





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(505) 325-2895 • FAX (505) 327-1585

MICHAEL L. SMITH, President

March 27, 2012

Cheney-Walters-Echols, Inc. 909 W. Apache Farmington, NM 87401

ATTN: Richard Cheney

RE: Ownership Search for:

Blanco Land Subdivision No. 2

Lot 2A, 4A, 3A, 5A, PT. Lots 1A, 6A and 7A Blanco Land Subdivision No.1

Lot 4

Guardian File: 1351121

Dear Mr. Cheney:

Referring to the captioned matter, we enclose a list of the owners and their addresses pursuant to the San Juan County Records. A map has been provided to indicate location of each owner that is within 1 mile from subject property, excluding roadway and alleys. We certify the attached list to be completed and accurate as to such owners and their addresses according to the records of the San Juan County Clerk through March 22, 2013 at 5:00 p.m.

We trust this information will be sufficient for your purpose. Enclosed is our invoice #15582R. If you have any question concerning this matter, please do not hesitate to contact us.

Sincerely,

Micahel L. Smith

MLS/cb enclosures

GUARDIAN ABSTRACT & TITLE CO., INC. **221 NORTH AUBURN FARMINGTON, NEW MEXICO 87401**

PROPERTY OWNERS WITHIN 1/2 MILE, EXCLUDING ROADWAYS AND ALLEYS OF

THE FOLLOWING DESCRIBED PROPERTY: Blanco Land Subdivision No. 2

Lot 2A, 4A, 3A, 5A, PT. Lots 1A, 6A and 7A Blanco Land Subdivision No. 1

OWNER:

Crowe Blanco Properties, LLC 4050 Pennsylvania Ave. Ste. 215 Kansas City, MO 64111-4111

1495/99, 1495/98

ADJOINING OWNER

ADDRESS

LEGAL DESCRIPTION

United States of America (Federal Lands)

Attn: BLM Office 1235 La Plata Hwy Farmington, NM 87401 (Per Phone Book) Note: No address in

For United States of America

T29N, R9W, Sec. 15 W1/2, Pt. E1/2 T29N, R9W, Sec. 22 NW1/4, SW1/4, Pt. E1/2 T29N, R9W, Sec. 21

Αll

San Juan County records T29N, R9W, Sec. 20 Pt. NE1/4, Pt. NW1/4,

Pt. S1/2

T29N, R9W, Sec. 17 SE1/4, Pt. NW1/4, Pt. SW1/4, Pt. NE1/4 T29N, R9W, Sec. 9 Pt. NW1/4, Pt. NE1/4

Pt. SW1/4,

Pt. NW1/4SE1/4, Pt. S1/2SE1/4 T29N, R9W, Sec. 8 \$1/2SW1/4, SE1/4,

Pt. N1/2

T29N, R9W, Sec. 10 SW1/4, Pt. S1/2NW1/4

Pt. SW1/4NE1/4,

Pt. SE1/4

T29N, R9W, Sec. 27 Pt. N1/2 T29N, R9W, Sec. 28 Pt. N1/2

Crowe Blanco Properties LLC 1495/99, 1495/98

4050 Pennsylvania Ave. Ste. 215

Blanco Land Subdivision No. 2

Kansas City, MO 64111-4111

Attn: Enterprise

Pt. Lots 1A, 6A and 7A

El Paso Field Services

Company Property Tax 1305/176, 1296/5 P.O Box 4018 Houston, TX

T29N, R9W, Sec. 17 Pt. NE1/4

Atchison, Michael E. 1499/232

P.O Box 537 Blanco, NM 87412-7412

77210-4324

Michael E. Atchison Subdivision No. 1 Lot 3

Bolack, Tommy Trustee

1521/603

3901 Bloomfield Hwy Farmington, NM 87401-7401

Michael E. Atchison Subdivision No. 1 Lots 1, 2, 4, 5, T29N, R9W, Sec. 16

N1/2NE1/4

Price, Michael D. 1298/336

P.O Box 5 Flora Vista, NM 87415-7415

Blanco Land Subdivision

No. 1 Lot 1

Castro, Alfred R. and Curley, Elvera 1540/232

P.O Box 571 Blanco, NM 87412-7412

T29N, R9W, Sec. 16 NW1/4NE1/4

Joiner, David W. and

Nancy S.

Waggoner, Jeff W. and

Deena A. 1508/320

P.O Box 570 Blanco, NM 87412-0570

T29N, R9W, Sec. 16 SW1/4NE1/4

Prado, Ralph 1411/400, 1404/863 6784 US 64 Bloomfield, NM 87413-9565

Blanco Land Subdivision

No. 1 Lot 3

T29N, R9W, Sec. 16

SE1/4NE1/4

Adams, William J. and Sondra A. 1278/14	P.O Box 28093 Santa Fe, NM 87592-8093	T29N, R9W, Sec. 16 NE1/4NE1/4
Prouse, Bradley D. and Wendy R. 1454/197	2851 County Road 116 Hesperus, CO 81326-8715	Blanco Land Subdivision No. 1 Lot 2
Bolli, Richard E. and Joellen M. 1469/943	P.O Box 579 Blanco, NM 87412-0579	T29N, R9W, Sec. 16 SE1/4SE1/4
Valencia, Seledonio and Oralia 1233/668	P.O Box 233 Bloomfield, NM 87413-0233	T29N, R9W, Sec. 8 Pt. N1/2SW1/4
Valencia, Seledonio and Orie 1054/425	P.O Box 233 Bloomfield, NM 87413-0233	T29N, R9W, Sec. 8 Pt. N1/2SW1/4
Valencia, Leeivigildo Dorina 1042/191	P.O Box 491 Blanco, NM 87412-0491	T29N, R9W, Sec. 8 Pt. NW1/4SW1/4
Valencia, Leo 1244/375	P.O Box 491 Blanco, NM 87412-0491	T29N, R9W, Sec. 8 Pt. NW1/4SW1/4
Martinez, Debbie L. and Jerry G. 1501/606	P.O Box 402 Blanco, NM 87412-0402	T29N, R9W, Sec. 8 Pt. NW1/4SW1/4
Chavez, Mary Rodriquez, Frances J. 1477/973	P.O Box 392 Blanco, NM 87412-0392	T29N, R9W, Sec. 8 Pt. N1/2SW1/4
Hood, John N. and Julie A. 1371/55	P.O Box 482 Blanco, NM 87412-7412	T29N, R9W, Sec. 8 Pt. NE1/4SW1/4
Wood, Annette 1211/998	4528 67 th St. Albuquerque, NM 87120-7120	T29N, R9W, Sec. 8 Pt. NE1/4SW1/4

Chavez, Koggie 1211/655	8841 Grove St. Westminster, CO 80030-3328	T29N, R9W, Sec. 8 Pt. NE1/4SW1/4
Montoya, Joe 1452/1027	HC 71 Box 15 Dulce, NM 87528-7528	T29N, R9W, Sec. 8 Pt. N1/2SW1/4
Hawthorne, Doris E. 1492/1006	P.O Box 305 Blanco, NM 87412-7412	T29N, R9W, Sec. 8 Pt. NE1/4SW1/4
Valencia, Johnny 1130/610	P.O Box 475 Blanco, NM 87412-0475	T29N, R9W, Sec. 8 Pt. NW1/4SW1/4
Atencio, Esther AKA Valencia, Esther 1190/320	P.O Box 1295 Aztec, NM 87410-1295	T29N, R9W, Sec. 8 Pt. N1/2SW1/4
San Juan County 1116/693	100 S. Oliver Dr Aztec, NM 87410-2400	T29N, R9W, Sec. 17 E1/2NW1/4SE1/4NW1/4
Archuleta, Milton J. Trustee 1060/205	330 Road 4599 Blanco, NM 87412-9730	T29N, R9W, Sec. 8 Pt. NE1/4NE1/4
Archuleta, Milton Don 1532/12	7414 US 64 Blanco, NM 87412-7412	T29N, R9W, Sec. 8 Pt.NE1/4NE1/4
Lewis, Irene C. and Gary 1537/423, 1538/62	P.O Box 468 Blanco, NM 87412-0000	T29N, R9W, Sec. 9 Pt. NW1/4NW1/4
Jacquez, Richard D. and Debra K. 1296/477, 1263/949	475 Road 4599 Blanco, NM 87412-7412	T29N, R9W, Sec. 4 Pt. SW1/2 Pt. W1/2SE1/4
Jeter, Larry A. and Patricia D. 1417/928	P.O Box 506 Blanco, NM 87412-7412	T29N, R9W, Sec. 9 Pt. NE1/4NW1/4

Chavez, Dennis O. and Maria Emma Living Trust 1236/417, 1328/176, 1236/426, 1236/427, 1328/175	288 Road 4800 Bloomfield, NM 87413-7413	T29N, R9W, Sec. 9 Pt. NE1/4NW1/4
Herbert, Avula idell 737/95	3780 Kimball St. Thatcher, AZ 85552-5552	T29N, R9W, Sec. 4 Pt. SE1/4SW1/4
McCoy, Robert E. Sr. and Nola C. McCoy, B. Lynn 890/548, 1514/397	694 Road 4990 Bloomfield, NM 87413-7413	T29N, R9W, Sec. 4 Pt. SE1/4SW1/4
James, Juanita N. Trustee 1552/643	24 Road 5817 Farmington, NM 87401-9527	T29N, R9W, Sec. 4 Pt. W1/2SE1/4
Farmington Investment 451/232, 346/214, 453/281 346/215	P.O Box 229 Farmington, NM 87499-0229	T29N, R9W, Sec. 9 Pt. NW1/4NE1/4
Hutton, Kathryn K. 863/507	539 S. Grant Casper, WY (2012 Tax Bill lists owner Of Property as Farmington Investment Co. et al and K Hutton. Tax Bill Sent to Farmington investment at P.O Box 229 Farmington, NM 87499-0229)	
Porter, Kathryn, Custodian Porter, Amanda K.	2770 Forestdale Road New Brighton, MN 55112 (2012 Tax Bill lists owner Of Property as Farmington Investment Co. et al and K Hutton. Tax Bill Sent to Farmington Investment at P.O Box 229 Farmington, NM 87499-0229)	T29N, R9W, Sec. 9 Pt. NW1/4NE1/4

	WARRANTY DEED	
SNM Properties, LLC, a New Mexico		
Crowe Blanco Properties. LLC, a New whose address is 4050 Pennsylvania A	Mexico Limited Liability Company	for consideration paid, grant to
the following described real estate in	SAN JUAN	County, New Mexico:
Lot Four (4) of the BLANCO LAND S Subdivision filed for record September	SUBDIVISION NO. 1, San Juan C 26, 2000 in Book 1309, page 455, re	ounty, New Mexico, as shown on the Plat of said reords of said County.
AND		•
Lot(s) One A (1A), Two A (2A), Three A NO. 2, San Juan County, New Mexico, page 796, records of said County.	A (3A), Four A (4A), Five A (5A), S as shown on the Plat of said Subdiv	ix A (6A) of the BLANCO LAND SUBDIVISION vision filed for record May 30, 2001 in Book 1322,
Subject to patent reservations, restriction	ons, and easements of record and ta	xes for the year 2009 and subsequent years.
with warranty covenants. WITNESS our hands and seals this	11th day of June 2009.	
R 10 M		
SNM Properties, LLC		
By: Brad Magee, Managing Member		
,		8/12/2009 11:43 AM 95 P99 R \$39.00 DEBBIE HOLMES
	Individual Capacity:	
State of New Mexico		
County of San Juan)) SS.	
This instrument was acknowledged and on behalf of SNM Properties, LLC, a		2009, by Brad Magoe, Managing Member of mpany.
My commission expires: March 18, 2010	Q	200
(Seal)	NORLYZUO	iic
SUBLICE)		

	ee, husband an		for consideration paid, grant
Crowe Blanco Properties. LLC. a N whose address is 4050 Pennsylvania	ew Mexico Lin ve., Suite 215,	nited Liability Company Kansas City, MO 64111	
the following described real estate in		SAN JUAN	County, New Mexico:
Lot Seven A (7A) of the BLANCO sald Subdivision filed for record Ma	LAND SUBDIT 30, 2001 in Bo	VISION NO. 2, San Juar ook 1322, page 796, recor	a County, New Mexico, as shown on the Pia ds of said County.
Subject to patent reservations, restrictions of the warranty covenants. WITNESS our hands and seals the seals of the warrants are seals to the warrants are seals the warrants are seals to the warrants are seals the warrants are seals to the warrants are seals are seals to the warran			ss for the year 2009 and subsequent years.
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		Brad D. Magee	May 1
Marcia A. Magee	·	**************************************	
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te of New Mexico)		
unity of San Juan) SS.)		
This instrument was acknowledged shand and wife.	before me on t	he 11th day of June, 2001	, by Brad D. Magee and Marcia A. Magee,
)	_0_	24
commission expires: March 18, 2010		Motory Distin	
commission expires: March 18, 2010		Notary Public	
-		Notary Public	

Facility Description & Diagram (19.15.36.8.C.4 NMAC)

The facility consists of 206 +- (permitted) acres and is contained with a four (4) foot field fence topped with barbed wire.

Entrance/Exit for the facility will be gained through gates which will remain locked when the facility is not in operation and/or when there are no personnel on the facility.

The office will be located at the entrance of the facility to monitor all incoming and outgoing traffic.

Interior roads will be developed within the facility to provide access for personnel, transporters and visitors.

The "Processing Area" will be contained within a six (6) foot chain-link fence to prevent unauthorized access. The area will be lined and will also be bermed to contain 1 1/3 the volume of the largest tank or all interconnected tanks.

FENCES, GATES, CATTLEGUARDS, ROADS

 Sheet 3 of 17 On-Site Waterways & Setbacks

Sheet 5 of 17 Retention Dikes & Details

> D/5-Field Fence & Post Detail F/5-Field Fence Corner Post Detail G/5-Field Fence Gate Installation Detail

Sheet 7 of 17 Operation Facility Site Plan Sheet 8 of 17 Profile Entrance Road Sheet 9 of 17 Profile Entrance Road Sheet C105 Grading & Drainage Plan

Interior Access Road & Driveway

Process Area Chain Link Gate & Fence Foundation

PIPELINES CROSSING THE FACILITY

 Sheet 1 of 17 **Boundary Survey**

RETENTION POND/DIKES

 Sheet 4 of 17 Drainage Basins

Sheet 5 of 17 Retention Dikes & Details

A/5-Typical Overflow Plan

B/5-Typical Retention Pond Slope Detail

C/5-Dike Overflow Detail

LINERS, PIPING, TANKS, BUILDING & CHEMICAL STORAGE AREAS

Sheet C104 Proposed Site Plan

HDPE Liner w/Pipe Penetration Detail

Hydrofluoric Acid Totes Containment Location & Details

Foundation Plan

Grading & Drainage Plan Sheet C105

Liquids Collection System-Sections C-C & D-D

Sheet C107 Piping Plan

BERMS

Sheet 5 of 17 Retention Dikes & Details

E/5-Detail of Earth Berms for Cells and Perimeter

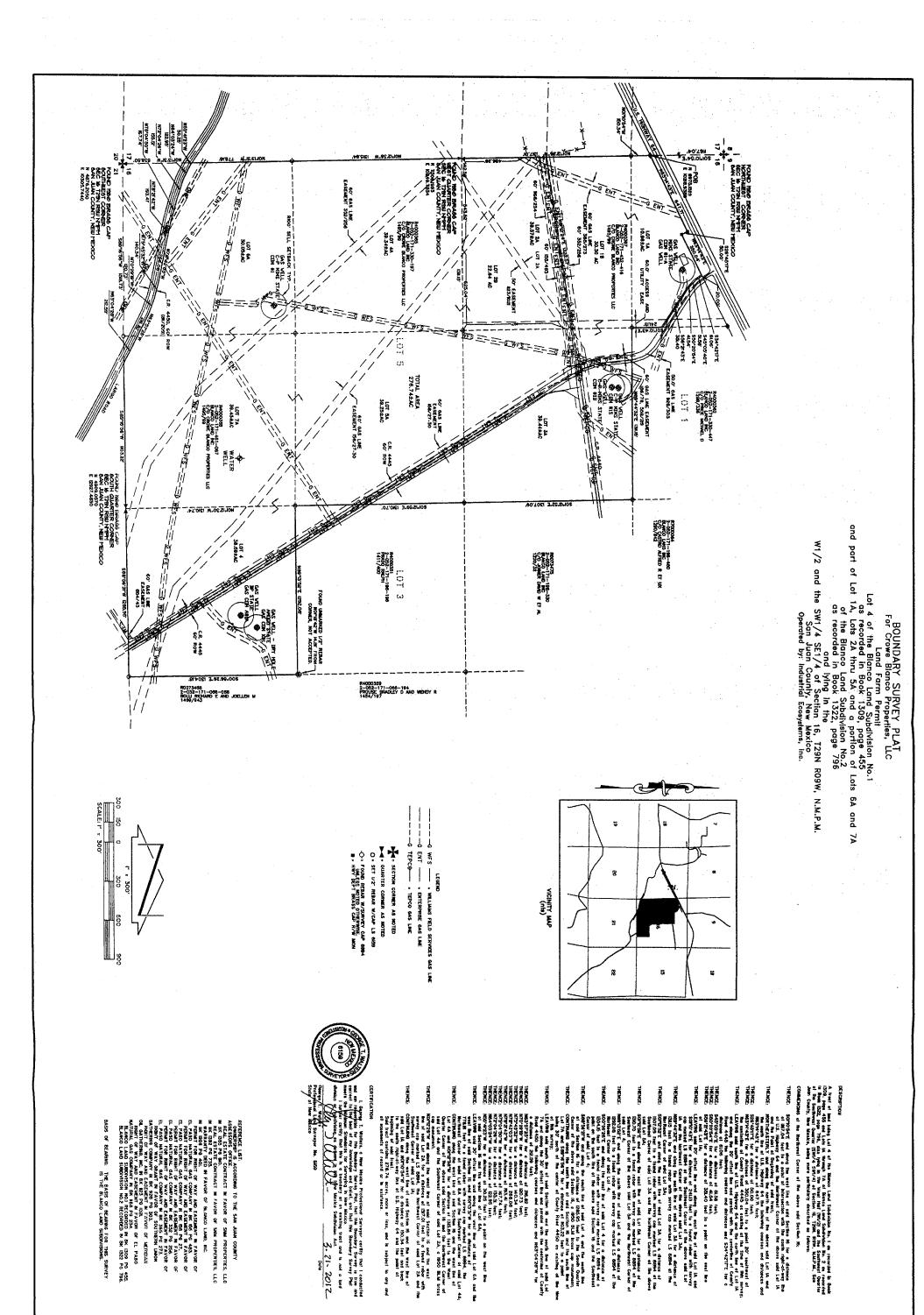
Sheet 6 of 17 10 Acre Cell Map

Sheet C105 Grading & Drainage Plan

Process Boundary Berm-Section A-A

Typical Process Interior Berm-Section B-B

Cell Berm Profiles Pages 1 - 10



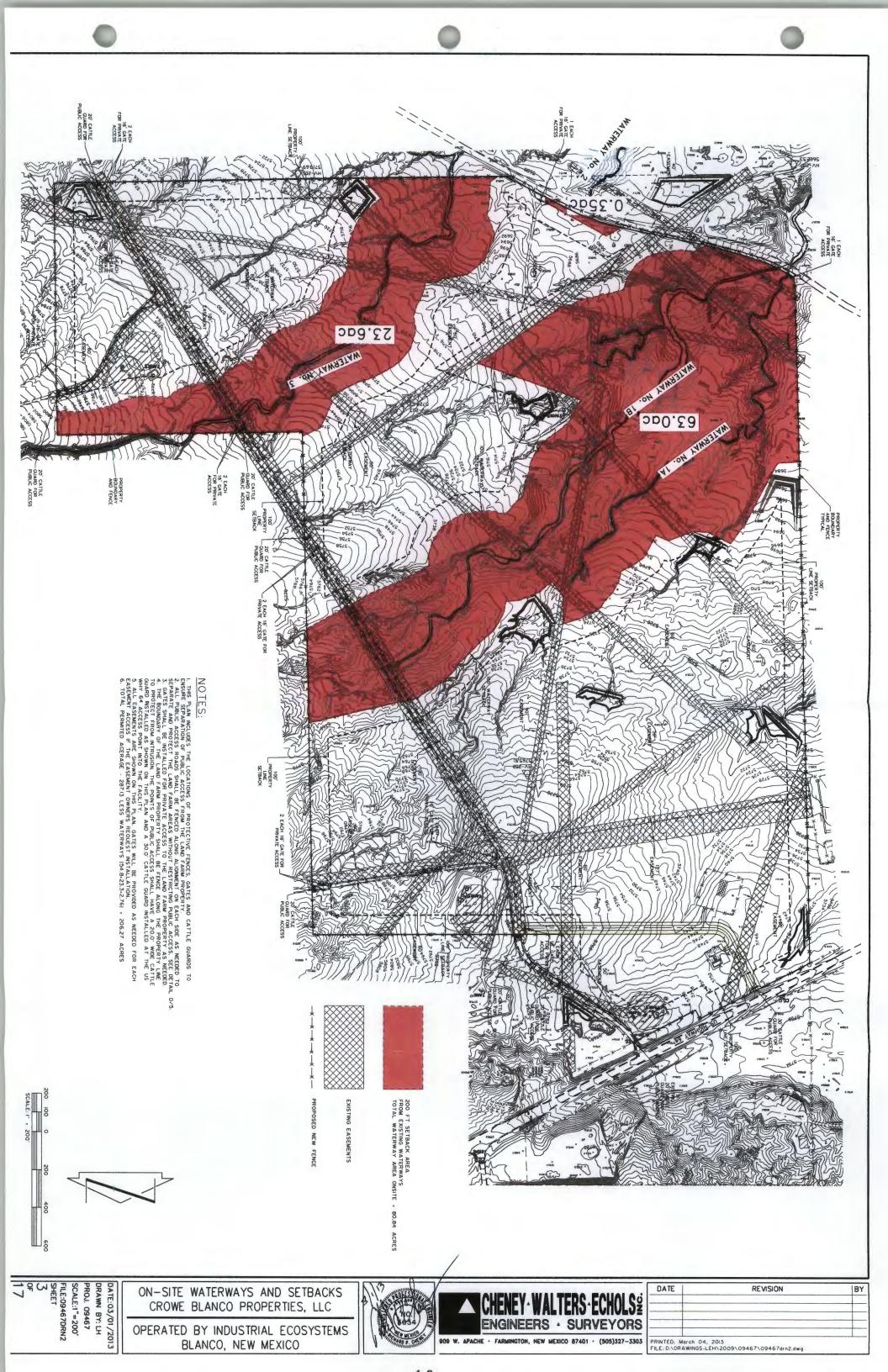
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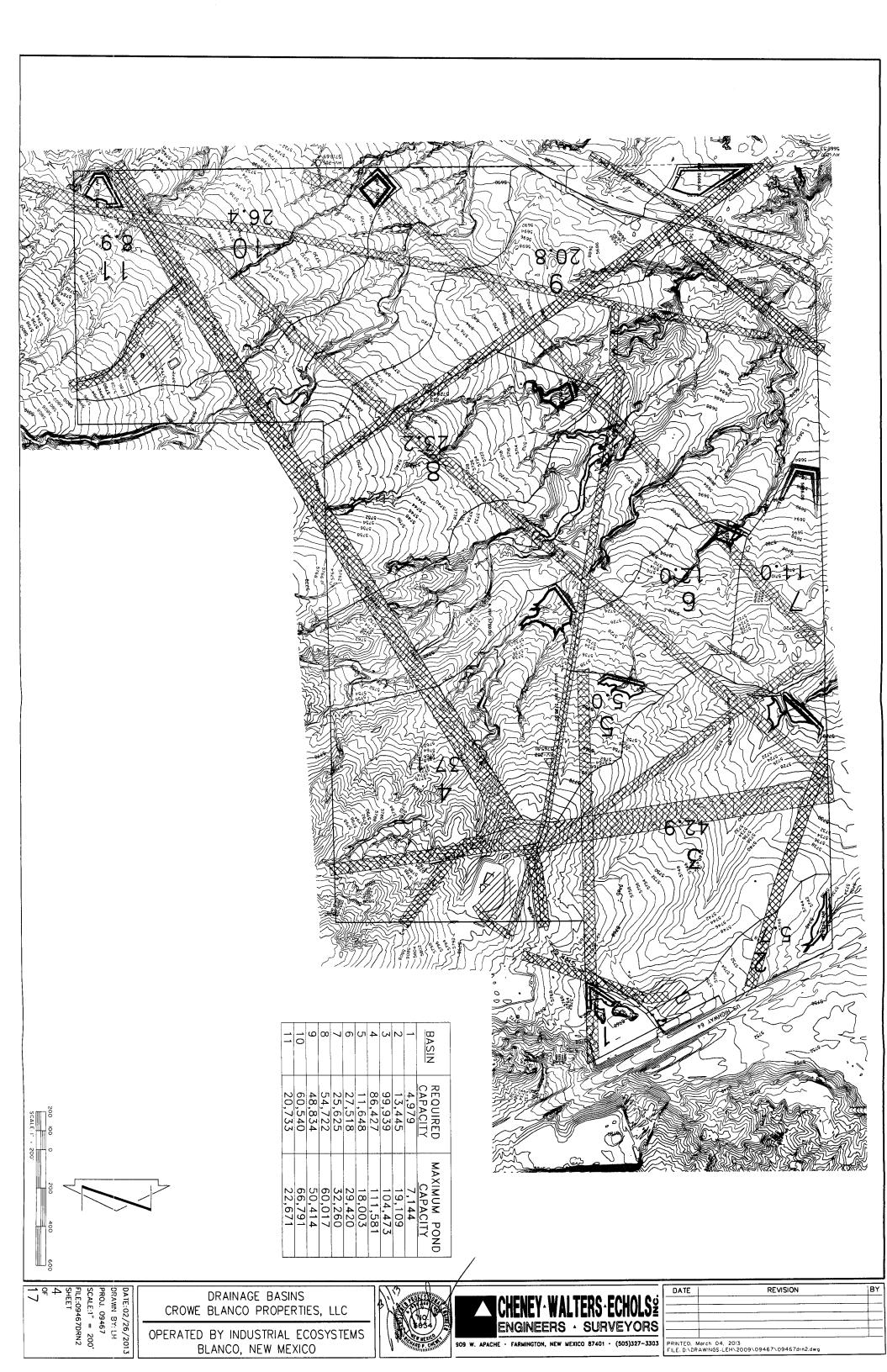
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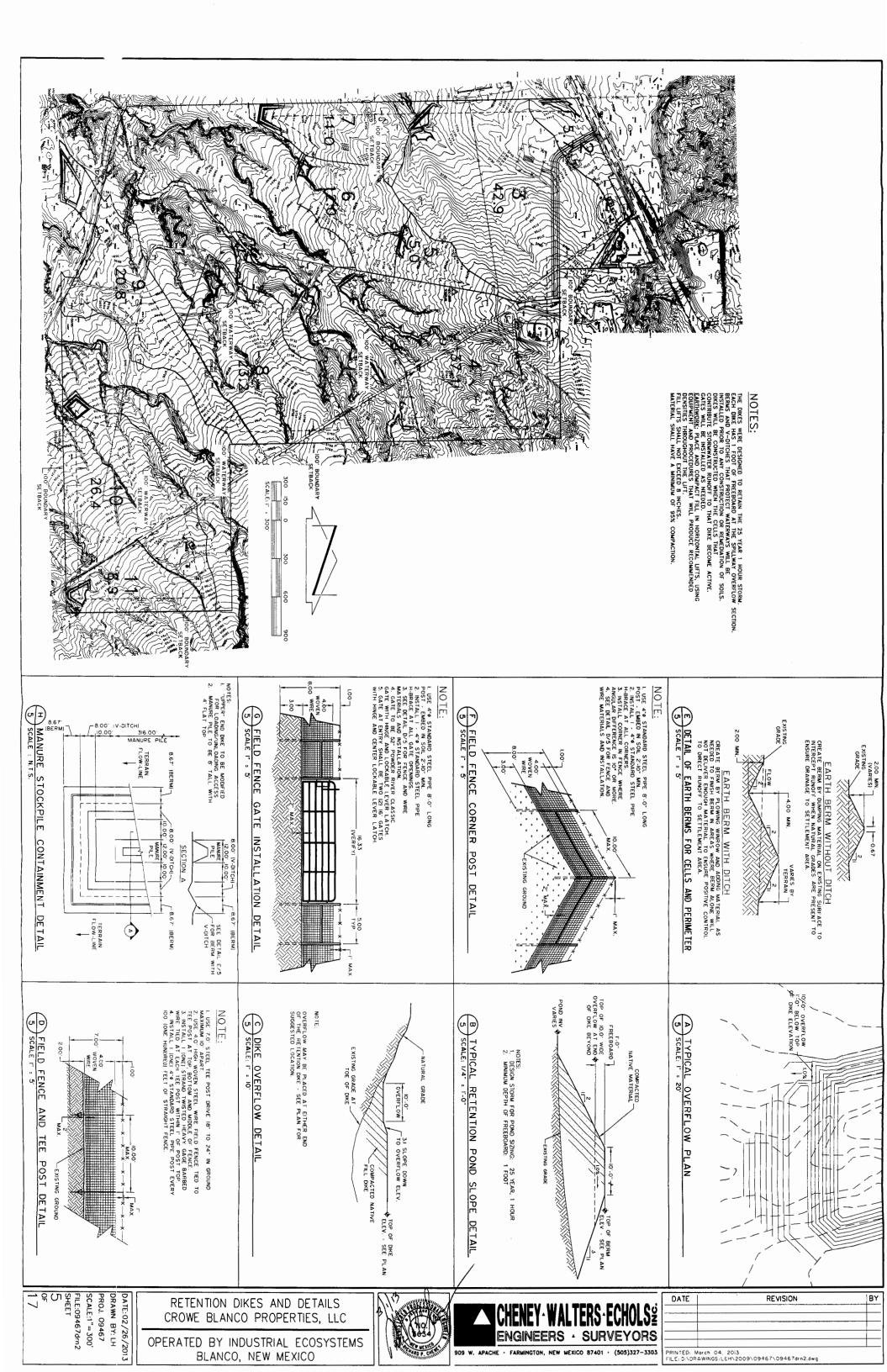
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BLANCO, NEW MEXICO

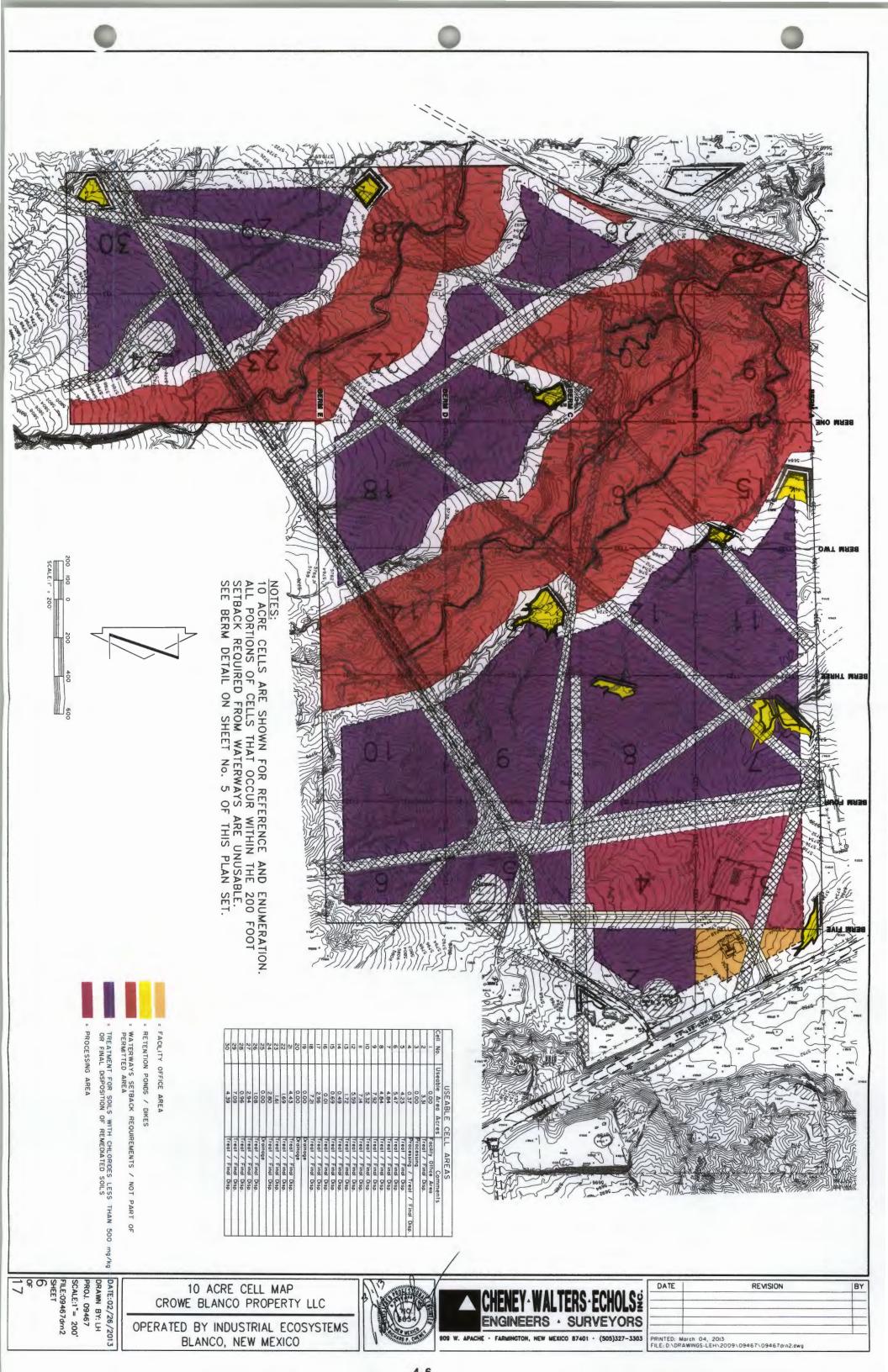
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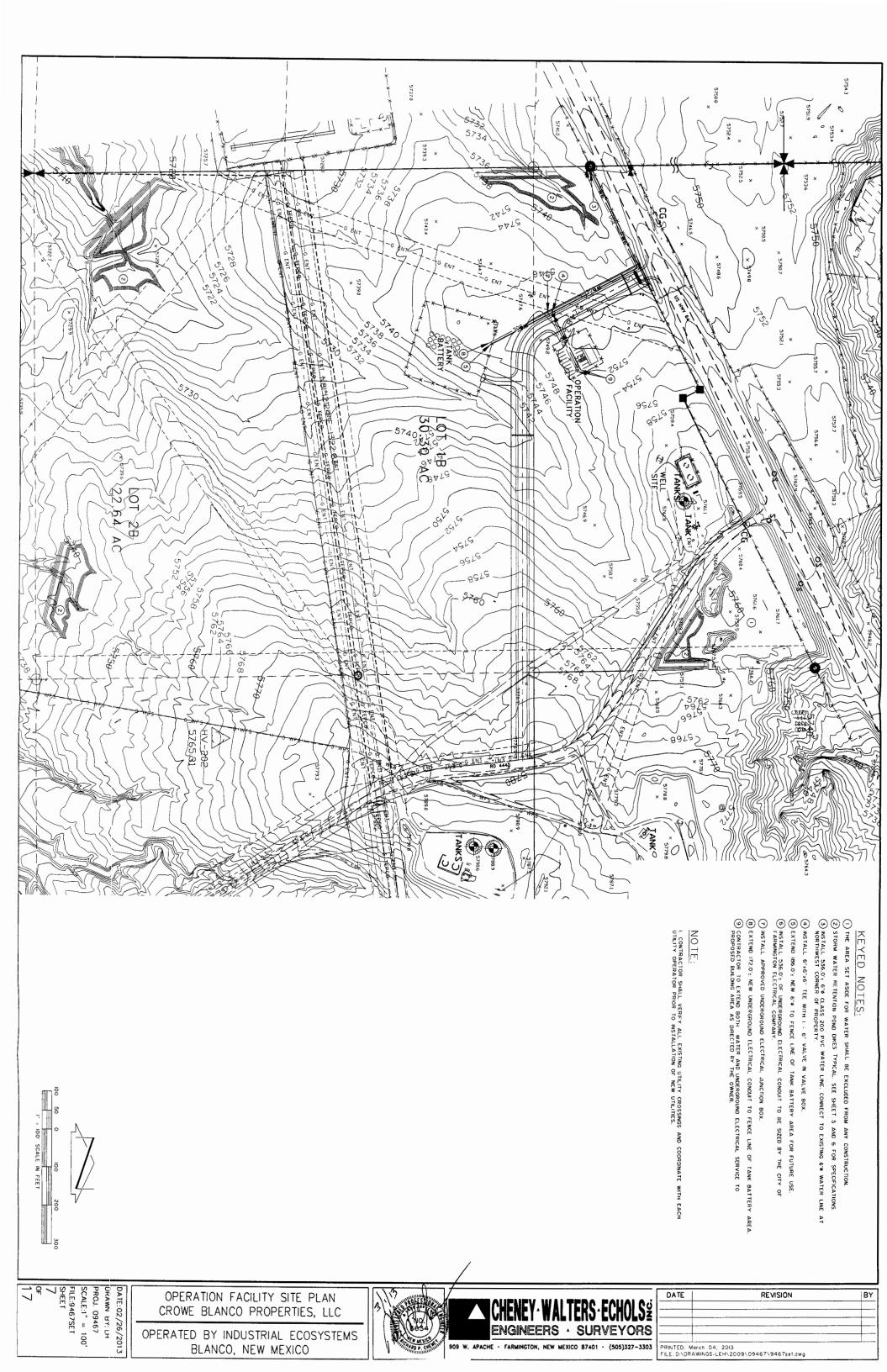
909 W. APACHE - FARMINGTON, NEW MEXICO 87401 - (505)327-3303

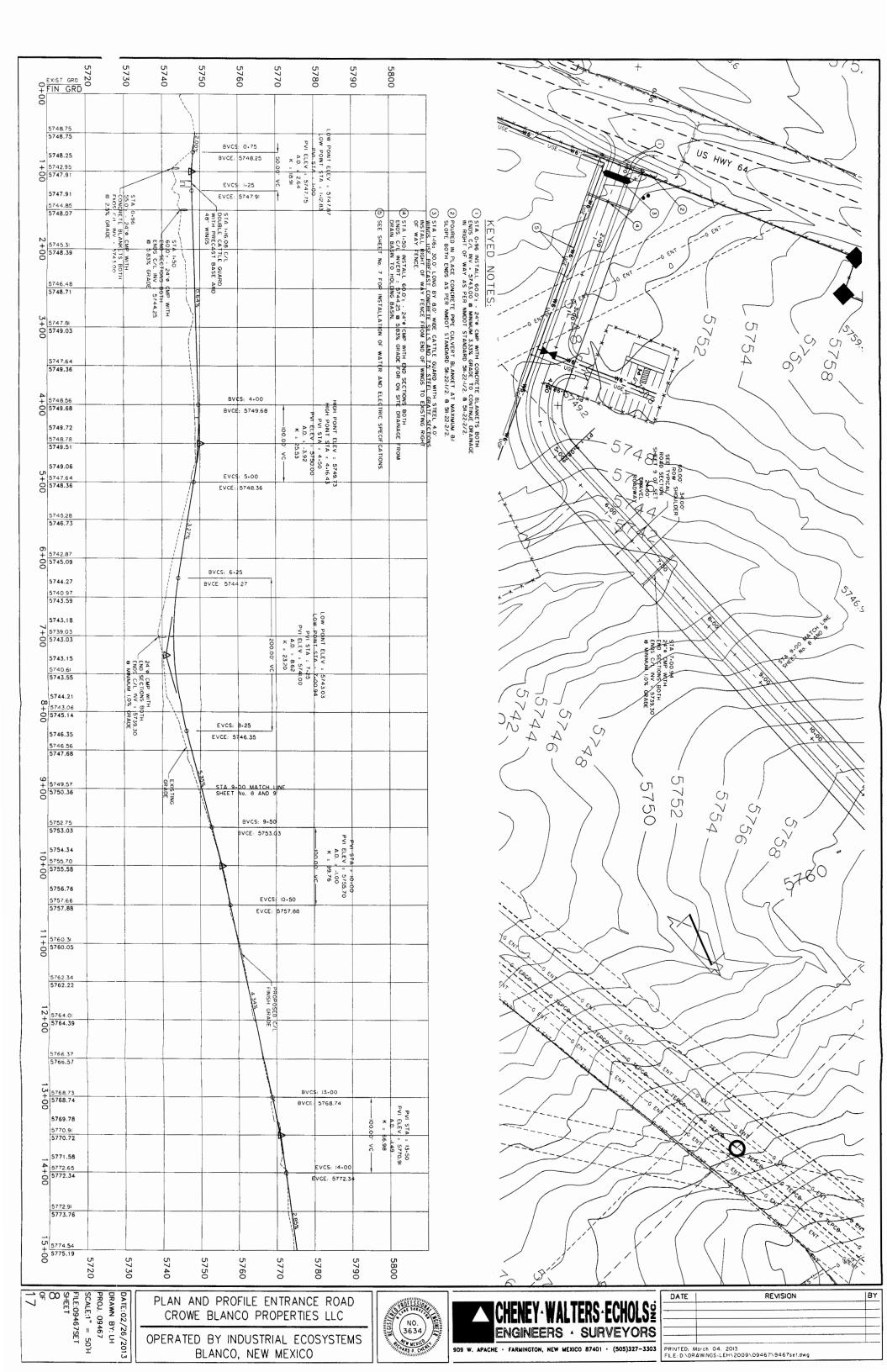


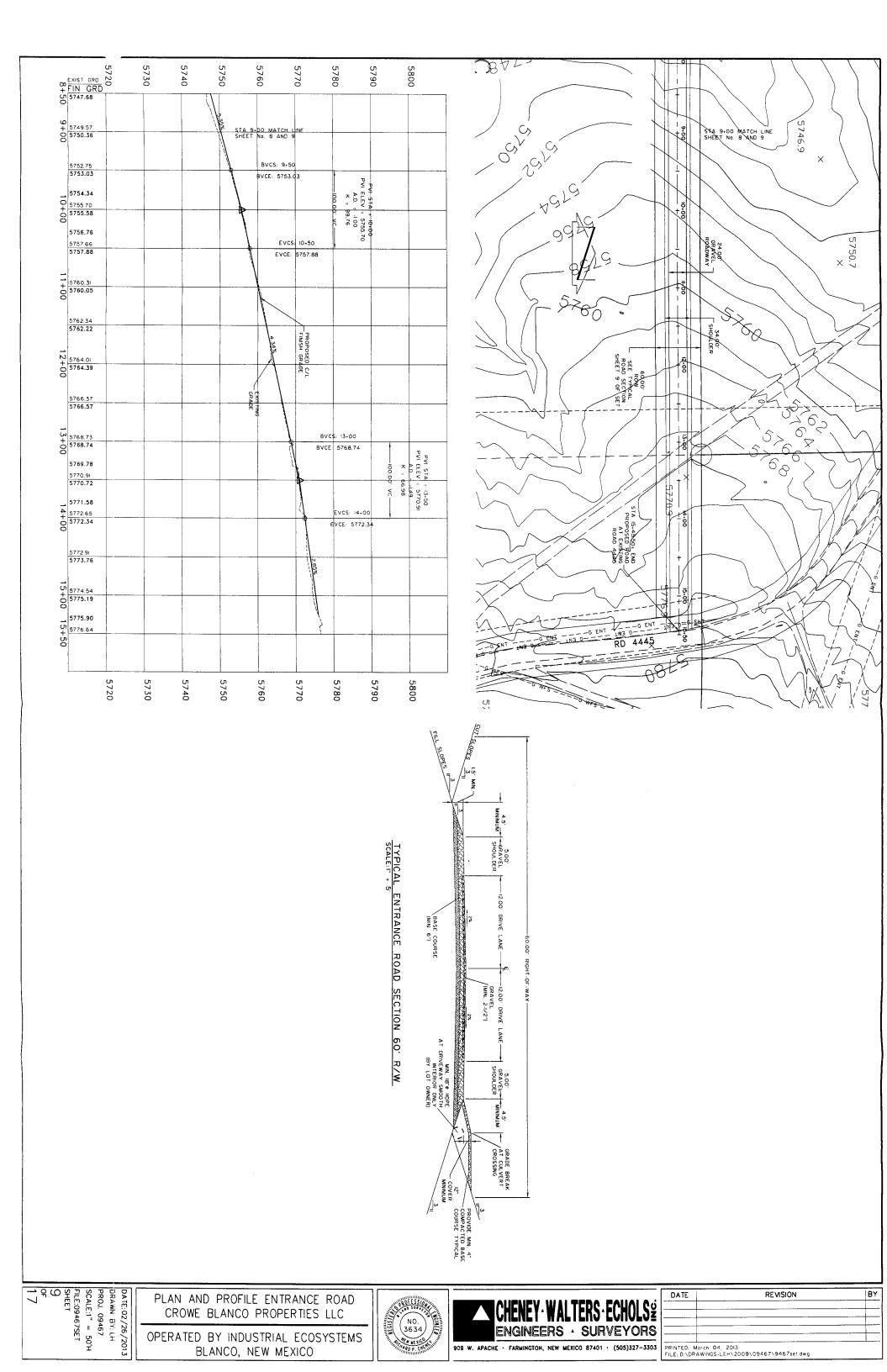


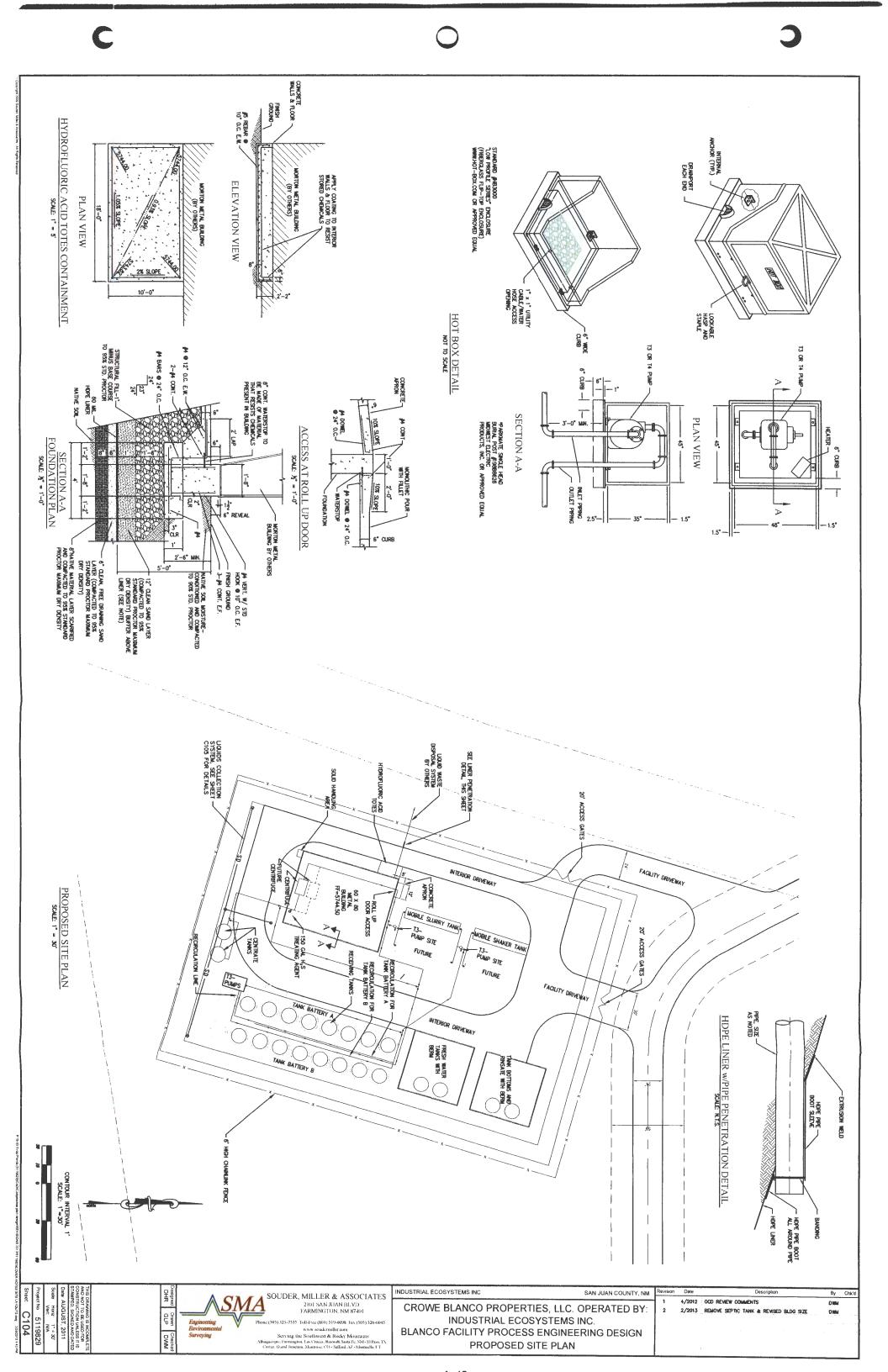


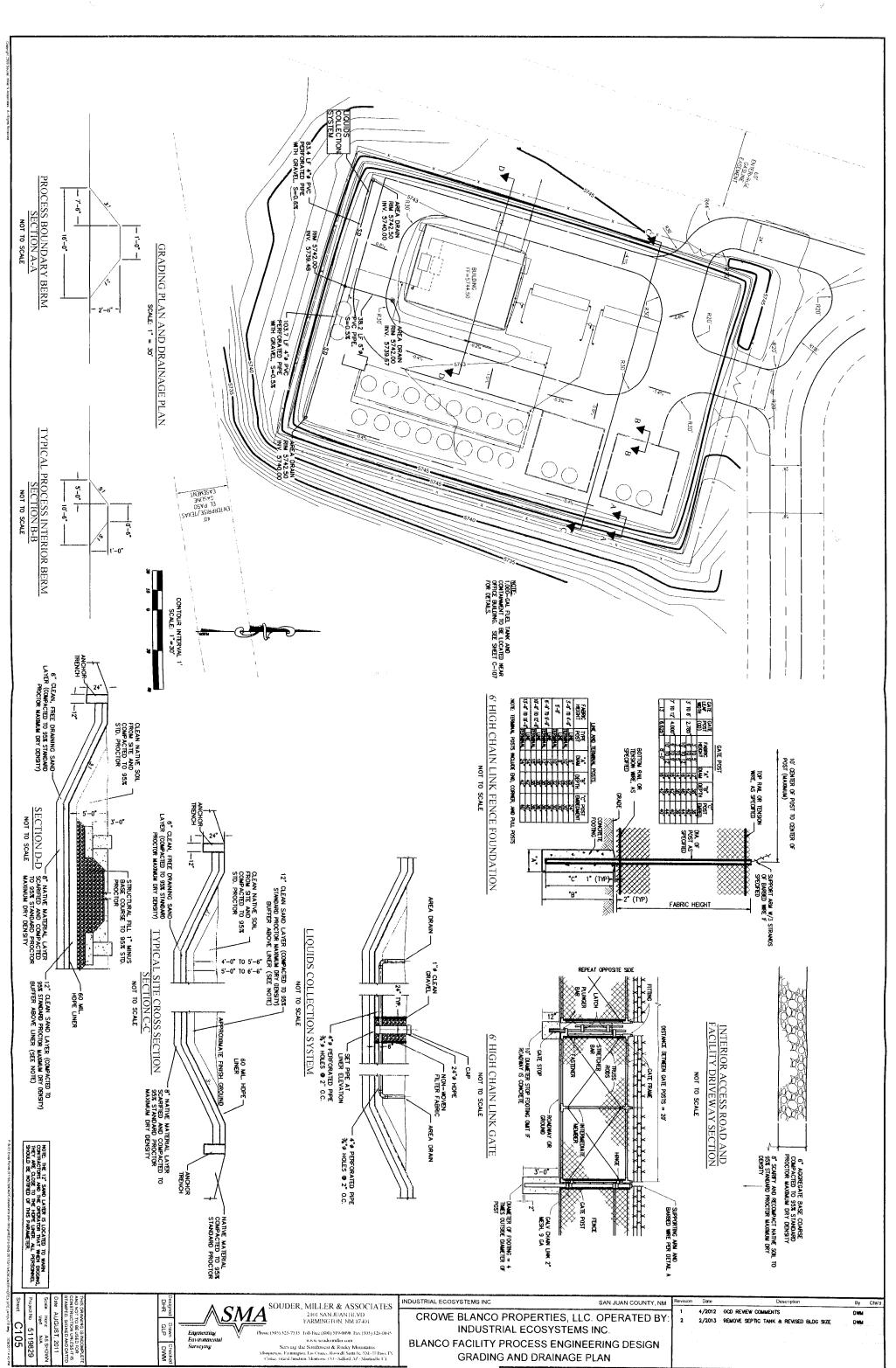


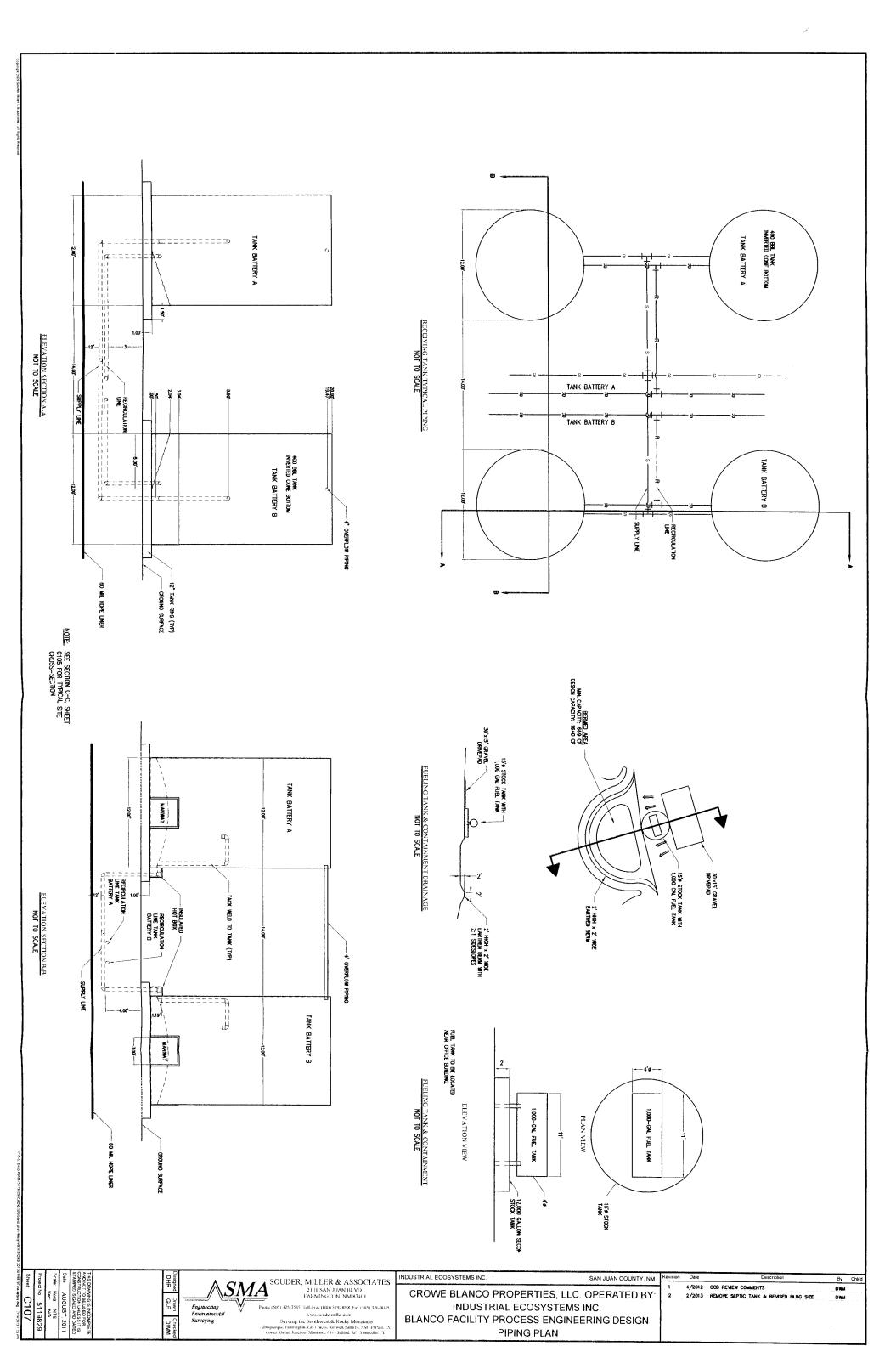


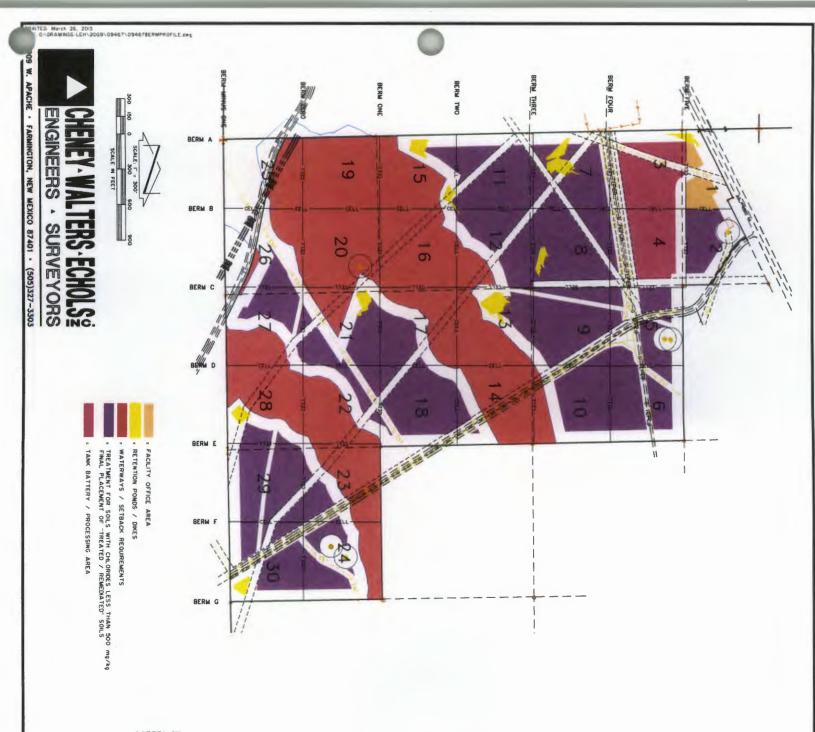












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OPERATED BY INDUSTRIAL ECOSYSTEMS, INC. **BLANCO, SAN JUAN CO UNTY, NEW MEXICO**

CELL BERM **PROFILES**

SHEET IN DEX

- **COVER SHEET**
- BERM M INUS ONE - BERM ZERO
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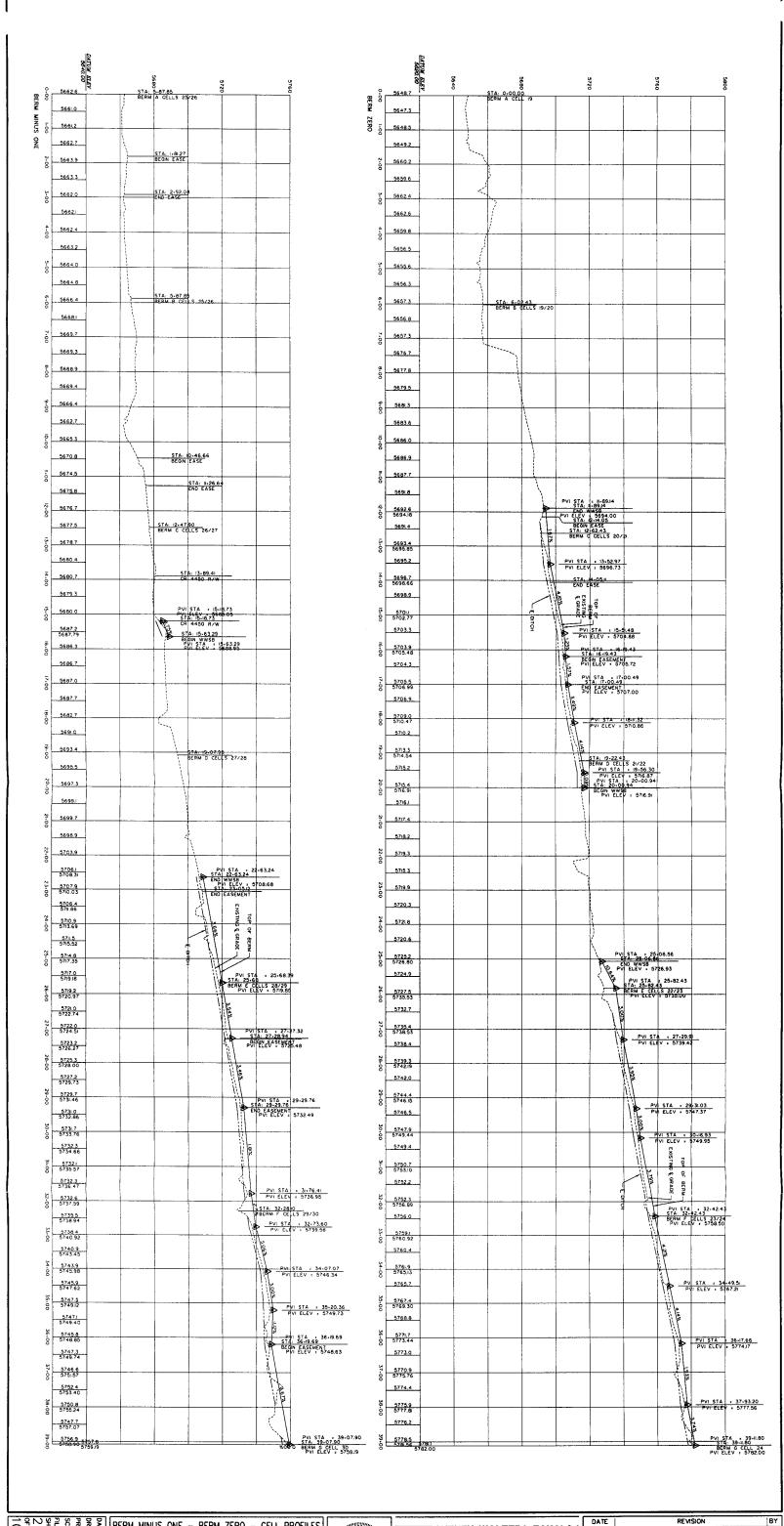
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- **NORTH DRAINAGE SETBACK BERMS**

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SOUTH DRAINAGE SETBACK BERMS

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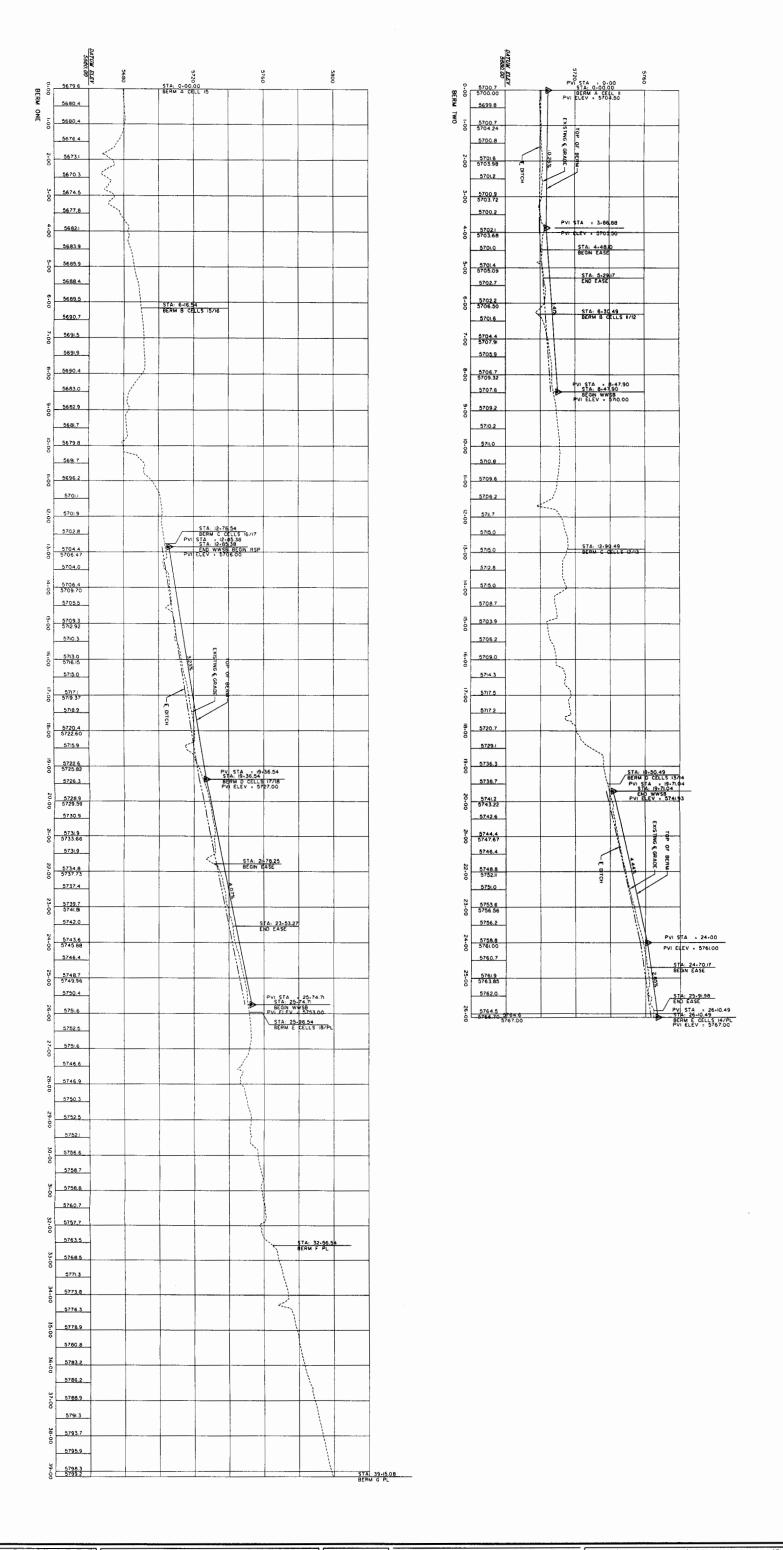
BERM MINUS ONE - BERM ZERO - CELL PROFILES

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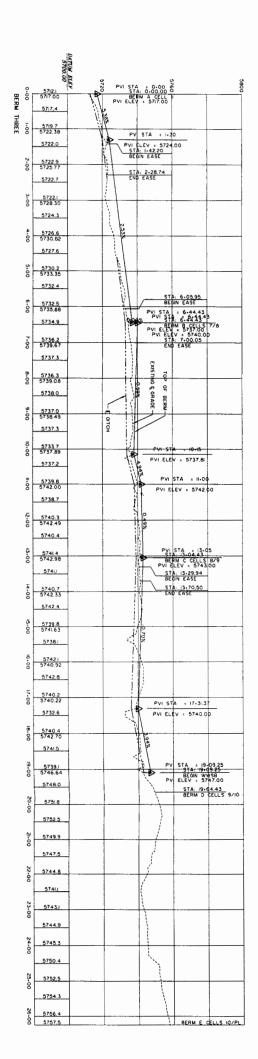
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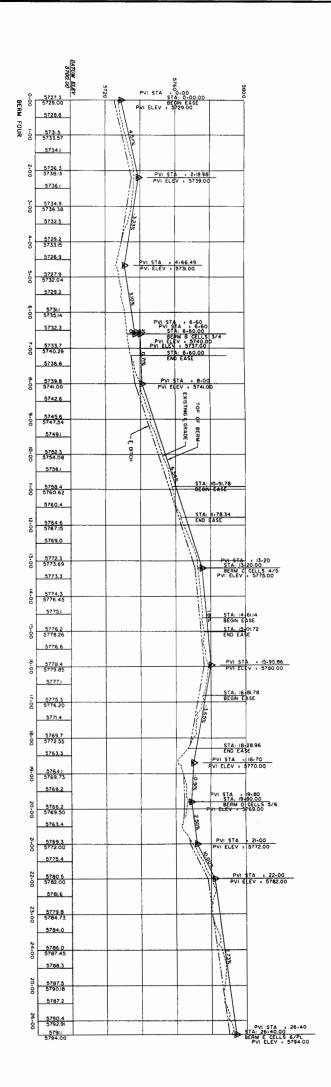
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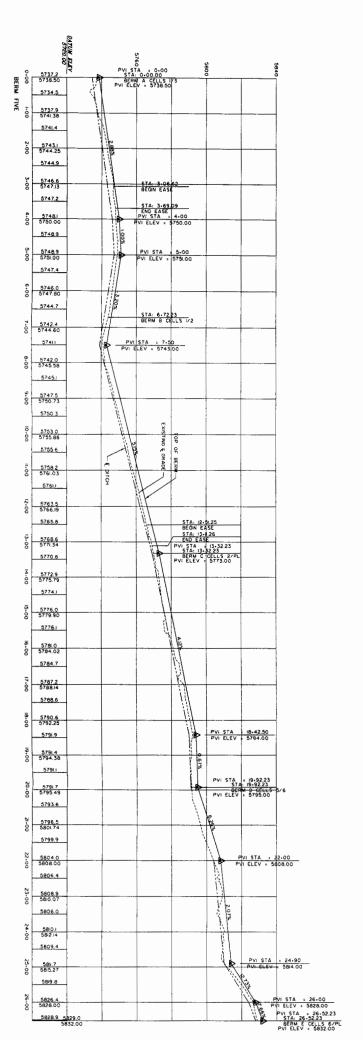
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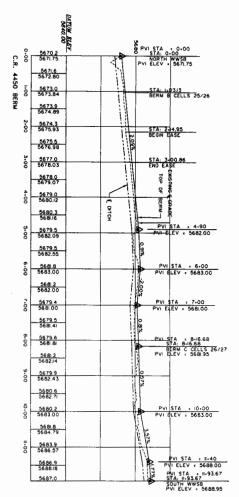
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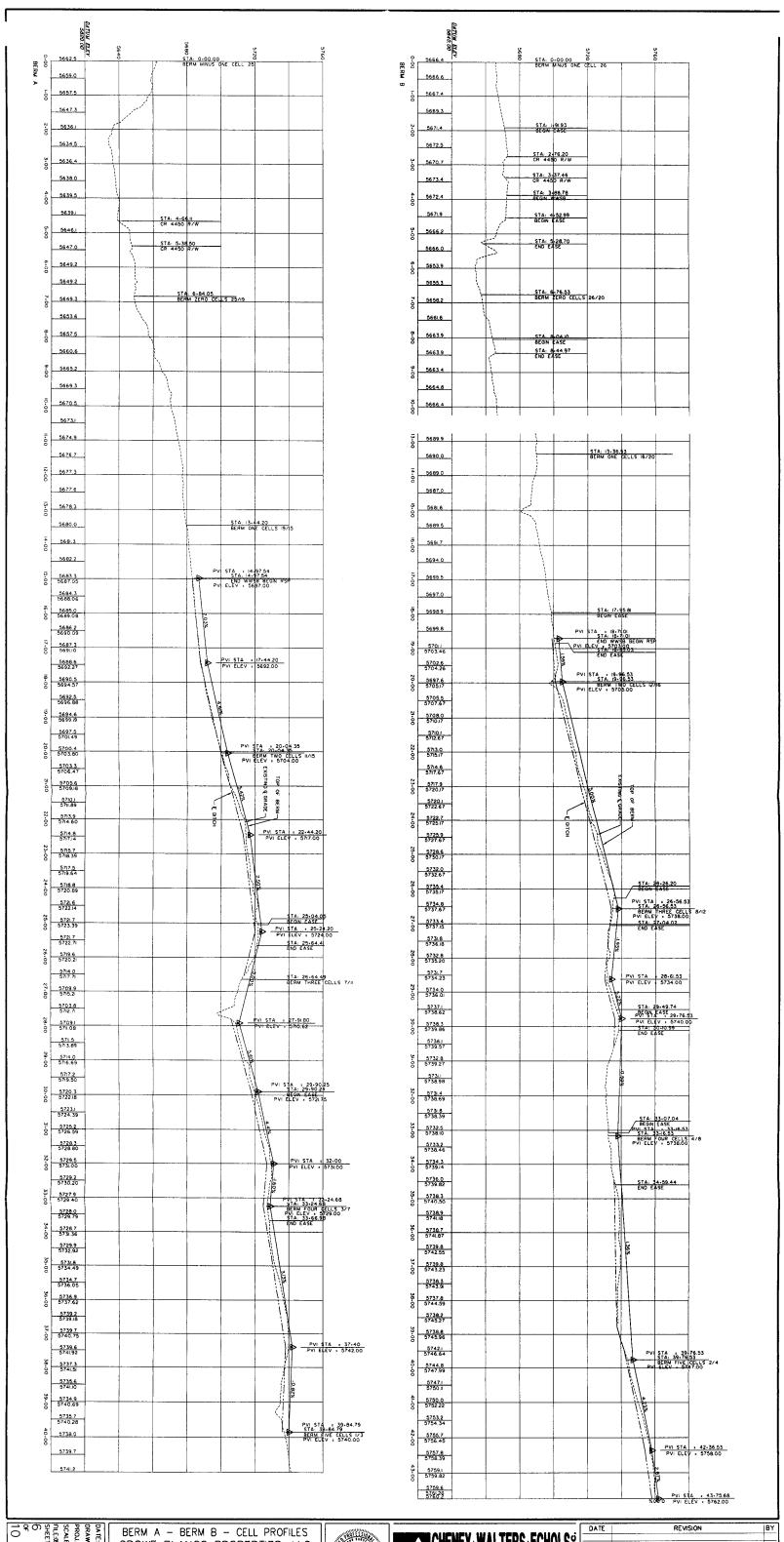
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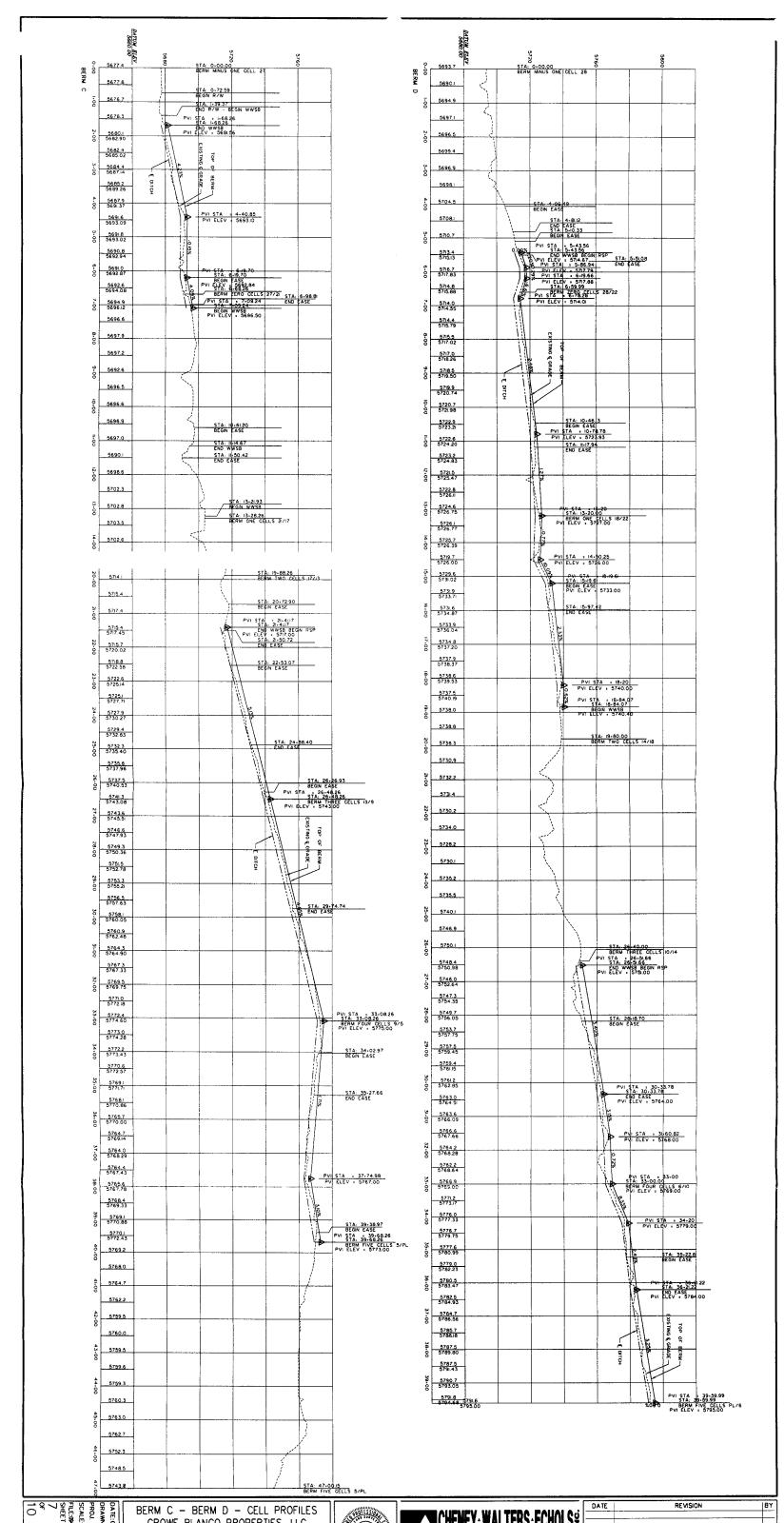
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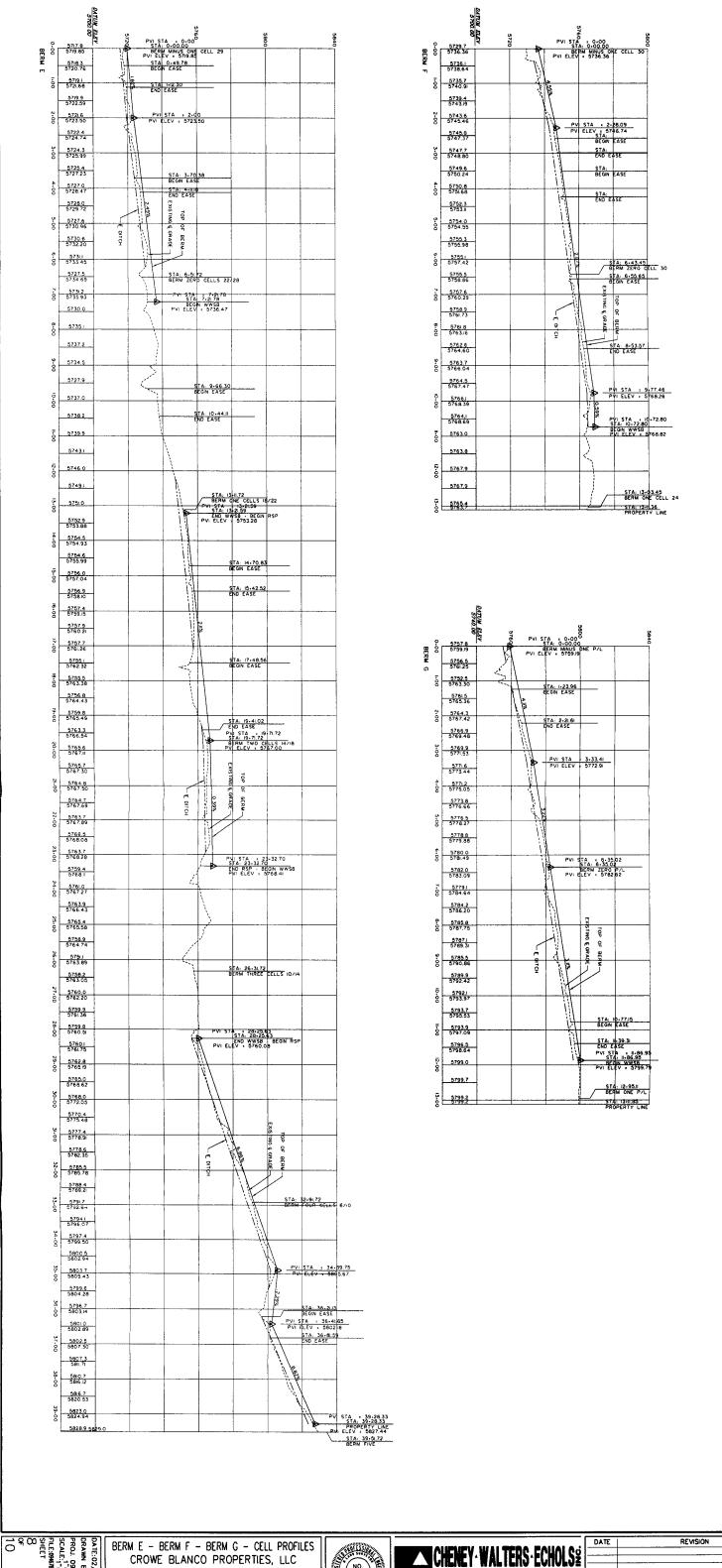


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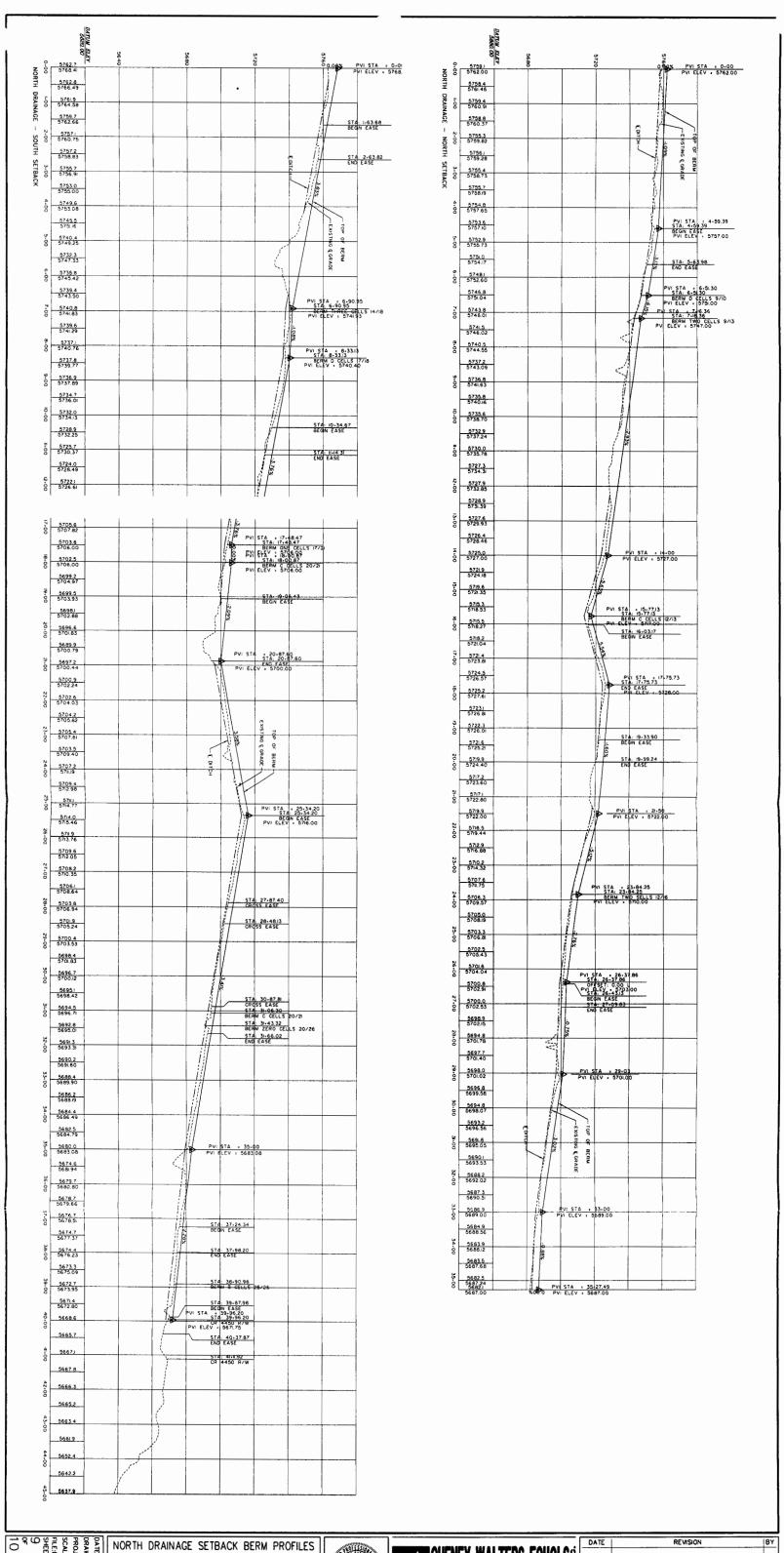


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CROWE BLANCO PROPERTIES, LLC

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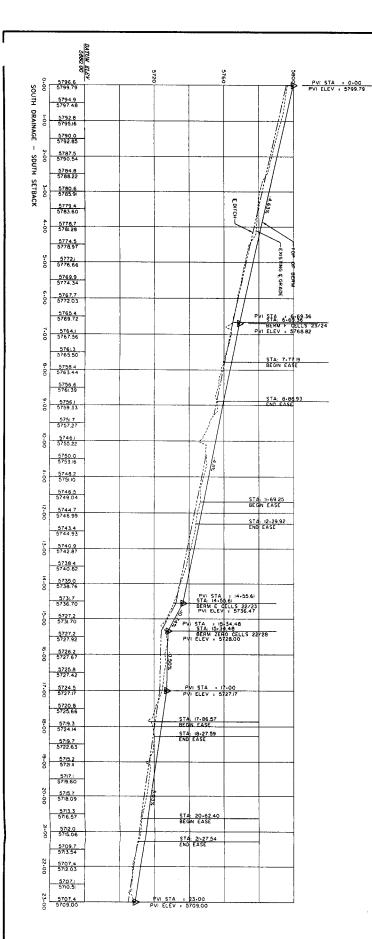


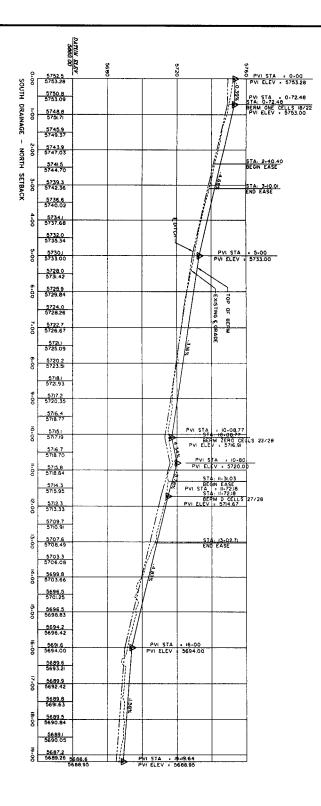
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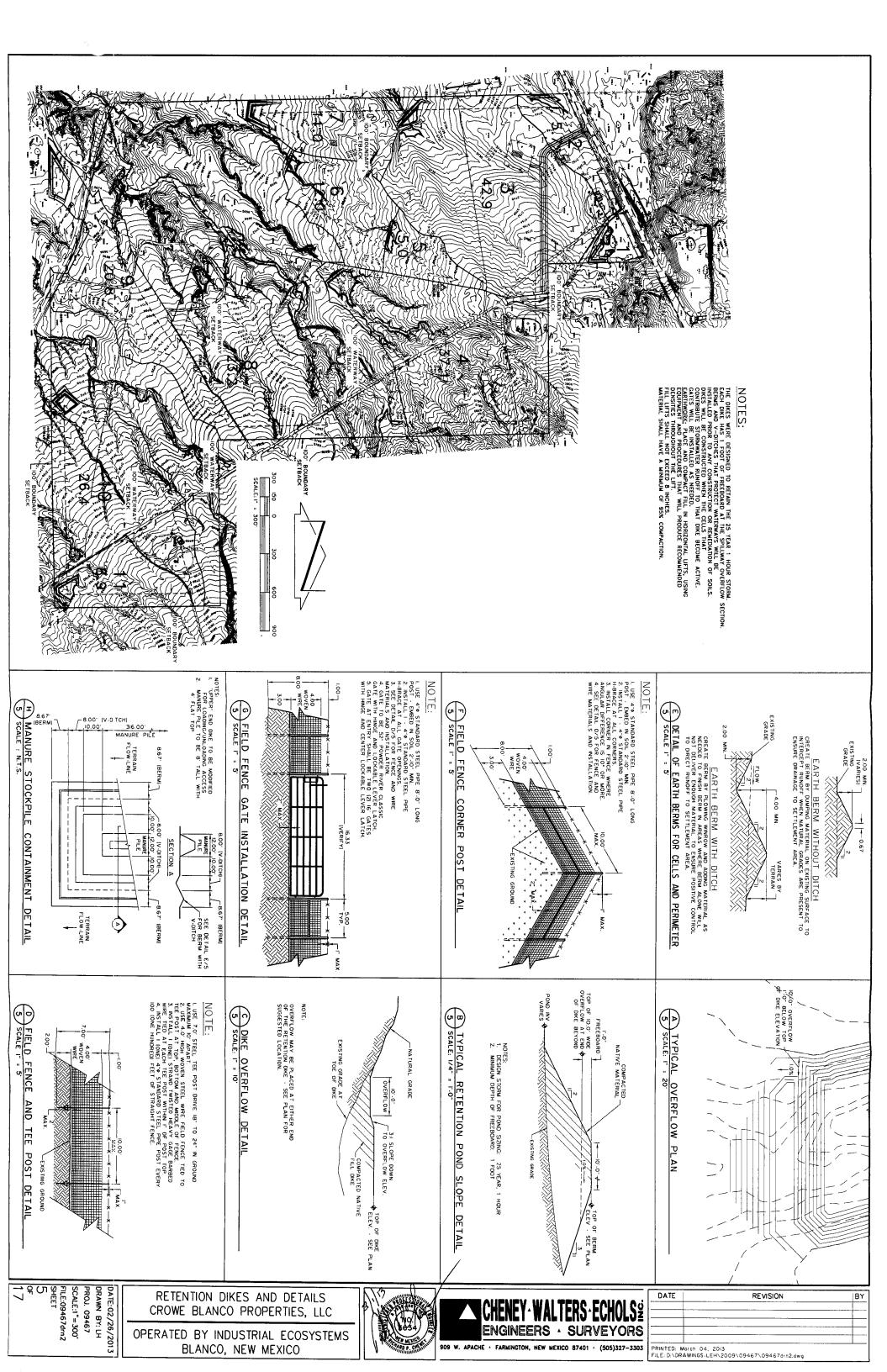


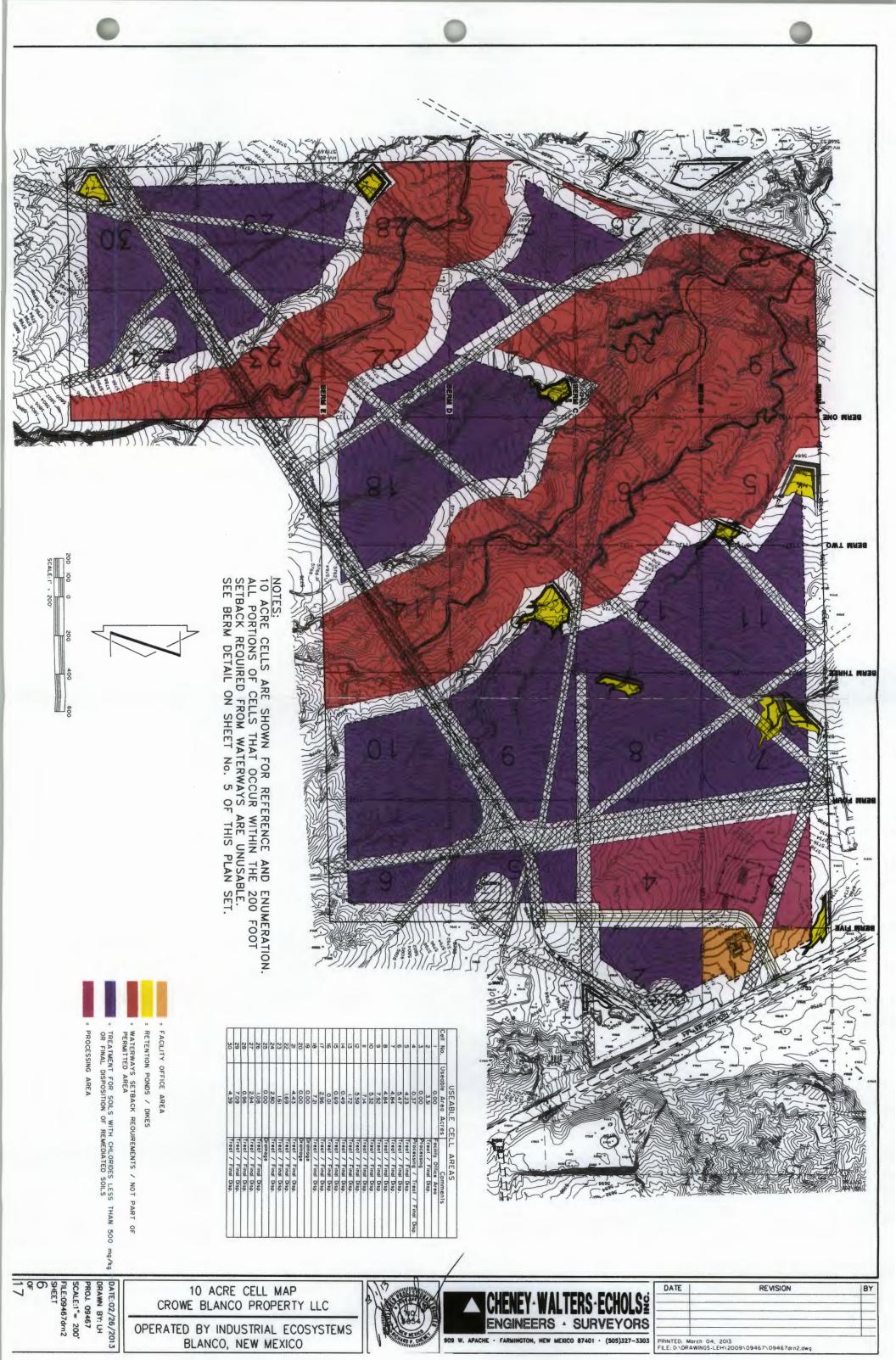


Engineering Designs (19.15.36.8.C.5 NMAC)

TECHNICAL DATA & DESIGN ELEMENTS OF APPLICABLE TREATMENT, REMEDIATION & DISPOSAL METHOD

Sheet 5 of 17	Retention Dikes and Details
Sheet 6 of 17	10 Acre Cell Map
Sheet C101	Cover Sheet
Sheet C102	General Notes & Legend
Sheet C103	Existing Site Plan
Sheet C104	Proposed Site Plan
Sheet C105	Grading & Drainage Plan
Sheet C106	Horizontal Control Plan
Sheet C107	Piping Plan
Sheet C108	Process Plan & Engineering Design Plan
	Sheet 6 of 17 Sheet C101 Sheet C102 Sheet C103 Sheet C104 Sheet C105 Sheet C106 Sheet C107





CROWE BLANCO PROPERTIES, LLC. OPERAT INDUSTRIAL ECOSYSTEMS, INC

BLANCO FACILITY PROCESS AREA ENGINEER BLANCO, SAN JUAN COUNTY, NEW ME ING DESIGN

REVISED FEBRUARY, 2013 AUGUST, 2011

SHEET NO C106 C105 C104 C103 C102 CIOI C107 SHEET INDEX GENERAL NOTES AND LEGEND COVER SHEET EXISTING SITE PLAN GRADING AND DRAINAGE PLAN PROPOSED SITE PLAN DRA MING HORIZONTAL CONTROL PLAN

PROCESS PLAN AND LINGINEER DESIGN PLAN

DOUGLAS W. MIZE, PE 13678 SENIOR PROJECT ENGINEER

DATE

SOUDER, MILLER & ASSOCIATES 2101 SAN JUAN BLVD. FARMINGTON, NIN 87401 ATTN: DOUGLAS W. MIZE, PE PHONE: 505-325-7535

PREPARED BY:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION ON BEHALF OF SOUDER, MILLER & ASSOCIATES.

S OUDER, MILLER & ASSOCIATES

INDUSTRIAL ECOSYSTEMS INC. INDUSTRIAL ECOSYSTEMS INC **COVER SHEET**

SAN JUAN COUNTY, NM 4/2012 OCD REVIEW COMMENTS CROWE BLANCO PROPERTIES, LLC. OPERATED BY: BLANCO FACILITY PROCESS ENGINEERING DESIGN

GENERAL NOTES

THE SITE WORK SHALL BE IN ACCORDANCE WITH ALL SAN JUAN COUNTY, NEW MEXICO AND STATE OF NEW MEXICO CODES FOR CONSTRUCTION.

9

- EXISTING UTILITIES ARE SHOWN BASED UPON INFORMATION AVAILABLE. THE CONTRACTOR SHALL VERRY UTILITY LOCATIONS AND ELEVATIONS TO AVOID POTENTIAL CONFLICTS. ANY CONFLICTS SHALL BE DIRECTED TO THE UTILITY PROVIDER, THE OWNER AND THE ENGINEER.
- THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH ALL UTILITY COMPANIES WITH REGARD TO RELOCATING, ADJUSTING, REPLACING, AND/OR REPAIRING UTILITIES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY LOCAL FIRE DEPARTMENT 24 HOURS BEFORE CONSTRUCTION ACTIVITIES BEGIN.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION ACTIVITY SAFETY INCLUDING, BUT NOT LIMITED TO, TRENCH EXCAVATION AND SHORING, TRAFFIC CONTROL AND SITE SECURITY. THE CONTRACTOR SHALL SLOPE ALL TRENCHES AND SLOPES AS REQUIRED TO COMPLY WITH STATE AND FEDERAL CODES TO PROTECT LIFE AND SAFETY OF WORKMEN DURING CONSTRUCTION.

9

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- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE STREETS FREE AND CLEAR OF ANY DEBRIS THAT IS TRACKED FROM THE SITE.
- THE CONTRACTOR SHALL KEEP, AND UPDATE, AN AS-BUILT SET OF DRAWNOS DURING THE CONSTRUCTION OF THE PROJECT. AS-BUILT DRAWNOS SHALL BE DELIVERED TO THE OWNER AFTER CONSTRUCTION.

<u>@</u> ۲

- 10) ITEMS DESIGNATED FOR REMOVAL WITHOUT SALVAGE SHALL BE PLACED IN AN ENVIRONMENTALLY SUITABLE DISPOSAL SITE. 9) PRIOR TO AND DURING CONSTRUCTION, ALL ACCESS ROADS SHALL BE SERVICEABLE AND MAINTAINED FOR FIRE PROTECTION AND EMERGENCY VEHICLE ACCESS.
- 12) THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEAN—UP OF SPILLS ASSOCIATED WITH THE CONSTRUCTION OF THE PROJECT AND SHALL RESPOND TO SPILLS OF HAZARDOUS MATERIALS (SUCH AS GASQUINE, DIESEL, NOTOR OILS, SOLYENTS, CHEMICALS, TONIC AND CORROSIVE SUBSTANCES, AND OTHER MATERIALS THAT MAY THREATEN THE PUBLIC OR THE ENVIRONMENT, TO THE PROJECT MANAGER, ANY SPILLS ASSOCIATED WITH THE PROJECT SHALL BE CLEANED. HE YELD GOVERNOON. THE CONTRACTOR SHALL BEAR ALL EXPENSES OF THE COST OF CLEAN UP OF SUCH SPILLS. 11) THE CONTRACTOR SHALL BE RESTRICTED TO A 35 TON (MAXIMUM) NON-VIBRATORY ROLLER FOR COMPACTION IN AREAS WHERE THE USE OF HEAVIER EQUIPMENT COULD DAMAGE UNDERGROUND UTILITIES OR PERMANENTLY DAMAGE ADJACENT STRUCTURES.
- 13) THE CONTRACTOR SHALL REPLACE ALL DESTROYED OR DAMAGED SURFACE IMPROVEMENTS WITH IMPROVEMENTS EQUAL TO THOSE REMOVED OR DAMAGED.
- 14) TOPOGRAPHY INFORMATION, INCLUDING HORIZONTAL AND VERTICAL DATA, SHOWN ON THESE PLANS IS SHOWN ACCORDING TO INFORMATION PROVIDED BY OWNER. SOUDER, MILLER & ASSOCIATES HAS RELED ON THIS DATA TO BE ACCURATE FOR THIS DESIGN.
- 15) THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND APPURTEMANCES NECESSARY TO COMPLETE THE WORK INTENDED AND SHOWN ON THE DRAWNICS.
- 16) THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS ASSOCIATED WITH THE PROJECT.
- 17) ALL WORK IN THE VICINITY OF LIVE STREAMS, WATER IMPROVEMENTS, WETLANDS, OR IRRIGATION SUPPLIES SHALL BE COMPLIETD IN SUCH A MANNER AS TO MINIMATE VEGETATION REMOVAL, SOIL DISTURBANCE AND EROSION.
- 18) ALL DESIGN SLOPES ON THE SITE ARE SHOWN AS 3:1 (H:V) UNLESS OTHERWISE SPECIFIED.
- 20) SITE COMPACTION WORK SHALL BE COMPLETED AND IN ACCORDING TO GEOTECHNICAL REPORT PREPARED BY GEOMAT, INC. (PROJECT No. 102-1039) 19) THE CONTRACTOR SHALL REQUEST A LINE SPOT, CALL 811, BEFORE DIGGING.
- 21) ALL ELECTRICAL DRAWINGS AND ASSOCIATED SPECIFICATIONS ARE TO BE PROVIDED BY OWNER.
- PIPING NOTES

- 1) ALL PIPING SHALL BE PLACED 3' BELOW FINISH GRADE.
 2) ALL PIPING SHALL BE 4" HUPE ORITY EXCEPT WHERE STEEL PIPING IS
 USED TO TIE NTO TANKS AND AT PENETRATIONS.
 3) BOND BREAKER SHALL BE USED ON ALL PENETRATIONS THROUGH
 CONCRETE FLOORS AND WALLS.
 4) ISOLATION VALVES SHOWN, SHALL CONSIST OF THE ISOLATION VALVE
 AND VALVE BOX COVERS.
 5) CONTRACTOR SHALL INSTALL 4"X3" REDUCER ® T3 PUMPS.
 6) ALL PUMPS HALL BE MOUNTED ON A CONCRETE PAD PER
 MANUFACTURERS RECOMMENDATIONS
 7) ALL PUMP SHALL BE CONVERED WITH AN INSULATION BOX TO PROTECT
 PUMP AND PIPING FROM FREZEING. ALL PIPING SHALL BE CONTAINED
 WITHIN BOX ENCLOSURE ® THE POINT IT IS BURIED 3' BELOW GRADE.

ELECTROPIE POLUMES

FILL -8792.26 CY CUT -4622.57 CY

EARTHWORK VOLUMES BASED UPON A ZERO SHRINK/SWELL FACTOR. CONTRACTOR TO BASE BID UPON CONTRACTOR'S TAKE OFF.

FIRE AND POLICE EMERGENCIES EMERGENCY CONTACT NUMBERS

TERRY LATTIN, INDUSTRIAL ECOSYSTEMS, INC., MANAGER

÷05-632-1782

OPERATOR
TERRY LATTIN, MANAGER
INDUSTRAL ECOSTSTEMS, INC.,
505-632-1782
4 9 CR 3150
Aztec, NM 87410

DOUGLAS W. MIZE, P.E.
SOUDER, MILLER & ASSOCIATES
2101 SAN JUAN BOULEVARD
FARMINGTON, NEW MEXICO
(505) 325-7535

ENGINEER

OWNER CROWE BLANCO PROPERTY LLC.

PROJECT INTENT

By Chk

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THE INTENT OF THESE DRAWINGS ARE TO PROVIDE A DESIGN FOR THE PROCESS EVIGINEERING AND GRADING AND DRAINAGE CONSTRUCTION PLANT REPRESENTS THE CONSTRUCTION AROUND THE PROCESS PLANT REPRESENTS PLANT PLANT REPRESENTS PLANT REPRE

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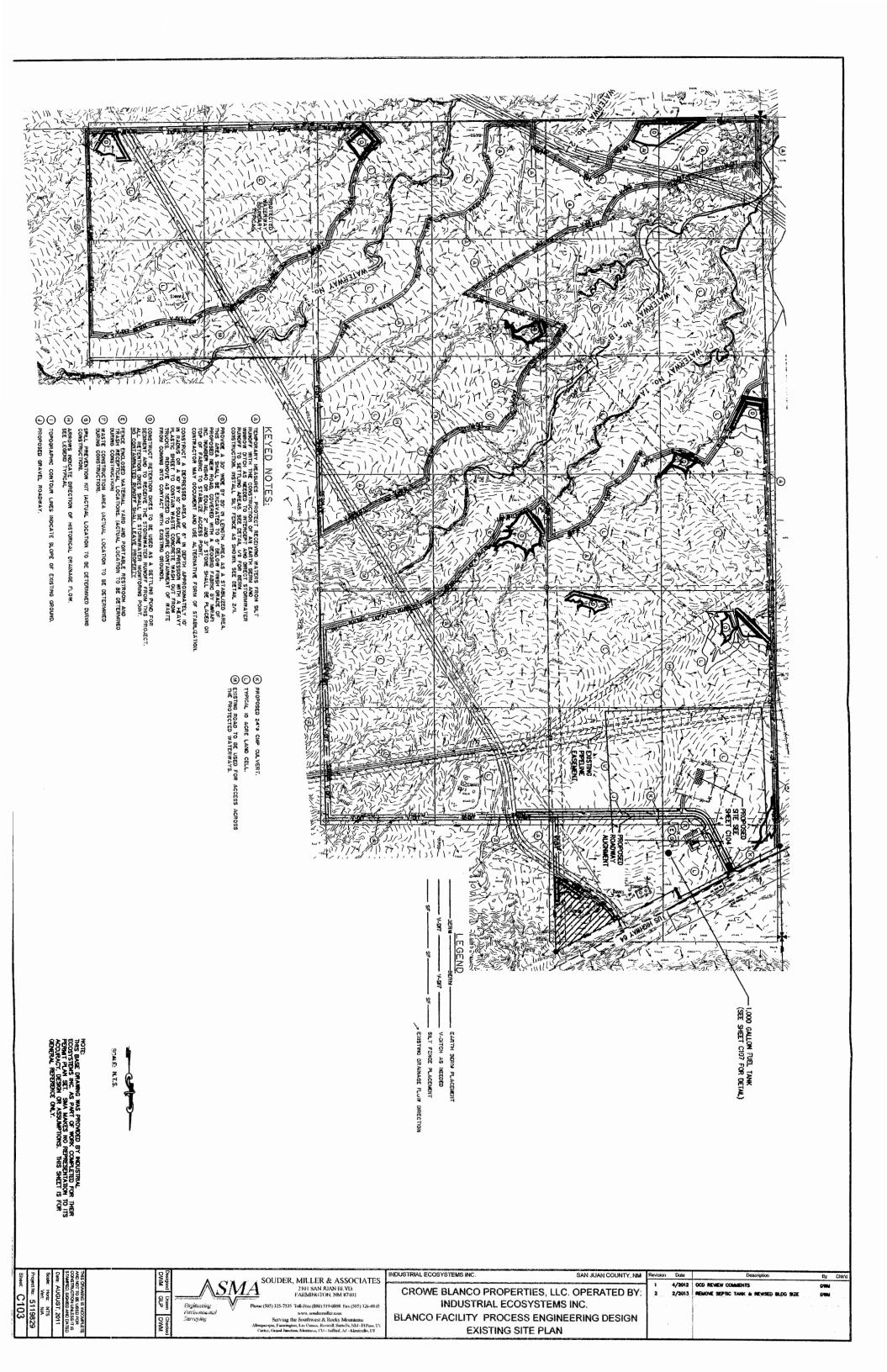
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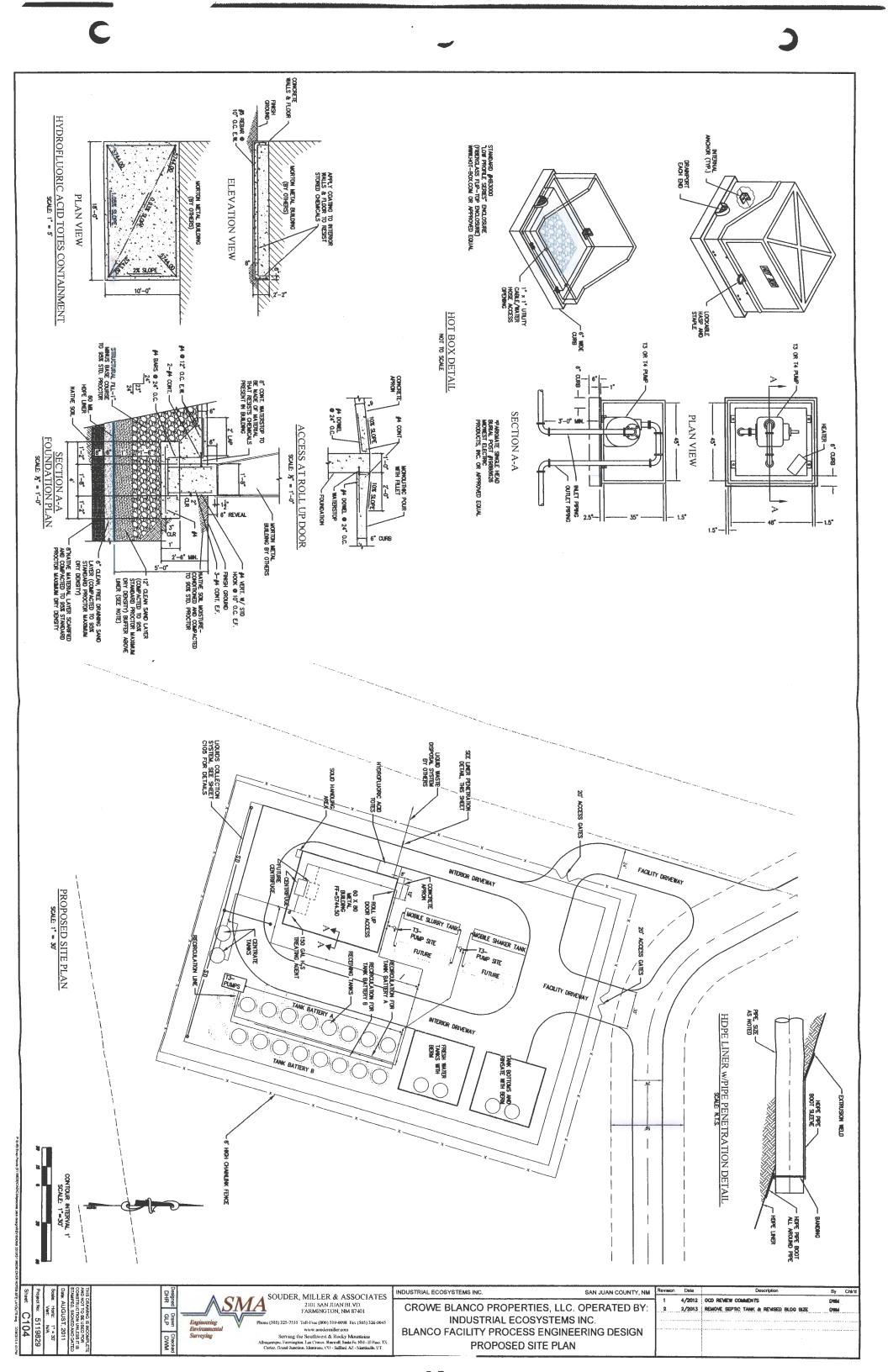
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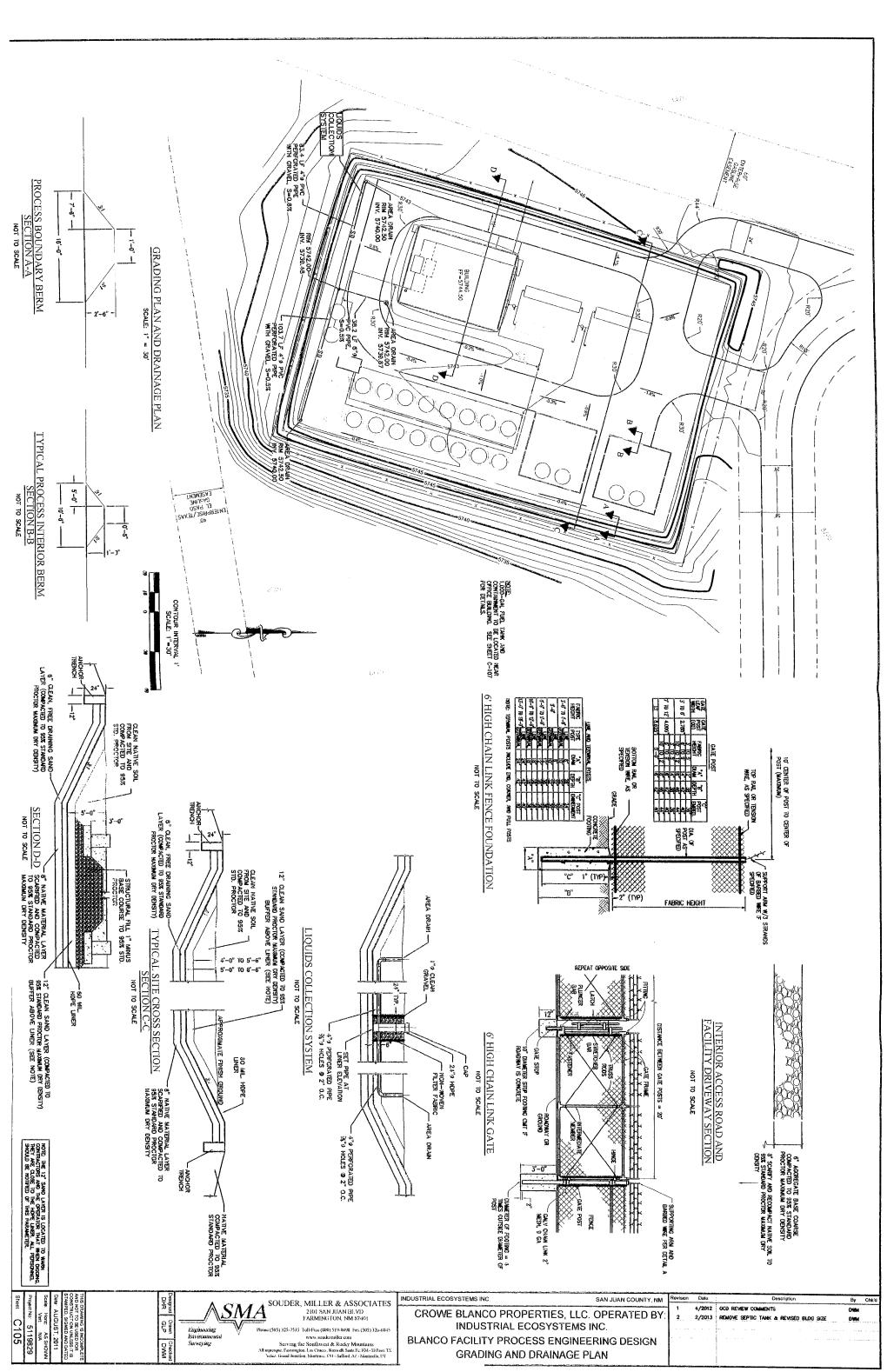
SOUDER, MILLER & ASSOCIATES

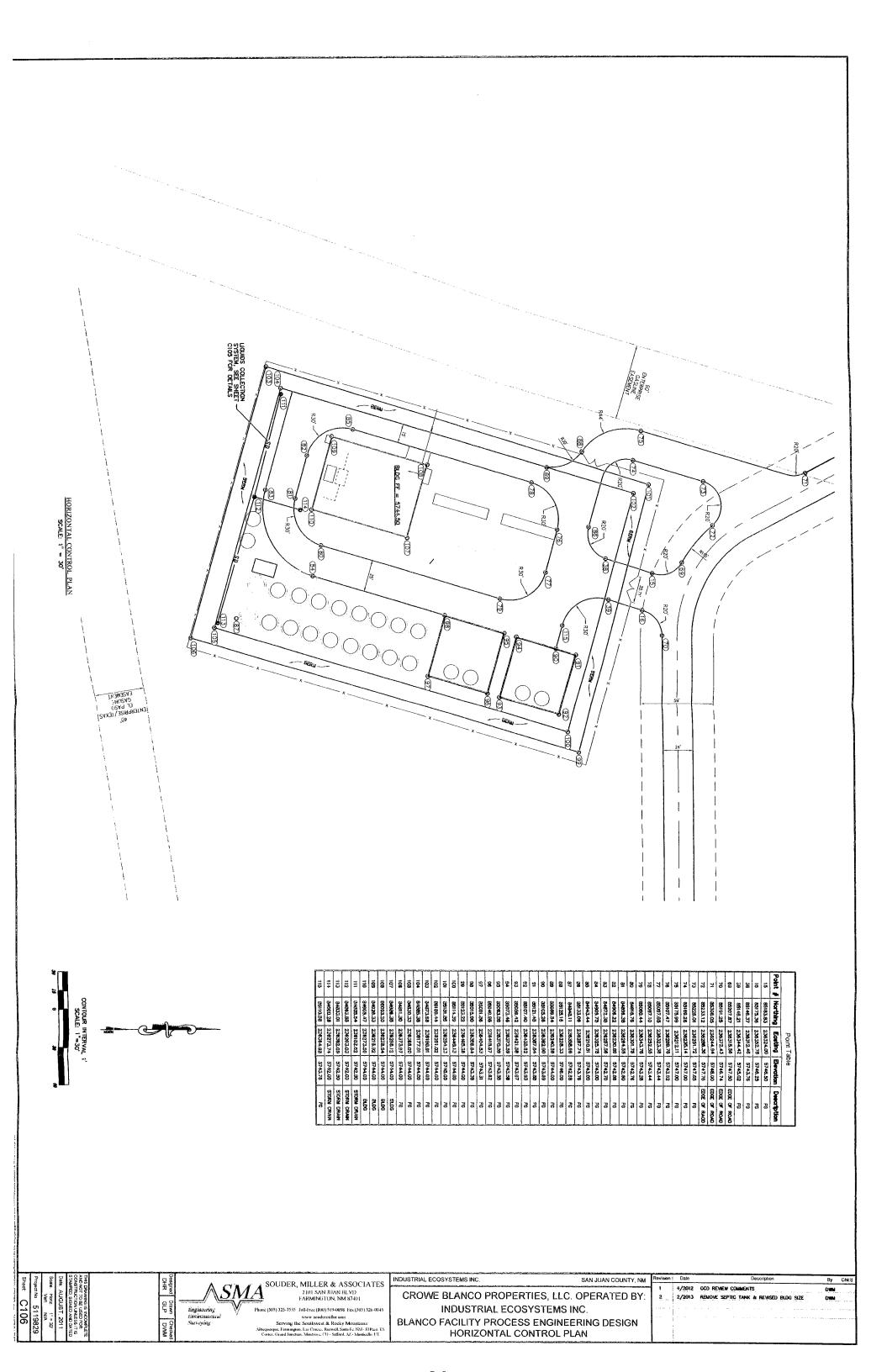
505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-004.

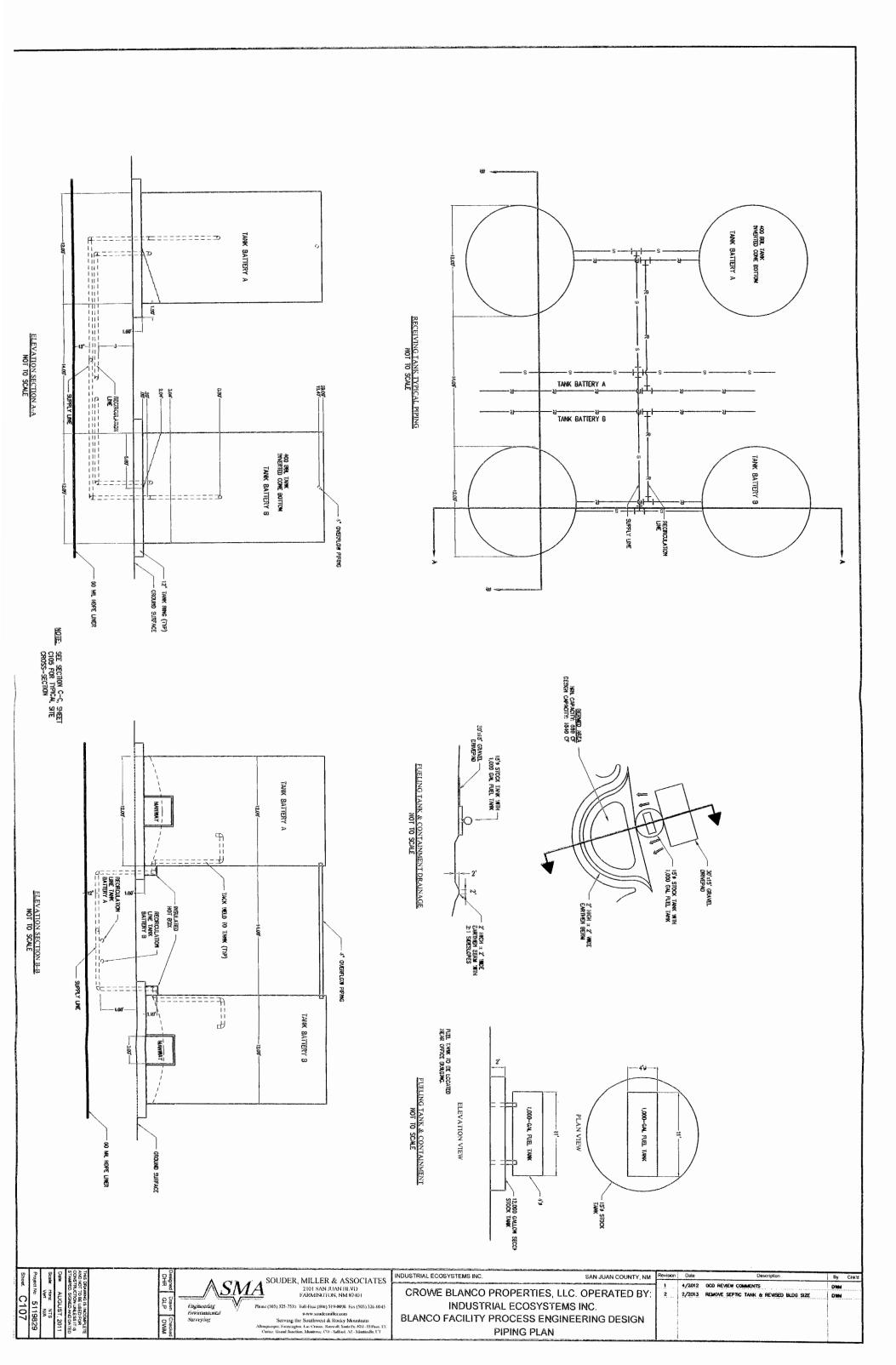
INDUSTRIAL ECOSYSTEMS INC SAN JUAN COUNTY NIV 4/2012 OCD REVIEW COMMENTS CROWE BLANCO PROPERTIES, LLC. OPERATED BY 2/2013 REMOVE SEPTIC TANK & REVISED BLDG SIZE INDUSTRIAL ECOSYSTEMS INC. www.soudermiller.com
Serving the Southwest & Rocky Mountains
lbuquerque. Famington: Las Cruces, Roswell, Santa Fe, NM - El Paso, I
Cortez, Grand Junction, Moutrose, CO - Safford, AZ - Montecilo, UT BLANCO FACILITY PROCESS ENGINEERING DESIGN **GENERAL NOTES AND LEGEND**

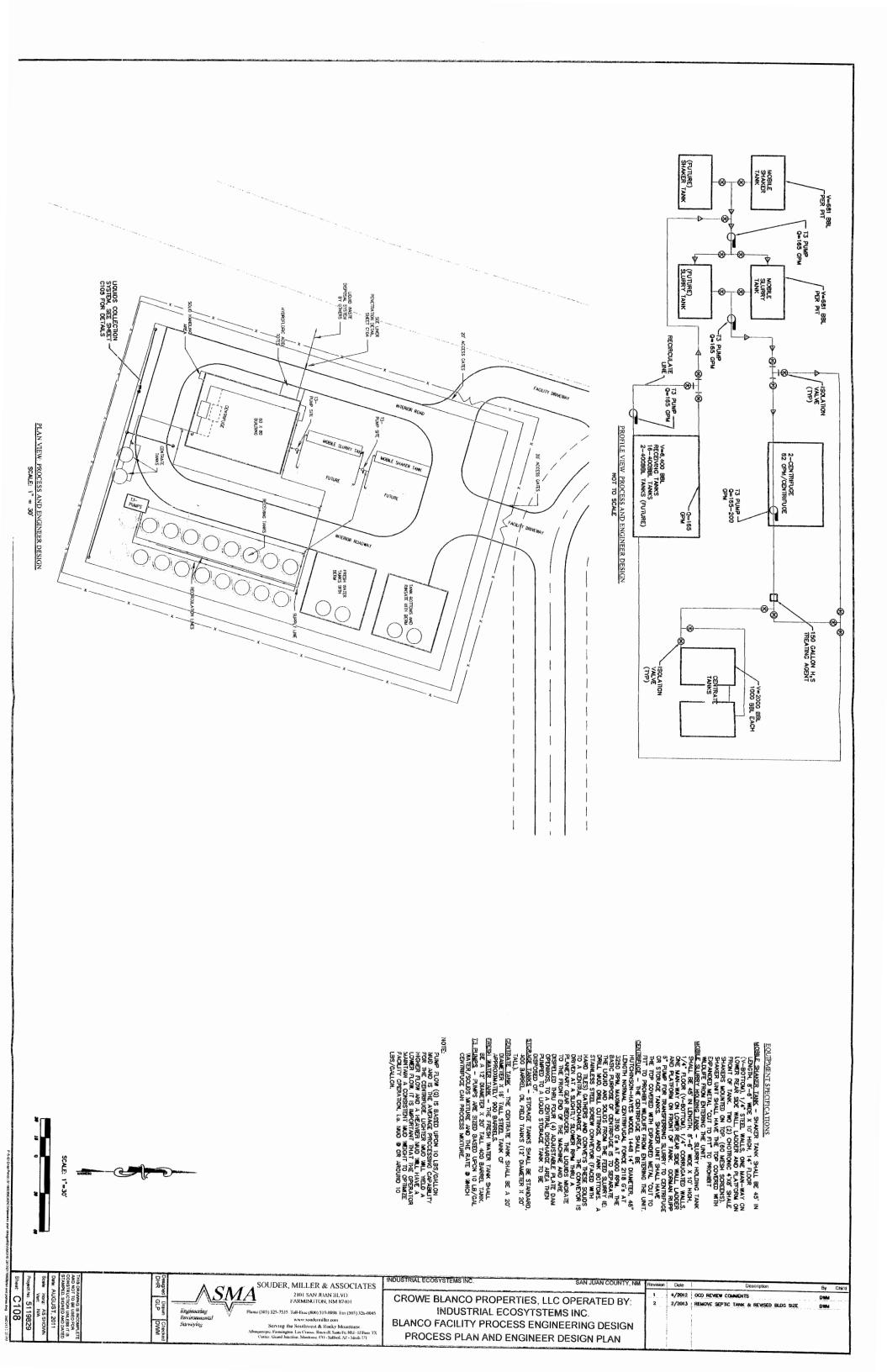












OPERATIONAL/MANAGEMENT PLAN

(19.15.36.8.C.6, 19.15.36.13 & 19.15.36.15)

Introduction

This purpose of this Waste Acceptance and Operational Management Plan is to establish the minimum requirements and procedures for acceptance, management, treatment, bioremediation and final disposal of oilfield waste. These procedures comply with the applicable requirements contained pursuant to 19.15.36.8.C.6, 19.15.36.13 and 19.15.36.15 NMAC.

This plan includes test methods, details of planned waste sampling and analysis, description of waste shipment screening/verification and operational processes.

Supervisors and employees involved in the handling of oilfield waste shall comply with these procedures. Responsible supervisor(s) and employee(s) shall make frequent inspections and collect and maintain all data as outlined under the provisions of the permit.

1. WASTE (19.15.36.13.F)

Prior to accepting RCRA Exempt Oilfield Waste from a generator, the generator must comply with the applicable requirements of this plan.

Only Non-Hazardous, RCRA Exempt waste will be accepted at the facility. These materials are wastes generated from oil and gas exploration and production operations and are usually the by-product of "downhole" operations.

1.1 Exempt Oilfield Waste (19.15.36.13.F.1)

Exempt Oilfield Waste destined for disposal at the facility will be identified by the generator using acceptable knowledge and all applicable test and analytical methods (refer to Section 2 Waste Acceptance).

Exempt waste is generated by various producers from a variety of sites and by various specific processes and activities. *Examples* of the major types of operations that generate exempt waste include:

- 1. Hydrocarbon Impacted Soils and Gravels Production of hydrocarbon stained soils or gravels includes spillage, line failure, leaking vessels or valves, and the reclamation of production pits.
- 2. Tank Bottoms Production of tank bottoms includes tank cleaning operations -cleaning the accumulation of hydrocarbon material and other substances that settle naturally below oil in tanks and receptacles that are used in oils' handling and storing, and which accumulation contains in excess of 2% of BS&W. For lease production and lease storage tanks, tank bottoms shall be limited to that volume of the tank in which it is contained that lies below the bottom of the pipeline outlet to the tank. Generators of tank bottoms will ensure that the waste does not contain economically recoverable petroleum hydrocarbons and a visual inspection of the waste will be confirmed upon arrival at the facility.
- 3. Hydrocarbon Impacted Drill Cuttings-Production of drill cuttings of rock and other materials (typically called solids) removed from the borehole while drilling petroleum wells.

1.2 Emergency Non-oilfield Waste (19.15.36.13.F.3)

The facility may accept non-hazardous, non-oilfield waste in an emergency and only if ordered by the department of public safety.

1.3 Waste Characterization

Characterization requirements for individual shipments of Exempt Oilfield Waste are specified on a waste stream basis. A waste stream is defined as waste material generated from a single site and a single process or an activity that is similar in material, physical form, and constituents. *Examples* of Exempt Oilfield Waste include:

- 1. Petroleum Hydrocarbon impacted soil and gravel
- 2. Tank Bottoms (as defined in Section 1.1 Exempt Oilfield Waste)
- 3. Petroleum Hydrocarbon impacted drill cuttings

1.4 Prohibited Waste:

The following waste is PROHIBITED from being disposed of at the facility:

- 1. Hazardous Waste
- 2. RCRA regulated materials
- 3. Waste containing NORM
- 4. Free Liquids prior to placing waste in a biopile/landfarm cell, the waste will be sufficiently solidified to pass the paint filter test.

2. WASTE ACCEPTANCE (19.15.36.13.A.3, 19.15.36.13.E, and 19.15.36.15.A.)

A completed C-138 form shall be submitted to the facility prior to the shipment arriving or must accompany the shipment. Waste will NOT be accepted prior to receipt of the completed C-138 which has been executed by the generator.

Once the waste has arrived at the gate, prior to acceptance, facility personnel will ensure:

- through visual examination and review of the C-138, that the waste holds NO unacceptable waste;
- through visual examination and review of the C-138, that tank bottoms do not contain economically recoverable petroleum hydrocarbons (19.15.36.15.A);
- through H2S ambient monitoring, that tank bottoms do not contain Hydrogen Sulfide levels above 10 ppm (PEL);
- through "chloride content sampling", waste does not have a chloride concentration exceeding 500 mg/kg (19.15.36.13.A.3 & 19.15.36.15.A) *Landfarm is located where ground water is less than 100' but at least 50' below the lowest elevation at which the operator will "place" oil field waste;
- through "paint filter" testing, prior to placing waste in a biopile/landfarm cell, the waste is sufficiently solidified to pass the paint filter test. *Free Liquids Pursuant to 19.15.36.13.E. "The operator shall not place oil field waste containing "free liquids" in a landfarm cell. The operator shall use the paint filter test (Method 9095 of SW-846) to determine conformance. "Free liquids" received at the facility will be solidified by use of a centrifuge and/or with virgin or treated soils prior to placing in a landfarm cell. (19.15.36.13.E & 19.15.36.15.A)

Anytime the facility requests additional information concerning a waste shipment, the generator will provide the necessary analysis and other supporting documentation to verify the contents of the shipment in question.

2.1 Denied/Rejected Waste

Shipments of waste which do not meet the acceptance criteria shall be Denied/Rejected at the gate. The generator of the waste will be notified immediately that the waste had been denied/rejected and given the specifics as to why it has been denied/rejected. Copies of the C-138 indicating the waste has been Denied/Rejected will be kept on file.

3. FORMS

The following forms, specific to landfarms, will be utilized by the facility as required.

3.1 Form C-138 (19.15.36.13.F.1, 19.15.36.13.F.2, and 19.15.36.13.F.3)

All material (exempt and emergency non-oilfield waste), arriving at the facility must be accompanied by a "C-138-Request for Approval to Accept Solid Waste" (ADDENDUM A). The facility shall be responsible for the procurement and review of the C-138 and characterization information to verify compliance with the NMOCD permit.

C-138 forms are a permit requirement and must contain the following:

- 1. Generator name and address
- 2. Originating Site
- 3. Location of Material (Address or ULSTR)
- 4. Source and Description of Waste
 - Waste status: EXEMPT as defined by the 1988 RCRA act.
 - Hazardous waste is PROHIBITED and will NOT be accepted into the facility.
- 5. A. Generator representative signature certifying the waste conforms with RCRA and US Environmental Protection Agency's regulatory determination that the waste is RCRA Non-Hazardous Exempt waste.
 - B. Representative/Agent signature certifying the waste samples have been subjected to the paint filter and chloride content tests and that said samples have been found to conform to specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. (Results are attached to the C-138)
- 6. Transporter of the waste
- 7. Name, Permit #, Address, Method of Treatment/Disposal, Acceptance Status: Approved or Denied (must be maintained as permanent record), and
- 8. Authorization from facility personnel to dispose of the waste

C-138 forms can be accepted on a monthly, weekly, or per load basis.

3.2 Form C-133 (19.15.36.13.D)

A division approved C-133 "Authorization to Move Produced Water" (ADDENDUM B) shall accompany the transporter of the waste. Copies can be kept on file for future reference.

Form C-133 must contain the following:

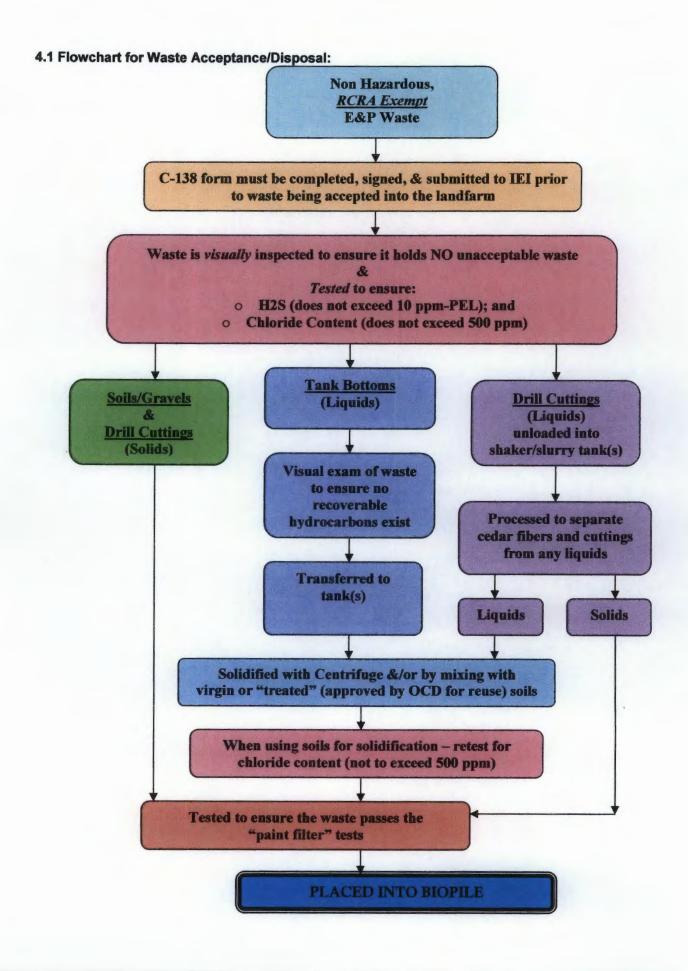
- 1. Transporter name, address and phone number
- 2. State Corporation Commission Permit Number
- 3. Signature of authorized agent/responsible party
- 4. State approval Officer and title

3.3 Form Department of Public Safety Order (19.15.36.13.F.3)

A department of public safety order, subject to division inspection, must accompany any emergency nonoilfield waste accepted at the facility along with a completed C-138 form.

4. DISPOSAL (19.15.36.13.H)

Disposal at the facility will only occur when an employee/attendant is on duty. The facility will be secured to prevent unauthorized disposal.



4.2 Migratory Bird Protection (19.15.36.13.1)

To protect migratory birds, the open top shaker/slurry tanks will be screened with removable (for periodic maintenance) expanded metal.

5.0 TREATMENT/BIOREMEDIATION (19.15.36.15.C)

Within 72 hours of receipt, *contaminated* soils shall be spread and disked in 8" or less lifts or approximately 1000 cy per acre per 8" lift or biopile (19.15.36.15.C.4 NMAC).

*The maximum thickness of *contaminated* soils shall not exceed 2' or approximately 3000 cy per acre. (refer to Section 7.1 Treatment Zone Monitoring 19.15.36.15.D).

Alternative landfarm treatment procedures may be used if demonstration can be made that they provide equivalent protection of fresh water, public health/safety and the environment, with prior division approval (19.15.36.15.C.10).

*All setback requirements will be met and areas/portions of cells may be unusable).

5.1 Hydrocarbon Impacted Soils & Gravels

Upon meeting waste acceptance criteria (refer to Section 2 Waste Acceptance), hydrocarbon stained soils and/or gravel material is:

- 1. Placed into a "under construction" biopile/lift. The "under construction" phase is completed once a biopile reaches approximately 1000 cy and/or upon generator notification that all materials associated with the "C-138" have been delivered (biopiles may contain materials from more than one generator and/or more than one location);
- Waste specific to each biopile is recorded by use of the "Biopile Records" form which contains the following information: Generator(s) of Material, Origin of Material, Type and Volume of Waste, Transported By/Truck #, Date Received;
- 3. During the "construction" phase, the remediation process is started by adding organic waste (manure-obtained from Sunray Park & Casino race track) or *chemical enhancers to accelerate the decomposition of hydrocarbons. IEI currently utilizes manure to mix with contaminated soils at a 2:1 (waste:manure) ratio. *In the event chemical enhancers were to be utilized, IEI would provide the corresponding MSDS to the Division and approval would be obtained prior to applying chemical enhancers (microbes) to soils (19.15.36.15.C.7);
- 4. The biopile is completed and no longer in the "construction" phase once it reaches approximately 1000 cy- 12' base x 4' top x 8' height x 420' length, no other waste will be added, a cell location and number is assigned. Biopile numbers are assigned in consecutive order and numbers are never reused:
- 5. During the remediation process biopile temperatures are monitored on a weekly basis. Biopile temperatures fluctuate, however, the optimal temperature range for the biodegradation process is 77° 140 ° F.
- 6. Additional remediation materials (manure & moisture) may be added to maintain and control decomposition of hydrocarbons;
- 7. Soils will be turned with an excavator monthly (19.15.36.15.C.5);
- 8. Moisture will be added to the soils to enhance the bioremediation process and to help control fugitive dust emissions (19.15.36.15.C.6);
- Soil samples are taken at regular intervals and tested by independent laboratories. A "Chain of Custody" form accompanies all lab samples. Laboratory results are used to determine if further remediation is required and results are kept on file (refer to Section 7.1 Treatment Zone Monitoring)

5.2 Hydrocarbon Impacted Drill Cuttings

Drill Cuttings-Solids

Upon meeting waste acceptance criteria (refer to Section 2 Waste Acceptance), drill cuttings are:

- 1. Placed into a "under construction" biopile/lift. The "under construction: phase is completed once a biopile reaches approximately 1000 cy and/or upon generator notification that all materials associated with the "C-138" have been delivered (biopiles may contain materials from more than one generator and/or more than one location);
- Waste specific to each biopile is recorded by use of the "Biopile Records" form which contains the following information: Generator(s) of Material, Origin of Material, Type and Volume of Waste, Transported By/Truck #, Date Received;
- 3. During the "construction" phase, the remediation process is started by adding organic waste (manure-obtained from Sunray Park & Casino race track) or *chemical enhancers to accelerate the decomposition of hydrocarbons. IEI currently utilizes manure to mix with contaminated soils at a 2:1 (waste:manure) ratio. *In the event chemical enhancers were to be utilized, IEI would provide the corresponding MSDS to the Division and approval would be obtained prior to applying chemical enhancers (microbes) to soils (19.15.36.15.C.7);
- 4. The biopile is completed and no longer in the "construction" phase once it reaches approximately 1000 cy- 12' base x 4' top x 8' height x 420' length, no other waste will be added, a cell location and number is assigned. Biopile numbers are assigned in consecutive order and numbers are never reused;
- 5. During the remediation process biopile temperatures are monitored on a weekly basis. Biopile temperatures fluctuate, however, the optimal temperature range for the biodegradation process is 77° 140 ° F.
- 6. Additional remediation materials (manure & moisture) may be added to maintain and control decomposition of hydrocarbons;
- 7. Soils will be turned with an excavator monthly (19.15.36.15.C.5);
- 8. Moisture will be added to the soils to enhance the bioremediation process and to help control fugitive dust emissions (19.15.36.15.C.6);
- Soil samples are taken at regular intervals and tested by independent laboratories. A "Chain of Custody" form accompanies all lab samples. Laboratory results are used to determine if further remediation is required and results are kept on file (refer to Section 7.1 Treatment Zone Monitoring).

Hydrocarbon Impacted Drill Cuttings-Liquids

Upon meeting waste acceptance criteria (refer to Section 2 Waste Acceptance), drill cuttings are:

- 1. Offloaded into the above ground shaker/slurry tank(s); once in the processing area, truck backs up on elevated ramp and offloads into the shaker/slurry tank(s);
- 2. Processed to separate cedar fibers and cuttings from any liquids;
- 3. Solidified by processing through the centrifuge and/or mixing any remaining liquid with soils (virgin and/or *treated soils). The "Tank Solidification Record form (ADDENDUM E) will be used to record the type (virgin or *treated) of soil, the amount of soil, and to ensure waste conforms to the paint filter and chloride content (when using treated soils) requirements. The date & quantity of treated soils will also be logged on the Biopile Records form (ADDENDUM F). Also refer to Section 8.0 Treatment Zone Closure Performance Standards, 11.3 Tank Solidification Record and 11.4 Biopile Record forms. *Treated Soils=Soils which have been remediated to the higher of the background concentrations or which have met closure performance standards (19.15.36.15.F NMAC) and which have received prior division approval to reuse or recycle (19.15.36.15.G NMAC);
- 4. Placed into a "under construction" biopile. The "under construction" phase is completed once a biopile reaches 1000 cy and/or upon generator notification that all materials associated with the "C-138" have been delivered (biopiles may contain materials from more than one generator and/or more than one location);
- 5. Waste specific to each biopile is recorded by use of the "Biopile Records" form which contains the following information: Generator(s) of Material, Origin of Material, Type and Volume of Waste, Transported By/Truck #, Date Received;
- 6. During the "construction" phase, the remediation process is started by adding organic waste (manure-obtained from Sunray Park & Casino race track) or *chemical enhancers to accelerate the decomposition of hydrocarbons. IEI currently utilizes manure to mix with drill cuttings at a 2:1 (waste:manure) ratio. *In the event chemical enhancers were to be utilized, IEI would provide the corresponding MSDS to the Division and approval would be obtained prior to applying chemical enhancers (microbes) to soils (19.15.36.15.C.7);
- 7. The biopile is completed and no longer in the "construction" phase once it reaches approximately 1000 cy- 12' base x 4' top x 8' height x 420' length, no other waste will be added, a cell location and number is assigned. Biopile numbers are assigned in consecutive order and numbers are never reused:
- 8. During the remediation process biopile temperatures are monitored on a weekly basis. Biopile temperatures fluctuate, however, the optimal temperature range for the biodegradation process is 77° 140 $^{\circ}$ F.
- 9. Additional remediation materials (manure & moisture) may be added to maintain and control decomposition of hydrocarbons;
- 10. Soils will be turned with an excavator monthly (19.15.36.15.C.5):
- 11. Moisture will be added to the soils to enhance the bioremediation process and to help control fugitive dust emissions (19.15.36.15.C.6);
- 12. Soil samples are taken at regular intervals and tested by independent laboratories. A "Chain of Custody" form accompanies all lab samples. Laboratory results are used to determine if further remediation is required and results are kept on file (refer to Section 7.1 Treatment Zone Monitoring).

5.3 Tank Bottoms

Upon meeting waste acceptance criteria (refer to Section 2 Waste Acceptance), tank bottoms are:

- 1. Offloaded into the above ground tank(s)- once in the processing area, truck backs up on elevated ramp and offloads; all waste is processed through the shaker/slurry tank(s), waste is sent through underground line to above ground enclosed storage tank(s);
- 2. Solidified by processing through the centrifuge and/or mixing any remaining liquid with soils (virgin and/or *treated soils). The "Tank Solidification Record form (ADDENDUM E) will be used to record the type (virgin or *treated) of soil, the amount of soil, and to ensure waste conforms to the paint filter and chloride content (when using treated soils) requirements. The date & quantity of treated soils will also be logged on the Biopile Records form (ADDENDUM F). Also refer to Section 8.0 Treatment Zone Closure Performance Standards, 11.3 Tank Solidification Record form and 11.4 Biopile Record forms. *Treated Soils=Soils which have been remediated to the higher of the background concentrations or which have met closure performance standards (19.15.36.15.F NMAC) and which have received prior division approval to reuse or recycle (19.15.36.15.G NMAC);
- 3. Placed into a "under construction" biopile. The "under construction" phase is completed once a biopile reaches 1000 cy and/or upon generator notification that all materials associated with the "C-138" have been delivered (biopiles may contain materials from more than one generator and/or more than one location);
- 4. Waste specific to each biopile is recorded by use of the "Biopile Records" form which contains the following information: Generator(s) of Material, Origin of Material, Type and Volume of Waste, Transported By/Truck #, Date Received;
- 5. During the "construction" phase, the remediation process is started by adding organic waste (manure-obtained from Sunray Park & Casino race track) or *chemical enhancers to accelerate the decomposition of hydrocarbons. IEI currently utilizes manure to mix with contaminated soils at a 2:1 (waste:manure) ratio. *In the event chemical enhancers were to be utilized, IEI would provide the corresponding MSDS to the Division and approval would be obtained prior to applying chemical enhancers (microbes) to soils (19.15.36.15.C.7);
- 6. The biopile is completed and no longer in the "construction" phase once it reaches approximately 1000 cy- 12' base x 4' top x 8' height x 420' length, no other waste will be added, a cell location and number is assigned. Biopile numbers are assigned in consecutive order and numbers are never reused;
- 7. During the remediation process biopile temperatures are monitored on a weekly basis. Biopile temperatures fluctuate, however, the optimal temperature range for the biodegradation process is $77^{\circ} 140^{\circ} F$.
- 8. Additional remediation materials (manure & moisture) may be added to maintain and control decomposition of hydrocarbons:
- 9. Soils will be turned with an excavator monthly (19.15.36.15.C.5);
- 10. Moisture will be added to the soils to enhance the bioremediation process and to help control fugitive dust emissions (19.15.36.15.C.6):
- 11. Soil samples are taken at regular intervals and tested by independent laboratories, A "Chain of Custody" form accompanies all lab samples. Laboratory results are used to determine if further remediation is required and results are kept on file (refer to Section 7.1 Treatment Zone Monitoring).

5.4 Centrate Water (Wastewater)

Centrate Water – produced in conjunction with the use of decanter (dewatering) centrifuges used to separate and thicken solids with the end waste product being centrate water.

As per NMAC 19.15.36.15.C.6-The operator shall add moisture, as necessary, to enhance bioremediation and to control blowing dust. The reuse of our "centrate" water would be used for this purpose while also allowing us to reduce waste.

It is proposed that centrate water be recycled and reused on the facility to assist with the remediation process by adding moisture to completed biopiles (no longer in the "construction" phase) while also allowing for the reduction of waste.

Procedures/protocols will be implemented to ensure that adding centrate water to each specific biopile will allow for the addition of moisture without exceeding the Treatment Zone Closure Standards (19.15.36.15.F.4) for chloride concentrations- tested by chloride titrator strips, shall not exceed 500 mg/kg if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will pace oil field waste.

The following procedures/protocols will be implemented as follows:

- Specific biopile is tested for chloride content and documented on the "Allowable Chloride in Water Calculation" spreadsheet:
- Centrate water is tested for chloride content and documented on the "Allowable Chloride in Water Calculation" spreadsheet;
- Input biopile chloride content into the "Allowable Chloride in Water Calculation" spreadsheet to
 determine what the centrate chloride concentration limit will be for each specific biopile to ensure
 that Treatment Zone Closure Standards of 500 mg/kg (ppm) are not exceeded; and
- o Test biopile for chloride content (performed once again after the centrate water has been added.

A copy of the "Allowable Chloride in Water Calculation" form (ADDENDUM H) will be kept with the specific biopile record. The date the centrate water is added to the biopile will also be recorded on the "Biopile Temperature & Maintenance Record" form. (ADDENDUM G).

Centrate water which is deemed unacceptable for recycling/reuse would be transported to a permitted injection facility. *Liquid oilfield waste can be transferred offsite by a transporter possessing an approved C-133 (copy of the State approval form should be kept in the vehicle).

6.0 BACKGROUND TESTING (19.15.36.15.B)

To establish background soil concentrations for the facility, prior to beginning operations, background sampling shall be collected and analyzed as follows:

- o Soils samples shall be taken from at least 6" below the original ground surface;
- 12 composite soil samples (at a minimum) shall be collected, each sample shall consist of 16 discrete samples;
- Samples will be tested for:
 - TPH (EPA 418.1);
 - BTEX (EPA SW-846 8021B or 8260B);
 - Chloride (EPA 300.0);
 - Constituents of Subsections A & B of 20.6.2.3103 NMAC

Refer to binder Section 19.15.36.15.B Background Testing to review Background Testing Results.

7.0 MONITORING (19.15.36.15.D & 19.15.36.15.E)

Waste streams are strictly monitored and controlled from entry into the facility through the remediation process to state approval for final disposition.

7.1 Treatment Zone Monitoring (19.15.36.15.D)

As this section of the regulations (19.15.36.15.D NMAC-Treatment Zone Monitoring) only discusses the use of "lifts" and IEI will be utilizing "biopiles", the following *alternative process* will be used to meet the requirements:

Within 72 hours after receipt, IEI shall place *contaminated* soils into an "under construction" biopile, in an active "treatment" cell, until the pile reaches 1,000 cy (approximately 12' base x 4' top x 8' height x 420' length) at which time no other waste will be added and a cell location and pile number is assigned. Treatment zone monitoring will then begin as specified below.

In accordance with 19.15.36.15.D NMAC, the maximum thickness of treated soils in a landfarm cell shall not exceed 2' or approximately 3,000 cy/acre = 30,000 cy per/landfarm cell. Thus, based on the biopile size of 1000 cy/pile, the total number of biopiles equivalent to the maximum thickness of treated soils allowable in a "landfarm cell" would be 3 biopiles/acre = 30 biopiles per 10 acre "landfarm cell" (10 acre cell=30,000 cy).

Upon reaching the maximum thickness (2' or approximately 3000 cy/acre), additional oilfield waste will not be placed in the landfarm cell until it is demonstrated by monitoring the treatment zone at least semi-annually that the *contaminated* soil has been treated to the standards specified in 19.15.36.15.F NMAC or the *contaminated* soils have been removed to a division-approved SWMF.

Semi-Annual treatment zone monitoring will consist of collecting one composite sample per biopile consisting of four discreet aliquots, up to 30 composite samples/per active "treatment" cell (also refer to Binder Section 19.15.36.8.C.9-Closure/Post Closure Plan). The samples will be tested for:

- TPH concentrations (EPA SW-846 method 418.1);
- Chloride concentrations (EPA method 300.1).

7.2 Vadose Zone Monitoring (19.15.36.15.E.1)

The regulations state, "the operator shall monitor the vadose zone beneath the treatment zone in each landfarm cell". The operator shall take the vadose zone samples from soils between three and four feet below the cell's original ground surface. As 19.15.36.15.D NMAC-Treatment Zone Monitoring only discusses the use of "lifts" and IEI will be utilizing "biopiles", the following alternative process will be utilized to meet the requirements:

Semi-Annual Vadose Zone Monitoring (19.15.36.15.E.2)

Semi-Annual monitoring (also refer to Binder Section 19.15.36.8.C.9-Closure/Post Closure Plan) will consist of the following:

- Collecting one, six point composite sample per acre, for a total of up to 10 composite samples, per active "treatment" cell (Landfarm Cell = 10 acres);
- Samples will be taken from soils 3' 4' below the original ground surface by use of a hand auger;
- Sampling locations will be backfilled and sealed with bentonite chips and the original soil which was cut from the borehole.

The composite samples will be tested for:

- o TPH concentrations (EPA SW-846 method 418.1);
- o BTEX levels (EPA SW-846 method 8021B or 8260B);
- o Chloride concentrations (EPA method 300,1)

The results shall be compared to the higher of the PQL or background soil concentrations to determine whether a release has occurred.

Five Year Vadose Zone Monitoring (19.15.36.15.E.3)

Five year monitoring will consist of the following:

- Collecting one, six point composite sample per acre, for a total of up to 10 composite samples, per active "treatment" cell (Landfarm Cell = 10 acres;
- Samples will be taken from soils 3' 4' below the original ground surface by use of a hand auger;
- Sampling locations will be backfilled and sealed with bentonite chips and the original soil which was cut from the borehole.

The composite samples will be tested for:

o The constituents of Subsections A & B of 20.6.2.3103 NMAC by EPA SW-846 methods 6010B or 6020 (or other methods approved by the division).

The results shall be compared to the higher of the PQL or background soil concentrations to determine whether a release has occurred.

Vadose zone monitoring records shall be maintained at the facility office or facility records storage and made available for division inspection upon request.

Release Response

In the event that sampling results show concentrations of TPH, BTEX, or Chloride levels exceeding the higher of the PQL or background concentrations, the following actions shall be taken:

- NMOCD shall be notified;
- Four additional randomly selected, independent samples, shall be immediately collected and analyzed for TPH, BTEX, Chlorides and the constituents listed in Subsections A & B of 20.6.2.3103 NMAC.

The re-sampling results along with a response action plan shall be submitted to NMOCD for approval within 45 days of the initial notification of a release. The response action plan shall address changes of the facility's operation to prevent further releases, and if necessary, a plan for remediating the existing contaminated soils.

8.0 TREATMENT ZONE CLOSURE PERFORMANCE STANDARDS (19.15.36.15.F)

During the life of the facility, a maximum of four cells will be used for active treatment/remediation of contaminated soils. These cells are referred to as the *active "treatment" cells*. Contaminated soils will be placed into biopiles within these cells during the treatment/remediation phase. In the event that additional cells are needed for "treatment" of *contaminated* soils, the company's financial assurance would be adjusted accordingly and approval would be obtained from OCD prior to placing *contaminated* soils within the additional cells.

Once a biopile has met treatment zone closure performance standards (19.15.36.15.F NMAC) the treated/remediated soils will be moved to and spread in the other cells on the facility (and/or with prior division approval, disposed or reused of in an alternative manner 19.15.36.15.G.1 NMAC). These cells are referred to as the *final disposition "receiving"* cells. The cells will re-vegetated in accordance with 19.15.36.18.A.6 NMAC.

The date, quantity and reuse/recycle method (berms, solidification, spread) will be maintained/logged on the Biopile Record (also refer to # 3 of Sections 5.2 Hydrocarbon Impacted Drill Cuttings & 5.3 Tank Bottoms, and to Section 11.3 Biopile Record).

Once an active "treatment" cell has been filled to the maximum thickness of 2' or approximately 3000 cy per acre per landfarm cell (Landfarm Cell = 10 acres = 30,000 cy), treatment shall continue until contaminated soils have been remediated to the higher of the background concentrations or upon meeting closure performance standards.

Closure performance standards are met by collecting and analyzing a minimum of one composite sample from each biopile consisting of four discreet aliquots, up to 30 composite samples/per active "treatment" cell. The samples will meet the following criteria or the higher of the background concentrations:

- o Benzene (EPA SW-846 method 8021B or 8260B) shall not exceed 0.2 mg/kg;
- o BTEX (EPA SW-846 method 8021B or 8260B) shall not exceed 50 mg/kg;
- o Combined fractions of GRO/DRO (EPA SW-846 method 8015M) shall not exceed 500 mg/kg;
- TPH (EPA method 418.1) shall not exceed 2500 mg/kg;
- Chloride (EPA method 300.1) shall not exceed 500 mg/kg (19.15.36.13.A.3 & 19.15.36.15.A)
 *Landfarm is located where ground water is less than 100' but at least 50' below the lowest elevation at which the operator will "place" oil field waste; and
- The concentration of constituents listed in Subsections A & B of 20.6.2.3103 NMAC (regulated metals will be tested by U.S. EPA Method 6010B or 6020, and other constituents will be tested by appropriate U.S. EPA Methods, as approved by the division) shall not exceed the PQL or background concentrations. If exceeded, a site specific risk assessment shall be performed and shall propose closure standards based upon individual site conditions that protect fresh water, public health/safety and the environment. The assessment will be subject to division approval or waste shall be removed pursuant to 19.15.36.15.G.2. NMAC. If the result of the site specific risk assessment is a request of an alternative closure standard, IEI will comply with the requirements of 19.15.36.15.G.4.

Also refer to Binder Section 19.15.36.8.C.9-Closure/Post Closure Plan.

9.0 FINAL DISPOSITION OF TREATED SOILS (19.15.36.15.G)

Once a biopile has met treatment zone closure performance standards (19.15.36.15.F NMAC) the treated/remediated soils will be moved to and spread in *final disposition "receiving"* cells. The cells will re-vegetated in accordance with 19.15.36.18.A.6 NMAC.

Failure to meet closure performance standards within five (5) years, or as extended by NMOCD, shall require the removal of the *contaminated* soils from the landfarm cell to be disposed of at a division-permitted landfill, or reuse or recycle it in a manner approved by the division as set forth in (19.15.36.15.G.2).

In the event that closure performance standards are not met within five (5) years, or as extended by NMOCD, the division may require a modification to the financial assurance, as provided in 19.15.36.11.G, to provide for the appropriate disposition of *contaminated* soil in a manner acceptable (19.15.36.15.G.3).

An alternative soil closure standard may be submitted to the division for approval, with division-approved public notice of an application, for alternative soil closure standard in the manner provided in 19.15.36.9 (19.15.36.15.G.4).

10. OPERATIONAL (19.15.36.15.C)

10.1 Facility Identification (19.15.36.13.J)

Signage will be posted outside of the facility entrance and will comply with the following requirements:

- Readable from a distance of 50';
- Will provide the facility Name, Operator's Name and Permit Number;
- Will provide the facility's location by Unit Letter, Section, Township, Range (ULSTR); and
- Will provide Emergency Contact Name(s) and Number(s)

10.2 Facility Requirements (19.15.36.13.B & 19.15.36.13.C)

As per SWMF requirements, the landfarm will not be:

- within 200' of a watercourse, lakebed, sinkhole or playa lake (arroyos will be bermed using "virgin" soils):
- Located within an existing wellhead protection area or 100 year floodplain;
- Located within, or within 500' of a wetland;
- Located within the area overlying a subsurface mine:
- Located within 500' from the nearest permanent residence, school, hospital, institution or church in existence at the time of initial application;
- o Located within an unstable area; and
- More than 500 acres

10.3 Berms (19.15.36.15.C.1)

Landfarm cells will be bermed to prevent stormwater run-on/off. (Also Refer to Binder Section 19.15.36.8.C.11-Stormwater Run On/Off)

10.4 Freestanding Liquids (19.15.36.15.C.8)

Freestanding liquids will be removed from the facility within 24 hours. This will be accomplished by use of water or king vacuum trucks.

^{*}Also refer to Binder Section 19.15.36.8.C.4-Description of Facility & Diagram

10.5 Placement of Contaminated Waste (19.15.36.15.C.2 & 19.15.36.15.C.3)

Contaminated waste will not be placed within 100' of the facility's boundaries or within 20' of a pipeline crossing the facility.

10.6 Spill Reporting & Corrective Action Provisions (19.15.36.13.K)

IEI personnel will comply with spill reporting and corrective action provisions of 19.15.30 NMAC or 19.15.29 NMAC for unauthorized release of oil, gases, produced water, condensate or oilfield related waste, chemicals, contaminants, and mixtures of those chemicals or contaminants that occur on the facility related to storing, disposing, transporting, servicing or processing as follows:

- 1. Notify NMOCD (as required by 19.15.29 NMAC and defined therein):
 - a. For "Minor Releases", *unauthorized release of 5 25 barrels; or 50 500 MCF of gases*, facility personnel shall provide written notification Form C-141 (ADDENDUM I) to the division district office within 15 days;
 - b. For "Major Releases", an unauthorized release in excess of 25 barrels; an unauthorized release of a volume that results in a fire, will reach a watercourse, may with reasonable probability endanger public health or results in substantial damage to property or the environment OR that may with reasonable probability be detrimental to water or exceed the standards in Subsection A and B or C of 19.15.30.9 NMAC; or release of gases in excess of 500 MCF, facility personnel shall:
 - I. provide immediate verbal notification (within 24 hours of discovery) and written notification (Form C-141) within 15 days to the division district office.
 - II. for unauthorized release of a volume that may with reasonable probability be detrimental to water or exceed the standards in Subsections A and B or C of 19.15.30.9 NMAC, provide immediate verbal notification (within 24 hours of discovery) and written notification (Form C-141) within 15 days to the division's environmental bureau chief. The follow up written notification shall also provide details of the verbal notification and shall list any appropriate additions/corrections to the information previously reported.

The Form C-141 contains the following information:

OPERATOR INFORMATION

- Initial or Final Report
- Name of Company, Contact, Address, Telephone No.
- Facility Name, Facility Type
- Surface or Mineral Owner, Lease No.

LOCATION OF RELEASE

Location of Release. Nature of Release

NATURE OF RELEASE

- Type, Volume, Volume Recovered, Source, Date/Hour of Occurrence, Date/Hour of Discovery
- Was Immediate Notice Given? If Yes, To Whom?
- By Whom? Date/Hour
- Was a Watercourse Reached? If Yes, Volume Impacting Watercourse
- If a Watercourse was Impacted. Describe Fully.*
- Describe Cause of Problem and Remedial Action Taken.*
- Describe Area Affected and Cleanup Action Taken.*
- Certification the form has been completed truthfully, completely and to the best of the
 preparer's knowledge. Acknowledgement of NMOCD rules and regulations pertaining to
 reporting certain releases and that the form does not relieve the operator of liability or
 responsibility for compliance with other federal, state, or local laws and/or regulation.
- Preparer's Signature, Printed Name, Title, Email Address, Date, Phone #
- NMOCD Signature of Approval by District Supervisor, Approval Date, Expiration Date, Conditions of Approval

- 2. Begin corrective actions/remediation (as required by 19.15.30 NMAC and defined therein):
 - a. The vadose zone (unsaturated earth material below the land surface and above ground water, or in between bodies of ground water) shall be abated so that water contaminants will not, with reasonable probability, contaminate ground water or surface water in excess of the standards in Subsections B and C of 19.15.30.9 NMAC, through leaching, percolation or other transport mechanisms, or as the water table elevation fluctuates.
 - b. If groundwater is determined to be impacted, an abatement plan must be submitted to NMOCD with details of how the standards of 20.6.2.3103 will be met (unless technical infeasibility is proven or an exemption granted).
- 3. Submit abatement plan proposals and reports as required by NMOCD.

10.7 Monthly Inspections & Maintenance Activities (19.15.36.13.L)

The facility will comply with inspection and maintenance plan provisions of 19.15.36.13.L.3 NMAC (also refer to binder Section 19.15.36.8.C.7- Inspection & Maintenance Plan).

10.8 Run On/Off Water Control (19.15.36.13.M)

The facility will comply with provisions of 19.15.36.13.M to control run-on and run-off water. Run on/off control systems shall prevent flow onto the facility's *active* portions during the peak discharge from a 25 year storm. Run-off from the facility's *active* portions shall not be allowed to discharge a pollutant to the waters of the state or United States that violates state water quality standards.

- o Run-on waters shall be diverted around the facility by use of v-ditches and earthen berms to prevent flow onto the *active* portions of the facility.
- o Run-off waters shall be diverted into the designated retention ponds/dikes.

Additional best management practices which will be used to control run on/off waters:

- Divert clean stormwater (e.g. roof run-off) away from contaminated areas and into stormwater settling ponds.
- Use liners and berms in the "Processing Area" to capture stormwater and process wastewater.
 (Also refer to Binder Section 19.15.36.8.C.5- Engineering Designs-Sheets C104 & C105)
- On-site retention ponds/dikes will be used to capture stormwater. It is proposed that stormwater will be recycled/reused by adding to completed biopiles (not "under construction") as moisture to assist with the remediation process. Only stormwater meeting the following criteria would be acceptable for reuse-determined using the "Allowable Chloride in Water Calculation" spreadsheet (ADDENDUM H) to ensure moisture is added without exceeding the Treatment Zone Closure Standards (19.15.36.15.F.4). Stormwater would be tested with Chloride Titrators (testing strips) to ensure chloride levels do not exceed 500 mg/kg if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will place oilfield waste. * Stormwater not meeting the criteria would be transferred to an appropriate permitted injection facility by a transporter possessing an approved C-133.
- o Develop a routine yard and equipment maintenance program to considerably reduce the potential for discharge of sediment to the wastewater collection and recycling system.
- Manure used in the bioremediation process will be placed into pile(s) and will be bermed (secondary containment) within a bermed cell to prevent run-off. (Also refer to Binder Section 19.15.36.8.C.11-Run on/off Control Plan-Sheet Page 5 of 17, Cross Section H/5 Manure Stockpile Containment Detail)

Also refer to binder Section 19.15.36.8.C.11- Run on/off Control Plan)

10.9 Contingency Plans (19.15.36.8.C.8, 19.15.36.8.C.10, 19.15.36.13.N, & 19.15.11)

The facility will comply with provisions of 19.15.36 & 19.15.11 NMAC regarding requirements for contingency plans which apply to Surface Waste Management Facilities.

The facility will comply with provisions of 19.15.36.8.C.8 & 19.15.11 NMAC to have a H2S contingency plan in place (refer to binder Section 19.15.36.8.C.8-Hydrogen Sulfide Contingency Plan).

The facility will comply with provisions of 19.15.36.13.N to have a contingency plan in place to "minimize hazards to fresh water, public health, safety or the environment from fires, explosions or an unplanned sudden or non-sudden release of contaminants or oilfield waste to air, soil, surface water or ground water (refer to binder Section 19.15.36.8.C.10- Contingency Plan).

10.10 Training Program (19.15.36.13.P)

All key personnel will receive annual training related to:

- General Operations;
- o Permit Conditions;
- o Emergencies;
- Proper sampling methods;
- Identification of Exempt waste (can accept), Non-Exempt & Hazardous waste (unacceptable).

Training records shall be maintained at the facility office or facility records storage for no less than five (5) years and made available for division inspection upon request.

11.0 RECORDS MANAGEMENT (19.15.36.13. Sections F, G, L & P, 19.15.36.15.C.9 & 19.15.36.15.E)

Data obtained through the plan implementation will be used to ensure the facility meets the conditions of the permit and to ensure that all waste is properly managed.

Records related to waste type, waste acceptance, sampling, material tracking, biopile temperature testing, waste status, generator, location of origin, volume/type of waste, date of disposal, trucking company, waste storage location and other applicable records will be maintained at the facility.(19.15.36.13.F & 19.15.36.13.G, 19.15.36.15.C.9)

Other records related to the facility's inspection and maintenance plan 19.15.36.13.L (also refer to Binder Section 19.15.36.8.C.7-Inspection & Maintenance Plan), Contingency Plan-training records for key personnel 19.15.36.13.P (also refer to Binder Section 19.15.36.8.C.10-Contigency Plan), and Vadose zone monitoring reports (as described in 7.2 Vadose Zone Monitoring of this document) will also be maintained at the facility.

Said data/records will be maintained at the facility office or facility records storage and made available for division inspection upon request. Data/records shall be maintained at the facility office or facility records storage for no less than five (5) years after the closure of the facility.

11.1 Forms (19.15.36.13.G & 19.15.36.15.C.9)

In order to comply with requirements set forth in 19.15.36, the following forms will be utilized and maintained at the facility office or facility records storage:

- C-138 Request for Approval to Accept Solid Waste (ADDENDUM A);
- C-133 Authorization to Move Produced Water (ADDENDUM B);
- Material Entry Record –Short Form (ADDENDUM C) Long Form (ADDENDUM D)
- o Tank Solidification form (ADDENDUM E)
- Biopile Record (ADDENDUM F)
- o Biopile Temperature Maintenance Record (ADDENDUM G)
- o Allowable Chloride in Water Calculation Spreadsheet (ADDENDUM H)
- Release Notification and Corrective Action (ADDENDUM I)

11.2 Material Entry Record (19.15.36.13.G)

The Material Entry Record (ADDENDUM C & ADDENDUM D) contains the following information:

- Date (Date Waste is Received/Disposed of)
- Generator
- Origin of Material
- Material Transported by (Hauling Company)
- Driver's Name
- Driver's Cell Number (not required)
- Truck Number
- Logged in Corresponding Biopile Record Sheet (IEI information purposes)
- Type of Waste (Soil, Gravel, Tank Bottoms, Drill Cuttings)
- Amount of Waste (quantity in cubic yards or barrels)
- Company Representative
- Company Representative Phone Number (IEI information purposes)
- Paykey/PO Number (IEI information purposes)
- H2S Gas Test Results
- Chloride Content Test Results
- Paint Filter Test Results
- Location of Disposal within the facility ("Under Construction" Biopile #____ or Tank)
- DENIED/REJECTED
- Driver(s) Signature(s)
- Facility Attendant Signature

11.3 Tank Solidification (19.15.36.13.E &19.15.36.15.A)

The Tank Solidification Record form (ADDENDUM E) contains the following information:

- Date (Date waste is being processes/solidified)
- Tank # or name
- Solidified With (Virgin or Treated) Soils
- Amount used to solidify
- If using Treated Soils the Pile # of the treated soils and the amount used
- Paint Filter Test Results
- Chloride Content Test Results
- Employee Signature

11.4 Biopile Record (19.15.36.15.C.9)

The Biopile Record (ADDENDUM F) contains the following information:

- Name/Description of Biopile (i.e., Conoco Drill Mud, Community Liquids, BP Dirt)
- Date Material is Received
- Date "Under Construction" Biopile is completed (once a biopile reaches approximately 1000 cy and/or upon generator notification that all materials associated with the "C-138" have been delivered)
- Pile # & Cell # (location of disposal within the facility)
- Generator
- Origin of Material
- Transported By/Truck #
- Quantity Received
- Date Received
- Comments

Upon meeting closure standards (19.15.36.15.F) and receiving approval from NMOCD:

- Date approval Received from NMOCD to reuse/recycle or spread "treated" soils
- Cell # treated soils are spread in and/or
- Date and manner "treated" soils are reused/recycled.

11.5 Biopile Temperature & Maintenance Record (19.15.36.15.C.9)

The Biopile Temperature & Maintenance Record (ADDENDUM G) contains the following information:

- Page #
- Pile #
- Cell #
- Date "Under Construction" Pile is completed
- Name/Description of Biopile (i.e., Conoco-Drill Mud, Community-Liquid, BP-Dirt)
- Weekly Pile Temperature Date
- Monthly Pile "Turned" Date
- Date Moisture is added to the Pile & Source of Moisture (Fresh, Centrate or Storm Water)

11.6 Allowable Chloride in Water Calculation Spreadsheet

The Allowable Chloride in Water Calculation Spreadsheet (ADDENDUM H) contains the following information (electronic version of the form enclosed):

- Date
- Biopile # & Chloride Content
- Centrate Chloride Content
- Biopile Chloride Content (After Centrate is Added)

Spreadsheet which automatically calculates the amount of Chloride Concentration allowable:

- Amount of cy per biopile (1000 cy)
- Amount of pounds, average soil density
- Chloride in Soil (enter chloride concentration of specific biopile)
- Pounds of Chloride on ppm mass basis
- Maximum amount of Chlorides allowed by Treatment Zone Closure Standards
- Pounds of Chloride in 1000 cy soil, per mass basis
- Barrels of liquid
- Barrels of liquid converted to gallons
- Pounds water / gallon
- Maximum pounds of Chloride that water can contribute to soil
- Maximum allowable Chloride concentration in 80 bbls water

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV

20 S. St. Francis Dr., Santa Fe, NM 87505

ADDENDUM A State of New Mexico Energy Minerals and Natural Resources

Form C-138 Revised August 1, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST	FOR APPROVAL	TO ACCEPT SOLID	WASTE
e and Address:			

1. Generator Name and Address:
2. Originating Site:
3. Location of Material (Street Address, City, State or ULSTR):
4. Source and Description of Waste:
Estimated Volume yd³/bbls Known Volume (to be entered by the operator at the end of the haul) yd³/bbls 5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I,
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. **Operator Use Only: Waste Acceptance in the product of the production operations and are not mixed with non-exempt waste. **Operator Use Only: Waste Acceptance in the production operations and are not mixed with non-exempt waste.
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I,
5. Transporter:
OCD Permitted Surface Waste Management Facility
Name and Facility Permit #:
Address of Facility:
Method of Treatment and/or Disposal:
☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other
Waste Acceptance Status: APPROVED DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: TITLE: DATE:
SIGNATURE: TELEPHONE NO.: TELEPHONE NO.:
OULTOOC ALONG INITIALISCULCUL LACHILA VITUOLISCO WACHI

6.19

ADDENDUM B

Submit a single copy to Santa Fe Office

State of New Mexico Energy Minerals and Natural Resources

Form C-133 Revised April 19, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

AUTHORIZATION TO MOVE PRODUCED WATER

Transport	ter N	ame:					
Business	(Phy	sical) Address in New Mexico:	Contact Mailing Address (If different):				
Business Business	Phon Fax:	ne:	Contact Phone:				
l. <u>A</u> Services.		n a copy of the applicant's New Mexico Public	Regulation Commission (PRC) Warrant for Transportation				
			Example: corporation, limited liability company [LLC], sole proprietor):				
A	۸.	If the applicant is a corporation or LLC, prov	vide the PRC NMSCC number:				
В	3.	If the applicant is a limited partnership or liming registration number:	nited liability partnership, provide the Secretary of State				
C	C.	If the applicant is any other form of partnersh	nip, identify all partners:				
D).	If the applicant is a sole proprietor, provide the	he name of the sole proprietor:				
		form of your business entity changes, the name oply for authorization.)	of your business changes, or the business address changes,				
personnel	with		133 to comply with 19.15.34 NMAC and familiarize its lispose of produced water in accordance with 19.15.34				
		fy that the information above is true and compl d by person who is authorized to obligate the co	ete to the best of my knowledge and belief." (Application empany applying for the permit)				
Signature	:		Date:				
Printed Na	ame:						
E-mail Ad	ddres	ss:					
		r State use)					
pproved	i by:_		Title:				
Date:							

ADDENDUM C



Industrial Ecosystems Inc. Blanco Landfarm

Materia	l Entr	y Reco	ord							
Date:					Company Representatives Name:					
Generator of Material:				Phone Number:						
Origin of Mate	rial (Loca	tion):			Paykey / F	Purchase C	order Numb	er:		
Material Transported by: Driver's Name:				H2S Gas	□ No	n-Detect	□ D	etect: Leve	l	
Driver's Cell #: Truck Number:				Chic	oride Conte	ent Level *a	ttach copy o	f results to C-1	38	
☐ Logged in Corresponding BioPile Sheet				Paint Filter □Passed		r Construct	tion Pile #:			
					□Failed	□ Tank	(s)			
					☐ DENI	ED / REJ	ECTED			
Type of Waste	<u> </u>		_							
Soil]		Tank Botto	oms				
Gravel]		Drill Cuttin	gs				
Amount of Wa	ste									
	Load #1	Load #2	Load #3	Load #4	Load #5	Load #6	Load #7	Load #8	Load #9	Load #10
Cubic Yards										
Barrels	L			<u> </u>						
Driver's signat	ure:									
Ft y Attenda	ant's sign	ature:								

ADDENDU

Page NO.

Midustrial Ecosystems Inc.

Industrial Ecosytems Inc Blanco Landfarm Material Entry Record (Long Form)

GENERATOR OF MATERIAL: ORIGIN OF MATERIAL(LOCATION): Type of Material: Date Time Transported by Transported by

ADDENDUM E



Industrial Ecosystems Inc. Blanco Landfarm

TANK SOLIDIFICATION RECORD

Date:	
Tank # or Name:	Tank # or Name:
Tank # or Name:	Tank # or Name:
Tank # or Name:	Tank # or Name:
Tank # or Name:	Tank # or Name:
Tank # or Name:	Tank # or Name:
Tank # or Name:	Tank # or Name:
Tank # or Name:	Tank # or Name:
Tank # or Name:	Tank # or Name:
Tank # or Name:	Tank # or Name:
Tank # or Name:	Tank # or Name:
	rank // or rano
Solidified with:	
☐ Virgin Soils	Amount: cy
☐ "Treated" Soils Pile #:	Amount: cy
Paint Filter Test: ☐ Passed ☐ Under Construction Pile #	# :
Chloride Content Level	
.nployee Signature:	

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Name/Description of Pile:_

PILE#:_ CELL#:_

DATE "Under Construction" PILE COMPLETED:_

Comments Received Date Quantity Received Transported By/ TOTAL Truck # of Material Generator of Material

Date	☑Berm Maintenance	☑Solidification of Materials from Pit(s)/Tank(s)	Quanity Reused/Recycled

SPREAD IN CELL #:

DATE RCV'D APPROVAL TO REUSE/RECYCLE OR SPREAD:

ADDENDUM G



20 BIOPILE TEMPERATURE & MAINTENANCE RECORDS										
Page #: Pile #: Cell #:										
Date "UNDER CONSTRUCTION" Pile Created:										
Name/Description of Material:										

					Check Or	ne
Date	Pile Temp	Date Turned	Date Moisture Added	Fresh	Centrate	Stormwater
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ADDENDUM H

Allowable Chloride in Water Calculation

Date:		
Circle Type bel	_ Chloride Content: low: orm Water (SW) Chloride Content:	
	de Content (After Centrate or SW is Added):	
Soil	1,000 yds3	
	2,970,000 pounds, assuming 110 lb/ft3 average soil density	
Cl- in soil	300 ppm - ENTER SOIL CHLORIDE CONCENTRATION IN PPM (MG/KG)	
	891 pounds Cl- in 750 yds3 soil, on ppm mass basis	
num allo	wed	
CI- in soil	500 ppm	
	1,485 pounds CI- in 750 yds3 soil, on ppm mass basis	
Water	80 barrels	
	3,360 gallons	
	27,989 pounds water at 8.33 lb/gallon	
	594 Maximum pounds of Cl- that water can contribute to soil	
	21,223 ANSWER: Maximum allowable Cl- concentration (ppm) in 80 bbl water	

ADDENDUM I

State of New Mexico Energy Minerals and Natural Resources

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Form C-141

Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe. NM 87505

Sama re, tivi 67303											
Release Notification and Corrective Action											
OPERATOR									Final Report		
Name of Company						Contact					
Address						Telephone N	No.				
Facility Na	ne					Facility Typ					
1 401110) 1 (41						1 4011113 137					
Surface Ow	ner			Mineral (Owner			API No			
LOCATION OF RELEASE											
Unit Letter Section Township Range Feet from the North/South Line Feet from the East/West Line County											
Tomic Ection Township Range Peet from the North/South Eine Peet from the East west Eine County											
Latitude Longitude											
Type of Release Volume Recovered Volume Recovered											
Source of Re							lour of Occurrence		Hour of Disc	covery	
Was Immedia		liven?				If YES, To		Date and	riour or Dis	covery	
vi as immodi	210 1101100		Yes [No Not R	equired	11 125, 10	Whom:				
Dy Whom?						Data and H					
By Whom? Date and Hour Was a Watercourse Reached? If YES, Volume Impacting the Watercourse.											
Yes No Yes No											
^a Watercoi	irse was Im	pacted, Descr	he Fully	k							
Describe Cause of Problem and Remedial Action Taken.*											
Describe Area Affected and Cleanup Action Taken.*											
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.											
OIL CONSERVATION DIVISION											
Signature:											
Printed Name	;					Approved by	Environmental Sp	pecialist:			
Title:						Approval Dat	e:	Expiration I	Date:		
E-mail Address: Conditions of Approval: Attached											

Attach Additional Sheets If Necessary

.te:

Phone:

Operational/Management Plan ADDENDUMS

Crowe Blanco Properties, LLC / IEI Blanco Routine Inspection & Maintenance Activities (19.15.36.8.C.7 & 19.15.36.13.L. NMAC)

Routine inspection/maintenance activities, and the frequency conducted, are shown in Table 1.

TABLE 1

Maintenance Task	Frequency of Task
General Housekeeping (Facility/Vehicles/Equipment)	Daily
Gates & Fencing	Daily/Weekly
Freestanding Liquids (19.15.36.15.C.8)	Within 24 hours
Moisture/Dust Control	Varies
Berms	Quarterly and/or within 24 hours of the end of a major rainfall or windstorm
Processing Area (Centrifuge/Tanks) (19.15.36.13.L.1)	Daily/Monthly
Monitoring Wells (19.15.36.13.L.2)	Semi-Annually
Retention Ponds (19.15.36.13.L.3)	Quarterly and/or within 24 hours of the end of a major rainfall or windstorm

Inspections

The attached Inspection and Maintenance Checklist shall be used to conduct inspections, as specified in Table 1. The Checklist will identify routine inspections; maintenance needed, and will record corrections and/or maintenance performed.

Crowe Blanco Properties, LLC / IEI Blanco Inspection and Maintenance Checklist

☐ Monthly ☐ Semi-Annually (Jan & July) ☐ Other: ☐ After major windstorm	Results Expected When Maintenance Is Performed		Stains are cleaned up and there is no visible grease, oil, gasoline, or other contaminants present on the ground in the vehicle/equipment parking area(s). Trash and debris will be cleared from site and disposed of properly.		Gate(s) are repaired to proper working condition.	Fencing is repaired to design specification.		Freestanding liquids removed within 24 hours.
Type of Inspection: Quarterly Quarterly Bi-weekly	Comments (Describe maintenance completed and if any needed maintenance was not conducted, note when it will be done.)						の名子では、漢字では 被手 とお から (を)を)	
Туре	Frequency of Inspection		Mon Tue Wed Thu		Mon Tue Wed Thu Fri	Mon		Mon Tue Wed Thu
Ispection:	Conditions When Maintenance Is Needed	eping (Daily)	Stains from oils, gasoline, or other contaminants from vehicles and/or equipment visible on the ground. Trash and debris accumulated on the facility.	Gates and Fencing (Daily / Weekly)	Any defect or damage to the gate which would allow easy entry to the facility	Any defect or damage to the fence which would allow easy entry to the facility	Freestanding Liquids (Within 24 hours)	Freestanding liquids on the facility
Week of/Date of Inspection: Inspector(s):	Area	General Housekeeping (Daily)	Facility	Gates and Fencin	Gate(s) -missing or broken parts	Fence	Freestanding Liq	Freestanding Liquids (19.15.36.15.C.8)

Moisture/Dust Co	Moisture/Dust Control (Depends on time of year & natural precipitation received)	r & natural precip	oifation received)	
Blowing Dust	During drier months when natural precipitation is not frequent and has not been received w/in the prior 48 hours	Mon Tue		Moisture (centrate and/or fresh) water will be added to completed biopiles (not under construction) by trenching with water to enhance the bioremediation process.
Has the facility received moisture w/in the last 48 hours?	Specify: □ Rain □ Snow □ loe	Wed		* Trenching is defined as: Use of excavator(s) to cut a trench into the top of the pile, adding moisture, and then mixing the moisture into the pile by "rolling" it.
Berms (Quarterly	Berms (Quarterly and/or within 24 hours of the end of a major rainfall or windstorm)	end of a major ra	infall or windstorm)	
Berms	Settlement - berm settlement or berm integrity has been compromised Erosion – eroded over 2" deep where cause of damage is still present or potential for continued erosion	Mar June Sept Dec After storm event		 Berm is built back to the design elevation & specifications. Cause of erosion is managed appropriately. Side slopes or berms are restored to design specifications, as needed.
Processing Area	Processing Area - Metal Pits / Centrifuge / Tanks	s (Daily/Monthly)	(A	
Tanks (above ground-which allows leak detection to be covered by visual inspections)	Visible leaks or cracks in the walls or floor Any visible leaks on or around the supply pump(s) Any Stained soil around the tank(s) or hoses/pipes	Mon Tue Wed Thu Fri		 Waste not accepted into tanks(s) until cleaned & repaired. Spills/Leaks cleaned from the area. Hoses/Pipes checked for leaks & to ensure proper attachment/connection. *Spills/leaks in excess of 5 bbls shall be reported as specified in 19.15.29 NMAC.

Inspection and Maintenance Checklist continued

Monitoring Wells (Semi-Annually)	(Semi-Annually)			是 人名英格兰 化二氯化二二二氯化二二二二氯化二二二二二二二二二二二二二二二二二二二二二二二
Monitoring Wells (19.15.36.13.L.2)	Must perform semi-annual inspections & sampling on all ground monitoring wells MW1 MW3 MW5 MW6 MW7 MW9 MW9 MW9	Aan July		Pursuant to 19.15.36.13.L.2 NMAC - Semi-annual inspection & sampling of monitoring wells will be performed with analytical results, maintenance records, inspection dates, inspector and status of monitor well(s) reports furnished to NMOCD. * MW2 will not be monitored as it has been plugged per NMOCD request.
Retention Ponds	Retention Ponds (Quarterly & and/or within 24 hours of	nours of the end o	the end of a major rainfall or windstorm)	
Retention Ponds/Dikes (19.15.36.13.L.3)	Stormwater runoff not directed or contained as needed Berm settlement or berm integrity has been compromised Eroded over 2" deep where cause of damage is still present or potential for continued erosion.	March June Sept Dec		Monitor and restore the integrity of the retention pond(s) and the flow of the stormwater runoff.

Inspector(s) Signature(s):	

Hydrogen Sulfide (H2S) CONTINGENCY PLAN

(19.15.36.8.C.8 & 19.15.11 NMAC)

Company Name: Crowe Blanco Properties, LLC / Industrial Ecosystems, Inc. (IEI)

Facility Address: 7577 US Hwy 64 Blanco, NM (near mile marker 75 San Juan County S-16, T29N, R-09W)

Emergency Coordinator: Alberta Pablo

Emergency Coordinator Phone Number: (505) 860-4068

Designated assembly points(s):

- 1. North assembly point
- 2. NE assembly point
- 3. West assembly point

Emergency Numbers:

Fire **911** or **(505) 334-6622** Medical **911** or **(505) 325-5011** Sheriff's Office / Police **911** or **(505) 334-6622**

* 911 – As per Don Cooper, San Juan County Emergency Manager - San Juan County is set up on a "single dispatch & reverse 911 notification" system – all necessary emergency and HazMat responders, etc. will be dispatched from the 911 office & rapid notification is sent out to local residents and other occupants in the event of an emergency.

Industrial Ecosystems Incorporated:

Health and Environmental Department: (505) 860-4068

Contact: Alberta Pablo

Safety Department: (505) 419-0200 Contact: Brian Cochran

ooman

Main Office: (505) 632-1782 Contact: Marcella Marquez

Plan prepared by: Alberta Pablo

Date: June 8, 2012

SECTION I: PURPOSE AND OBJECTIVES

This plan has been developed to comply with 19.15.11.9 NMAC and API guidelines in response to an unplanned release of H2S from the facility. The plan is intended to communicate the actions taken in the event of an unplanned H2S release to protect members of the public, residents in surrounding areas and/or personnel and/or contractors working on or around the facility.

This written plan will be made available to facility personnel, local police, fire and medical facilities by the Emergency Coordinator for the IEI properties. Visitors and contractors on site will be familiarized with safety alarms, designated assembly points, evacuation routes and signs on the facility. Visitors will also be notified that they will need to adhere to instructions of facility personnel in the event of an evacuation.

SECTION II: REGULATORY THRESHOLD (19.15.11.8)

By use of process knowledge, as determined by reasonable comparison of H2S levels encountered at the "tank battery" located at the JFJ Landfarm (OCD Permitted SWMF, operated by IEI for over 20 years). H2S concentration levels at the JFJ Landfarm have never reached or exceeded 100 ppm. The processes and waste streams characteristics are the same, with waste being processed within 72 hours of receipt (19.15.11.8.A NMAC).

The facility shall calculate the radius of exposure if H2S concentration levels increase to 100 ppm or greater, and the results shall be provided to the division within 60 days (19.15.11.8.D NMAC).

SECTION III: EMERGENCY PROCEDURES (19.15.11.9.B.2.a NMAC)

A. Responsibilities and Duties of Personnel

Health and Environmental Officer will serve as the Emergency Coordinator and is responsible for:

- o Overseeing the development, communication, implementation and maintenance of the overall CP:
- o Providing training and on-site drills to facility personnel and local residents:
- o Briefing public official on evacuation or shelter-in-place plans:
- Coordinating the CP with the local and state emergency plans;
- o Activating the CP in the event of an unplanned H2S release at 15 ppm (Time Weighted Average);
- o Coordinating emergency response measures.

At all times, there must be at least one emergency coordinator either on the facility premises or on call (available to respond to an emergency by reaching the facility within a short period of time). The emergency coordinator(s) must be thoroughly familiar with all aspects of the CP, operations and activities at the facility, the location and characteristics of H2S, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the H2S contingency plan.

Facility Supervisor(s) & Safety Officer will serve as the Alternate Emergency Coordinator(s) and will serve only in the absence of the designated Emergency Coordinator.

<u>Facility Personnel</u> will perform operations in accordance with this safety plan; assist in the accountability and evacuation of visitors and contractors on the facility to designated assembly points; and keep management informed on the progress.

<u>Office personnel</u> will be familiar with the procedures in this plan and assist Facility Personnel with the implementation of this plan in a safe manner.

B. Responsibilities of Visitors & Disabled Occupants

Upon check-in visitors will be notified that they will need to adhere to instructions of landfarm personnel in the event of a H2S release reaching 10 ppm. If H2S levels reach 15ppm, visitors shall proceed to the nearest appropriate designated assembly point and disabled occupant(s) unable to exit the building without assistance would be provided with a 10 minute escape pack. The disabled occupant would then wait for facility personnel to arrive and assist with evacuation from the area. The Emergency Coordinator must notify facility personnel of the disabled occupant's location. Unless imminent life-threatening conditions exist in the immediate area occupied by a non-ambulatory or disabled person, relocation of the individual should be limited to a safe area.

C. Activation Levels

If the H2S levels reach 15 ppm, it will be determined than an H2S release has occurred and the CP will be implemented. The EC will initiate evacuation operations if H2S levels exceed 30 ppm.

D. Immediate Action Plan

The following outlines the Immediate Action Plan to be used when responding to an H2S release.

- 1. The emergency alarm system will activate when concentrations reach and exceed **10** ppm. The alarm system controls, located in the Processing Area, will indicate when the alarm is set-off.
- 2. When the emergency alarm system activates, all facility personnel will evacuate to the appropriate designated assembly point until the facility can be assessed by the Emergency Coordinator.
- 3. The EC will evaluate the area through physical inspection while simultaneously monitoring H2S levels with a portable gas monitor, until the source of the H2S release is determined.
- 4. Any facility personnel in distress will be assisted by other facility personnel to the appropriate designated assembly point(s).
- 5. The Emergency Coordinator will account for all facility personnel by utilizing the Employee Roster. Visitors/Disabled Occupants will be accounted for by utilizing the facility "check-in" sheets.
- 6. Local emergency responders will be notified that the alarms have indicated an H2S level of **10** ppm or greater.
- 7. If H2S levels are determined to be **10** ppm or less, facility personnel will return to work, and the EC will continue to monitor the area manually with an OSHA/ANSI approved gas monitoring device to ensure that the NIOSH Time Weighted Average Permissible Exposure Limit of 10 ppm is not exceeded during an eight hour shift.
- 8. The EC will initiate evacuation operations if H2S levels exceed 30 ppm; and
- 9. Emergency Shutdown procedures will be initiated by supervisors as deemed necessary to correct or control the specific situation. On-site supervisors will be responsible for monitoring for leaks, pressure build-up, and gas generation and ruptured valves (19.15.36.13.N.11).

E. Telephone Numbers and Communication Methods

1. External Emergency Responders

Agency	Telephone Number
Fire Department	911 or (505) 334-6622
Sheriff Department	(505) 334-6622
Police Emergency #	911
San Juan Regional Medical Center	911 or (505) 325-5011

2. Internal Call List

Title	Name	Responsibilities	Location	Telephone
Emergency Coordinator	Alberta Pablo	Primary assessment and on-site notification	Main Office	(505) 860-4068
		Assessment and on-site notification; continuing monitoring; mitigation of release source		
Alternate Emergency				
Coordinator	Brian Cochran		Main Office	(505) 419-0200
Alternate Emergency		Assessment and on-site notification; continuing monitoring; mitigation of release source		
Coordinator	Steve Abeyta		Landfarm	(505) 860 -3801
		Notification of Emergency Dispatch of potential off-site impact; mitigation of release source		
Management	Terry Lattin		Main Office	(505) 860-2885
Office Staff	Marcella Marquez	Support to all above	Main Office	(505) 632-1782

3. Public notification

In the event H2S levels reach or exceed 30 ppm, the EC shall recommend to emergency personnel that public notification proceedings should be initiated and coordinated by law enforcement or emergency response personnel. San Juan County has a "Reverse 911 Notification System" to allow rapid notification of the residents and other occupants of the potentially affected areas.

4. Emergency Communication Methods

Communication Equipment/Alarms	Location(s)	Capabilities/Description
Telephone System	Office	Telephones with loudspeaker/paging systems for internal and external communication.
Cell Phones	Various	Key personnel are provided with cell phones
2 Way Radio(s)	Main Office Tank Battery In Heavy Equipment	Provides the ability for office, landfarm personnel and truck drivers to communicate on the facility at all times
H2S Alarms	Processing Area	Alarm activates when H2S levels reach OSHA/ANSI levels

F. Location of Public Roads & Nearby Residences

The following public roads are located on/near the facility:

- Highway 64 from mile marker 75 to mile marker 76;
- CR 4450 (Largo Canyon Road) where it crosses the south western areas of the facility;
- CR 4445 Entrance/Exit onto the facility; and
- CR4440 where it enters/exits the East side of the facility;

SECTION IV. EVACUATION MAPS/ROUTES & ROAD BLOCK LOCATIONS (19.15.11.9.B.2.c NMAC)

A. Evacuation Map

The attached ADDENDUM "A" Emergency Evacuation Routes map illustrates the locations of:

- "Caution Poison Gas" signs;
- Roadblock barricades:
- Emergency Evacuation/Designated Assembly Points; and
- · Potentially affected public roads.

B. Evacuation Routes

- Resident(s) located southeast of the facility will evacuate using CR 4445 to Largo Canyon;
- Residents located off of CR 4440 will evacuate East on CR 4440 to Highway 64;
- Traffic traveling North and South on CR 4450 (Largo Canyon Road) will be restricted on an "as need" basis (the road crosses the facility on the southern boundary of the facility where H2S is not likely to cause restriction to traffic flow).

C. Road Block Locations

- CR 4445 & CR 4440; and
- Any well location road on the facility that is not already gated.

SECTION V. ALARM SYSTEM, WIND SOCKS, MONITORING EQUIPMENT, EMERGENCY EQUIPMENT and SUPPLIES (19.15.11.9.B.2.f & 19.15.11.9.C NMAC)

A. Alarm System (AS)

- There is one emergency alarm system located in the "Processing Area" of the facility and H2S sensors are located in various locations of the Processing Area.
- If H2S sensors on the facility detect H2S concentration of 10 ppm (OSHA/ANSI limits) or higher the alarm system is automatically activated.
- The system can be activated at any time, by facility personnel, or at the direction of the Emergency Coordinator (EC).
- The audible alarm for an emergency response and facility evacuation is a flashing yellow beacon at H2S concentrations of 10 ppm or greater.
- The audible alarm will remain intermittent along with flashing yellow and blue beacons when H2S concentrations reach 15 ppm or higher.
- The flashing beacon lights are located in various areas of the facility.

B. Wind Socks (Wind Direction Indicators)

Wind socks are located in various areas on the facility.

C. Monitoring Equipment

- The facility will utilize a Sentry Monitoring System with fixed H2S sensors (or equivalent). The system uses fixed point monitoring to detect the presence of H2S in ambient air. The yellow beacon is activated at H2S concentrations of 10 ppm or greater. The alarm which is an intermittent sound is activated along with flashing lights of yellow and blue with H2S concentrations of 15 ppm or greater. Fixed H2S sensors are located in the Processing Area to detect an uncontrolled release of H2S. Facility personnel are able to monitor H2S levels of each sensor on the control monitor located in the Processing Area. When the alarm is activated the sensor(s) will require immediate action for any occurrence or malfunction as they will not clear themselves. The sensors are equipped with battery backup systems and are calibrated monthly. Audible alarm systems are also calibrated monthly.
- OSHA/ANSI approved portable gas monitors are provided to personnel to use while working on the facility.
 The monitors have sensors which indicate the presence of H2S with a beeping sound at 10 ppm. The beeps change in tone as H2S increases.

D. Emergency Equipment/Supplies

Equipment	Location(s)	Capabilities/Description
Communication Equip/Alarms:		
Telephone System	Office	Telephones with loudspeaker/paging systems for internal and external communication.
Cell Phones	Various	Key personnel are provided with cell phones.
2 Way Radio(s)	Main office Tank Battery In Heavy Equipment	Provides the ability for office and landfarm personnel as well as truck drivers to communicate on the facility at all times.
H2S Alarms	Office Tank Battery	Alarm activates when H2S levels reach 10 ppm or higher.
H2S Sensors	Processing Area	Fixed point sensors to monitor H2S in ambient air.
OSHA CERTIFIED PPE: Gloves	Office	Cotton, leather, chemical resistant.
Eye Protection		Safety glasses, goggles, face shields.
Hearing Protection		Ear plugs.
Head Protection		Hard Hat.
10 Minute Escape Pack	Office	Self-Contained Breathing Apparatus (SCBA) which is capable of providing breathable air in an IDLH (Immediate Danger to Life and Health) atmosphere.
OSHA/ANSI Approved		
Portable Gas Monitor	Office Various – checked out to EC and to facility personnel to use while they are working on the facility	Monitors the air to indicate the presence of H2S with a beeping sound at 10 ppm.
Wind Socks	Various Areas	Designed to indicate wind direction and relative wind speed.
Roadblock Barricades/Warning Devices	Office-stored until needed	Road signs or barricades to prevent access into potentially affected public areas on the facility.

SECTION VI. TRAINING & DRILLS (19.15.11.9.B.2.d NMAC)

A. Responsibilities and Duties of Personnel

- Training will be provided to new facility personnel during new hire orientation;
- Training on the plan content shall be provided to all facility personnel annually; and
- Personnel responsible for implementing this plan shall be trained in their duties and responsibilities during the annual on-site training exercise.

B. On-site or Classroom drills

- IEI will hold periodic on-site and/or classroom drills and exercises simulating a release; and
- "Hands on" training methods will be conducted annually at a minimum.

C. Notification and Training of Others on Protective Measures in Emergency Situations

- The EC will hold annual training and practice drills for residents of the area, as appropriate. Training drills
 will cover the proper protective measures to be taken in the event of a release and public officials will be
 briefed on issues such as evacuation or shelter-in-place plans.
- Nearby residents will be invited to participate in and/or observe annual drills, where they will be briefed on notification, evacuation, and shelter-in-place options such as closing windows and shutting off any air conditioning/heating until they are notified that it is safe.

D. Training and Attendance Documentation

All training and drills will be documented. Documentation shall include sign in sheets, synopsis of the training conducted, and an after action review of the training.

Section VII. NOTIFICATION

Anytime the CP plan is activated, the EC will notify the Division as soon as possible, but no more than 4 hours after plan activation. will be notified advising of the activation of the H2S Contingency Plan

Section VIII. COORDINATION WITH STATE EMERGENCY PLANS (19.15.11.9.B.2.e)

In accordance with the NM Hazardous Material Emergency Response Plan, the EC will notify the nearest state police headquarters and will coordinate and perform protective actions only to the extent that his/her knowledge and capability permit.

Protective actions include:

- set out road blocks signs with warning devices;
- o take readings/measurements to determine if there is a possibility of a release of materials;
- o isolate the release as much as possible to avoid exposure to the general public;
- o aid first responders and emergency personnel, as requested;
- o request a contamination check from personnel on-scene;
- provide appropriate resources for the resolution of the incident, including cleanup.

SECTION IX: RESCUE/EMERGENCY RESPONSE/MEDICAL (19.15.11.9.B.2.e NMAC)

The facility is located in a rural area with the local volunteer fire department located approximately 1 ½ miles away. San Juan County is set up on a "Reverse 911 Notification/Single Dispatch System". When 911 dispatch is contacted, the emergency dispatch would be informed of a H2S release. At that time 911 dispatch will relay the information to all appropriate emergency and HazMat responders and will implement procedures to notify the public when necessary (19.15.11.9.B.2.a).

- The Fire Department, Emergency Medical Technicians (EMT) will conduct all rescue and medical duties.
- Any injured personnel will need to be removed from the exposure area and taken to the closest designated assembly point or to a medical facility (as determined by EMT personnel).
- All responding emergency personnel will be updated on the emergency situation upon arrival and will be briefed on the H2S hazard.

In the event that the Emergency Coordinator determines the need to evacuate the facility, local law enforcement and emergency response teams will be informed. Everyone shall remain at the designated assembly point(s), unless such assembly point becomes unsafe, and await instructions from law enforcement and emergency response personnel or the on-site Emergency Coordinator.

If the Emergency Coordinator believes that a threat to human health or the environment, outside the facility exists, s/he will notify the San Juan County Emergency Dispatch Center through 911. The Emergency Coordinator will be available to help the appropriate officials decide if evacuation of the neighboring properties is necessary. The evacuation proceedings of neighboring properties will be initiated by law enforcement or emergency response personnel either through the San Juan County "Reverse 911 Notification System" or door-to-door contact by law enforcement.

In accordance with the NM Hazardous Material Emergency Response Plan, the Emergency Coordinator will notify the nearest state police headquarters and will coordinate and perform protective actions only to the extent that his/her knowledge and capability permit (19.15.11.9.B.2.e).

Protective actions include:

- Setting out road blocks signs with warning devices;
- Taking readings/measurements to determine if there is a possibility of a release of materials;
- Isolate the release as much as possible to avoid exposure to the general public;
- Assist first responders and emergency personnel, as requested;
- Request a contamination check from personnel on-scene;
- Provide appropriate resources for the resolution of the incident, including cleanup.

SECTION X: Plan Submission, Review/Amendments, Retention/Inspections, Annual Inventory (19.15.11.9.D, 19.15.11.9.E, 19.15.11.9.F, 19.15.11.9.G, 19.15.11.9.H NMAC)

Submission (19.15.11.9.D):

The CP will be submitted to the Oil Conservation Division (OCD) with the Crowe Blanco Properties, LLC SWMF permit application.

Review/Amendments (19.15.11.9.E):

The EC shall review and amend/modify the CP any time a subject addressed in the CP materially changes, or as necessary to protect public safety.

Retention/Inspection (19.15.11.9.F):

IEI shall maintain a copy of the contingency plan in the Main Office and in the Processing Area of the facility. The plan shall be readily accessible for review, upon request, by the Oil Conservation Division (OCD).

Annual Inventory (19.15.11.9.G):

The EC shall review and file the CP plan on an annual basis to the local emergency planning committee and to the state emergency response commission along with the IEI's "Point of Contact" name, address and telephone number.

Section XI. HYDROGEN SULFIDE & SULFER DIOXIDE CHARACTERISTICS (19.15.11.9.B.2.b NMAC)

A. Hydrogen Sulfide (H2S): is a by-product of decaying organic matter and microbial activity. Workers in oil and gas operations, mining, sewage treatment, landfills, and laboratories are the most commonly exposed groups.

Because of the dangers of working with H2S, IEI is required by law to follow certain safety standards and procedures, such as monitoring the air in certain work areas and providing engineering controls. But, and most importantly, you must know how to protect yourself from H2S. If you recognize the hazard and follow specific procedures, you can work around H2S safely.

H2S is a colorless, toxic and flammable gas, heavier than air, and has the odor of rotten eggs. Hydrogen sulfide presents a significant health hazard by paralyzing the respiratory system resulting in serious injury or death.

Hydrogen Sulfide Propertie	es and Characteristics
CAS No.	7783-06-4
Molecular Formula	H2S
Molecular Weight	34.082 g/mol
Ceiling Concentration (not to be exceeded)	20 ppm (OSHA)
Ceiling Peak Concentration (10 minute period once	50 ppm (OSHA)
within an 8 hour day)	
Threshold Limit Value (TLV)	15 ppm (ACGIH)
Time Weighted Average (TWA) (during an 8 hour day)	10 ppm (NIOSH)
Short Term Exposure Level (STEL)	15 ppm (ACGIH)
Immediately Dangerous to Life or Health (IDLH)	100 ppm (NIOSH)
Specific Gravity Relative to Air (Air=1.0)	1.189
Boiling Point	-76.5F
Freezing Point	-121.8F
Vapor Pressure	396 psia
Auto ignition Temperature	518F
Lower Flammability Limit	4.3%
Upper Flammability Limit	46.0%
Stability	Stable
pH in Water	3
Corrosivity	Highly corrosive; reacts with metals and plastics, causes damage to human tissues

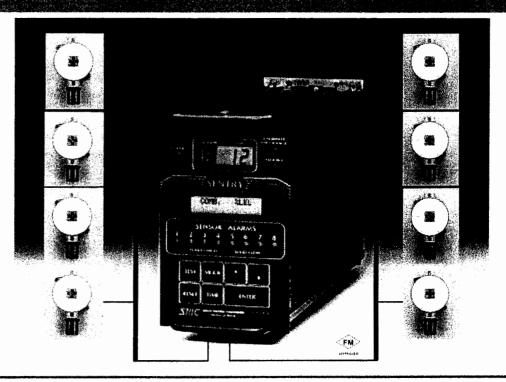
Physical Effects of Hydrogen Sulfide				
Concentration in ppm	Concentration in %	Physical Effects		
1	0.00010	Can be smelled (rotten egg odor)		
10	0.0010	Obvious and unpleasant odor; Permissible Exposure		
		Level; safe for 8 hour exposure		
20	0.0020	Acceptable Ceiling Concentration		
50	0.0050	Loss of sense of smell in 15 minutes		
100	0.0100	Immediately dangerous to life and health(IDLH)		
		loss of sense of smell in 3-15 minutes; stinging in eyes		
		& throat; altered breathing		
200	0.0200	Kills sense of smell rapidly; stinging in eyes and throat		
500	0.0500	Dizziness; unconscious after short exposure; Need		
		artificial respiration		
700	0.0700	Unconscious quickly; death will result if not		
		rescued promptly		
1000	0.1000	Instant unconsciousness; followed by death		
		within minutes		

B. Sulfur Dioxide (SO2): Sulfur dioxide is produced as a by-product of combustion of H2S. It is a colorless, transparent, and non-flammable gas, with a pungent odor associated with burning sulfur. Sulfur dioxide is heavier than air, but will be picked up by a breeze and carried downwind at elevated temperatures. Sulfur dioxide can be extremely irritating to the eyes and mucous membranes of the upper respiratory tract.

Sulfur Dioxide Properties & Characteristics				
CAS No.	7446-09-5			
Molecular Formula	SO2			
Molecular Weight	64.07 g/mol			
Permissible Exposure Limit (PEL)	5 ppm(OSHA)			
Time Weighted Average (TWA)	2 ppm(ACGIH)			
Short Term Exposure Level (STEL)	5 ppm(ACGIH)			
Immediately Dangerous to Life and Health (IDLH)	100 ppm			
Specific Gravity Relative to Air (Air = 1.0)	2.26			
Boiling Point	14°F			
Freezing Point	-103.9°F			
Vapor Pressure	49.1 psia			
Auto ignition Temperature	Non-flammable			
Lower Flammability Limit	Non-flammable			
Upper Flammability Limit	Non-flammable			
Stability	Stable			
Corrosivity	Could form an acid in aqueous solutions			

Physical Effects of Sulfur Dioxide						
Concentration	Effect					
1 ppm	Pungent odor, may cause respiratory changes					
2 ppm	Permissible exposure limit; Safe for an 8 hour exposure					
3-5 ppm	Pungent odor; normally a person can detect sulfur dioxide in this range					
5 ppm	Short Term Exposure Limit (STEL); safe for 15 minutes of exposure					
12 ppm	Throat irritation, coughing, chest constriction, eyes tear and burn					
100 ppm	Immediately Dangerous To Life & Health (IDLH)					
150 ppm	So irritating that it can only be endured for a few minutes					
500 ppm	Causes a sense of suffocation, even with first breath					
1,000 ppm	Death may result unless rescued promptly					

SENTRY THE GUARDIAN FOR YOUR PERSONNEL AND YOUR FACILITY!





Sentry gas detection systems provide a powerful but cost effective solution to gas monitoring demands for a broad range of industrial applications. Implementing the concept of Gas Risk Management in a flexible, easy to operate system, Sentry offers the alarm logic, event response and critical data retention to insure that your safety requirements are met and that your due diligence is documented.

Sentry is a stand-alone gas monitoring system, but it can also be part of a more extensive system with MODBUS interface to DCS systems, connecting multiple controllers to host computer or network printers, or using individual relays for local annunciation or control actions.

Sentry's multiplexing capabilities provide you with reduced installation costs while its high-density configuration allows up to 32 channels in a 19 rack. Sentry provides you with data-logging hard copy printer reports, self-diagnostics and operator/system interface through integral alphanumeric display.

GAS RISK MANAGEMENT: AN INTELLIGENT APPROACH TO SAFEGUARD THE PLANT OR PROCESS

Informed decision-making minimizes gas exposure risks. Gas monitoring demands fast and accurate information and appropriate relay action. Sentry meets these demands.

- User programmable system configuration, individual sensor module configuration, printer output and relay action, including common relays, individual relays, or optional zone voting.
- MODBUS communications interface linking Sentry to most industry standard PC-based Distributed Control Systems.
- Sentry Commander central alarm processor bringing together information from multiple Sentry controllers.
- Addressable Output Module for remote alarm and display of sensor status.
- Real time status reporting in four display scan modes.
- Historical data collection of minimum and maximum gas concentration values.
- Recall and optional printing of system configuration, gas exposure history, calibration status and alarm history.



SENTRY RELIABILITY: ALWAYS ON GUARD

You can trust Sentry to man its post and reliably monitor hazardous gas conditions. Sentry reliability means system availability and accuracy. The microprocessor design minimizes downtime events and limits their effects to only the failed segment of the system.

- FM Approved
- Stable and repeatable sensor modules

- Continuous internal self-diagnostics
- Alphanumeric error messages
 - Fail-safe trouble relay
- EMI and RFI immune
- User configured alphanumeric tag names
- Circuit protected power supply for each channel

SPECIALIZED SENSORS: A GUARDIAN FOR A WIDE RANGE OF NEEDS

Sentry guards your plant and personnel for hazardous levels of combustible gas, oxygen deficiency and toxic gases with the gas sensor necessary for your specific application. Sentry can accept any combination of gas sensors or even nongas sensor devices.

USER SIMPLICITY:

EASY TO UNDERSTAND

Field operators need only learn the simple alarm reset and calibration routines. No need to memorize advanced features — Sentry prompts every step.

- Single person auto-adjusting non-intrusive calibration of sensor module
- Alphanumeric displays

- System operating instructions, such as Calibration Due, prompted by display
- Interchangeable, plug-in sensor modules
- Ease of system upgrading such as adding sensor modules or options.

COST EFFECTIVE:

UNBEATABLE PRICE AND PERFORMANCE

Sentry design provides continued savings throughout its life, insuring that ownership costs are lower than systems that offer fewer features.

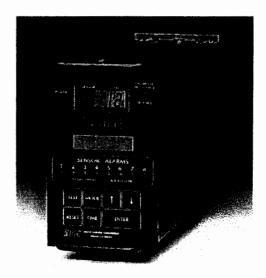
- High point count per instrument rack
- Lower installation labor, wire and conduit cost through multiplexing sensor modules
- Easy non-intrusive calibration
- Reduced labor for set-up, reports, calibration and service.
- No periodic maintenance except calibration

VERSATILE ACCESSORIES: EXPAND THE FLEXIBILITY OF YOUR SYSTEM

Sentry s options insure that the system will meet your specific needs. Various mounting configurations, battery back-up, output selections, calibration systems, and alarm software expand the versatility of your system. The Sentry controller is the heart of the Sentry Gas Risk Management system. It is a microprocessor based system that performs functions including management of the sensor modules, management of alarm relays and interface with the user via the front panel display, printer output, Modbus digital communication, alarm indicators and relay outputs.

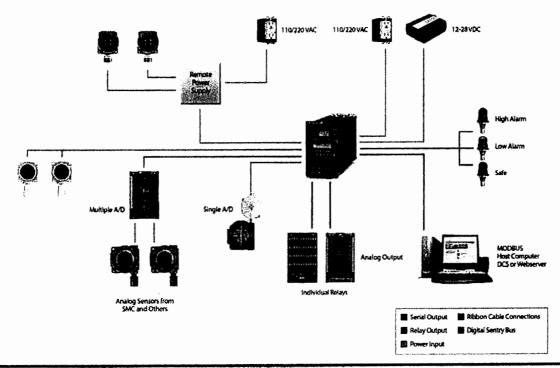
Sentry system two-way communication between the sensors and the controller results in the capability to perform one-person calibration and diagnostic checks from the controller. The user-friendly front panel includes a large display of the gas concentration and sensor number. Various scan modes are available to meet the user's specific monitoring needs. A separate 2-line alphanumeric display provides more detailed information including sensor data, error messages and menu prompting for calibration and set-up.

A series of alarm LEDs instantly inform the user of alarm status on any of the eight sensors interfaced to the controller. These LEDs are solid for low alarm and flashing for high alarm. A trouble LED warns that one of 120 diagnostic checks has detected a problem. More information about the trouble will be displayed on the alphanumeric display. A calibrate/change LED indicates that calibration or con-



figuration change is being performed on at least one sensor. The remaining sensors will remain on-line providing continuous protection.

The Sentry keypad, together with the user-friendly menu on the alphanumeric display, guides the user through setup, calibration and maintenance of the Sentry system.



Sierra Monitor Corp. 1991 Tarob Ct., Milpitas, CA 95035, USA, 408-262-6611, 800-727-4377, FAX: 408-262-9042
Web Site: http://www.sierramonitor.com E-Mail: sales@sierramonitor.com

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Sentry Controller

FEATURES AND BENEFITS

Gas Risk Management is the key design philosophy behind SENTRY. The user can employ those features that are most important for a specific application, and, as the application needs grow or change, the system can be reconfigured at the keyboard to satisfy expanded requirements.

Menu Prompting

Menu prompting guides the user through system configuration and operation.

Prompting, via the alphanumeric display, keeps the full range of capabilities at the operator's fingertips. When it is necessary to modify the

USE ARROWS/ENTER HIGH ALARM = 20

system, prompting will enable the change to be handled quickly and correctly.

System Security

User identification codes prevent unauthorized users from

changing the configuration and identify those users who have made changes. Up to eight user codes may be as-

USE ARROWS/ENTER ENTRY CODE = 1234

Diagnostics

An internal self-diagnostic routine makes over 120 checks of operating parameters to ensure the system is performing properly. System performance measurements and key reference voltages can be accessed and presented at the

A TEST function on the front panel allows testing of the alarms, system and display. Warning messages on the

alphanumeric display alert users that a condition requires attention without causing a system failure or interruption.

COMB. % LEL FAST ERROR CHECK

During calibration Sentry performs a dynamic range check on every sensor to insure its resolution is sufficient to give an accurate reading. Sentry avoids false alarms by locking out sensor alarms during calibration and not allowing excessive amplification of the signal.

Sensor Scan Display

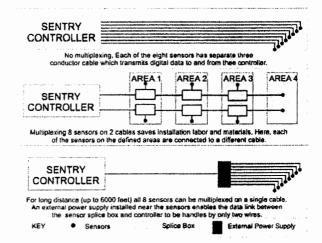
Current sensor gas exposure readings can be viewed continuously in any one of four scan modes. CONTINUOUS scan displays each sensor in turn.

SAFE scan mode displays CONDITION SAFE and, upon an alarm condition,

CONDITION [SAFE] switches automatically to display those sensors in alarm. HIGH-EST sensor scan will automatically display the sensor recording the highest gas reading - alternately for each gas type. The user can also SELECT SENSOR displays for a sensor of particular interest.

Reduced Installation Costs

Multiplexing of digital signals from the sensors to the controller on a common cable reduces installation cost. Up to eight sensors can be multiplexed on a single cable. Since each sensor has a unique address, the controller can communicate with the sensors in turn. Also, with optional external power supplies to the sensors, two-wire communication with the controller reduces the installation costs and increases the distance allowed between the controller and the sensor modules.



Record Keeping made Easy

Reports can be printed via an optional forty-column printer. There are six types of reports available.

Status Report – a snapshot of gas concentrations and alarm conditions that can be pre-set to print hourly, daily, weekly or on demand.

PRESENT CONFIG: STATUS = 07 DAYS

System Report – lists all the system parameters including configuration of the software, calibration, printer and sensor modules.

PRESS ENTER TO: [SYSTEM REPORT]

Key Event Report – prints when any sensor module reading exceeds a pre-set threshold level, which may or may not be an alarm level. After the module is above the minimum level, any change greater than a preset, selectable concentration change will cause another Key Event Report to print.

Sierra Monitor Corp. 1991 Tarob Ct., Milpitas, CA 95035, USA, 408-262-6611, 800-727-4377, FAX: 408-262-9042
Web Site: http://www.sierramonitor.com E-Mail: sales@sierramonitor.com

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Two types of gas sensor modules are available for the Sentry Gas Risk Management System. For the more common gases such as Combustible Gas, Oxygen, Carbon Monoxide, Hydrogen Sulfide, Chlorine and Ammonia, Sierra Monitor offers the IT Series Smart Gas Sensor Modules. More information on the IT Series is available in the specific IT Series data sheets. For certain gases Sierra Monitor offers the 5100 Series Gas Sensor Modules described in this data sheet.

Sierra Monitor toxic gas sensor modules utilize electrochemical technology to achieve the most accurate and reliable monitoring of gas concentration. All Sentry 5100 Series sensor modules easily interface to the Sentry controller. Each module has a unique address, which allows signals from multiple modules to be multiplexed for communication with the controller on the same cable. All Sierra Monitor gas sensor modules are designed for hostile or hazardous environments and are in enclosures approved for Div. 1, Class 1, Groups C, D locations.



SENTRY FEATURES INCLUDE:

Digital Signal Transmission Serial communication to the controller enables multiplexing sensor modules on a signal cable, significantly reducing installation costs. This assures RFI and EMI immunity over extended distances.

One-Person, Non-intrusive Calibration In the calibration mode, sensors continue to monitor for hazardous conditions until calibration gas is applied. All adjustments are made automatically after calibration gas has been removed. Sentry notifies the operator of calibration completion and allows acceptance or rejection of the calibration at the controller keypad. There are no manual adjustments required at the sensor module.

Low Sensitivity Check Automatic, post-calibration check of sensor for proper output. Low sensitivity alphanumeric message warns of need for sensor maintenance.

Power Up & Calibration Delays At start-up or calibration the output of the sensor is locked out and remains locked for five minutes to avoid erroneous readings during the warm-up period and after calibration.

Diagnostic Information The alphanumeric display on the Sentry Controller provides easy to understand diagnostic messages.

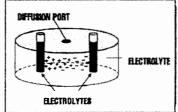


Sentry Gas Sensor Modules

Electrochemical

Electrochemical sensors are fuel cell-like devices consisting of an anode, cathode, and electrolyte. The compo-

nents of the cell are selected so a subject gas allowed to diffuse into the cell will cause a chemical reaction and generate a current. The cells are diffusion limited, so the rate at which the gas enters the cell is solely depen-



dent on the gas concentration. The current generated is proportional to the rate of consumption of gas in the cell.

Unlike other electrochemical sensors where gas diffuses through membranes into the cell, Sierra Monitor sensors allow gas to diffuse into the sensor through a simple capillary. The result is an extremely stable sensor with very low temperature and pressure coefficients.

Common Specifications for All 5100 Series Sensors

Communication to Controller: SentryBus PSG Zero Drift: Less than 5% per year

Calibration Frequency: 90 Days Recommended Transmission: 90 Days Recommended Digital – RFI, EMI immune

Warranty: 2 years

Housing: Explosion proof (NEMA 7)

(Div. 1, Class 1, Groups C,D) Optional upgrade to Group B,

NEMA 4X

Dimension: 7.6 X 4.6 X 4.2 inches

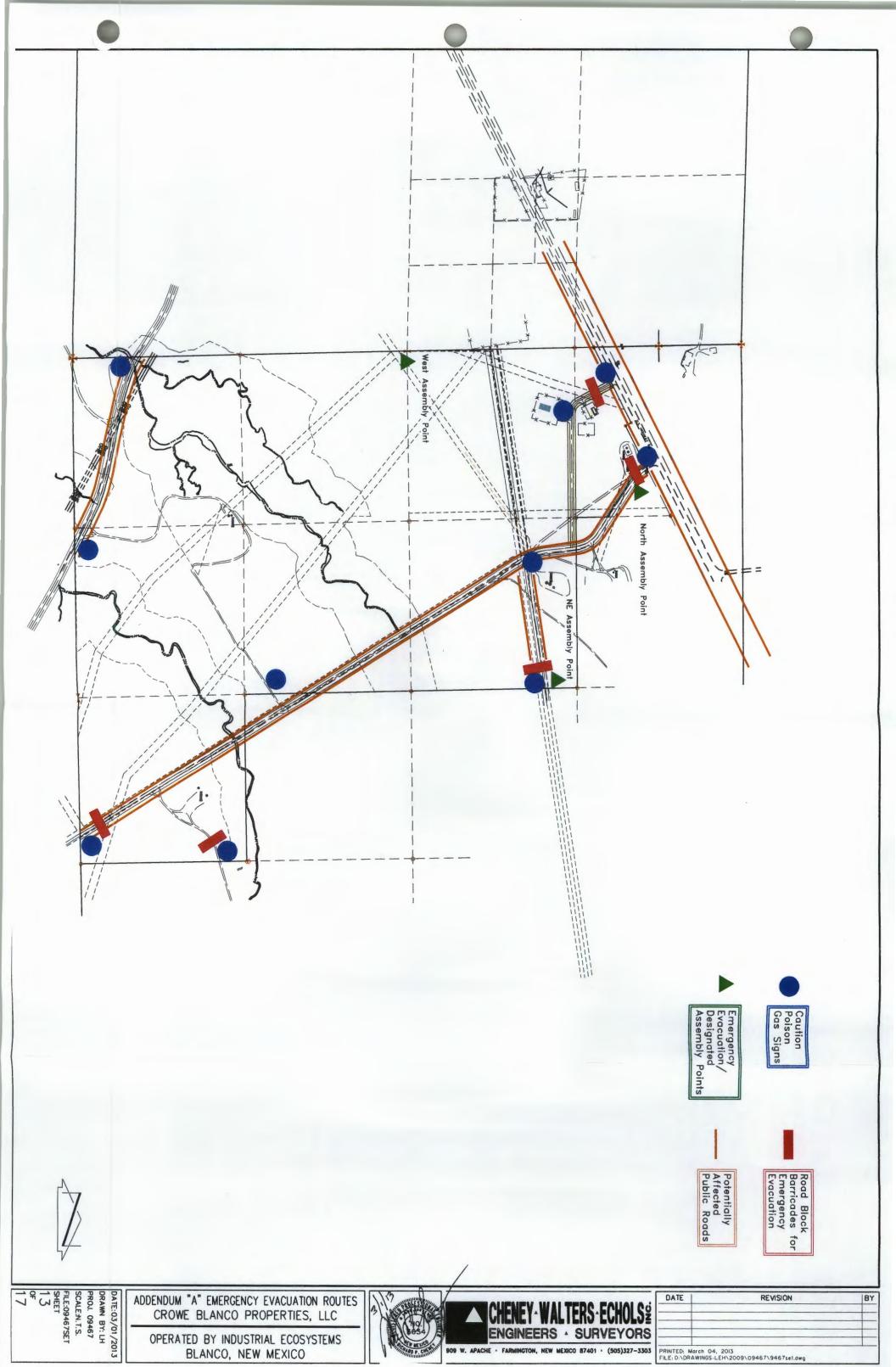
(19.3 X 11.7 X 10.7 cm) Note that 5100-26 is larger

Weight: 2.7 lb. (1.3 Kg)



GAS SENSOR SPECIFICATIONS

Gas	Model Number	Sensor Type	Range	Time Response	Sensor Life	Operating Temperature	Relative Humidity
Carbon Monoxide	5100-16	Electrochem	0-2,000 PPM	90% <35 sec.	2 yr.	4° to 122° F (-20° to 50° C)	15-99% RH
(Hydrogen Tolerant to	•						
2,000 PPM H2) Nitric Oxide	5100-19	Electrochem	0-20 PPM	90% <15 sec.	3 vr	4° to 122° F (-20° to 50° C)	15-99% RH
Hydrogen Cyanide	5100-13	Electrochem	-,	90% <70 sec.	•	4° to 122° F (-20° to 50° C)	15-99% RH
Ethylene Oxide	5100-27	Electrochem		90% <90 sec.	. •	4° to 122° F (-20° to 50° C)	15-99% RH



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CROWE BLANCO PROPERTIES, LLC CLOSURE AND POST CLOSURE PLAN & ESTIMATE (19.15.36.8.C.9, 19.15.36.15.E – G & 19.15.36.18 NMAC)

SUBMITTED TO:

New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505

SUBMITTED BY:

Souder, Miller & Associates 2101 San Juan Blvd. Farmington, New Mexico 87401

FOR OPERATOR:

Industrial Ecosystems, Inc. (IEI) #49 CR 3150 Aztec, NM 87410

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1. INTRODUCTION

The purpose of the closure and post closure plan is to establish the minimum requirements and procedures for closure of the facility and/or active "treatment" cell(s) within the facility.

IEI may choose to close specific cells/areas of the facility prior to final cessation of all operations and site closure.

During the life of the facility, a maximum of four cells will be used for active treatment/remediation of contaminated soils. These cells are referred to as the *active "treatment" cells*. Contaminated soils will be placed into biopiles within these cells during the treatment/remediation phase. In the event that additional cells are needed for "treatment" of *contaminated* soils, the company's financial assurance would be adjusted accordingly and approval would be obtained from OCD prior to placing *contaminated* soils within the additional cells.

Once a biopile has met treatment zone closure performance standards (19.15.36.15.F NMAC) the treated/remediated soils will be moved to and spread in the other cells on the facility (and/or with prior division approval, disposed or reused of in an alternative manner (19.15.36.15.G.1 NMAC). These cells are referred to as the *final disposition "receiving"* cells. The cells will re-vegetated in accordance with 19.15.36.18.A.6 NMAC.

During closure operations, the active "treatment" cells will be subject to semi-annual Treatment Zone (19.15.36.15.D NMAC) and Vadose Zone Monitoring (19.15.36.15.E NMAC), with annual reports to the Division, as listed in *Table 1: Facility Closure Testing Requirements*.

As soils are remediated, confirmation samples will be taken according to the "Treatment Zone Monitoring" standards (19.15.36.15.F NMAC), listed *Table 1: Facility Closure Testing Requirements*. Once soils reach closure performance standards, these "treated/remediated" soils would be graded and left in place. The cells will be re-vegetated in accordance with 19.15.36.18.A.6 NMAC.

Closure costs listed in this plan are based on the use of a maximum of four active "treatment" cells, at any given time, for remediation of *contaminated* soils.

2. GENERAL SURFACE WASTE MANAGEMENT FACILITY CLOSURE (19.15.36.18.A NMAC)

The facility consists of the following separate areas:

- Processing Area: Contains liquid processing and separation equipment, including mobile shaker and slurry tanks, centrifuges, and up to twenty-eight steel tanks. The area is a 60,000 square-foot lined enclosure with a 2 ½ foot compacted earthen berm surrounded by six-foot tall chain-link fencing. The area is lined with a 60-mil HDPE liner (or equivalent) and covered with a 12-inch layer of sand protecting the liner, followed by approximately 4 to 5 1/2 feet of topsoil to allow vehicular traffic in the Processing Area (see IEI's facility permit with engineering drawings for specifications).
- Landfarm: Encompasses ±206 acres of the property separated into 10-acre landfarm cells. Four
 cells will be designated as active "treatment" of contaminated soils. The remaining cells will be
 used for final placement "spread" of treated/remediated soils (soils which meet closure
 performance standards).

IEI will notify the OCD more than 60 days prior to the proposed date for cessation of operations and provide a schedule for closure. Upon receipt, OCD will review the current closure plan for adequacy and may inspect the facility (19.15.36.18.A.1).

If any modifications to the closure plan or additional requirements are found to be necessary, OCD will notify IEI within 60 days of the closure notification from IEI (19.15.36.18.A.2 NMAC).

If OCD has not notified IEI of any modifications or requirements within 60 days, IEI will proceed with the closure activities listed in the current closure plan. The Division director may, with good cause, send IEI written notice that they are extending the time for their response for an additional period not to exceed 60 days (19.15.36.18.A.3 NMAC).

IEI is entitled to a hearing concerning any modifications or additional requirements requested by OCD. IEI must file an application for a hearing within 10 days after receipt of the written notice from OCD of the proposed modifications or additional requirements (19.15.36.18.A.4 NMAC).

Closure shall proceed in accordance with the approved closure plan and schedule including modifications or additional requirements imposed by OCD. Throughout closure operations, IEI will maintain the facility to protect fresh water, public health and safety, and the environment (19.15.36.18.A.5 NMAC). The facility's Storm Water Pollution Prevention Plan and Contingency Plans will remain active until closure and post closure activities have been completed.

Post-closure activities will include re-vegetation of the site, as discussed in Section 7 & 8 of this plan. Post-closure will be considered at an end when all closure activities have been completed, closure standards have been achieved, and vegetative cover is equal to 70 percent of the native perennial cover excluding noxious weeds through two successive growing seasons (19.15.36.18.A.6 NMAC).

3. RELEASE OF FINANCIAL ASSURANCE (19.15.36.18.B NMAC)

Upon approval of closure and post-closure completions, OCD will release financial assurance as described in 19.15.36.18.B NMAC.

4. CLOSURE INITIATED BY THE DIVISION. FORFEITURE OF FINANCIAL ASSURANCE (19.15.36.18.C NMAC)

In the event facility closure is initiated by the division, the provisions of 19.15.36.18.C NMAC will be implemented.

5. PROCESSING AREA CLOSURE (19.15.36.15.F & 19.15.36.D NMAC)

Closure of the processing area includes removal of all equipment, soil and liner. Expected costs are summarized in *Table 2: Processing Area Closure*. Initially, the contents and equipment located inside of the 60'X 72' building, including the centrifuge, will be removed and the building will be disassembled for reuse/recycling and/or will be demolished. Disassembling and/or demolition will include removal of the steel building, the concrete floor and foundation(s). Any waste associated with the disassembling and/or demolition of the building will be disposed of at the local landfill and/or appropriate recycling facility. (19.15.36.18.D.4.f) The fence surrounding the processing area will be removed for reuse/recycling or disposed of at the local landfill.

Tanks within the processing area will be emptied and cleaned disposing of any remaining BS&W/washout water at a division-approved surface waste management facility (SWMF). Removal and disposal of all remaining fluids in the tanks within the Processing Area is estimated to be a maximum of 12,800 barrels. The tanks will be reused/recycled or scrapped and removed from the facility within 90 days of removal from the processing area (19.15.36.18.D.1.a NMAC). Removal of tanks for reuse will require an escort and permits for transporting on highways, for an estimated four days total. All piping and pumps will be disassembled and removed for reuse/recycling.

Prior to removing the soils covering the liner, two five point samples will be taken from 6" below the surface, but above the liner in the bermed processing area. The samples will be tested for Benzene, BTEX, GRO-DRO, TPH, chlorides and the constituents listed in Subsections A & B of 20.6.2.3103 NMAC (Appendix A). If the analytical results meet treatment zone closure standards (19.15.36.15.F NMAC), no additional actions will be taken and the soil will be set aside to be used to backfill the "Processing Area". If analytical results indicate the soil has been impacted, the soil will be placed into an active "treatment" cell for remediation. As the soils covering the liner are systematically removed by machine, they will be visually monitored for evidence of hydrocarbon contamination. If evidence of hydrocarbon contamination is found, the soils will be placed into an active "treatment" cell for remediation. It will take approximately two days to remove the soil covering the liner.

The liner beneath the processing area will be exposed, cut into manageable pieces and removed for disposal to a division-approved facility. Once the liner is removed, two five point composite samples will be taken from 6" below the exposed surface. The soils will be sampled for Benzene, BTEX, GRO-DRO, TPH, chlorides, and the constituents listed in Subsections A and B of 20.6.2.3103. If the laboratory results comply with treatment zone closure standards (19.15.36.15.F NMAC) the processing area will be backfilled with soils removed from above the liner which have met treatment zone closure standards and supplemented with native soils from within the facility as needed. If results indicate the soil has been impacted, the soil will be placed into a biopile for remediation or transported off-site to a division-approved SWMF for disposal. It will take approximately two days to cut, haul and dispose of the liner.

The processing area berms will be removed and used to re-contour the processing area. The processing area will then be re-vegetated in accordance with (19.15.36.18.A.6 & 19.15.36.18.D.4.c NMAC).

All analytical results will be submitted to the Division for closure approval before backfilling may begin.

6. LANDFARM CLOSURE (19.15.36.18.D.4 NMAC)

Landfarm Closure (*Table 3: Closure Costs*) will begin upon acceptance of the last load of contaminated soil. From this time, it is anticipated that it will take 6 months for the four active "treatment" cells to remediate to closure standards (19.15.36 NMAC landfarm standards). During this time, each of the approximately 1,000 cy biopiles (12' base X 4' top X 8' height X 420' length) will be turned at least every 30 days, for a total of 50 days of equipment usage and up to seven separate mobilization events and up to seven additions of soil enhancers such as manure and fertilizer. Turning impacted soils in biopiles with the possible addition of bioremediation enhancing materials will continue in the four "active" treatment cells until impacted soils are remediated to the standards provided in 19.15.36.15.F NMAC (19.15.36.18.D.4.a NMAC).

One semi-annual treatment zone and vadose zone monitoring event is anticipated to occur during the closure process. Monitoring is expected to consist of seven days of field work by an environmental field technician.

- Treatment Zone-The technician will construct one composite sample from each biopile consisting
 of four discreet aliquots, up to 30 composite samples/ per active "treatment" cell. The samples
 will be tested for TPH as determined by EPA method 418.1 and Chloride concentrations as
 determined by EPA method 300.1
- Vadose Zone-The technician will collect one, six point composite sample per acre, for a total of up to 10 samples, per active "treatment" cell (Landfarm Cell = 10 acres). The samples will be tested for TPH as determined by EPA method 418.1, BTEX as determined by EPA SW-846 method 8021B or 8260B and Chlorides concentrations as determined by EPA method 300.1.

Once biopile soils within the active "treatment cells" have reached treatment zone closure standards and are approved by the Division, they will be graded to cover the cell to a depth of two feet or less and revegetated in accordance with 19.15.36.18.A.6. (19.15.36.18.D.4.b)

Soils which cannot or have not been remediated to the standards as provided in 19.15.36.15.F will be removed from the site and taken to a Division-approved SWMF. Removal of a biopile will not result in excavation of the cell's original ground surface and minor depressions will be filled with native soil. The perimeter fence will remain in place until re-vegetation is 70 percent of the native perennial vegetative cover.

Once biopiles are spread in the active "treatment" cells, final closure activities will commence. Closure sampling for the landfarm is anticipated to take approximately four days of field work by an environmental field technician to collect 10 composite treatment zone samples, each composed of 4 discreet locations, per acre, per active "treatment" cell (40 samples for analysis). Each sample will be analyzed for the constituents listed in *Table 1: Facility Closure Testing Requirements*. Once closure samples meet the standards listed below in Table 1, the sample results will be submitted to the OCD for approval.

Until the Division has approved final closure of the site, IEI will submit reports of annual vadose and treatment zone sampling results (19.15.36.18.D.4.g) but will not take additional samples after closure standards are reached.

7. FACILITY POST CLOSURE (19.15.36.18.F)

Once IEI has achieved clean closure of all treatment and process areas, as approved by the Division, post-closure care shall continue for a minimum of three years. During that time, IEI or a hired contractor shall inspect and maintain required re-vegetation on a monthly basis.

If there has been a release to the vadose zone or to ground water, then IEI or hired contractor shall comply with the applicable remediation requirements of 19.15.30 and 19.15.29 NMAC (*Table 4: Post-Closure*).

8. OTHER CLOSURE PROCEDURES & RE-VEGETATION (19.15.36.18.G)

Other final closure activities will consist of the dismantling/removal of facility and cell berms, buildings, perimeter & processing area fencing, roads (only roads which were specifically created for operational purposes will be removed-existing county/access roads will remain intact) and all other equipment associated with the SWMF (19.15.36.18.D.4.e & 19.15.36.18.D.4.f).

Cells that have not previously been re-vegetated will be seeded with a mix free of noxious weeds consisting of at least three native plant species, including at least one grass and will be maintained for two successive growing seasons. Fencing will remain around the facility until vegetation has stabilized the soil. Re-vegetation will be considered complete when the vegetative cover equals 70 percent of the native perennial vegetative cover (un-impacted by grazing, fire or other intrusion damaging to native vegetation) (19.15.36.18.A.6).

In the event Crowe Blanco Properties, LLC or designated responsible entity contemplates using the land for purposes inconsistent with re-vegetation, and only after receiving division approval, an alternative surface treatment will be implemented, providing that the alternative treatment effectively prevents erosion. If the division approves an alternative to re-vegetation, the division shall not release the portion of the operator's financial assurance reserved for post-closure until the landowner has obtained necessary regulatory approvals and begun implementation of such alternative use.

9. CLOSURE COSTS (19.15.36.11.B)

Closure costs are attached in Tables 2 and 3. All costs are based on current (2010/2011) contractor rates including Souder, Miller and Associates, Three Rivers Trucking, Inc., Envirotech, Inc., and Hall Environmental Analysis Laboratory.

APPENDIX A

A. Human Health Standards-Ground water shall meet the standards of Subsection A and B of this section unless otherwise provided. If more than one water contaminant affecting human health is present, the toxic pollutant criteria as set forth in the definition of toxic pollutant in Section 20.6.2.1101 NMAC for the combination of contaminants, or the Human Health Standard of Subsection A of Section 20.6.2.3103 NMAC for each contaminant shall apply, whichever is more stringent. Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

(1)	Arsenic (As)	0.1 mg/l
(2)	Barium (Ba).	
(3)	Cadmium (Cd)	
(4)	Chromium (Cr)	
(5)	Cyanide (CN)	
(6)	Fluoride (F)	
(7)	Lead (Pb)	
(8)	Total Mercury (Hg)	
(9)	Nitrate (NO ₃ as N)	
(10)	Selenium (Se)	
(11)	Silver (Ag)	
(12)	Uranium (U)	0.03 mg/I
(13)	Radioactivity: Combined Radium-226 & Radium-228	
(14)	Benzene	
(15)	Polychlorinated biphenyls (PCB's)	0.001 mg/l
(16)	Toluene	0.75 mg/l
(17)	Carbon Tetrachloride	
(18)	1,2-dichloroethane (EDC)	
(19)	1,1-dichloroethylene (1,1-DCE)	0.005 mg/l
(20)	1,1,2,2-tetrachloroethylene (PCE)	0.02 mg/l
(21)	1,1,2-trichloroethylene (TCE)	
(22)	ethylbenzene	0.75 mg/l
(23)	total xylenes	
(24)	methylene chloride	0.1 mg/l
(25)	chloroform	0.1 mg/l
(26)	1,1-dichloroethane	0.025 mg/l
(27)	ethylene dibromide (EDB)	0.0001 mg/l
(28)	1,1,1-trichloroethane	
(29)	1,1,2-trichloroethane	0.01 mg/l
(30)	1,1,2,2-tetrachloroethane	
(31)	vinyl chloride	0.001 mg/l
(32)	PAHs: total naphthalene plus monomethylnaphthalenes	0.03 mg/l
(33)	benzo-a-pyrene	0.0007 mg/l
	Other Standards for Domestic Water Supply	•
(1)	Chloride (Cl)	250.0 mg/l
(2)	Copper (Cu)	1.0 mg/l
(3)	Iron (Fe)	
(4)	Manganese (Mn)	
(6)	Phenols	
(7)	Sulfate (SO ₄)	
(8)	Total Dissolved Solids (TDS)	
(9)	Zinc (Zn)	10.0 mg/l
(10)	pH	
· -/	1	

B.

TABLE 1: FACILITY CLOSURE TESTING REQUIREMENTS

Purpose	How many/ frequency	Analyses	Standard(s) (ma/Ka)
		The state of the s	
Treatment Zone	1 composite (4 discrete)/ biopile	TPH (EPA Method 418.1)	Not to exceed 2500
19.15.36.15.D NMAC	Semi-annually	Chlorides (EPA Method 300.1)	Not to exceed 500 (groundwater <50 ft below surface)
	1 (6 point) composite per acre/ active "treatment" cell	TPH (EPA Method 418.1)	
Wadoca Zona	Semi-annually	Total BTEX (EPA Method 8021B or 8260B)	
Monitoring	3-4 ft below original surface	Chlorides (EPA Method 300.1)	Higher of PQL or background
	4 random/treatment cell 5 yr	Constituents listed in Subsections A and B of 20.6.2.103 NMAC as determined by EPA SW-846 methods 6010B or 6020 or other methods approved by the division.	
		Benzene (EPA Method 8021B or 8260B)	0.2
		Total BTEX (EPA Method 8021B or 8260B)	20
Treatment Zone	1 composite (4 discrete)/biopile	GRO/DRO (by EPA 8015M)	200
Closure	surface	TPH (by EPA 418.1)	2500
19. 15.36.15.F NMAC		Chlorides (EPA Method 300.1)	500 (groundwater <50 ft below surface)
,		Constituents listed in Subsections A & B of 20.6.2.103 NMAC (EPA 6010B or 6020) or other methods approved by OCD	Higher of PQL or background
	Soils above liner	Benzene (EPA Method 8021B or 8260B)	0.2
	Z (five point) surface	Total BTEX (EPA Method 8021B or 8260B)	50
Drocesing Area		GRO/DRO (by EPA 8015M)	200
Closure		TPH (by EPA 418.1)	2500
19.15.36.F NMAC	:	Chlorides (EPA Method 300.1)	500 (groundwater <50 ft below surface)
	Vadose zone beneath the liner 2 (five point) surface composite samples	Constituents listed in Subsections A & B of 20.6.2.103 NMAC (EPA 6010B or 6020) or other methods approved by OCD	Higher of PQL or background
Landfarm Closure 19.15.36.18.D(4)	Must meet Treatment Zone & Vac soils which cannot meet clos	Must meet Treatment Zone & Vadose Zone Monitoring requirements (as listed above); Must meet Treatment Zone Closure requirements; soils which cannot meet closure requirements must be removed to division-approved SWMF & the area filled in with native soil.	t Treatment Zone Closure requirements; R the area filled in with native soil.
NMAC			

Table 2 - Processing Area Closure

Task	Cost/u	nit	# of units	Cost
Labor and Equipment costs for:	V (m) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
Remove/dispose of liquids in tanks	\$ 4.00	bbl	12,800	\$ 51,200.00
Disconnect tanks, remove manways	\$ 195.00	tank	23	\$ 4,485.00
Clean tanks	\$ 125.00	tank	23	\$ 2,875.00
Haui tanks	\$ 535.00	tank	23	\$ 12,305.00
Remove equipment from centrifuge bldg.	\$2,200	day	1	\$ 2,200.00
Dismantle Bldg, Cut floor and footings	\$1,800	day	2	\$ 3,600.00
Remove Bldg, Floor and Footings from the				
Facility	\$2,850	day	2	\$ 5,700.00
Haul demolition materials and dispose	\$625	load	15	\$ 9,375.00
Pull underground lines	\$ 200.00	hour	15	\$ 3,000.00
Remove soil covering liner w/machinery	\$ 1,400.00	day	2	\$ 2,800.00
Cut liner into pieces, haul & dispose	\$ 2,200.00	day	2	\$ 4,400.00

Labor costs for soil sampling:					
Monitor and Sample Soil Removal		\$920.00	day	2	\$ 1,840.00
Load/unload/pack samples	\$	156.00	each	3	\$ 468.00
Mobe/Demobe	\$	78.00	each	3	\$ 234.00
Surface soil sample	\$	117.00	sample	3	\$ 351.00
Vadose zone sample	\$	702.00	sample	1	\$ 702.00
Vehicle + Mileage	\$	109.00	each	3	\$ 327.00
Laboratory costs:					
Surface & Vadose:					
Benzene/BTEX (8021B or 8260B)	\$	50.00	sample	4	\$ 200.00
Surface & Vadose: DRO/GRO (8015M)	\$	60.00	sample	4	\$ 240.00
Surface & Vadose: TPH (418.1)	\$	60.00	sample	4	\$ 240.00
Surface & Vadose: Chlorides (300.1)	_	25.00	sample	4	\$ 100.00
Surface & Vadose:					
Constituents of Subsections A and B					
of 20.6.2.3103 NMAC (6010B or 6020)					
or other methods approved by the division.		\$950	sample	4	\$ 3,800.00

TOTAL PROCESSING AREA CLOSURE COSTS \$ 110,442.00

Table 3 - Landfarm Closure

Table 3 - Landfarm Closure								
Task		Cost/u	ınit	# of units	# of events		Cost	
6 months of Remediation	,		.	·		.,		
Equipment costs		1,081.00		50	1	\$	54,050.00	
Equipment transport	\$	420.00		7	1	\$	2,940.00	
Addition of enhancing materials	\$	1,000.00	event	7	1	\$	7,000.00	
Landfarm Monitoring (semi-annual)								
Labor costs for soil sampling						ļ		
Load/unload/pack samples			event	1 1	7	\$	1,092.00	
Mobe		78.00		1	7	\$	546.00	
Demobe		78.00		1	7	\$	546.00	
Biopile soil sample			sample	1	120	\$	14,040.00	
Vadose zone sample			sample	1	40	\$	9,360.00	
Vehicle + Mileage	\$	109.00	day	1	7	\$	763.00	
Laboratory costs								
Treatement zone + Vadose zone:	_	00.00		400	4	_	0.000.00	
TPH (8015 B or 418.1)	\$	60.00	sample	160	1	\$	9,600.00	
Treatment zone + Vadose zone:	e.	E0 00	aamnia	40	1	\$	2 000 00	
Benzene/BTEX (8021B)	\$	50.00	sample	40	I	1 2	2,000.00	
Treatment zone + Vadose zone:	e	25.00	sample	160	1	l œ	4 000 00	
Chlorides (300.0)	\$	25,00	sample	100	SUBTOTAL	\$ \$	4,000.00	
SUBTOTAL \$ 105,937.00								
Closure Procedures								
Labor costs for Treatment Zone Closure							***	
Load/unload/pack samples	\$	156.00	day	1	4	\$	624.00	
Mobe	\$	78.00	day	1	4	\$	312.00	
Demobe			day	11	44	\$	312.00	
Treatment zone sample	\$	117.00	sample	1 1	4	\$	468.00	
Vehicle + Mileage	\$	109.00	day	1 1	4	\$	436.00	
Laboratory costs 4 active "treatment" cells								
Benzene/BTEX (8021B)			sample	1 1	40	\$	2,000.00	
DRO/GRO (8015B)			sample	1 1	40	\$	2,400.00	
TPH (418.1)			sample	1	40	\$	2,400.00	
Chlorides (300.0)		25.00	sample	1	40	\$	1,000.00	
Constituents of Subsections A and B								
of 20.6.2.3103 NMAC (6010B or 6020)								
or other methods approved by the								
division.		\$950	sample	1 1	40	\$	38,000.00	
			8	UBTOTAL		\$	47,952.00	
Grading landfarm	\$	300.00	hour	120	1	\$	36,000.00	
Fence removal, cleanup- labor costs	\$	155.00		50	1	\$	7,750.00	
Disposal of wire, fencing, etc	\$	588.00		4	1	\$	2,352.00	
Seeding	\$	200.00		200	1	\$	40,000.00	
				UBTOTAL		\$	86,102.00	
Post Closure Costs						T =	44 455 65 1	
Monitoring Facility Monthly Inspection	\$_	400.00		36		\$	14,400.00	
Erosion Control		1,000.00		6		\$	6,000.00	
Re-seeding	\$	1,000.00		6 INTOTAL		\$	6,000.00	
			81	JBTOTAL		\$	26,400.00	

TOTAL LANDFARM CLOSURE COSTS \$ 266,391.00

CONTINGENCY PLAN

(19.15.36.8.C.10 & 19.15.36.13.N NMAC)

INTRODUCTION

The facility functions as a New Mexico Oil Conservation Division (NMOCD) permitted Surface Waste Management Facility (SWMF) specializing in remediating Non-Hazardous, RCRA Exempt Oilfield Waste.

The Contingency Plan describes the actions to be taken by the SWMF personnel in the event of a spill, fire or other response to incident. It includes information necessary to address response situations efficiently and in such a manner as to prevent or minimize hazards to human health and the environment. due to fire, explosion or any unplanned sudden or non-sudden release of contaminants or oilfield waste constituents that could threaten fresh water, public health, safety or the environment.

The Contingency Plan is to be expeditiously carried out whenever there is an emergency that could threaten human health or the environment. Implementing the procedures contained in this plan should effectively mitigate such threats.

The Emergency Coordinator, or the Alternate Emergency Coordinator(s), are responsible for implementing the Contingency Plan during an emergency response event; however, employees must also be familiar with the procedures in this plan to ensure that it is properly implemented.

Copies of the plan are maintained at the SWMF office and will be provided to NMOCD and to local law enforcement and emergency response departments for use during an emergency.

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Section I: Purpose and Objectives (19.15.36.13.N. NMAC)

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Section V: Emergency Coordinators (19.15.36.13.N.3, 19.15.36.13.N.9 & 19.15.36.13.N.10 NMAC)

Section VI: Implementation (19.15.36.13.N.

Section VII: Evacuation Plan (19.15.36.13.N.5 NMAC)

Section VIII: Identification of Waste(s) (19.15.36.13.N.6 & 19.15.36.13.N.10 NMAC)

Section IX: Assessment (19.15.36.13.N.10)

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(19.15.29, 19.15.36.13.N.1, 19.15.36.13.N.9.a, 19.15.36.13.N.10, 19.15.36.13.N.11 &

19.15.36.13.N.12 NMAC)

Section XII: Prevention of Recurrence or Spread – Containment

(19.15.36.13.N.6, 19.15.36.13.N.10 & 19.15.36.13.N.11 NMAC)

Section XIII: Correction and/or Remediation (19.15.36.13.N.6)

Section XIV: Incompatible Waste(s) (19.15.36.13.N.13 NMAC)

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Section XIX: Coordination Arrangements (19.15.36.13.N.2 NMAC)

Section XX: Availability and Revision of the Contingency Plan

(19.15.36.13.N.7, 19.15.36.13.N.8 & 19.15.36.13.N.14)

Addendum A: Emergency Evacuation Routes

Addendum B: C-141

SECTION I: PURPOSE AND OBJECTIVES

This Contingency Plan outlines the emergency procedures that will be employed to minimize hazards to human health and the environment from fire, explosions, or any unplanned sudden or non-sudden release of contaminants or oilfield waste to air, soil, surface water or ground water. The plan will demonstrate that facility-specific emergency procedures have been developed and will be implemented immediately whenever an emergency situation occurs at the facility.

SECTION II: GENERAL FACILITY INFORMATION

- a. Crowe Blanco Properties, LLC 1015 W. 54th Street, Kansas City, MO 64112
- b. Operator: Industrial Ecosystems, Inc. 49 CR 3150 Aztec, NM 87410 (505) 632-1782
- c. Physical Address: Highway 64 near mile marker 75, San Juan County, S-16, T-29N, R-09W, Latitude 36° 43' 22" N Longitude 107° 47' 19" W
- d. Mailing address: #49 CR 3150, Aztec, NM 87410
- e. Permit #:
- f. Key Contacts:

Title	Name	Telephone
Primary Emergency Coordinator	Alberta Pablo	(505) 860-4068
Alternate Emergency Coordinator	Brian Cochran	(505) 419-0200
Alternate Emergency Coordinator	Steve Abeyta	(505) 860-3801
Management	Terry Lattin	(505) 860-2885
Office Staff	Marcella Marquez	(505) 632-1782

- g. Facility Phone # (505) 632-1782
- h. Facility Fax # (505) 632-1876 or (505) 334-1003

SECTION III: DESCRIPTION OF BUSINESS ACTIVITY

The facility is a NMOCD permitted SWMF (landfarm) which provides environmental services to local oilfield companies. The facility accepts Non-Hazardous, RCRA exempt waste(s) generated from oil and gas exploration and production. The primary intent of the facility is to landfarm / remediate oilfield waste for reuse and recycling.

SECTION IV: WASTE DESCRIPTIONS

Only Non-Hazardous, RCRA exempt wastes are accepted at the facility. These materials are generated from oil and gas exploration and production (E&P) operations and are usually the by-product of "downhole" operations.

Waste is delivered in both solid and liquid forms. Solid waste is placed into biopiles and liquid waste is managed in tanks at the "tank battery" area. The "tank battery" area of the facility is provided with a secondary containment system.

The following provides information and descriptions of the most common waste streams handled at the facility and their associated characteristics and/or constituents:

Waste Characterization

Characterization requirements for individual shipments of waste are specified on a waste stream basis. A waste stream is defined as waste material generated from a single site and a single process or an activity that is similar in material, physical form, and constituents. Exempt Oilfield Waste accepted at the facility is initially categorized into three groups that are related to the physical form of the waste.

- 1. Hydrocarbon Stained Soils and Gravels Production of hydrocarbon stained soils or gravels includes spillage, line failure, leaking vessels or valves, and the reclamation of production pits. Waste predominantly contaminated by petroleum hydrocarbons.
- 2. Tank Bottoms Production of tank bottoms includes tank cleaning operations -cleaning the accumulation of hydrocarbon material and other substances that settle naturally below oil in tanks and receptacles that are used in oils' handling and storing, and which accumulation contains in excess of 2% of BS&W. For lease production and lease storage tanks, tank bottoms shall be limited to that volume of the tank in which it is contained that lies below the bottom of the pipeline outlet to the tank.
- 3. Drill Cuttings-Production of drill cuttings of rock and other materials removed from the borehole while drilling petroleum wells.

On-Site Generated Wastes

As a result of operating the facility, waste material is generated. A review of the several of the most common wastes generated at the facility is provided below:

- Wastes from Tanks-approximately once every two years, it is necessary to remove the tank bottom sediment consisting of free water, residual oilfield wastes, and other materials such as soot and grit. A vacuum truck is used for this purpose.
- o Contaminated Gloves, Rags, Paper, Absorbents, etc.-Contaminated gloves, rags, paper, absorbent and other miscellaneous material such as personal protective equipment is generated by the facility as a result of the management of the oilfield wastes and daily operations.

SECTION V: EMERGENCY COORDINATORS

The Emergency Coordinator (HSE Specialist) and Alternate Emergency Coordinator(s) are trained to respond in the event of a response situation. The Emergency Coordinator and/or the Alternate Emergency Coordinators have the authority to call for outside assistance to respond to the emergency and are authorized to commit the facility's resources, equipment and personnel, as necessary, to carry out this Contingency Plan.

At least one Emergency Coordinator, or an Alternate Emergency Coordinator, is at the facility or on-call and capable of reaching the facility in time to effectively respond to potential response situations. Each Emergency Coordinator and Alternate Emergency Coordinator is familiar with this Contingency Plan, the operations and activities at the facility, the location and characteristics of wastes handled, the location of facility records, the facility layout, and the location and use of response and spill control equipment.

Table A-1 presents the list of Titles, Names, Location, Address, and the office, mobile and home telephone numbers of the Emergency Response Coordinators. The list will be updated, as necessary. The division's environmental bureau will be promptly notified when any changes are made to the Emergency Coordinator(s) and/or their contact information.

TABLE A-1
EMERGENCY RESPONSE COORDINATORS

Title	Name	Location	Address	Telephone
Primary Emergency Coordinator	Alberta Pablo	Main Office		(505) 632-1782 (O) (505) 860-4068 (C) (505) 947-8856 (H)
Alternate Emergency Coordinator	Brian Cochran	Main Office	804 Echo Lane Farmington, NM 87410	(505) 632-1782 (O) (505) 419-0200 (C) (505) 330-7496 (H)
Alternate Emergency Coordinator	Steve Abeyta	Landfarm	II	(505) 632-1782 (O) (505) 860-3801 (C) (505) 632-8880 (H)

The duties of the Emergency Coordinator(s) are to assess the situation and take steps necessary to protect human health and the environment. The Emergency Coordinator(s) are responsible for the coordination of containment and recovery operations following a response situation.

Responsibilities of the Emergency Coordinator(s) include:

- On-site and/or on-call availability;
- Familiarity with this Contingency Plan, the facility layout and operations, waste locations and characteristics, and location and format of records;
- Authority to commit necessary resources;
- o Assess the possible or potential hazards to human health or the environment;
- Take the steps necessary to protect human health and the environment;
- Coordinate the response, containment and recovery operations;
- Activate the internal alarms and communication systems;
- Identification and characterization of the release;
- Prevention of spread or recurrence of the emergency;
- Monitor leaks, pressure buildup, gas generation, and rupture of pipes, valves, and other equipment;
- Notify outside emergency responders and state and local agencies;
- Based on the severity of the incident, supervise the evacuation plan, if law enforcement or emergency responders order an evacuation:
- Act as liaison between emergency and state agencies and facility personnel;
- o Cleanup provisions;
- o Maintenance of emergency equipment;
- Agency notification and coordination arrangements; and (Refer to Section XI and XIX)
- o Incident record keeping.

SECTION VI: IMPLEMENTATION

Any person discovering a situation which may require implementation of the Contingency Plan (e.g., fires, spills, etc.) shall immediately warn others working nearby and immediately notify the Emergency Response Coordinator(s).

The Contingency Plan will be implemented whenever there is an imminent or actual incident such as a fire, explosion or release of contaminants which could threaten human health or the environment. The Emergency Coordinator and alternate(s) must be prepared to respond in a technically-effective and time-efficient manner. The decision to implement the Plan will ultimately rest with the Emergency Coordinator.

SECTION VII: EVACUATION PLAN

In the event of a major emergency, the on-site Emergency Coordinator may sound the alarm or air horn and/or verbally announce over the loudspeaker and/or CB radios to signal all non-essential personnel, visitors, and contract personnel to evacuate the area and assemble at the appropriate emergency evacuation/designated assembly point(s). Everyone shall remain at the emergency evacuation/designated assembly point(s) and await instructions from Emergency Coordinator.

The facility exits are clearly marked and employees are trained and aware of the potential escape routes and emergency evacuation/designated assembly points. Emergency Evacuation Route maps will be posted in locations throughout the facility showing available exits from the area and the direction to the emergency evacuation/designated assembly point(s) (Refer to Addendum A).

In the event that the Emergency Coordinator determines the need to evacuate the facility, local law enforcement and emergency response teams will be informed. Everyone shall remain at the emergency evacuation/designated assembly point(s) and await instructions from law enforcement and emergency response personnel or the on-site Emergency Coordinator.

If the Emergency Coordinator believes that a threat to human health or the environment outside the facility exists, s/he will notify the appropriate agencies. The Emergency Coordinator will be available to help the appropriate officials decide if evacuation of the neighboring properties is necessary. The evacuation proceedings of neighboring properties will be initiated by law enforcement or emergency response personnel.

SECTION VIII: IDENTIFICATION OF WASTE(S)

Whenever there is a release, fire or explosion, the Emergency Coordinator must identify the character, source, amount and extent of any released materials and obtain other pertinent information related to the event as expeditiously as possible.

Oilfield Waste

Much of this information can be readily obtained from the facility operating logs (i.e. Material Entry Records and Tank Battery logs). These logs provide information on the type and volume of material brought into the facility and in the tanks located at the "tank battery" area. The logs are maintained at the facility and are updated each operating day.

Chemicals/Fuels/Oils used in the Workplace

The company has a Hazard Communication program in place.

Material Safety Data Sheets

MSDS are obtained for all chemicals/fuels/oils, etc. used on the facility. Material Safety Data Sheets (MSDS's) are written documents which are provided by manufacturers for each hazardous chemical or product that they produce, sell or distribute. Chemical manufacturers and suppliers are mandated by law to provide the MSDS's along with their product to the customer or user. The MSDS contains valuable information about the characteristics, safety and health hazards, protective measures and emergency response procedures for the hazardous chemical or product. Material Safety Data Sheets (MSDS) shall be maintained and kept readily accessible for any new chemicals (except consumer product chemicals) introduced into the workplace. The MSDS should be read and understood by personnel handling the material. The MSDS binder will be kept in the office. An active inventory list of hazardous chemicals used/stored in the workplace will be compiled and updated as new chemicals are received. These lists will be referenced on the appropriate MSDS sheet and maintained for each job site.

Container Labeling

Original Containers - Must be labeled to include the chemical or product name and the proper hazard warning to enable the user to immediately understand the material's primary health and/or physical hazard(s). Employers or employees shall not remove or deface labels on containers of hazardous chemicals. Labels will be legible and in English, however, for non-English speaking employees, the information will be relayed to them in their own language.

Secondary Containers – Must be labeled with the chemical name and hazard warning. A recommended practice is to also include the common name of the material such as paint thinner, window cleaner, etc.

Labeling Requirements:

- When two or more labels are required, they will be displayed next to each other;
- Labels will be on a background of contrasting color;
- Labels may not be obscured by markings or attachments:
- Labels must be durable, weather resistant, and able to withstand exposure for 30 days without deterioration or discoloration;
- Labels may be printed on or affixed to a tag when package surfaces are such that labels cannot be affixed.

SECTION IX: ASSESSMENT

The Emergency Coordinator will assess the potential for a release or fire to get beyond the control of facility personnel. The assessment takes into account the magnitude of the event, the proximity to facility boundaries and surrounding neighbors, the potential for fires to spread or contaminant releases to reach groundwater or surface water and the progress being made by facility personnel in controlling the release or fire. The assessment also considers both direct and indirect effects of the release, fire or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that may be generated, or the effects of any contaminated runoff).

After identifying the nature of the event and the type of contaminants involved the Emergency Coordinator will determine the appropriate response. If necessary, the Emergency Coordinator reviews the North American Emergency Response Guidebook (ERG) for information on specific hazards. This publication lists materials by chemical name as well as by USDOT UN numbers and details the procedures that should be used to respond to an incident involving specific materials.

SECTION X: NOTIFICATION

The facility office is equipped with a variety of fixed and mobile communications equipment (telephone, fax, cell phones, two-way radios, and computers) to ensure continuous communication with management, responders, authorities, and other interested parties.

If the event is classified as a minor emergency it will be handled by facility personnel.

If the event is classified as a major emergency, the Emergency Coordinator will:

- Implements the Contingency Plan;
- o Initiate the appropriate alarm(s) and notify personnel on site of the situation through the facility two-way/CB radios, intercom and telephone systems;
- Supervises the response following the procedures in the Contingency Plan;
- o Notify NMOCD and the National Emergency Response Center (if necessary); and
- Notify appropriate emergency, state and local agencies as detailed below:

Police Department	if there is imminent danger to human health.
Fire Department	if there is an uncontrollable fire or spill or potential for toxic fumes.
	if there are injuries or missing personnel.
NMOCD	if the Contingency Plan is implemented.
	if assistance with cleanup is needed after a release.

Table A-2 lists the emergency agencies and their telephone numbers that may be called in the event of a *major* emergency requiring outside assistance.

TABLE A-2

Outside Notification of Major Emergencies

Department or Agency	Phone Number	Initial Criteria for Contact
Emergency Notification Phone Numbers		
Internal: Emergency Response Coordinators: Brian Cochran, Safety Alberta Pablo, Health & Environmental Steve Abeyta, Operations Supervisor	(505) 419-0200 (505) 860-4068 (505) 860-3801	Implementation of the Contingency Plan
External: National Response Center 24 hour Emergency Number	(800) 424-8802	Release of a reportable quantity of contaminants to the environment.
Chemtrec	(800) 262-8200	Hazardous materials & dispatch of HAZMAT response units.
State Patrol	(505) 334-6622 or (505) 325-7547	Notify if there is an imminent danger to human health.
NMOCD-District Office (Aztec)	(505) 334-6178	Notify if any spills or releases.
NMOCD-Bureau Chief	(505) 476-3440	Notify if spill/release detrimental to water.
Local Law Enforcement Non-Emergency Dispatch	911 (505) 334-6622	Notify if there is an imminent danger to human health.
Blanco Fire Department	911 (505) 632-8135	Notify if there is a fire, uncontrolled spill, or other imminent danger.
Emergency Dispatch	911	Notify if there are any injuries.
San Juan Regional Medical Center	(505) 609-2000	,,,,

SECTION XI: CONTROL & RESPONSE ACTIONS

Control and Response actions to be taken in specific situations are described in this Section. Incidents such as a fire, explosion or release of contaminants that could threaten human health or the environment are expeditiously reported to the Emergency Coordinator.

Spill (19.15.36.13.K)

In the event of a spill facility personnel will immediately take the following actions to minimize hazards to minimize hazards to fresh water, public health, safety and/or the environment:

- 1. Identify source of release
- 2. Shut off source
- 3. Control release (i.e. use of following)

a. Berms

b. Catchment basins

c. Absorbent materials

d. Dams

4. Make necessary !El internal notifications:

a. Terry Lattin, General Manager

b. Brian Cochran, Safety

c. Alberta Pablo, Health & Environmental d. Steve Abeyta, Operations Manager

Releases (19.15.29 NMAC)

In the event of a release of Hydrogen Sulfide Gas-H2S (There are no other potential life threatening gases associated with our processes at the facility), facility personnel will immediately take the following actions to minimize hazards to minimize hazards to fresh water, public health, safety and/or the environment as follows: (Also refer to Binder Section 19.15.36.8.C.8)

The following outlines the Immediate Action Plan to be used when responding to an H2S release.

- 1. The emergency alarm system will activate when concentrations reach and exceed 10 ppm. The alarm system controls, located in the Processing Area, will indicate when the alarm is set-off.
- 2. When the emergency alarm system activates, all facility personnel will evacuate to the appropriate designated assembly point until the facility can be assessed by the Emergency Coordinator.
- 3. The EC will evaluate the area through physical inspection while simultaneously monitoring H2S levels with a portable gas monitor, until the source of the H2S release is determined.
- 4. Any facility personnel in distress will be assisted by other facility personnel to the appropriate designated assembly point(s).
- 5. The Emergency Coordinator will account for all facility personnel by utilizing the Employee Roster. Visitors/Disabled Occupants will be accounted for by utilizing the facility "check-in" sheets.
- 6. Local emergency responders will be notified that the alarms have indicated an H2S level of 10 ppm or greater.
- 7. If H2S levels are determined to be 10 ppm or less, facility personnel will return to work, and the EC will continue to monitor the area manually with an OSHA/ANSI approved gas monitoring device to ensure that the NIOSH Time Weighted Average Permissible Exposure Limit of 10 ppm is not exceeded during an eight hour shift.
- 8. The EC will initiate evacuation operations if H2S levels exceed 30 ppm; and
- 9. Emergency Shutdown procedures will be initiated by supervisors as deemed necessary to correct or control the specific situation. On-site supervisors will be responsible for monitoring for leaks, pressure build-up, and gas generation and ruptured valves (19.15.36.13.N.11).

There are numerous natural gas transportation pipelines which pass through the property which are owned/operated by companies other than IEI. In the event that one of these gas lines becomes compromised, employee(s) will turn off any machinery and equipment, immediately leave the area and notify the Emergency Coordinator. The Emergency Coordinator will initiate measures so as to protect human health and the environment by contacting 911 and notifying the pipeline company.

Fires

In the event of a fire, facility personnel who discover the fire, will immediately take the following actions to minimize hazards to minimize hazards to fresh water, public health, safety and/or the environment:

1. Immediately notify the Emergency Coordinator who will assess the characteristics of the fire and promptly initiate a plan to stop the source of fire.

Small Fire (Minor Emergency)

A small fire would be a fire:

- Which can be immediately extinguished and brought under control;
- o Which will not cause undue threat to the personal safety of personnel; and
- Which does not require the assistance of outside emergency response organizations.

Emergency response to this type of fire (minor) should be as follows:

- Put on protective equipment including the appropriate respiratory protection equipment (when required) following the instructions of the ERG;
- Utilize fire extinguisher(s) to put the fire out before it spreads;
- Utilize heavy equipment to isolate the fire from biopiles;
- Utilize heavy equipment to cover the fire with soils;
- Utilize water from the freshwater tank to extinguish the fire.

It should be noted that facility personnel should only respond to small fires; that is, those fires which can immediately be extinguished.

At the conclusion of the fire suppression efforts, the Emergency Coordinator visually inspects the area to assess whether the on-site response actions were successful.

Major Fire (Major Emergency)

A major emergency fire would be a fire:

- Which cannot be immediately extinguished or brought under control;
- Which has the potential to become uncontrollable;
- Which may cause the release of toxic fumes:
- Which may spread and ignite waste materials;
- o Where imminent danger exists that an explosion may occur;
- Which an explosion has occurred;
- o Which may spread off-site or cause personal injury;

Under the direction of the Emergency Coordinator, who will identify and assess the situation, emergency response to this type of fire (major) should be as follows:

- Put on protective equipment including the appropriate respiratory protection equipment (when required) following the instructions of the ERG;
- o Immediately shut down all equipment and machinery:
- Determine if evacuation of the facility is warranted;
- Activate the internal facility alarm and communication systems to notify facility personnel and visitors to evacuate;
- Secure the area to prevent unauthorized entry;
- Promptly notify the fire department;
- Notify NMOCD, and if necessary, the National Response Center.
- Notifies appropriate emergency, state and local agencies deemed necessary, such as law enforcement and emergency response departments.

The Emergency Coordinator reporting a major fire emergency should be prepared to give his name, position, company name, address, telephone number, time and date. He should also describe the type of incident, extent of injuries, material, source and, if possible, an estimate of the amount, extent of any contamination, the containment status, and specify any equipment needed.

^{*}Upon review of the fire, police and fire officials may initiate evacuation proceedings of the neighboring properties.

Explosions

In the event of an explosion, facility personnel will immediately take the following actions to minimize hazards to minimize hazards to fresh water, public health, safety and/or the environment:

1. Immediately notify the Emergency Coordinator who will assess the characteristics of the explosion and promptly initiate a plan to stop the source of explosion.

Under the direction of the Emergency Coordinator, who will identify and assess the situation, emergency response to explosions should be as follows:

- Put on protective equipment including the appropriate respiratory protection equipment (when required) following the instructions of the ERG;
- o Immediately shut down all equipment and machinery;
- Determine if evacuation of the facility is warranted;
- Activate the internal facility alarm and communication systems to notify facility personnel and visitors to evacuate;
- Secure the area to prevent unauthorized entry;
- o Promptly notify the fire department;
- o Notify NMOCD, and if necessary the National Response Center;
- Notifies appropriate emergency, state and local agencies deemed necessary, such as law enforcement and emergency response departments.

If the explosion occurs where liquids are stored and a spill occurs, procedures for spill containment will commence.

The Emergency Coordinator reporting an explosion should be prepared to give his name, position, company name, address, telephone number, time and date. He should also describe the type of incident, extent of injuries, material, source and, if possible, an estimate of the amount, extent of any contamination, the containment status, and specify any equipment needed.

*If the facility stops operation in response to a major emergency, the Emergency Coordinator will monitor for leaks, pressure buildup, gas generation, ruptures in valves, pipe, or other equipment, as appropriate.

SECTION XII: PREVENTION OF RECURRENCE OR SPREAD (CONTAINMENT)

Quick response to a spill, release, fire or explosion is the primary method by which recurrence or spread can be prevented. Specific actions to prevent the recurrence or spread of spills, releases, fires or explosions include determining the source or cause of the incident; ceasing processes and operations, turning off feed lines, auxiliary fuel lines and power supply to the affected area; cleaning up debris from the situations and maintaining good housekeeping; containing and collecting release waste; removing and isolating affected containers; ensuring that a fire is completely extinguished; and decontaminating the affected area/equipment.

Above ground tanks shall have an impermeable secondary containment system (liners & berms), which will contain a volume of at least 1/3 greater than the total volume of the largest tank or all interconnected tanks, unless such above ground tanks contain fresh water. If a leak was due to a release from a primary tank system into the secondary containment system, the source of the leak will be repaired before returning the system to service. If the source of the leak is from a component not in secondary containment, facility personnel will provide secondary containment for that component, while the leak is being repaired.

Incidents will be investigated to determine the cause(s) of the incident and necessary actions/corrections that need to be implemented to prevent similar incidents.

*If the facility stops operation in response to a major emergency, the Emergency Coordinator will monitor for leaks, pressure buildup, gas generation, ruptures in valves, pipe, or other equipment, as appropriate.

At least twice a year, facility personnel will have a practice drill on an emergency situation.

SECTION XIII: CORRECTION AND/OR REMEDIATION PROCEDURES

CORRECTION

Incidents can arise from various system processes or equipment failure. The necessary corrective actions, modifications and/or repairs will be determined by the results of the incident investigation.

CONTAINMENT and CORRECTION/REMEDIATION:

- Actions are taken promptly to remove the spill after the spill is contained.
- The contaminant will be collected with sorbent materials and/or by use of a king vacuum truck.
 The inert sorbents are collected and managed appropriately.
- Sorbent materials, resulting from cleanup actions will be collected and disposed of off-site at a
 properly permitted waste treatment or disposal facility. Contaminated soils containing recovered
 oilfield waste will be collected and treated on the facility.

INCIDENT INVESTIGATION:

- Complete Incident reporting form and submit to the supervisor within 24 hours after the incident.
- · Supervisor will investigate and review concerns raised of the incident.
- The Safety Officer will note details and schedule interview with the employee(s) involved.
- The Safety Officer will complete necessary risk identifications and outline an action plan.

REMEDIATION

- Remediation activities will be implemented according to the source and type of material spilled or released.
- RCRA Exempt materials released/spilled (tank bottoms, drill cuttings, etc.) would be cleaned up, processed accordingly and placed into biopile(s) for remediation.

SECTION XIV: INCOMPATIBLE WASTE(S)

- The Emergency Coordinator will notify facility personnel that waste which may be incompatible with spilled/released materials.
- Compatible material cannot be brought into the facility until h/she has determined that the hazards posed by the response event have been fully remedied.
- The incompatible waste with spilled or released material will be Treated, Stored and Handled according to manufacturer's recommendations.
- The incompatible waste will be placed in a secondary containment for temporary storage upon completion of the clean up of affected area.
- All recovered incompatible waste will be disposed at a appropriate off-site facility.

SECTION XV: EXPECTED CONTAMINANTS & EXPECTED MEDIA CONTAMINATED

The expected contaminants include hydrocarbons, chlorides, diesel fuel, acids and H2S. The expected media contaminated includes soil, ground and surface water(s) and air.

SECTION XVI: INCIDENT INVESTIGATION

The purpose of the investigation procedures are to report, investigate, document, and prevent recurrence of similar emergencies. Comprehensive incident investigation involves gathering evidence and determining what events and conditions led to the incident, as well as analysis of the evidence to determine the root cause of the incident. Once the root causes have been determined, corrective and preventative actions can be developed to prevent recurrence of the incident.

INVESTIGATION PROCEDURES

The Emergency Coordinator(s) will:

When an incident occurs, the EC will determine the appropriate response.

- Whenever there is a release, fire, or explosion, the EC must immediately identify the character, exact source, amount, and areal extent of any released materials. S/he may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.
- Concurrently, the EC must assess possible hazards to human health or the environment that may
 result from the release, fire, or explosion. This assessment must consider both direct and indirect
 effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating
 gases that are generated, or the effects of any hazardous surface water run-off from water or
 chemical agents used to control fire and heat-induced explosions).
- If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows: If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and he must immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan) or the National Response Center (using their 24-hour toll free number (800-424-8802).
- Gather physical evidence and facts (Sketches, diagrams, maps and photographs);
- Interview witnesses;
- Establish a timeline for the events and conditions immediately before and after the event;
- Determine the critical factors that led to the incident;
- Review and analyze data;
- Determine underlying cause(s) and identify corrective and preventative measures;
- Prepare the final internal report with supporting documentation and preventative measures to prevent a similar incident.

SECTION XVII: POST-EMERGENCY WASTE TREATMENT, STORAGE & DISPOSAL

- Immediately after an emergency, the EC must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.
- The waste with spilled or released material will be Treated, Stored and Handled according to manufacturer's recommendations.
- The waste will be placed in a secondary containment for temporary storage upon completion of the clean up of affected area.
- All recovered waste will be disposed off-site at a appropriate facility.
- The emergency coordinator must ensure that, in the affected area(s) of the facility, no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed and all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

SECTION XVIII: EMERGENCY EQUIPMENT

Table A-3 presents the list of emergency equipment, capacity, location(s), and capabilities/description.

Table A-3

Equipment	Capacity	Location(s)	Capabilities/Description
Communication Equip/Alarms			
Telephone System		Office	Telephones with loudspeaker/paging systems for internal and external communication.
Cell Phones			Key personnel are provided with cell phones.
CB Radio(s)		Main office Tank Battery In Heavy Equipment	Provides the ability for office and landfarm personnel as well as truck drivers to communicate on the facility at all times.
Air Horn		Office Tank Battery	In case of power failure, used to notify facility personnel of an emergency.
H2S Alarms		Office Tank Battery	Alarm activates when H2S levels reach 10 ppm or higher
Fire Extinguisher(s)	10 lb – ABC type 5 lb-ABC type	Office Heavy Equipment	ABC type universal system effective on paper, wood and electrical fires as well as solvents.
	20 lb ABC type	Tank Battery	
Eye Wash Stations		Office & Tank Battery	Provides quick flushing of eyes that have been exposed to chemicals.
Emergency Shower		Tank Battery	Provides quick washing of personnel who have been exposed to injurious chemicals.
First Aid Kits		Office Tank Battery	To provide immediate care until medical aid arrives. Meets OSHA standards.
Body Fluid Spill Kit		Office Tank Battery	Provide protection, containment & disposal of bodily fluids.
OSHA CERTIFIED PPE: Gloves Eye Protection Hearing Protection Head Protection		Office	Cotton, leather, chemical resistant. Safety glasses, goggles, face shields. Ear plugs. Hard Hat.
Sorbent Material		Office Storage Tank Battery	Inert sorbent to handle incidental spills.
Spill Cleanup Equipment (Shovels, Rakes, Squeegees, Brooms)		Storage Tank Battery	Spill cleanup equipment to collect spills and spill residues
10 Minute Escape Pack		2-Office 2-Tank Battery	Self-Contained Breathing Apparatus (SCBA) which is capable of providing breathable air in an IDLH (Immediate Danger to Life and Health) atmosphere.
Safety Harness		Office	Designed for use when working above ground to offer fall protection.
OSHA/ANSI Approved Gas Monitors		to personnel for use on landfarm/in field	Monitoring the air with appropriate direct reading test equipment for IDLH and other conditions that may cause death or serious harm (combustible or explosive atmospheres, oxygen deficiency, toxic substances).

SECTION XIX: COORDINATION ARRANGEMENTS

The Primary Emergency Coordinator will schedule a facility walk-through with contractors, state and local law enforcement and emergency response teams to familiarize each agency with:

- The layout and function of the facility;
- The materials handled and associated hazards;
- o The locations where facility personnel normally work;
- o The entrances, roadways within and possible evacuation routes of the facility; and

At the time of the facility walk-through the Emergency Coordinator(s) will review the Contingency Plan with these agencies to discuss how emergency services can be coordinated. An annual facility walk-through will also be offered to contractors, state and local law enforcement and emergency response teams.

A copy of the Contingency Plan will be sent to the agencies listed below:

- Police Department;
- Emergency Response Department (local fire and rescue); and
- San Juan Regional Hospital.

SECTION XX: AVAILABILITY AND REVISION OF THE CONTINGENCY PLAN (19.15.36.13.N)

This Contingency Plan is kept at the facility and is updated when there are changes to the facility that may affect the Plan. Copies of this document and any revisions/modifications are provided to NMOCD and to local authorities/organizations listed in Section X-Notification, Table A-2. In addition, this Contingency Plan, and revisions to this Contingency Plan, are made available to the Managers, Supervisors and Emergency Response personnel as well as to employees working at the facility.

The Emergency Coordinator may amend the plan during an emergency, as necessary, to protect fresh water, public health, safety or the environment.

The Contingency Plan will be reviewed and updated, within 5 days, whenever:

- The facility's Permit is revised or modified;
- The list or location of emergency equipment changes;
- The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that increases the potential for fires, explosions, or releases of contaminants, or changes The response necessary in an emergency;
- The Contingency Plan fails when implemented in an emergency; or
- The names, addresses, or phone numbers of Emergency Coordinators change (NMOCD will also be promptly notified anytime there is a change with the Emergency Coordinator and/or their contact information)

Run On/Off Water Control (19.15.36.8.C.11 & 19.15.36.13.M)

The facility will comply with provisions of 19.15.36.13.M to control run-on and run-off water. Run on/off control systems shall prevent flow onto the facility's *active* portions during the peak discharge from a 25 year storm. Run-off from the facility's active portions shall not be allowed to discharge a pollutant to the waters of the state or United States that violates state water quality standards.

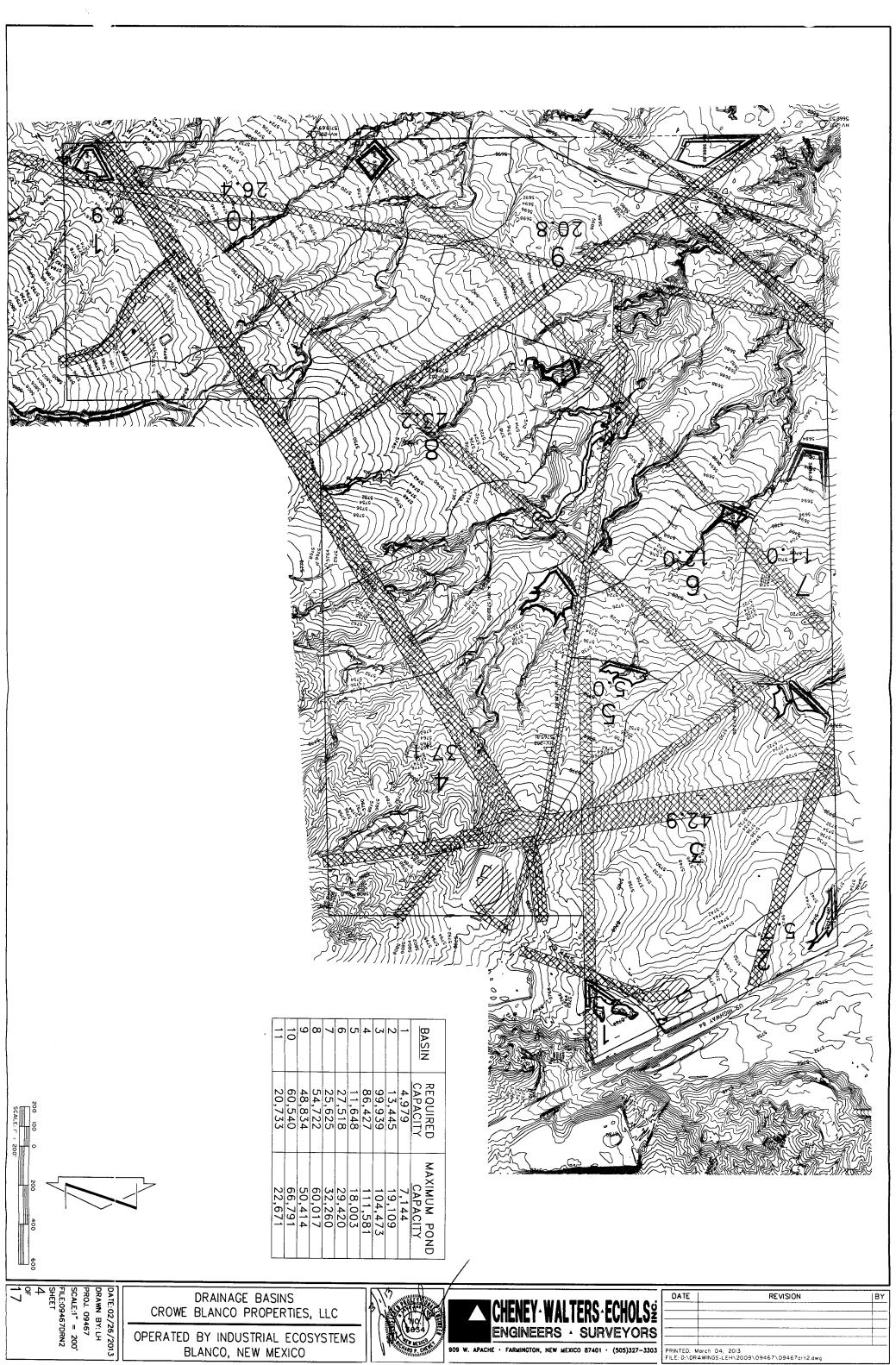
- Run-on waters shall be diverted around the facility by use of v-ditches and earthen berms to prevent flow onto the active portions of the facility (Sheet 5 of 17-Retention Dikes/Details-Cross Section E/5)
- Run-off waters shall be diverted into the designated retention ponds/dikes (Sheet 4 of 17-Drainage Basins).

Additional best management practices which will be used to control run on/off waters:

- Divert clean stormwater (e.g. roof run-off) away from contaminated areas and into stormwater settling ponds (Sheet 4 of 17-Drainage Basins & 5 of 17-Retention Dikes & Details)
- Use liners and berms in the "Processing Area" areas to capture stormwater and process wastewater (Sheet C104-Processing Engineering Design Plan-Cross Section HDPE Liner w/Pipe Penetration Details & Sheet C105-Grading & Drainage Plan-Liquids Collection System-Process Boundary Berm-Process Interior Berm)
- On-site settling pond or series of ponds will be used to capture stormwater. It is proposed that stormwater will be reused/recycled by adding to completed biopiles (not "under construction") as moisture to assist with the remediation process. Only stormwater meeting the following criteria would be acceptable for reuse-*determined using the "Allowable Chloride in Water Calculation" spreadsheet to ensure moisture is added without exceeding the Treatment Zone Closure Standards (19.15.36.15.F.4). Stormwater would be tested with Chloride Titrators (testing strips) to ensure chloride levels do not exceed 500 mg/kg if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will place oilfield waste. * Stormwater not meeting the criteria would be transferred to an appropriate permitted injection facility by a transporter possessing an approved C-133.
- Develop a routine yard and equipment maintenance program to considerably reduce the potential for discharge of sediment to the wastewater collection and recycling system.
- Manure used in the bioremediation process will be placed into pile(s) and will be bermed (secondary containment) within a bermed cell to prevent run-off (Sheet 5 of 17, Cross Section H/5 Manure Stockpile Containment Detail).

Allowable Chloride in Water Calculation

Date:		
Biopile #	Chloride Content:	
Circle Type bel	ow:	
Centrate or Sto	orm Water (SW) Chloride Content:	
Biopile Chlorid	e Content (After Centrate or SW is Added):	
Soil	1,000 yds3	
	2,970,000 pounds, assuming 110 lb/ft3 average soil density	
Cl- in soil	300 ppm - ENTER SOIL CHLORIDE CONCENTRATION IN PPM (MG/KG)	
	891 pounds CI- in 750 yds3 soil, on ppm mass basis	
Maximum allov	wed	
in soil	500 ppm	
	1,485 pounds CI- in 750 yds3 soil, on ppm mass basis	
Water	80 barrels	
	3,360 gallons	
	27,989 pounds water at 8.33 lb/gallon	
	594 Maximum pounds of CI- that water can contribute to soil	
	21,223 ANSWER: Maximum allowable Cl- concentration (ppm) in 80 bbl water	

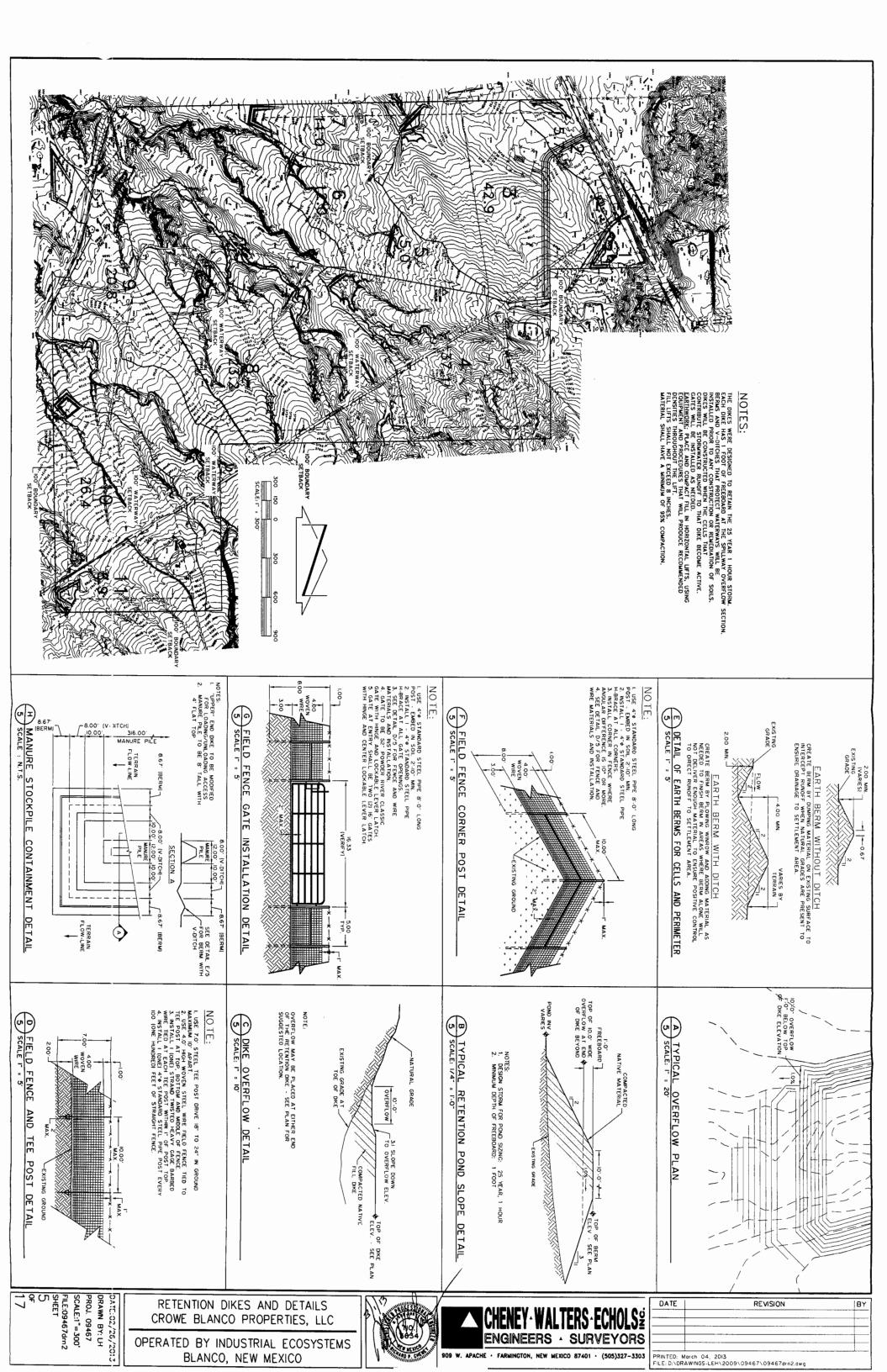


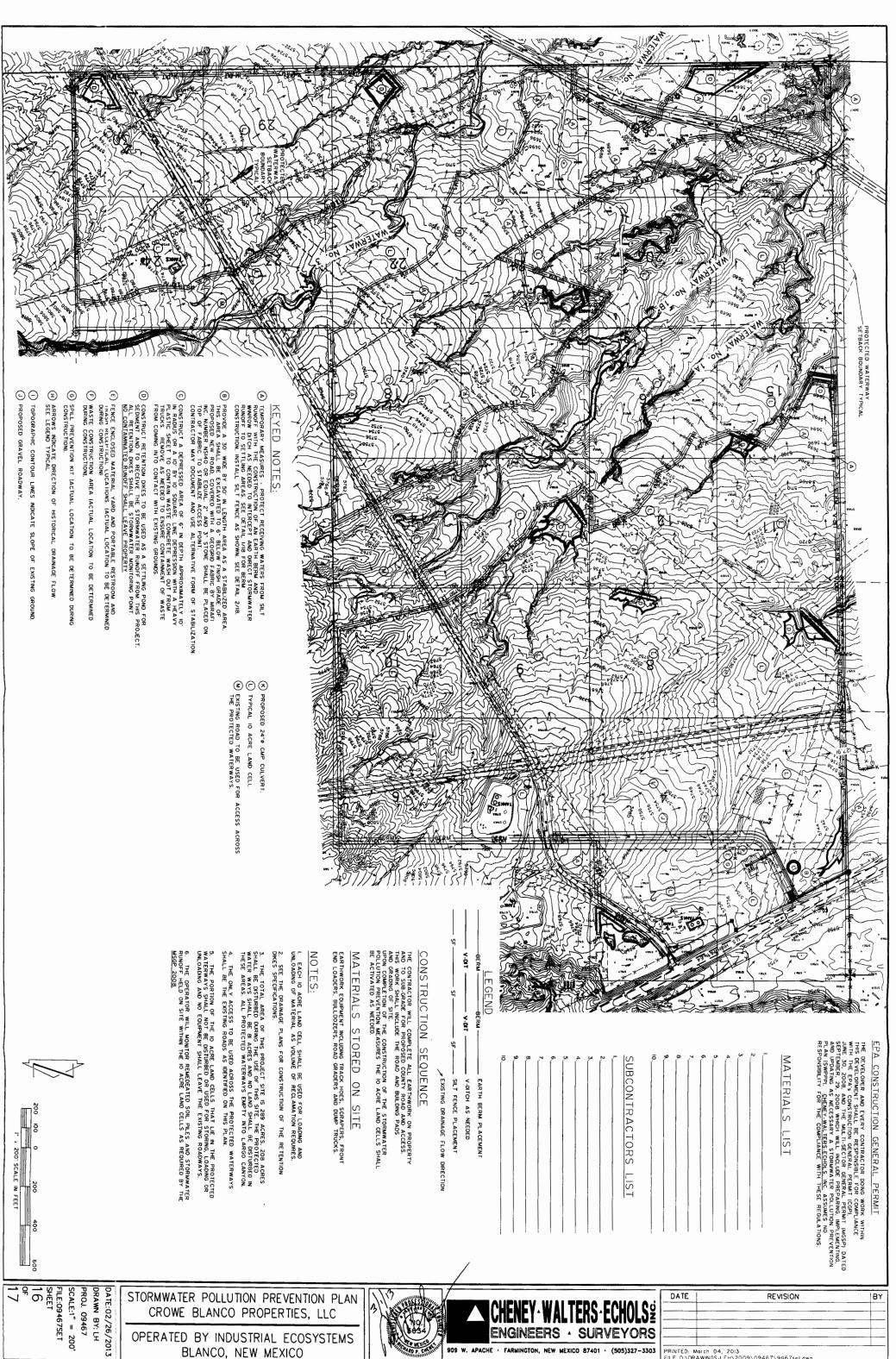
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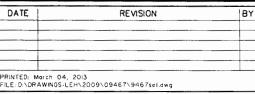




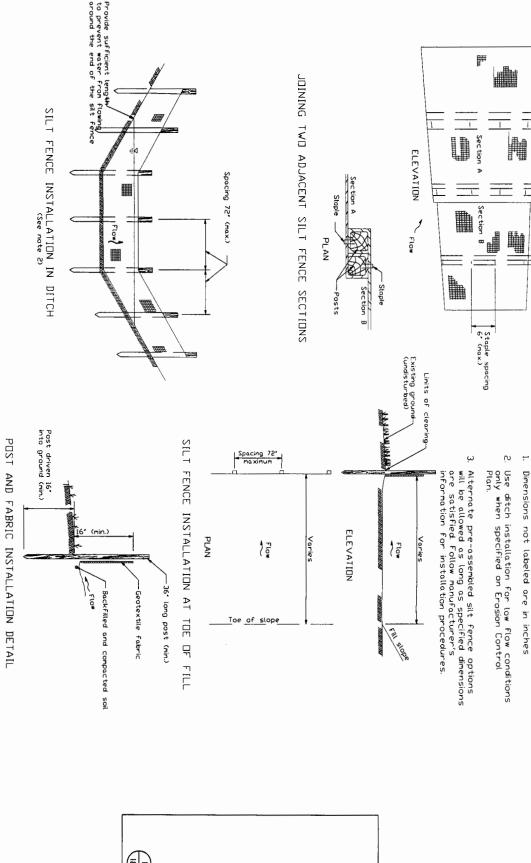
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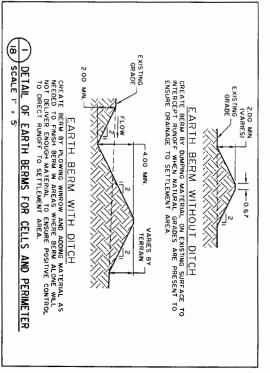
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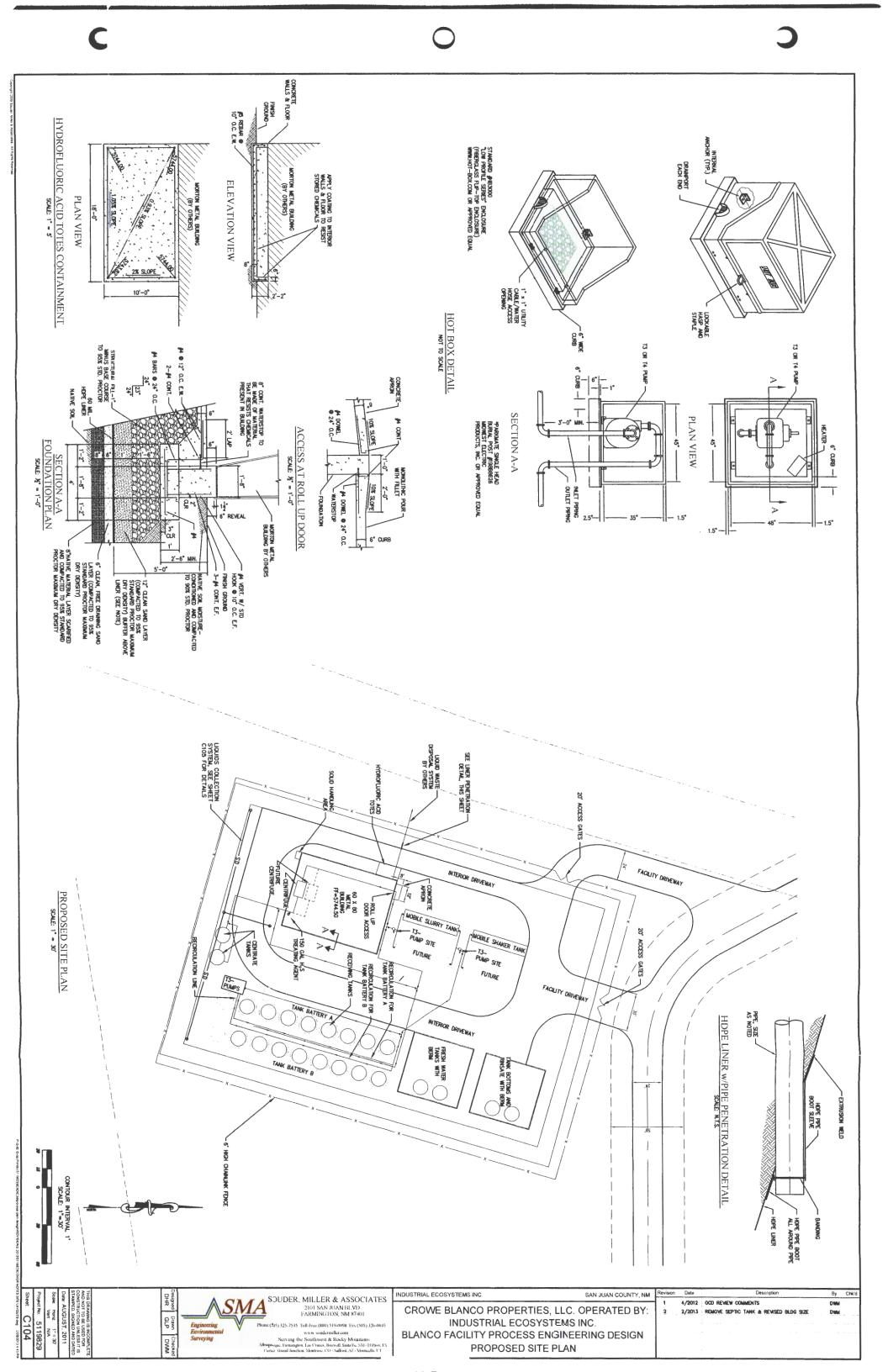


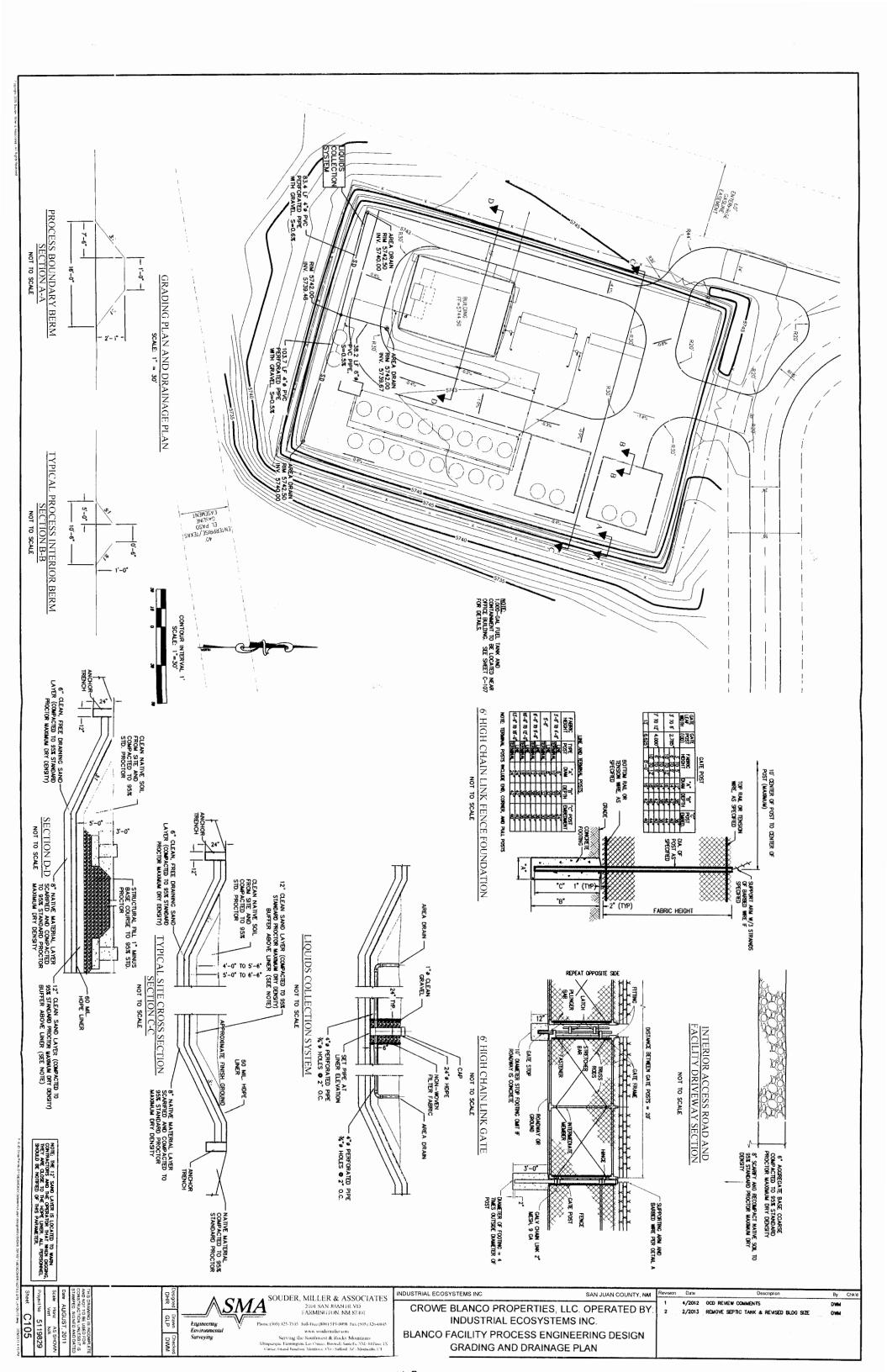


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BEST MANAGEMENT PRACTICE GUIDELINE (19.15.36.8.C.14)

1. Crowe Blanco Properties, LLC / Industrial Ecosystems, Inc. Environmental Best Practice Guideline

Our environmental best practice guideline is simply undertaking day-to-day land farming activities in a way that is least likely to harm the environment. That is, the procedures and practices outlined in this document are 'best' for the environment and are preferred to certain existing procedures and practices that may create more waste and/or cause more pollution.

We are committed to ensuring our business activities are conducted in a manner that protects the environment and people who are impacted by our operations while also preserving, conserving and minimizing waste of resources.

We recognize that safe working practices and protection of the environment and those affected by our activities are fundamental to its long-term business success.

The company and its employees shall comply with all applicable health, safety and environmental laws and regulations, and apply responsible standards where laws or regulations do not exist.

This document is for guidance/advice only. Understanding and following this guideline will significantly reduce the risk of employees breaching environmental laws and regulations. The guideline should be followed, unless there is an alternative course of action that achieves the same or better environmental outcomes during land farming activities.

In summary, this industry environmental best practice guideline:-

- Gives practical guidance on how environmental best practices can be achieved in the land farming industry.
- Should be followed unless there is an alternative course of action that achieves the same or a better environmental outcome.

2. OBLIGATION OF EMPLOYEE(S)

MANAGER/SUPERVISOR RESPONSIBILITIES

Each manager/supervisor is responsible for safety and environmental activities within their area of supervision.

Responsibilities include:

- Setting good examples.
- Properly communicating policies.
- Enforcing policies.
- · Promptly correcting substandard conditions.
- Reporting and investigating spills.

2.1 Obligation of the General Manager

The General Manager is responsible for site planning issues and for demonstrating that environmental best management practices have been incorporated into the development application. Any regulatory requirements placed on the site, such as consent conditions or cleanup, must be brought to the attention of the facility manager.

2.2 Obligations of the Facility and Field Supervisors (Operations Supervisor / Landfarm Operations Manager / Field Operations Manager / Field Supervisor)

The facility and field supervisors have the overall responsibility for facility/site issues, occupational health and safety (OH&S) and environmental management of the facility/site. The facility and field supervisors also have the responsibility to ensure that all workers under their supervision are aware of and are undertaking their duties in compliance with relevant environmental legislation and industry standards.

2.3 Obligations of HSE Coordinator

IEI has responsibility to ensure appropriate training has been provided to the employees and must provide appropriate details and resources to enable them to complete their job duties without causing environmental pollution.

The HSE Coordinator is responsible for holding and documenting appropriate environmental awareness and ongoing training to all employees and subcontractors. Training should cover all aspects of environmental responsibility required of an employee, including spill response procedures, pollution controls, recycling procedures, dust/odor mitigation, and duty to notify.

EMPLOYEE RESPONSIBILITIES

Each employee shall demonstrate positive attitudes toward injury prevention and environmental stewardship.

Responsibilities include:

- Performing their job safely while protecting the environment.
- Understanding safety and environmental policies related to their job duties/tasks.
- Actively participating in safety and environmental training and meetings.
- Immediately reporting unsafe conditions and practices.
- Immediately reporting spills to their supervisor.

2.4 Obligations of the truck driver(s)

The truck driver has responsibility for performing work at the facility and on locations without causing environmental harm through spillage or leakage of oilfield waste.

The driver is responsible for safe and timely work without causing spillage on site or en route. The driver should be made aware of, and should then observe, all environment requirements that apply to a particular site, such as site access, work restrictions and handling requirements.

The driver should understand the importance of appropriate environmental controls and raise any concerns regarding such controls with the Field Operations Manager. In the event of a spill/leak, truck drivers will immediately notify the Emergency Response Coordinator(s) and the facility spill reporting/corrective actions and/or contingency plan will be implemented accordingly.

2.5 Obligations of General Personnel (Equipment Operators, Field Technicians, Centrifuge Operators/Helpers, Laborers)

General personnel have a responsibility to ensure that they perform work in ways that do not cause environmental harm through spillages or leakage of oilfield waste.

It is the responsibility of all personnel to ensure that processing oilfield waste will occur in the "Processing Area" which is lined and bermed to prevent environmental harm. Servicing and clean-up of equipment will occur off-site at the contracted mechanics shop.

The company or business has a duty to provide appropriate on the job training that addresses industry competency standards in environmental awareness to all employees and subcontractors. Training should cover all aspects of environmental responsibility required of a landfarm employee, including spill response procedures, pollution controls, proper clean-up procedures, noise and dust mitigation and duty to notify relevant authorities.

3. BEST PRACTICES

3.1 Acceptance/Disposal of Oilfield Waste

Purpose

Proper management during the handling, acceptance, and disposal of oilfield waste can minimize the risk of detrimental impact on the environment.

Applications

- For facility personnel
- For facility managers overseeing landfarm activities

Best Management Practices

- The proper handling/acceptance/disposal of oilfield waste must be ensured to prevent spillage which could potentially contaminate the stormwater system.
- Appropriate spills controls will be in place before disposal begins.
- The facility managers will need to be satisfied that all appropriate pollution controls have been placed before disposal occurs.
- Spills and leaks occurring during the disposal process must be cleaned immediately.

Inspection and Maintenance

- Pollution controls should be in place before disposal of oilfield waste. If personnel have any concerns regarding pollution controls, they should be raised with the facility manager(s).
- The facility manager(s) must maintain vigilance or delegate authority to ensure that pollution control procedures are in place.

3.2 Equipment Maintenance

Purpose

Proper vehicle/equipment maintenance can minimize the risk of any detrimental impact on the environment.

Applications

- For all personnel
- For the company contracted mechanic
- For facility managers

Best Management Practices

- Equipment will be serviced off-site and washed down (if needed) at the contracted mechanic's shop.
- When selecting a contracted mechanic, the company will require them to be environmentally conscious.
- Vehicles/equipment and machinery must be regularly serviced and maintained to minimize noise and exhaust emissions and oil and fuel drips.
- A third party company is utilized to pick up and recycle "used motor oil".
- Where possible, equipment should be set up on site. This reduces the potential of leakages from hoses and fittings that could contaminate the stormwater system.

Inspection and Maintenance

- Inspect and maintain vehicles/equipment & machinery regularly to minimize leaks and drips
- The Facility Manager will make arrangements with the contracted mechanic to transport equipment off-site to be services/cleaned.

4. FUGITIVE DUST & ODOR EMISSIONS

As a landfarm facility, we are responsible for controlling fugitive dust and odor emissions related to landfarm operations.

FUGITIVE DUST EMISSIONS - are a result of the lack of natural precipitation and moisture to unpaved roadways and biopiles on the facility.

ROAD AND YARD DUST

- Minimize fugitive dust emissions due to vehicle travel by:
 - o site layout and design
 - Posting vehicle speed limits

During the drier months, when natural precipitation is not being received regularly, unpaved roadways will be sprayed using fresh water.

Natural vegetation will be allowed to grow to help provide barriers

DUST FROM BIOPILES

- Minimize fugitive dust emissions from biopiles by:
 - Trenching the biopiles, as needed, with water (fresh, centrate or storm run-off).
 Refer to Section 5-Stormwater & Section 12-Centrate Water within this document
 Also refer to binder Section 19.15.36.C.6 Operational/Management Plan − 5.4
 Centrate Water and 10.8 Run On/Off Water.

ODOR EMISSIONS - are a natural result/occurrence associated with the bioremediation process.

ODOR CONTROL

- Minimize nuisance odors by:
 - When feasible, manure, used as part of the bioremediation process, will be stored on areas of the facility furthest from nearby residence(s);
 - Biopiles located nearest to residential areas will be "turned" early in the week between the hours of 8:00 am - 5:00 pm, when neighbors are most likely to be at work;
 - Reducing the holding time of waste disposed of at the tank battery.

5. STORMWATER

Stormwater runoff is another primary pollutant of concern resulting from landfarm operations. Potential wastewater and stormwater pollutants include oilfield waste, aggregate, bioremediation additive mixtures, fuels and lubricants. (Also refer to Binder Section 19.15.36.8.C.11)

Best management practices used to control stormwater run on/off:

- Divert clean stormwater (e.g. roof run-off) away from *contaminated* areas and into retention ponds.
- Use liners and berms in the "Processing Area" to capture stormwater and process wastewater.
- On-site retention ponds/dikes will be used to capture stormwater. It is proposed that stormwater will be reused/recycled by adding to completed biopiles (not "under construction") as moisture to assist with the remediation process. Only stormwater meeting the following criteria would be acceptable for reuse-determined using the "Allowable Chloride in Water Calculation" spreadsheet to ensure moisture is added without exceeding the Treatment Zone Closure Standards (19.15.36.15.F.4). Stormwater would be tested with Chloride Titrators (testing strips) to ensure chloride levels do not exceed 500 mg/kg if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will place oilfield waste. * Stormwater not meeting the criteria would be transferred to an appropriate permitted injection facility by a transporter possessing an approved C-133.
- Develop a routine inspection and maintenance program to considerably reduce the potential for discharge of sediment to the wastewater collection and recycling system.
- Manure used in the bioremediation process will be placed into pile(s) and will be bermed (secondary containment) within a bermed cell to prevent run-off.

6. HANDLING AND DISPOSAL OF RCRA EXEMPT, NON-HAZARDOUS WASTES

The proper handling and disposal of oilfield waste is critical in assuring the health and safety of the public and protection of the environment. Some important things to remember are:

- Only RCRA exempt, NON-HAZARDOUS waste is accepted for disposal.
- Waste must conform with the chloride content test prior to being accepted for disposal.
- Waste must pass the paint filter test prior to being place into a biopile.

7.1 CONTAINERS

- Maintain containers in good conditions. Prevent leaks, ruptures and the accumulation of rainwater on the top of drums.
- If a container leaks, the material shall be transferred to a new container.
- Keep lids on, and containers closed, when not in use.
- Use funnels when pouring liquids.
- Use containers that are compatible with the waste being stored.
- Do not mix different or incompatible wastes in the same container.

7.2 LABELS

Proper labeling can reduce accidents and ensure proper disposal. Containers shall be labeled as follows:

ORIGINAL CONTAINERS

- Labels must include the chemical or product name and the proper hazard warning to enable the user to immediately understand the material's primary health and/or physical hazard(s).
- A recommended practice is to also include the common name of the material such as paint thinner, window cleaner, etc.
- Employers or employees shall not remove or deface labels on containers of hazardous chemicals.
- Labels will be legible and in English, however, for non-English speaking employees, the information will be relayed to them in their own language.

SECONDARY CONTAINERS

- Labels must include the chemical name and hazard warning.
- A recommended practice is to also include the common name of the material such as paint thinner, window cleaner, etc.

LABELING REQUIREMENTS

- When two or more labels are required, they will be displayed next to each other;
- Labels will be on a background of contrasting color;
- Labels may not be obscured by markings or attachments;
- Labels must be durable, weather resistant, and able to withstand exposure for 30 days without deterioration or discoloration;
- Labels may be printed on or affixed to a tag when package surfaces are such that labels cannot be affixed.

8. STORAGE AREAS

- When possible, storage containers will be stored in a single area; however incompatible
 materials shall not b stored beside each other. Collection points are allowed or work in
 progress, but should be moved to the main storage area once the container is filled or not
 in use.
- Wastes should be stored in a covered area to prevent stormwater runoff and protect the containers from weather exposure.
- Secondary containment should be provided that is able to contain a volume of at least 1/3
 greater than the total volume of the largest container or all "interconnected" containers,
 unless the containers contain fresh water. It should have an impermeable (sealed)
 surface and should be under cover, preferably indoors.
- Sufficient aisle space between drums shall be allowed to ensure proper inspection for leaks or damage.

9. OPPORTUNITIES

The company and personnel will continually look for additional opportunities to reduce wastes, protect fresh water, public health, safety and the environment.

10. EMPLOYEE EDUCATION

Pollution prevention efforts can only be successful if all employees are committed to protecting the environment and minimizing operational wastes. Regular employee training and meetings will be held to discuss changes and on-going practices and procedures related to the company environmental best practices guidelines.

Employees will be trained to:

- a) recognize and minimize environmental hazard's:
- b) handle / dispose of waste in a manner to protect the environment;
- c) clean and service vehicles/equipment in a manner to protect the environment;
- d) prevent pollution and minimize waste:
- e) deter fugitive dust and odor emissions:
- f) Implement and practice proper container storage/labeling/disposal techniques; and
- g) Implement and practice proper or new pollution prevention techniques.

11. GENERAL FACILITY OPERATIONS/MAINTENANCE

- Maintain all equipment according to manufacturer's recommendations to prevent leaks.
- Implement procedures to minimize fugitive dust and odor emissions.
- Keep a routine maintenance log on-site of vehicles/equipment.
- Provide integrated quality, safety and environmental management systems for the facility, operations of the facility and waste handling/disposal process.

Allowable Chloride in Water Calculation

Date:		
Biopile #	_ Chloride Content:	
Circle Type bell Centrate or Sto	low: orm Water (SW) Chloride Content:	
Biopile Chlorid	de Content (After Centrate or SW is Added):	
Soil	1,000 yds3	
	2,970,000 pounds, assuming 110 lb/ft3 average soil density	
Cl- in soil	300 ppm - ENTER SOIL CHLORIDE CONCENTRATION IN PPM (MG/KG)	
	891 pounds Cl- in 750 yds3 soil, on ppm mass basis	
*4aximum allo	owed	
in soil	500 ppm	
	1,485 pounds Cl- in 750 yds3 soil, on ppm mass basis	
Water	80 barrels	
	3,360 gallons	
	27,989 pounds water at 8.33 lb/gallon	
	594 Maximum pounds of CI- that water can contribute to soil	
	21,223 ANSWER: Maximum allowable Cl- concentration (ppm) in 80 bbl water	



March 13, 2013

Richard P. Cheney, P.E.

Cheney-Walters-Echols, Inc. 909 West Apache Street Farmington, New Mexico 87401

RE: Summary Report – Addendum No. 1

Monitor Well Installation and Potentiometric Surface Mapping

Crowe Blanco Properties, LLC – Operated by Industrial Ecosystems Inc.

Blanco, New Mexico

GEOMAT Project No. 102-1162

The purpose of this letter report is to present revisions to our Summary Report for the Monitor Well Installation and Potentiometric Surface Mapping at the proposed Crowe Blanco Properties, LLC Landfarm, operated by Industrial Ecosystems, Inc. (IEI) located near Blanco, New Mexico. This letter report should be considered <u>Addendum No. 1</u> to our Summary Report (GEOMAT Project No. 102-1162, dated August 29, 2011), and made a part thereof.

This letter report presents revisions to our original Summary Report in response to comments received from New Mexico Oil Conservation District (NMOCD) following their review of our report. We are also presenting a more detailed discussion of our interpretation of the subsurface information to demonstrate that there is a single water-bearing zone beneath the proposed facility.

Summary of Revisions:

- In the fifth paragraph on page 2 of our original report, the references to "unconfined" water levels should be changed to "static" water levels.
- As discussed on pages 2 and 3 of our original report, it was not possible to obtain the static water levels in MW-9 and MW-10 during our site visit in July 2011, approximately three weeks after the wells were installed. Due to the apparent slow recharge rate in these wells, the water levels had not recovered to the elevations where water was initially encountered during drilling. The water levels in MW-9 and MW-10 were re-measured on March 1, 2013. At that time, water was present at the expected levels. The Water Level Measurements table was updated to include the static water levels for MW-9 and MW-10.
- The Lithologic Fence Diagrams were modified to show the elevation reference lines continuing across the diagrams. Several minor edits were made to the labeling on the diagrams.

- The Water Level Measurements table was revised. The title of the top table was changed from "Unconfined Condition" to "Static Water Levels". The heading on the tenth column (from left) in the top table was changed from "Water Level Unconfined" to "Static Water Elevation". The title of the bottom table was changed from "Confined Condition" to "Comparison of Water Level During Drilling vs. Static Water Level". The heading of the eighth column in the bottom table was changed from "Water Elev. Confined" to "Water Elev. During Drilling". The heading of the ninth column in the bottom table was changed from "Water Level Unconfined vs. Confined" to "Difference Between WL During Drilling and Static WL". The static water levels measured in MW-9 and MW-10 on March 1, 2013 were added to the top table.
- A total of eight additional three-point analyses were performed. Three analyses were performed using the water levels encountered during drilling from MW-2, MW-4, MW-5, and MW-10. The other five analyses were performed using the static water levels from MW-1, MW-3, MW-6, MW-7, MW-8, and MW-9. The Results of Three Point Analyses table in our original report should be replaced by the two revised tables showing the results of the six additional analyses.
- The Groundwater Elevations and Direction of Flow Map should be replaced by two separate maps showing the confined and unconfined conditions, respectively. Flow directions for the confined and unconfined conditions are not presented on the same map, but are presented separately in order to illustrate similarities and/or differences between the two conditions. The revised map showing the confined condition is based on the water levels encountered during drilling from MW-2, MW-4, MW-5, and MW-10. The revised map showing the unconfined condition is based on the static water levels from MW-1, MW-3, MW-6, MW-7, MW-8, and MW-9.
- The Interpretation of Flow Map has been revised to more clearly illustrate the inferred direction of groundwater flow. The flow directions are based on the results of the eight additional three-point analyses shown on the revised Results of Three Point Analyses tables. The inferred location of the boundary of the confining shale layer has been added to the map.
- The Interpretation of Groundwater Elevation Unconfined Conditions map should be omitted.

Interpretation of Site Hydrogeology:

The water level data, results of our subsurface exploration, and a review of aerial photography of the site indicate that there is a single water-bearing zone beneath the proposed facility.

Continuous samples of the soil and rock materials were obtained during drilling of the boreholes. The drilling operations were continuously monitored by an experienced geologist and/or engineer from our office. Moist zones were evaluated per the approved Work Plans. It is not likely that any moisture-bearing zones were undetected during drilling. Monitor wells were installed in the first-encountered moisture-bearing zone at each boring location.

The water levels in four of the wells (MW-2, MW-4, MW-5, and MW-10) stabilized at elevations on the order of 22 to 28 feet higher than the levels first encountered during drilling. The rise in water levels suggests a confined condition. As shown on the boring logs for these borings, it appears that groundwater occurs in a sandstone and/or siltstone stratum. The groundwater is confined by an overlying shale and/or siltstone stratum. Due to the interbedded nature of the sedimentary strata, the particle sizes, and thus the permeability, within the shale/siltstone, are variable. Thus, the shale/siltstone stratum is likely not a "perfect" confining layer, but rather allows variable degrees of hydraulic transfer within the layer.

The stabilized water levels in the other six wells (MW-1, MW-3, MW-6, MW-7, MW-8, and MW-9) were not significantly different from those encountered during drilling, suggesting an unconfined condition. As shown on the boring logs for these borings, groundwater generally occurs in a sandstone and/or siltstone stratum; the shale confining layer was not encountered in these borings.

Because both confined and unconfined conditions were encountered, each condition was analyzed separately in the event that the results indicate multiple aquifers exist beneath the site. Each condition was analyzed by graphically plotting water levels versus elevation, and by determining direction and gradient of groundwater flow. Data from MW-2, MW-4, MW-5, and MW-10 were used for analysis of the confined condition. Data from MW-1, MW-3, MW-6, MW-7, MW-8, and MW-9 were used for analysis of the unconfined condition. The results of each analysis were compared to evaluate whether multiple aquifers exist beneath the site.

The elevations where water was encountered during drilling of each boring were plotted, along with the static water level measured in each well after completion. The results are presented in the Water Elevation During Drilling vs. Static Water Elevation graph. The graph indicates that for both the confined and unconfined condition, water elevations

generally decrease across the site from northeast to southwest, which is consistent with the strike and dip of the strata. There are no significant "groupings" of water elevations that would suggest multiple aquifers.

Direction and gradient of groundwater flow were analyzed separately for both the confined and unconfined conditions using the Strike and Dip Geologist's Three Point Method. Each condition was analyzed separately, using data from MW-2, MW-4, MW-5, and MW-10 for the confined condition, and data from MW-1, MW-3, MW-6, MW-7, MW-8, and MW-9 for the unconfined condition. The results of the three-point analyses are presented in the Results of Three Point Analyses tables and on the Groundwater Elevations and Direction of Flow Maps. Comparison of the tables and maps for each condition indicates that flow directions are generally consistent between the confined and unconfined conditions. Gradients were slightly steeper for the confined condition. Slight variations in gradient could be explained by irregularities in the shape and/or orientation of the bottom of the confining layer, or by variations in permeability within the layer.

A review of aerial photographs (obtained from Google Earth) indicates that the site is situated on the west flank of Manzanares Mesa, with strata dipping generally to the west. As shown on the attached aerial photograph entitled General Location of Confining Layer, a blue-gray layer of shale is exposed on the west side of the mesa. The trace of the bed follows a roughly northwest-southeast trending line along the base of the mesa. Based on its position, orientation, color, and rock type, this shale strata is interpreted to be the upgradient exposure of the confining layer. The confining layer appears to be covered by surficial soil deposits across the project site.

Examination of the aerial photograph reveals a lineament traversing the project site from northwest to southeast, roughly parallel to the trace of the upgradient exposure of the blue-gray shale strata. The lineament is manifested as an intermittent shallow depression in the surficial topography. The lineament appears to roughly coincide with a line dividing the confined wells to the northeast from the unconfined wells to the southwest. The lineament is interpreted to be a surficial expression of the "toe" or "pinch out" of the underlying shale confining layer, and is labeled as the "Inferred Toe of Confining Layer" on the attached aerial photograph.

Comparison of the Boring Logs, Lithologic Fence Diagram, and General Location of Confining Layer photograph indicates that the inferred location of the toe of the confining layer is generally consistent with the subsurface conditions encountered in our borings. The confining layer appears to occur as a lens which tapers toward the southwest. The composition of the lens is variable, grading between shale and siltstone. A simplified profile view illustrating the confining layer is shown in Section A - A' on the Generalized Subsurface Profile.

The following points summarize our interpretation of the hydrogeologic conditions beneath the proposed facility:

- Water levels from the confined and unconfined wells were analyzed separately, and the results compared with each other. In both cases, water elevations decreased from northeast to southwest, over the same general range of elevations, with no apparent "groupings" of water elevations. This would suggest that a single aquifer exists beneath the site.
- Flow directions using data from the confined and unconfined wells were analyzed separately, and the results compared with each other. Flow directions were consistent between the two cases, and appeared consistent with the strike and dip of the strata. In conjunction with the distribution of water levels noted above, the consistency between confined and unconfined flow directions suggests that a single aquifer exists beneath the site.
- Comparison of the boring logs, aerial photographs, and the distribution of confined and unconfined wells across the site suggests that MW-2, MW-4, MW-5, and MW-10 are confined by a southwest-dipping lens of shale which terminates ("pinches out") in a roughly northwest-southeast trending line across the site. Wells located down-gradient of the toe of the shale lens are unconfined.

These observations indicate that the first-encountered (i.e. shallowest) groundwater beneath the site occurs as a single, hydraulically connected water-bearing zone. Groundwater flow beneath the site appears to be primarily controlled by stratigraphic dip, with the general direction of groundwater flow toward the southwest. Our analysis indicates that the aquifer transitions from a confined condition beneath the northeastern portion of the site to an unconfined condition beneath the southwestern portion. Our generalized interpretation of the groundwater flow is shown on the attached Interpretation of Flow Map.

Thank you for the opportunity to work with you on this project. If you have any questions regarding this addendum, please let us know.

Sincerely yours, GEOMAT Inc.

Donald R. Baldwin Geologist

Davald R. Rallinia

15.5

Attachments: Water Level Measurements

Lithologic Fence Diagrams

Water Elevation During Drilling vs. Static Water Elevation Graph

Results of Three Point Analyses Tables

Groundwater Elevations and Direction of Flow Map – Confined Groundwater Elevations and Direction of Flow Map – Unconfined

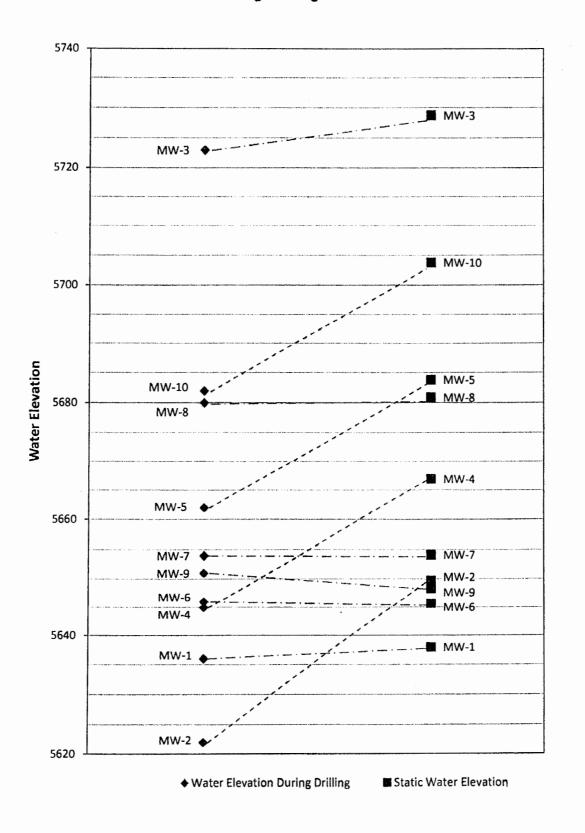
General Location of Confining Layer (Aerial Photograph)

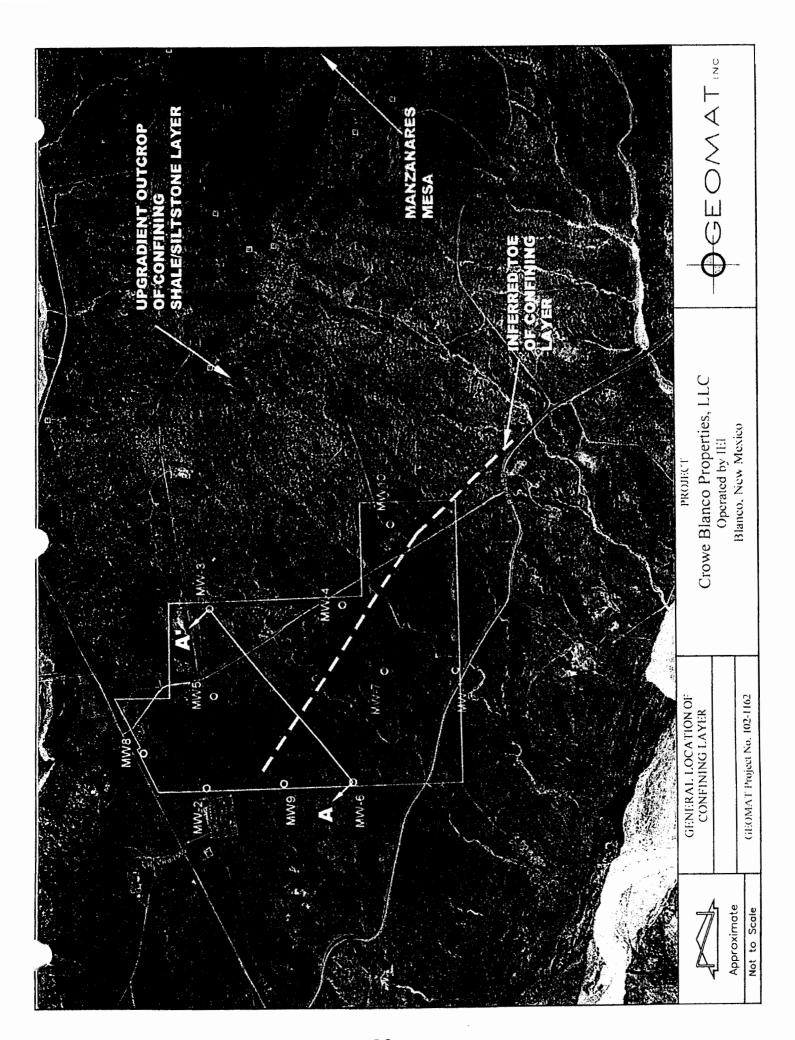
Generalized Subsurface Profile Interpretation of Flow Map

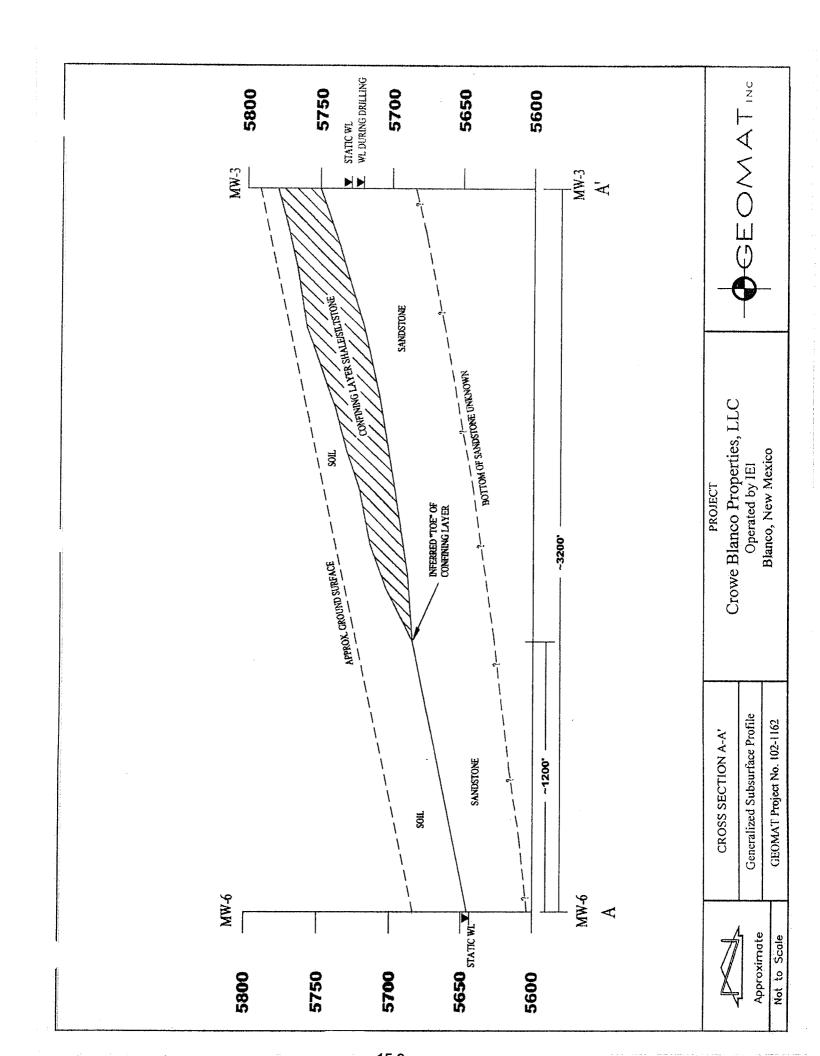
Distribution: Addressee (1)

Marcella Marquez, Industrial Ecosystems, Inc. (1)

Water Elevation During Drilling vs. Static Water Elevation









2060 Afton Place

Fax (505) 326-5721

September 24, 2009

Richard P. Cheney, P.E. Cheney-Walters-Echols, Inc. 909 West Apache Farmington, New Mexico 87401

RE: Industrial Ecosystems Landfarm San Juan County, New Mexico GEOMAT Project No. 91-0919

As you requested, we have performed the following field and laboratory testing of the native soils for the above referenced project.

- In-place soil moisture-density
- Soil Index Properties (Sieve Analysis and Plasticity Index)
- Moisture-Density Relationship (Proctor)
- Swell tests on remolded samples
- Permeability tests on remolded samples
- Estimate of Porosity Values

The soils from four different locations were tested. The test locations were labeled in the field (by your office) as Test Holes 1, 2, 5, and 6. The laboratory testing was performed on samples obtained and submitted by C-W-E personnel on September 14, 2009. The field testing was performed by a GEOMAT technician also on September 14, 2009. The test results are presented below.

	In-place M	oisture-Density	
Test Hole No.	Wet Density, pcf	Dry Density, pcf	Moisture Content, %
1	93.7	90.8	3.3
2	100.4	96.2	4.4
. 5	100.3	98,6	1.8
6	99.4	97.9	1.6

Soil Index Properties									
Test Hole No.	Lab No.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing #200 Sieve	Classification			
1	8152	28	18	10	74	CL, Lean Clay w/ Sand			
2	8153	23	18	5	74	CL-ML Silty Clay w/ Sand			
5	8154	NLL	NPL	NP	21	SM, Silty Sand			
6	8155	NLL	NPL	NP	14	SM, Silty Sand			

Richard P. Cheney, P. Cheney-Walters-Echols, nic. Industrial Ecosystems Landfarm GEOMAT Project No. 91-0919 September 24, 2009

M	oisture-Densit	y Relationship (Pro	ctor)
Test Hole No.	Lab No.	Maximum Dry Density, pcf	Optimum Moisture Content, %
1	8152	108.1	16.3
2	8153	111.5	14.7
5	8154	114.0	12.0
6	8155	111.1	11.9

Sw	ell Tests on	Remolded Samples
Test Hole No.	Lab No.	Remolded Swell Potential, %
1 & 2 Combined	8179	0.0
5 & 6 Combined	8178	1.2

Measured on samples compacted to approximately 90 percent of the ASTM D698 maximum dry density at about 3 percent below optimum water content, confined under 144 psf surcharge and submerged

The soils from test locations 1 and 2 were combined because of the close similarity of the materials. Likewise, the soils from test locations 5 & 6 were also combined for this test because of their close similarity.

Perme	Permeability Tests on Remolded Samples							
Test Hole No.	Lab No.	Constant Head Permeability Rate, cm/s						
1 & 2 Combined	8179 -	6.52E-04						
5 & 6 Combined	8178	3.60E-04						

Measured on samples compacted to approximately 85 percent of the ASTM D698 maximum dry density.

The soils from test locations 1 and 2 were combined because of the close similarity of the materials. Likewise, the soils from test locations 5 & 6 were also combined for this test because of their close similarity.

Richard P. Cheney, P. Cheney-Walters-Echols, n.c. Industrial Ecosystems Landfarm GEOMAT Project No. 91-0919 September 24, 2009

Estimate of Porosity ¹								
Test Hole No.	Estimated Porosity, %							
1	45							
2	41							
5	40							
6	40							

¹ Basic Soils Engineering, B.K. Hough, Second Edition

Thank you for the opportunity to work with you on this project. If have any questions or need additional information, please call.

Respectfully submitted, GEOMAT Inc.

George A. Madrid, P.E. President, Principal Engineer

Distribution: Addressee (2)



SUMMARY REPORT

MONITOR WELL INSTALLATION AND POTENTIOMETRIC SURFACE MAPPING CROWE BLANCO PROPERTIES, LLC OPERATED BY INDUSTRIAL ECOSYSTEMS INC.

Submitted To:

Richard P. Cheney, P.E.

Cheney-Walters-Echols 909 West Apache Street Farmington, New Mexico 87401

Submitted By:

GEOMAT Inc.

915 Malta Avenue Farmington, New Mexico 87401

August 29, 2011 GEOMAT Project 102-1162



915 Malta Avenue ◆ Farmington, NM 87401 ◆ Tel (505) 327-7928 ◆ Fax (505) 326-5721

August 29, 2011

Richard P. Cheney, P.E. Cheney-Walters-Echols, Inc. 909 West Apache Street Farmington, New Mexico 87401

RE: Summary Report

Monitor Well Installation and Potentiometric Surface Mapping

Crowe Blanco Properties, LLC – Operated by Industrial Ecosystems Inc.

Blanco, New Mexico

GEOMAT Project No. 102-1162

GEOMAT Inc. (GEOMAT) has completed the subsurface exploration and installation of ten groundwater monitor wells at the proposed Crowe Blanco Properties, LLC Landfarm, operated by Industrial Ecosystems, Inc. (IEI) located near Blanco, New Mexico. Our services were performed in general accordance with our Work Plans (GEOMAT Proposal No. 102-06-17 Rev. 1, dated October 27, 2010, Rev. 5, dated January 27, 2011, Rev. 6, dated April 20, 2011, and Rev. 7, dated June 17, 2011). The Work Plans were reviewed and approved by New Mexico Oil Conservation Division (NMOCD) prior to commencing the work.

The objective of our services was to obtain water level data from selected points across the site and use this data to develop a map indicating the elevation and direction of groundwater flow at the facility site.

This report summarizes our subsurface exploration and the installation of monitor wells conducted between November 29, 2010 and July 27, 2011. It also presents the data obtained from the wells and an interpretation of the data.

Three boreholes were drilled and per our Work Plan, permanent groundwater monitor wells were installed between November 29 and December 8, 2010. These three borings/wells were designated MW-1, MW-2, and MW-3. Two additional wells, MW-4 and MW-5, were installed between February 7 and 11, 2011. Between May 2 and 5, 2011, we installed wells MW-6 and MW-7, and between July 18 and 27, 2011, we installed MW-8, MW-9, and MW-10. The location of each well is shown on the attached Site Plan.

The borings were drilled using continuous-flight 8-inch O.D. hollow-stem auger. Continuous core samples of the subsurface materials were obtained from each boring during drilling. Where auger refusal was encountered on bedrock, the borings were advanced using HQ wireline rock-coring equipment. Compressed air was used as a drilling fluid during rock coring, with foam injection used on a limited basis as needed to remove cuttings and stabilize the borehole.

A permanent 2-inch diameter monitor well was installed in each boring in accordance with the approved Work Plan submitted by our drilling contractor, Enviro-Drill Inc. (EDI). Following completion, each well was developed by bailing. **As-Completed Cross-Sections** of each monitor well are attached to this report.

A geologist and/or engineer from our office monitored the drilling operations and prepared a continuous log of each boring. The Boring Logs, a Lithologic Fence Diagram, and Generalized Geologic Cross-Sections (based on the borings) are attached.

As described in our Work Plan, disturbance of the natural ground surface elevation at each well location was documented, based on the topography and natural vegetation surrounding each well location. With the exception of MW-5, it did not appear that any alteration of the natural ground surface elevation had taken place. At the location of MW-5, the well monument and concrete slab were constructed on a surficial layer of excess drill cuttings, and appeared to be elevated approximately one foot above the surrounding natural terrain.

After completion and development, the water level in each of the ten wells was measured using an electronic water-level indicator. Water levels were measured relative to the top of the well casing (TOC). Depth of groundwater below natural ground surface at each well location was calculated by subtracting the difference between TOC and natural ground surface (the casing "stick-up" height) from the measured water level (relative to TOC). The water-level data was used to develop a subsurface profile showing the relationship between the soil/rock materials and water levels in each boring. The unconfined water levels are presented in the attached Water Level Measurements table.

As shown in the table, in wells MW-2, MW-3, MW-4, and MW-5, the water level measured in the well after completion (the static water level) was significantly higher than the level at which water was initially encountered during drilling (the confined water level). In wells MW-1, MW-6, MW-7, and MW-8, the static water levels generally correspond to the unconfined levels observed during drilling.

Based on the differences between the unconfined and confined water levels, and the subsurface profiles illustrated on the boring logs, it appears likely that groundwater beneath the site is confined by a relatively impermeable shale strata across the north and east portion of the site. The shale strata appears to dip slightly toward the southwest, and likely terminates ("pinches out") along a roughly northwest-southeast trending line traversing the center of the site.

It was not possible to obtain a stabilized ("static") water level in wells MW-9 and MW-10 due to the slow recharge rate in these wells. As shown on the Water Level

Summary Report of Monitor Well Installation and Potentiometric Surface Mapping
Crowe Blanco Properties, LLC – Operated by IEI
GEOMAT Project No. 102-1162

Measurements table, the water elevations measured approximately three weeks after completion and development in these wells were lower than those observed during drilling, indicating that the water levels had not recovered to the original levels.

The water-bearing formation is mapped as the Nacimiento Formation (Geologic Map of the Aztec 1° x 2° Quadrangle, Northwestern New Mexico and Southern Colorado, Manley et. al., 1987). The groundwater occurs in either sandstone or siltstone. In the borings where the sandstone/siltstone is overlain by shale, the water occurs immediately below the interface between the water-bearing sandstone/siltstone and the relatively impermeable shale.

The water level data obtained from the wells were used to determine the approximate direction of groundwater flow beneath the site using the Strike and Dip Geologist's Three Point Method. The direction and gradient of groundwater flow obtained from the analyses were compiled and are presented in the attached Results of Three Point Analyses table. A generalized representation of the water table was constructed by plotting flow directions and spot elevations based on our three-point analyses and water level measurements, respectively. The resulting Groundwater Elevations and Direction of Flow Map is attached to this report. Worksheets showing the three point analyses are available upon request.

Based on the results of our subsurface exploration and three-point analyses, it appears that groundwater below the site flows generally southwest toward Largo Canyon. Some of the flow lines on the **Groundwater Elevations and Direction of Flow Map** show localized deviations from the overall southwesterly flow; these deviations appear to indicate that groundwater flows toward the three roughly parallel, southwest-trending drainage channels present on the site. It is possible that the aquifer is recharged partially by concentration and infiltration of surface water in these drainage channels. The relatively shallow groundwater observed in well MW-6 is likely due to the close proximity to one of the channels.

We postulate that groundwater flow beneath the site is largely stratigraphically controlled by the southwest-dipping strata, but also locally controlled by the influence of surface topography. Our generalized interpretation of the groundwater flow is shown on the attached Interpretation of Flow Map.

Summary Report of Monitor Well Installation and Potentiometric Surface Mapping
Crowe Blanco Properties, LLC – Operated by IEI
GEOMAT Project No. 102-1162

Thank you for the opportunity to work with you on this project. If you have any questions or need additional information, please let us know.

Sincerely yours, GEOMAT Inc.

Donald R. Baldwin

Geologist

Attachments: Site Plan

Donald R. Baldwin

Boring Logs

Lithologic Fence Diagram

As-Completed Cross Section of Monitor Wells

Generalized Geologic Cross Sections

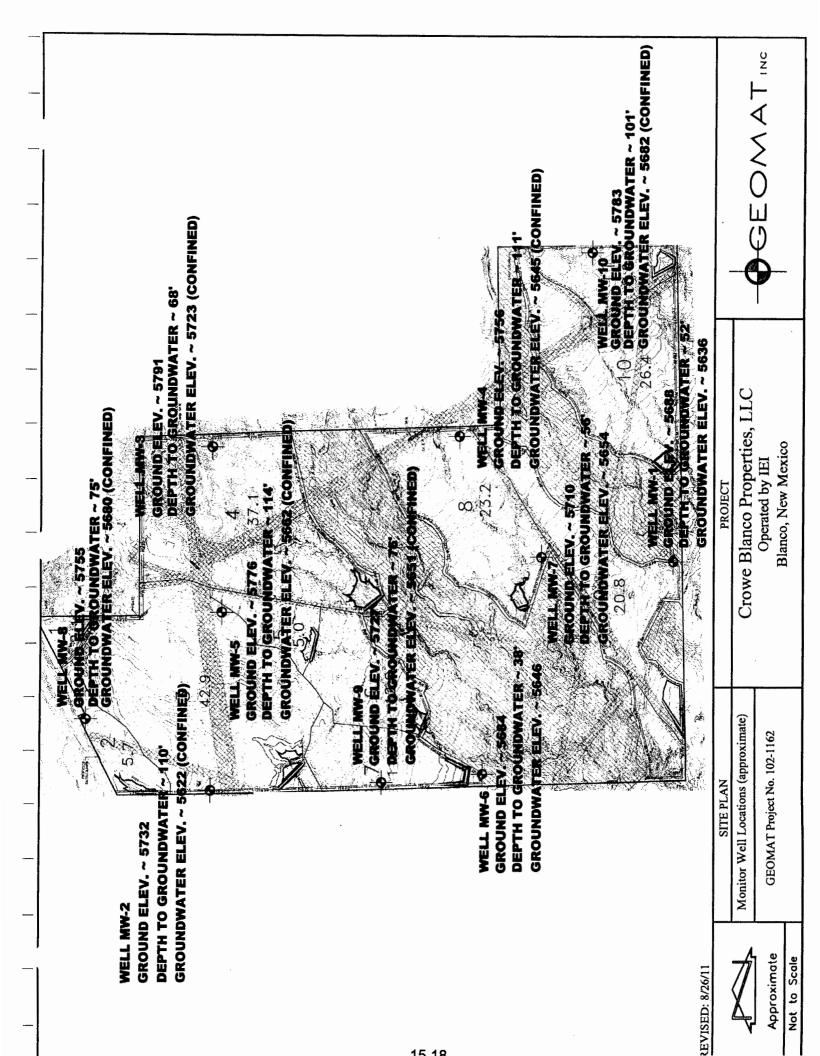
Water Level Measurements

Results of Three Point Analyses

Groundwater Elevations and Direction of Flow Map

Interpretation of Flow Map

Distribution: Addressee (4)





GEOMAT 102-1

Borehole MW-1

		Page 1 of 2
Project Number:	102-1162 Cheney-Walters-Echols Blanco, New Mexico CME - 75 8" O.D. HSA/HQ Core 2" split spoon/HQ core 140 lbs	Elevation: 5688 Boring Location: See Site Plan Groundwater Depth: Approx. 51.7 ft during drilling Logged By: LC Remarks: None
Laboratory Results _		
<u> </u>	Sample Type & Length (in) Recovery USCS Soil Symbol	Soil Description
	SM SS 24 SS 25 26 SS 26 SS 27 SS 28 SS 28 SS 28 SS 29 SS 29 SS 20 SS SS SS SS SS SS SS SS SS S	SILTY SAND, tan to brown, loose to medium dense, slightly damp to damp SANDY LEAN CLAY, tan, medium stiff to stiff, damp Contains variable amounts of fine sand switched from auger to HQ coring equipment at approximately 21 feet switched from auger to HQ coring equipment at approximately 21 feet SAND, tan, fine- to coarse-grained, medium dense, slightly damp SAND, tan, fine- to coarse-grained, medium dense, slightly damp SAND, tan, fine- to coarse-grained, medium dense, slightly damp

A = Auger Cuttings GRAB = Hand Sample MC = Modified California (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Page 2 of 2

Project Number: 102-1162		Projec	t Na	me:		Crowe	Bla	nco P	ropertie	s, LLC	Date Drilled: 12/8/2010
Site Location: Blanco, New Mexico Rig Type: CME-75 Boning Location: See Site Plan Corrudwater Depth: Approx. 51.7 ft during drilling Sampling Method: 2" split spoon/HQ core Hammer Weight: 140 lbs Hammer Raul: 30 Inches Laboratory Results Boning Location: See Site Plan Groundwater Depth: Approx. 51.7 ft during drilling Logged By: LC Remarks: None Soil Description Soil		Projec	t Nu	mber:	:1	102-1	162				Latitude: 36.71803°
Site Location: Blanco, New Mexico Rig Type: CME - 75 Boring Location: See Site Plan Groundwater Depth: Approx. 51.7 ft during drilling Groundwater Depth: Approx. 51.7 ft during drilling Laboratory Results See Site Plan Groundwater Depth: Approx. 51.7 ft during drilling Logged By: LC Remarks: None Laboratory Results See Site Plan Groundwater Depth: Approx. 51.7 ft during drilling Logged By: LC Remarks: None Soil Description So		Client:				Chene	y-W	alters			
Drilling Method: Sampling Method: Sampli		Site Lo	ocati	on: _							
Drilling Method: Sampling Method: Sampli		Rig Ty	ре:		(CME -	· 75				Boring Location: See Site Plan
Sampling Method: Hammer Weight: 140 lbs Hammer Fall: 30 inches	1		-								
Hammer Weight: 140 lbs 30 Inches Laboratory Results 2	- 1										•
Hammer Fall: 30 inches Laboratory Results Application of the property of the		•	-				-				
Soil Description Soil Descrip		Hamm	er F	all: _	3	30 inc					
Soil Description Soil Descrip	La	borato	ry Re	sults	_						
SAND, tan, fine- to coarse-grained, medium dense, slightly damp switched from HQ coring equipment to auger at approximately 40 feet trace gravel GRAVEL with sand, dense, damp to moist (no sample) SAND, tan, fine- to coarse-grained, medium dense, slightly damp switched from HQ coring equipment to auger at approximately 41 foreit trace gravel GRAVEL with sand, dense, damp to moist (no sample) SAND, tan, fine- to coarse-grained, medium dense, slightly damp ard drilling - no sample Groundwater at approximately 51.7 feet during drilling drilling stopped at 52 feet on 11/29/2010 water level 51.7 feet on 11/29/2010 resumed on 12/8/2010 SAND, tan, fine-to coarse-grained, medium dense, slightly damp awitched from HQ coring equipment to auger at approximately 51.7 feet during drilling damp at 52 feet on 11/29/2010 water level 51.7 feet on 11/29/2010 resumed on 12/8/2010 SANDSTONE, gray, fine-grained, highly weathered, soft, weakly cemented moderately weathered, moderately hard, moderately cemented Total Depth 65.4 feet Total Depth 65.4 feet			Ī	1	r 6	3.E	چ		loq	Œ.	
SAND, tan, fine- to coarse-grained, medium dense, slightly damp switched from HQ coring equipment to auger at approximately 40 feet trace gravel GRAVEL with sand, dense, damp to moist (no sample) SAND, tan, fine- to coarse-grained, medium dense, slightly damp switched from HQ coring equipment to auger at approximately 41 foreit trace gravel GRAVEL with sand, dense, damp to moist (no sample) SAND, tan, fine- to coarse-grained, medium dense, slightly damp ard drilling - no sample Groundwater at approximately 51.7 feet during drilling drilling stopped at 52 feet on 11/29/2010 water level 51.7 feet on 11/29/2010 resumed on 12/8/2010 SAND, tan, fine-to coarse-grained, medium dense, slightly damp awitched from HQ coring equipment to auger at approximately 51.7 feet during drilling damp at 52 feet on 11/29/2010 water level 51.7 feet on 11/29/2010 resumed on 12/8/2010 SANDSTONE, gray, fine-grained, highly weathered, soft, weakly cemented moderately weathered, moderately hard, moderately cemented Total Depth 65.4 feet Total Depth 65.4 feet	nsith	sing	ž ž	e %	be .	g the	o e	ပ္တိ) y	ŧ.	Soil Description
SAND, tan, fine- to coarse-grained, medium dense, slightly damp switched from HQ coring equipment to auger at approximately 40 feet trace gravel GRAVEL with sand, dense, damp to moist (no sample) SAND, tan, fine- to coarse-grained, medium dense, slightly damp switched from HQ coring equipment to auger at approximately 41 for trace gravel GRAVEL with sand, dense, damp to moist (no sample) SAND, tan, fine- to coarse-grained, medium dense, slightly damp hard drilling - no sample Groundwater at approximately 51.7 feet during drilling damp hard drilling stopped at 52 feet on 11/29/2010 water level 51.7 feet on 11/29/2010 sand drilling - no sample Groundwater at approximately 51.7 feet during drilling damp at 52 feet on 11/29/2010 water level 51.7 feet on 11/29/2010 sand drilling - no sample Groundwater at approximately 51.7 feet during drilling damp at 52 feet on 11/29/2010 water level 51.7 feet on 11/30/2010 sand drilling - no sample Groundwater at approximately 51.7 feet during drilling damp at 52 feet on 11/29/2010 water level 51.7 feet on 11/30/2010 Total Depth 65.4 feet Total Depth 65.4 feet Total Depth 65.4 feet	D S	Pas 90 S	astic	oisti	¾	Le a	8	3	o ie) eb	Con Becomption
SAND, tan, fine- to coarse-grained, medium dense, slightly damp switched from HQ coring equipment to auger at approximately 40 feet trace gravel SS	Du	#20 #20	<u> </u>	Σ̈́ο	蘆	ું ∾ જ	_		Š		
SP 44 40 feet trace gravel 40 feet trace gravel GRAVEL with sand, dense, damp to moist (no sample) SAND, tan, fine- to coarse-grained, medium dense, slightly damp nard drilling - no sample SAND, tan, fine- to coarse-grained, medium dense, slightly damp nard drilling stopped at 52 feet on 11/29/2010 water level 51.7 feet on 11/29/2010 resumed on 12/8/2010 SANDSTONE, gray, fine-grained, highly weathered, soft, weakly cemented moderately weathered, moderately hard, moderately cemented SS 5 66 76 77 78 79 79 80						\$\$ 24	V				
SS 23 4 44 45 45 46 47 48 48 49 50 50 51 52 48 49 50 51 52 48 49 50 51 51 52 56 56 56 56 56 56 56 56 56 56 56 56 56							$(\!$				damp
trace gravel 45 46 47 48 48 48 49 52 49 53 54 55 56 67 67 67 68 69 70 71 72 72 73 78 79 80 60 61 61 62 63 64 64 65 65 66 67 77 78 78 79 80 60 61 61 62 63 64 64 65 65 66 67 77 78 78 79 80 60 61 61 62 63 64 64 65 65 66 67 77 78 78 79 80 60 61 61 62 63 64 64 65 65 66 67 77 78 78 79 80 60 61 61 62 63 64 64 65 65 66 67 77 78 78 79 80 60 60 61 61 62 63 64 64 65 65 66 67 77 78 79 80 60 67 77 78 79 80 60 60 61 61 62 63 64 64 65 65 66 67 77 78 79 80 80 66 67 77 78 79 80 80 67 77 78 79 80 80 67 77 78 79 80 80 68 68 69 69 60 60 60 60 60 60 60 60 60 60 60 60 60						1	X	SP		44	
GRAVEL with sand, dense, damp to moist (no sample) SAND, tan, fine- to coarse-grained, medium dense, slightly damp hard drilling - no sample Groundwater at approximately 51.7 feet during drilling drilling stopped at 52 feet on 11/29/2010 water level 51.7 feet on 11/29/2010 resumed on 12/8/2010 SANDSTONE, gray, fine-grained, highly weathered, soft, weakly cemented SSANDSTONE, gray, fine-grained, highly weathered, soft, weakly cemented Total Depth 65.4 feet Total Depth 65.4 feet						23	X			45 _	
SS 24 SS 25 SS 24 SS 25 SS 25 SS 26						SS 5	\rightleftharpoons		10 T T		CDAVEL with cond. donne. down to maint (no comple)
SS 24 SP						SS		GP	<u> </u>	48 .	
SP 51							X				
SP 53						24	\bigvee			51	hard drilling - no sample
SP 55							\swarrow			52	
SS Sampstone								SP		54 .	
SS S	İ									55 _	
SANDSTONE, gray, fine-grained, highly weathered, soft, weakly cemented											TOURING OF THIS OF THE TOURING
RK 63 66 67 68 69 70 71 72 73 74 75 76 79 80 80 80 80 80 80 80 8										58	
RK 61 - weakly cemented moderately weathered, moderately hard, moderately cemented cemented cemented 65 - Total Depth 65.4 feet 68 - 69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 80										59 ₋	SANDSTONE, gray, fine-grained, highly weathered, soft.
SS										61 .	
64 _ cemented 65 _ Total Depth 65.4 feet 68 _ 69 _ 70 _ 71 _ 72 _ 73 _ 74 _ 75 _ 76 _ 77 _ 78 _ 79 _ 80 _ 80 _ 80 _ 80 _ 80 _ 80 _ 80 _ 8								RK		62	moderately weathered moderately hard moderately
66 - Total Depth 65.4 feet 67 - 68 - 70 - 71 - 72 - 73 - 74 - 75 - 77 - 77 - 77 - 79 - 80 - 80 - 80										64 .	
67 - 100al Departos: 4 lost 68 - 69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 80 - 80						SS	×				Takal Davids Of A food
69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 80 - 80 - 80 - 80 - 80 - 80 - 8						5				67 .	lotal Depth 65.4 feet
75 — 76 — 77 — 78 — 79 — 80 —											
75 — 76 — 77 — 78 — 79 — 80 —	62/80									70	
75 — 76 — 77 — 78 — 79 — 80 —	5									71 _	
75 — 76 — 77 — 78 — 79 — 80 —	<u> </u>										
75 — 76 — 77 — 78 — 79 — 80 —	S S									74	
77 - 78 - 79 - 80 - 80 - 80 - 80 - 80 - 80 - 80 - 8	5									75 _	
5											
	11-201									77 - 78 -	
	2									79 _	
	Š	= Auge	Cutti	nas G	RAR = 1	Hand S	ample	MC =	Modified		(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



GEOMAT 102-11

Borehole MW-2

Page 1 of 4

Project Name:	Crowe Blanc	o Properties, LL	.C Date Drilled: 12/3/2010
Project Number:	102-1162		Latitude: 36.72739°
Client:	Cheney-Walt	ers-Echols	Longitude:107.79256°
Site Location:			
Rig Type:			
Drilling Method: _			•
Sampling Method:			
ł			Remarks: None
Hammer Fall:	30 inches		
Laboratory Results		-	
Dry Density (pcf) % Passing #200 Sieve Plasticity Index Moisture Content (%)	Sample Type & Length (in) Recovery	Soil Symbol Depth (ft)	Soil Description
Dry Density (pcf) % Passing #200 Sieve Plasticity Index Moisture Content (%)	Slows Samp Rec	Dep Soil S	Con Bosonphon
Q %# _ Q ,			
		1 2	SILTY SAND, tan, fine- to coarse-grained, loose to medium dense, damp
		3]
	ss	4 5	4
	24	6 7	slightly damp
	SS 24	8	layers/lenses of clayey sand 3" to 4" thick
	ss	9 10	tan, slightly damp
	24 SS	11	
	24	12 13	4
	SS 24	14	1
	ss	15 16	4
	24 SS	17	
	24	18 19	4
	SS S	M 20	
	ss	[™] 21 22	-
	ss S	23	
	24	24 25	4
	SS 24	26	<u></u>
	ss	27 28	4
	24 SS	29	j
	24	30	-
	SS 24	31 32	
	ss	33	-
	24	34 35	4
	SS 24	36	
	ss	37 38	-
	24 \$\$	39	
A = Auger Cuttings GRAI	24	1C = Modified Califor	nia (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Page 2 of 4

- 1	ojec	LINA	He.		CIOWE	Dia	HCU P	ropertie	S, LLC	Date Drilled:12/3/2010
Ρ	rojec	t Nu	mber:	er:102-1162						Latitude: 36.72739°
Client: Cheney-Walters-Echols										
S	ite Lo	catio	on: _	-	Blanco), Ne	w Me	xico		
								Core		
	_							Q core		•
		-			140 lb:					
			all:		30 incl					
Labo	orator	y Re	sults					1_		
_	- 0			Blows per 6"	Sample Type & Length (in)	چ	(0	Soil Symbol	Œ.	·
Ory Density (pcf)	% Passing #200 Sieve	ž ×	Moisture Content (%)	be .	g te	Recovery	nscs	اچ	Depth (ft)	Soil Description
E (5)	o S	astic	isti	×8	E P	Ş	S	5	Эер	Con Description
5	£28	₫ =	₹ĕ	ळ	్దు వ	<u>"</u>		တိ	ш	
								1000000	41	SILTY SAND, tan, fine- to coarse-grained, loose to medium
					SS 24	\Diamond			42	dense, damp
					SS	\triangle			43 .	coarse-grained, slightly damp
	- 1				24	X			44 45 _	•
					SS 24	$\langle \cdot \rangle$			46 .	
					SS	\triangle	SM		47	
					24	X			48 . 49 .	tan to white, fine- to coarse-grained, medium dense, damp
					SS 24	\bigtriangledown			50 _	
					ss	\triangle			51 .	layers/lenses of clayey sand 3" to 6" thick
					20	Х			52 53	damp to moist
	Ī						GP		54	GRAVEL with cobbles
	l				ss		CL		55 _	
j					22	Х	<u> </u>	<i>XIIIIII</i>	56 . 57 .	SANDY LEAN CLAY, gray, soft, moist
	l				ss				58	SHALE to SILTSTONE, gray, highly weathered, slightly damp
1	l				10	\times			59 .	contains variable amounts of silt- and/or fine sand-size
					HQ 120				60 _ 61 _	particles
	1				120	\ /			62	grades between shale and siltstone
1						$ \setminus / $			63 .	blue-gray, slightly damp switched from auger to HQ coring equipment at approximatel
			l			V			64 ₋ 65 _	59 feet
						٨			66	gray
		[67 .	no core recovery 60' to 70' due to cored cobble stuck in bit
						/ \	RK		68 69	
	1				на				70 _	
	1		j		120	\ /			71	
	1		ĺ			\ /			72 73	
						\backslash / \backslash			74	
						Υ			75 _	no core recovery 70' to 80'
						Λ			76 ₋	
						$/ \setminus $			77 ₋ 78 ₋	lost circulation 77' to 80'
						/ \			79 _	
									80	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Page 3 of 4

ed:12/3/2010
36.72739°
:107.79256°
5732
cation: See Site Plan
ater Depth: Approx. 110 ft during drilling
y:LC
None
2

	Laboratory Results		er 6"	j. j.j.	ery	S	loqu	(ft)		
Dry Density (pcf)	% Passing #200 Sieve	Plasticity Index	Moisture Content (%)	Blows per	Sample Type & Length (in)	Recovery	SOSN	Soil Symbol	Depth (ft)	Soil Description
	*		O		HQ 120		RK		81 82 83 84 85 86 87 88 89 91 92 93 94 95 97 98 99 100 101 102 103 104 105 106 107 108	SHALE to SILTSTONE, gray, highly weathered, slightly damp contains variable amounts of silt- and/or fine sand-size particles grades between shale and siltstone regained circulation no core recovery 80' to 90' 90' to 100'> HQ core recovery = 15%, RQD = 6% SANDSTONE, light gray, fine-grained, slightly weathered, moderately hard, moderately cemented, slightly damp 100' to 110'> HQ core recovery = 98%, RQD = 70% slightly damp
GEOMAT 102-1: GEOMAT.GDT 08/25/1					HQ 120				111 _ 112 _ 113 _ 114 _ 115 _ 116 _ 117 _ 118 _ 119 _ 120 _	wet groundwater at approximately 110 feet during drilling 110' to 120'> HQ core recovery = 75%, RQD = 41%
A =	Auger	Cuttin	igs Gl	RAB = h	land Sa	ample	MC =	Modified	California 	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Page 4 of 4

	-								s, LLC		
Project Number: 102-1162											
Client: Cheney-Walters-Echols											
Site Location: Blanco, New Mexico											
Rig Type: CME - 75											
Drilling Method: 8" O.D. HSA/HQ Core										Groundwater Depth: Approx. 110 ft during drilling	
Sampling Method: 2" split spoon/HQ core										Logged By: LC	
H	amm	er W	/eigh	t:	140 lb	S				Remarks: None	
H	amm	er Fa	all: _		30 inc	hes					
Labo	orator	y Re	sults								
,	5 0		<u> </u>	9.0	ğ.E	<u>ح</u>	6	oqu	(#)		
	sing	S cit	ure %	ď	of J	ŏ	nscs	Syn	th	Soil Description	
(pcf)	Pas 30 S	asti	oist	Blows per 6"	Sample Type & Length (in)	Recovery	ĭ	Soil Symbol	Depth (ft)	2011 2 0001 piloti	
5	#2 #	₫ _	Moisture Content (%)	m	ഗ് •	_		Ň	_		
_					728				121 _	SANDSTONE, light gray, fine-grained, slightly weathered,	
						N /			122 123	moderately hard, moderately cemented, slightly damp	
						$ \setminus $			124		
						l X	RK		125_	4001 to 4001 > 1/0 core receiver = 600/ BOD = 500/	
						$ \wedge $			126 127	120' to 130'> HQ core recovery = 68%, RQD = 52%	
						/			128 _		
						/ \			129 ₋ 130	lost circulation	
									131 _	Total Depth 130 feet	
									132 ₋ 133 ₋		
									134		
									135_		
								ĺĺ	136 137]		
					,				138 💄		
									139 _ 140_		
									141		
									142		
									143 144	•	
									145_		
									146		
									147 <u> </u>		
									149		
									150_		
									151 <u> </u>		
									153		
									154		
									155_		
									156 <u> </u>		
									158 💄		
									159 💄		
				D. F.				14-4'5- 1	160	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core	



Page 1 of 3

Project Name:	Crowe Blanco Properties, LLC	Date Drilled:	12/7/2010
Project Number: _	102-1162	_ Latitude:	36.72721°
Client:	Cheney-Walters-Echols	Longitude:	-107.78402°
Site Location:	Blanco, New Mexico	_ Elevation:	5791
Rig Type:	CME - 75	Boring Location:	See Site Plan
Drilling Method:	8" O.D. HSA/HQ Core	_ Groundwater Depth:	Approx. 68 ft during drilling
Sampling Method:	4" continuous barrel/HQ core	_ Logged By:	LC
Hammer Weight:	N/A	Remarks:0' - 30' sa	ampled with 5' continuous sample
Hammer Fall:	N/A		

Laboratory Results				lts	s		85	,	-	0		
(pd)	% Passing #200 Sieve	Plasticity Index	Moisture	Content (%)	Blows per 6"	Sample Type & Length (in)	Recovery	nscs	Soil Symbol	Depth (ft)	Soil Description	
:						\$5 60 SS	\bigvee	SM		1 . 2 . 3 . 4 . 5 _	SILTY SAND, tan, fine-grained, loose, damp	
						60	\bigvee	ML		6 . 7 . 8 .	SILT, light gray, soft to medium stiff, slightly damp contains trace of water-soluble salts	
						SS 60		SC :	* × × ×	9 _ 10 _ 11 _ 12 _	CLAYEY SAND, gray to tan, fine-grained, medium dense, damp SILTSTONE, gray to green-gray, highly weathered, soft, damp	
						SS 60	M	RK	**************************************	13 _ 14 _ 15 _ 16 _ 17 _ 18 _	slightly damp to damp	
						SS 60			X	19 _ 20 _ 21 _ 22 _ 23 _	green-gray, slightly damp	
						SS 60		RK	× × × ×	24 _ 25 _ 26 _ 27 _ 28 _ 29 _	SANDSTONE, tan, fine- to coarse-grained, highly weathered, moderately soft, weakly to moderately cemented, slightly damp contains layers/lenses of shale/siltstone 2" to 4" thick slightly damp	



Page 2 of 3

	Project Name: Crowe Blanco Properties, LLC Project Number: 102-1162 Client: Cheney-Walters-Echols Site Location: Blanco, New Mexico Rig Type: CME - 75 Drilling Method: 8" O.D. HSA/HQ Core Sampling Method: 4" continuous barrel/HQ core Hammer Weight: N/A										Latitude: 36.72721° Longitude: -107.78402° Elevation: 5791 Boring Location: See Site Plan Groundwater Depth: Approx. 68 ft during drilling Logged By: LC
	H		er F	all: _	<u> </u>	N/A					
	Dry Density (pcf)	% Passing #200 Sieve	Plasticity	Moisture Content (%)	Blows per 6"	Sample Type & Length (in)	Recovery	nscs	Soil Symbol	Depth (ft)	Soil Description
		-				HQ 60				31 . 32 . 33 . 34 .	SANDSTONE, tan, fine- to coarse-grained, highly weathered, moderately soft, weakly to moderately cemented, slightly damp switched from auger to HQ coring equipment at 30 feet
						HQ	/ \			35 _ 36 _ 37 _ 38 _ 39 _ 40 _	30' to 40'> HQ core recovery = 52%, RQD = 22%
						120	\bigvee	RK		41 - 42 - 43 - 44 - 45	moderately weathered, moderately hard color change to white
						но	$/ \setminus$			46 _ 47 _ 48 _ 49 _ 50	40' to 50'> HQ core recovery = 83%, RQD = 41% Layer/lens of gray shale 2" to 3" thick
J GEOMAT.GDT 08/25/11						120	\bigvee			51 _ 52 _ 53 _ 54 _ 55	gray, soft to moderately hard, damp
GEOMAT 102-11 J GEON							$\left \right $			56 _ 57 _ 58 _ 59 _	50' to 60'> HQ core recovery = 73%, RQD = 27% Layer/lens of carbonaceous shale 2" to 3" thick
EOMAT	A =	Auger	Cuttir	ngs Gl	RAB = H	land Sa	mple	MC =	Modified	60 California	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



J GEOMAT.GDT 08/25/11

GEOMAT 102-11

Borehole MW-3

	***************************************		rage 3 01 3		
Project Name: _		operties, LLC			
Project Number:			Latitude: 36.72721°		
Client:		Echols	•		
Site Location:	Blanco, New Mex	ico	Elevation: 5791		
Rig Type:	CME - 75		Boring Location: See Site Plan		
Drilling Method:	8" O.D. HSA/HQ (Core	Groundwater Depth: Approx. 68 ft during drilling		
Sampling Method	: 4" continuous bar	rel/HQ core	Logged By: LC		
Hammer Weight:	N/A		Remarks: 0' - 30' sampled with 5' continuous sampler		
Hammer Fall:	N/A				
Laboratory Results	- 0 O				
S 0.0	er (gr (#)			
(pcf) % Passing #200 Sieve Plasticity Index Moisture Content (%)	Blows per 6" Sample Type & Length (in) Recovery USCS	Soil Symbol Depth (ft)	Soil Description		
le signa st	Rec Leg a	Def oil			
5 % \$\frac{1}{2} \text{2} \text{3}	四 (2, ∞)	ν			
	128	61 SAN	DSTONE, tan, fine- to coarse-grained, highly weathered,		
		e mo	derately soft, weakly to moderately cemented, slightly		
		63 da	np		
		64			
		65_			
			o 70'> HQ core recovery = 84%, RQD = 23%		
		:::::: ~~ ·†	•		
		68 <u>\</u> \Z	rs/lenses of gray shale		
			indwater at approximately 68 feet during drilling		
		70			
	HQ RK	71			
		72			
		73			
		74			
		75			
		76 70' to	80'> HQ core recovery = 48%, RQD = 25%		
	- /\ :	77]	·		
		78			
		79			
		80			
			Depth 80 feet		
		82			
		83			
		84			
		85 _			
		86			
		87			
		88			
		89			
	1 1 1				

A = Auger Cuttings GRAB = Hand Sample MC = Modified California (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



GEOMAT 102-11

Borehole MW-4

Project Client: Site Lo Rig Ty Drilling	t Numb cocation pe: Metholing Me	oer:	10 C B C 8' : 4' N	02-11 thene lanco ME - " O.D " con	y-W o, Ne 75 . HS	alters- ew Me: SA/HQ ous ba	Echols xico Core rrel/HC	core	Longitude: -107.78391° Elevation: 5756 Boring Location: See Site Plan Groundwater Depth: Approx. 111 ft during drilling Logged By: DB Remarks: 0' - 70' sampled with 5' continuous sampler
Dry Density (pcf) ea % Passing #200 Sieve		Content (%)	Blows per 6"	Sample Type & Length (in)	Recovery	nscs	Soil Symbol	Depth (ft)	Soil Description
				SS 80	X	sc		1 2 3 4 5 6	CLAYEY SAND, brown, fine-grained, moist SILTY SAND, tan, fine-grained, slightly damp
				SS 60				7 8 9 10 – 11 12 13	moderate carbonate cementation white marbling (poorly developed caliche)
				\$\$ 60				15 16 _ 17 _ 18 _ 19 _ 20 _	
				5S 60	X	SM		21 - 22 - 23 - 24 - 25 - 26 - 27 -	
				SS 60	X			28 29 30 _ 31 32 33 34	
A = Auger	Cuttinas	GR/	AB = H	SS 60	ample	MC =	Modified	35 36 37 38 39 40 California	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



GEOMAT 102-11

Borehole MW-4

	<u> </u>						(000)			Page 2 of 4
F	Projec	t Nur	nber:	1	02-11	62		ropertie		Latitude: 36.72227°
								-Echols		-
								xico		
	-							Core		·
	•	-						rrel/HQ		
			-							
ŀ	lamm	er Fa	all: _		I/A					
Lak	orator	y Por	Ita		Ι			ī		
				.0	Sample Type & Length (in)	>		20	æ	
sity	eve eve	<u>.</u>	2 S	Blows per 6"	F #	Recovery	nscs	Soil Symbol	Depth (ft)	Sail Description
200	ass Sid	Plasticity Index	istn ent	× ×	nple eng	600	NS	Ś	ept	Soil Description
چ	% Passing #200 Sieve	Pa	Moisture Content (%)	Bo	Sar	8		%	Ω	
	-			,	\$\$ 60				41 _	SILTY SAND, tan, fine-grained, slightly damp
					60	\setminus / \mid			42 _	Gig (C. 11.5), tally line grames, engine, same
						M			43 44	
					ss				45 _	
					60	\ /			46	gray to brown
						X			47 _ 48 _	damp
						$/ \setminus$	SM		49	
					SS 60	(\neg)			50 _ 51 _	·
						$\setminus \setminus \mid$			52	
						$ \Lambda $			53 54	·
					SS				55 _	
					60	$\setminus A$			56 57	
						X			58 _	
						$/ \setminus$			59 _ 60 _	SHALE, gray to brown, highly weathered, soft, friable, damp
					SS 60				61	
			-			V			62 63	moderately weathered
									64 _	•
					ss	(-)			65 _	slightly weathered, moderately hard, blocky
					60	\setminus / \mid			66 _ 67 _	purple-gray
						X			68	
						$/\setminus$	RK		69 _ 70 _	
					HQ 36				71	auger refusal at 70 feet
						X			72 73	begin HQ rock coring 70' to 73'> HQ core recovery = 28%, RQD = 0%
					HQ 120	(\neg)			73 <u>-</u> 74 <u>-</u>	moderately weathered zone 73 to 80 feet
						\setminus / \mid			75	soft, friable
						V			76 77	
									78 _	100/ DOD = 100/
						$/ \parallel$			79 _ 80 _	73' to 83'> HQ core recovery = 40%, RQD = 18%
Α	= Auge	r Cuttir	ngs G	RAB = I	Hand S	ample	MC =	Modified		(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Project Name:	Crowe Blanco Properties, LLC	Date Drilled:	2/11/2011
Project Number: _	102-1162	Latitude:	36.72227°
Client:	Cheney-Walters-Echols	Longitude:	-107.78391°
Site Location:	Blanco, New Mexico	Elevation:	5756
Rig Type:	CME - 75	Boring Location:	See Site Plan
Drilling Method:	8" O.D. HSA/HQ Core	Groundwater Depth:	Approx. 111 ft during drilling
Sampling Method:	4" continuous barrel/HQ core	Logged By:	DB
Hammer Weight: _	N/A	Remarks: 0' - 70' sa	ampled with 5' continuous sampler
Hammer Fall:	N/A		

Hammer Fall:	N/A	
Dry Density (pcf) (pcf) % Passing #200 Sieve Plasticity Index Moisture Content (%)	Blows per 6" Sample Type & Length (in) Recovery USCS	Soil Description
Dry D (p (p #200 Plas Inc Mois	Blow Sam Re Le	81 SHALE, gray to brown, highly weathered, soft, friable, damp
	HQ RK	83 - 84 - 85 -
		SILTSTONE, dark gray, fresh, hard, massive 87
	HQ 120 RK	
	HQ 120	X
	RK	107
	HQ 120 RK	112 SANDSTONE, green-gray, fine- to medium-grained, fresh, hard, strongly cemented groundwater encountered at 111 feet during drilling 115 116 fine-grained
A = Auger Cuttings G		117 118 medium-grained 119 120 113' to 123'> HQ core recovery = 95%, RQD = 42% Modified California (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Page 4 of 4

1	Projec						nco P	ropertie	s, LLC	Date Drilled:2/11/2011
P	Projec	t Nu	mber:	:1						
	Client:								<u> </u>	
S	Site Lo	ocatio	on: _		Blanco	o, Ne	w Me	xico		Elevation: 5756
F	Rig Ty	pe:			CME -	75				Boring Location: See Site Plan
	Orilling	g Met	thod:	8	3" O.D). HS	A/HC	Core		Groundwater Depth: Approx. 111 ft during drilling
s	ampl	ing N	/letho	d: <u>4</u>	" con	tinuc	ous ba	arrel/HC	core	Logged By:DB
Н	łamm	er W	eight/	: <u> </u>	N/A					Remarks: 0' - 70' sampled with 5' continuous sampler
Н	łamm	er Fa	all: _		N/A					
				r	1	Y				
Lab	orato	ry Re	sults		9 =			_		4
₹	50			ē	ارج ج	ery	S	ğu	£	41,
is (†	Sie Sie	ig X	ture (%	d s	ng th	Š	nscs	Syr	Depth (ft)	Soil Description
00	% Passing #200 Sieve	last	lois	Blows per 6"	Sample Type & Length (in)	Recovery	\supset	Soil Symbol	Del .	•
Dry Density (pcf)	28%	α.	Moisture Content (%)	<u>~</u>	დ ∞	_		S		
						7			121 _	SANDSTONE, green-gray, fine- to medium-grained, fresh,
						X		<u> </u> :::::::	122	hard, strongly cemented
					HQ 120	$\langle - \rangle$			123 <u> </u>	
					1.20	\			125_	
1					Ì	$ \setminus / $	RK	<u> </u>	126	
						V	KK		127 ₋ 128 ₋	
									129 _	123' to 133'> HQ core recovery = 46%, RQD = 27%
						$ /\rangle$			130_	
						/ \			131 ₋ 132	
	-				ļ				132 _ 133	Tatal Darth 422 feet
									134 _ 135_	Total Depth 133 feet
	,								136 _	
									137 _ 138 _	
									139	
								i	140_	
									141 _ 142 _	
									143 _	
									144 _ 145_	
									145_	
								i l	147	
									148	
									149 _ 150_	
									151	
									152 _ 153 _	
									154	
									155_	
,									156	
									157 <u> </u>	
									159 _	
				D45 :	1		140	NA - 4'5 - '	160	(Diag Consolo) CC - Colit Consol HO - 2 F* Book Core
A =	Auger	Cuttin	igs G	KAR = F	and Sa	ample	MC =	Modified	California	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Proje	t Nam	1e: _		rowe	Blai	1CO P	ropertie	s, LLC	
Proje	t Num	iber:	1	02-11	62				Latitude: 36.72709°
Client	:			hene	y-W	alters	-Echols		Longitude:
Site L	ocatio	n:	Е	Blanco	, Ne	w Me	xico		Elevation: <u>5776</u>
Rig T	/pe: _			ME -	75				Boring Location: See Site Plan
							Core		
1	-						rrel/HQ		•
1	ner We			I/A					
1	ner Fa	•		I/A					
Laborato	ry Res	ults	_						,
	 -		Blows per 6"	Sample Type & Length (in)	ح		Soil Symbol	₽	
Dry Density (pcf) % Passing #200 Sieve	<i>≩</i> ,	Moisture Content (%)	p	e T	Recovery	nscs	Ę	Depth (ft)	Soil Description
pcf ass	Plasticity Index	ent	MS.	mplen.	8	S	 	də	Soil Description
2% Z	문	₹ <u>5</u>	윮	Sa & L	<u>ا</u> عا		တိ		
	-						77777		OLAVEY CAND bearing fine grained maint
				\$50 \$50	$\setminus /$	sc		1 -	CLAYEY SAND, brown, fine-grained, moist
					X			2 3 4	
					//			4 5 _	SILTY SAND, tan, fine-grained, slightly damp
				SS 60	(-)			6	
				00	\backslash / \rfloor	CM		7 🗐	
					X	SM		8 _	moderate carbonate cementation
					$/\ ee$			9 10 _	white marbling (poorly developed caliche)
				SS 60				11	
	1 1				Vi			12 13	CLAYEY SAND with gravel, fine-grained, damp
					$ \Lambda $	SC		14	
				ss	<u> </u>			15 _	SANDSTONE, gray, medium- to coarse-grained, slightly
				60	$\setminus A$			16 17	weathered, moderately hard, moderately cemented
					XI			18	minor iron-staining 16' - 18'
					$ /\backslash $::::::	19 💄	•
		[SS	$\langle - \rangle$]::::::[20 21 _	tan
		- 1		60	\backslash / \rfloor			22	
					XI			23 _	minor iron-staining 22' - 23'
					$/\setminus$			24 25 _	light gray, fresh
				SS 60	\Box			26 📗	
					$ \bigvee $	RK		27 _	fine grained
					$ \Lambda $			28 29	fine-grained contains thin lenses of damp gray shale
				ss	\mathbb{Z}			30	
				60	$\backslash \ /$			31	medium-grained, damp
					\bigvee			32 33	
					/			34	hard drilling
				ss	\square			35	•
				60	\ /			36	highly weathered zone 35' - 36'
					\bigvee			37 38	fresh, medium-grained, strongly cemented
								39 _	
								40 _	(P) 0 11 00 0 11 0 - 0 11 0 - 0 11 P-1 0 -
A = Auge	r Cutting	gs GF	KAB = F	Hand Sa	ample	MC =	Modified	California	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



								·		1 agc 2 or 4
	Projec	ct Na	me:	(Crowe	Bla	nco P	ropertie	s, LLC	Date Drilled: 2/9/2011
	Projec	t Nu	mber							
	Client	:			Chene	y-W		-Echols		
	Site L									
								Q Core		
		-						arrel/HC		
		_								
	Hamm		•							Tromarks. 6 or campion war o continuous sampler
			u	••	,,,,				,	
La	borato	ry Re	sults							
— ≥	70.0		1 6	Blows per 6"	Sample Type & Length (in)	چ	S	Soil Symbol	(£)	
Dry Density	(pct) % Passing #200 Sieve	Cit X	Moisture Content (%)	b b	gth g	Recovery	nscs	Syn	Depth (ft)	Soil Description
ූී (2 Pas 0	asti	oist	Š	Ler) Se	Ď	ie) Set	2 0.11 2 0.00 1.15 1.10 1.1
چ	%# %#	₫ _	قΣ	面	လွှဲ ဆ		i 	Š	1	
		ļ	 		\$S				41 _	SANDSTONE, gray, medium- to coarse-grained, slightly
						$ \backslash / $			42 _	weathered, moderately hard, moderately cemented
						ΙXΙ	RK		43 ₋ 44 _	contains occasional lenses of damp shale
						VΝ	ļ	<u> </u>	44 <u>-</u>	
					SS 60				46 _	
						M			47 ₋ 48 ₋	SHALE, gray, highly weathered, friable, damp to moist
						$ \Lambda $			49	stopped drilling to check for moisture infiltration
		ĺ			ss		RK		50	no free water in hole after sitting overnight
					60	ΛA			51 52	
						X		× × × ×	53 _	SILTSTONE, green-gray, fresh, hard, massive
						$/ \setminus$		× × × ×	54 _ 55	
					SS			× × × ×	56	
					HQ	\triangle			57	*
					84	Λ		× × × ×	58 _ 59 _	auger refusal at 57 feet begin HQ rock coring
						.\/		× × × × ×	60 _	begin rice rock coming
						XI		$\times \times \times \times$	61	571 to 641 > 110 core recover = 929/ BOD = 99/
		•				$/ \setminus$		× × × × × × × × × × × × × ×	62 63	57' to 64'> HQ core recovery = 83%, RQD = 8%
					на			× × × ×	64 _	
					120	\	RK	× × × × × × × × × × × × × ×	65 _ 66 _	
						\backslash / \rfloor		× × × ×	67	
						MI		× × × ×	68 _	
						χI		× × × ×	69	64' to 74'> HQ core recovery = 60%, RQD = 28%
						$\Lambda \Gamma$		× × × ×	70 _ 71 _	04 to 74> fig core recovery - 00%, figs - 20%
						$/ \parallel$		x	72	
						/ \		× × × ×	73 -	
					HQ 120			× × × × × × × × × × × × ×	74 75 _	
						\/		× × × ×	76 🗐	
			Ì			XF		× × × ×	77 78	SHALE, green-gray, fresh, hard, massive
			ļ			$/ \setminus $	RK		79	Orinet, groon-gray, mostly mara, massive
	1 1				1 //	/ \[آ مو	74' to 84'> HO care recovery = 60% ROD = 18%

A = Auger Cuttings GRAB = Hand Sample MC = Modified California (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Project Name:	Crowe Blanco Properties, LLC	Date Drilled:	2/9/2011
Project Number:	102-1162	Latitude:	36.72709°
Client:	Cheney-Walters-Echols	Longitude:	-107.78810°
Site Location:	Blanco, New Mexico	Elevation:	5776
Rig Type:	CME - 75	Boring Location:	See Site Plan
Drilling Method:	8" O.D. HSA/HQ Core	Groundwater Depth:	Approx. 115 ft during drilling
Sampling Method:	4" continuous barrel/HQ core	Logged By:	DB
Hammer Weight: _	N/A	Remarks: 0' - 57' sa	mpled with 5' continuous sampler
	N/A		

	mme	JI I C	•"'		I/A					
Dry Density (pcf) (pcf) % Passing	n 0		Moisture E	Blows per 6"	Sample Type & Length (in)	Recovery	nscs	Soil Symbol	Depth (ft)	Soil Description
					HQ 120		RK		81 - 82 - 83 - 84 - 85 - 86 87 - 91 - 92 - 93 94 - 94	SHALE, green-gray, fresh, hard, massive blue-gray 84' to 94'> HQ core recovery = 40%, RQD = 23% contains lenses of siltstone
			7		120 HQ 120		RK	**************************************	95 _ 96 _ 97 _ 98 _ 100 _ 101 _ 102 _ 103 _ 104 _ 105 _ 106 _ 107 _ 108 _ 109 _	SILTSTONE, green-gray to blue-gray, fresh, hard, massive 94' to 104'> HQ core recovery = 63%, RQD = 34% highly weathered zone 108' - 110' 104' to 114'> HQ core recovery = 88%, RQD = 58%
		0.45		DAG - 1	HQ 120		RK	X X X X X X X X X X X X X X X X X X X	110 111 112 113 114 115 116 117 118 119 120	SANDSTONE, green-gray to blue-gray, fine-grained, fresh, hard, strongly cemented medium-grained groundwater encountered at 115 feet during drilling 114' to 124'> HQ core recovery = 85%, RQD = 55% (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



915 Malta Avenue Farmington, NM 87401 Tel (505) 327-7928 Fax (505) 326-5721

Borehole MW-5

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	ح ر ح	t i ta			OIOWE	, 010	11001	TOPCILIC	es, LLC	Date Drilled:2/9/2011
Pr	rojec	t Nu	mber	:	102-1	162				Latitude: 36,72709°
CI	lient:				Chene	ey-W		-Echols		
Si	te Lo	ocati	on: .		Blance	o, Ne	ew Me	exico		Elevation: 5776
Ri	ig Ty	pe:			CME -	- 75				Boring Location: See Site Plan
								Q Core		
								arrei/HC		
			all:							
Labo	rator	y Re	sults							
				9	E ge	حے	1.0	000	læ	
(pcf)	% Passing #200 Sieve	Plasticity Index	Moisture Content (%)	Blows per 6"	Sample Type & Length (in)	Recovery	nscs	Soil Symbol	Depth (ft)	Soil Description
15 G	as 0 S	stic de	str tent	N N	E e	Ö	S	S	9	Soil Description
إ`جٍ	12 % 12 %	B	ΣĘ	B	Sa	œ		So		
	*			<u> </u>	ļ			<u> </u>		
						\setminus			121 ₋ 122 ₋	SANDSTONE, green-gray to blue-gray, fine-grained, fresh, hard, strongly cemented
Ì	ĺ					IX	RK		123	nard, strongry cemented
					HQ	$\langle - \rangle$			124 _	
	l				120	N /		× × × ×	125_ 126_	SILTSTONE, dark gray, fresh, hard, massive
Ì	ļ							x	127	oie to totte, dank gray, neon, mard, massive
-	1					$ \setminus $		X	128 _	
								X	129 ₋ 130_	124' to 134'> HQ core recovery = 83%, RQD = 50%
}	1					$ / \rangle $	RK	x	130_	124 to 134> rid core recovery - 63 %, ridb - 50 %
						/ \		X	132 _	
	1					/ V		× × × ×	133 ₋ 134 ₋	
					HQ 24			X	135_	
	\dashv					\triangle		× × × ×		134' to 136'> HQ core recovery = 100%, RQD = 83%
	-					İ			137 138	Total Depth 136 feet
									139	
[140_	
İ	.							ĺ	141 <u> </u>	
	İ	İ				i			143	
									144	
									145_ 146 _	
	- 1					1			147	
			ł						148	
		ĺ						<u> </u>	149 <u> </u>	
-	1]							151	
	-								152 _	
		l							153	
									154 155_	
									156	
									157	
]				158 _ 159 _	
		-	}] 1	1		i .	750	



Project	Name	e: _	<u>C</u>	rowe	Bla	nco P	ropertie	es, LLC	Date Drilled:5/2/2011
Project	Numb	per:	1	02-11	162				Latitude:36.72192°
Client:								3	
Site Lo							xico		
Rig Typ									
Drilling	Metho	od:	8	.25" (D.D.	Hollo	w Stem	Auger	•
Samplin	ng Me	thod							
Hamme	er Wei	ight:					,		Remarks: None
Hamme	er Fall:	: _	N	I/A				,	
Laboratory	/ Resu	lts		8 C			0		
Dry Density (pcf) % Passing #200 Sieve	Plasticity Index Moisture	Content (%)	Blows per 6"	Sample Type & Length (in)	Recovery	nscs	Soil Symbol	Depth (ft)	Soil Description
		-		\$S 60				4	SILTY SAND, brown, fine-grained, damp
				\$\$ 60 \$\$ 60 \$\$		SM		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 1	color change to tan calcareous stringers and nodules
A = Auger	Cuttings	GR	AB = H	SS 60	Ample ample	SP SP	Modified	21 _ 22 _ 23 _ 24 _ 25 _ 26 _ 27 _ 28 _ 29 _ 30 _ Callifornia	SAND with trace gravel, tan, poorly graded, fine- to medium-grained, damp fine- to coarse-grained damp (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



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Borehole MW-6

Page 2 of 2

F	Projec	t Na	me:		Crowe	e Bla	inco F	roperti	es, LLC	Date Drilled: 5/2/2011
F	Projec	t Nu	mbei	r:	102-1	162				Latitude:36.72192°
	Client:				Chene	ey-M	/alters	-Echol	S	Longitude: -107.79240°
8	Site Lo	ocati	on:					exico		
F	Rig Ty	pe:			CME .	· 75				Boring Location: See Site Plan
	Prilling	Ме	thod	·	8.25"	<u>O.D.</u>	Hollo	w Sten	n Auger	
s	ampl	ing I	Meth	od: _	4" cor	tinu	ous ba	arrel		·
1	łamm	_								
]	łamm		_		N/A					
		-								
Lab	orator	y Re	sults	T <u>.</u>						
>										
Dry Density (pcf)	% Passing #200 Sieve	city	Moisture	8	e T	Recovery	USCS	١	Depth (ft)	Soil Description
(pct)	as 0 S	astic	ist ten	S S	E B	Se Se	👸	5	<u>e</u>	Oon Description
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	28	<u> </u>	ΣĘ	ĕ	SS &	<u> </u>		တိ		
	-			/	- 88			100.0000		0.010
			i		\$S 60	Λ /			31 _	SAND with trace gravel, tan, poorly graded, fine- to medium-grained, damp
			ļ			V			32 .	modum-granieu, damp
			1			ΙĂ	SP		33 _	
						I/\setminus	:		34 _	contains occasional clay nodules
ſ					ss	$\langle - \rangle$			35 _	
			İ		60	\setminus			36 .	CANDOTONE to highly weathered fine to come grained
						V			37 _	SANDSTONE, tan, highly weathered, fine- to coarse-grained, soft to moderately soft, wet
			İ			╽╽			38 _	<u>N</u>
				ŀ		$ / \setminus$			39 _	green to gray, slightly weathered, hard
ļ						igsquare			40 _	Daillian haita dat 40 faat daath ta custusta maist sana
									41 _	Drilling halted at 40 foot depth to evaluate moist zone Let boring sit overnight to check for water infiltration
									42 _	Measured water level following morning @ 38.6 ft below
			ĺ				514		43 _	ground surface
							RK		44 _	Advanced boring to 51 feet and installed monitor well
			İ		Α				45 _	
			ĺ						46 _	
									47 _	
									48 _	
									49 _	
					A				50	
				ļ					51	Total Depth 51 feet
[[52 _	Total Depth of loct
									53 _	
									54 _	
									55 _	
		j							56 _	
İ						}			57	
	1	İ							58 _	
		ļ							59	
									60_	
A =	Auger	Cuttir	igs G	RAB =	Hand Sa	imple	MC =	Modified	California -	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



	<u> </u>		·· ··				(000)			Page 1 of 2
Pr	ojec	t Nar	ne:		Crowe	Bla	nco P	ropertie	s, LLC	Date Drilled:5/4/2011
	-			: <u> </u>						
								-Echols		
								xico		
Ri	g Ty	pe:			CME -	- 75				
								w Stem		
Sa	ampl	ing N	fe tho	od: _4	l" con	tinuc	ous ba	rrel	· · · · · · · · · · · · · · · · · · ·	Logged By: DB
На	amm	er W	eight'	t: <u> </u>	N/A					Remarks: None
На	amm	er Fa	all: _		N/A			****		
				1			r	, ,	.1	
		y Res		ئ	9.E	_		<u></u>	(a	
ا م ارک	ing eve	_ جے	ြစ်	ğ	Ly #	Ž.	ပ္ပ	¥	h (f	Sail Description
\ \frac{1}{2} \rightarrow{1}{2}	ass) Sie	stic	istu	Blows per	mpk eng	Recovery	nscs	Soil Symbol	Depth (ft)	Soil Description
(pcf)	20Z	Pla =	Moisture Content (%)	e	Sample Type & Length (in)	α <u>ς</u>		So	Ω	
<u> </u>	~ + *		- 3			<u> </u>		্ কুলুম্নাত্ত		CILTY CAND brown fine grained maint
					\$5	$\backslash /$			1 2	SILTY SAND, brown, fine-grained, moist
						X			3 _	
						$/ \setminus$	} :		4 <u>-</u> 5 _	
					SS 60		:		6 _	
						V			7 8	tan, damp, moderate cementation
						$ \Lambda $			9	
					SS		SM		10	
					60	$\backslash /$			11 12	
						X] :		13	calcareous stringers/nodules
						$/ \setminus$] :		14 15 _	
ŀ					SS 60				16	
İ						V			17	
						$ \Lambda $			18 19	
	Î				ss	$\langle - \rangle$		<i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>	20 _	LEAN CLAY, tan, damp
					60	$ \setminus / $			21 - 22 - 23 -	contains small roots
						X		<i>\\\\\\\</i>	23	
						$/\!/$	_		24 25 _	
					SS 60	\square	CL		26 _ 27 _	1.199
						$ \bigvee $		<i>}/////</i>	27 28	hard drilling
	ĺ		ĺ			/		<i>}/////</i> }	29 _	
					SS	\longrightarrow			30 _	easier drilling
					60	\ /		4444	31 32	SILTY SAND, tan, fine-grained, damp
									33 _	(a) (a) (b) (a) (a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b
						$ / \setminus $	SM ·		34 _ 35 _	
					8S 60				36 🗐	
						$ \bigvee $	<u></u> :		37	SAND with trace gravel, tan, poorly graded, fine- to
						$ \Lambda $	SP .		38 39	medium-grained, damp
	}					VΝ			40	

A = Auger Cuttings GRAB = Hand Sample MC = Modified California (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Page 2 of 2

Proje	ct na	me:		Crowe	Bla	nco P	ropertie	s, LLC	Date Drilled:5/4/2011
Proje	ct Nu	mber:		<u> 102-1</u>	162	, <u>.</u>			Latitude:36.72071°
Clien	t:		(Chene	ey-W	alters/	-Echols	<u> </u>	Longitude:107.78700°
Site l	ocati	on: _		Blance	o, Ne	ew Me	xico		Elevation: 5710
Rig T	уре:	-	(CME -	75				Boring Location: See Site Plan
Drillir	ıg Me	thod:	8	8.25" (0.D.	Hollo	w Stem	Auger	Groundwater Depth: Approx. 56 ft during drilling
Samp	oling N	detho	d: _4	4" con	tinuc	ous ba	arrel		Logged By: DB
Hami	mer W	/eight	: <u> </u>	N/A					Remarks: None
Hami	ner F	all: _		N/A					
					F			<u>r</u>	
Laborate	ory Re	sults	į,	9 2			=		
5 6	<u> </u>	, (S)	Blows per 6"	Sample Type & Length (in)	Recovery	ပ္ပ	Soil Symbol	Depth (ft)	
(pcf) (pcf) % Passing	e Eigh	Moisture Content (%)	d S/	ple	8	nscs	Sy	뒱	Soil Description
9 8 5	lasi	Aois Inte	ŏ Si	am k Le	Re)	lios	යී	
! % £		23	6 0	0) 40			0)		
\top			· · · · · · · · · · · · · · · · · · ·	\$S	/			41 _	SAND with trace gravel, tan, poorly graded, fine- to
	1				$ \bigvee $			42 ₋ 43 ₋	medium-grained, damp
					$ / \rangle $			44 _	
				ss	(-)			45 _	
				60	$\backslash /$	SP		46 ₋	
					X			48 _	
:					$ / \setminus $			49 -	
				SS 60				50 _ 51 _	
				"	$ \setminus / $			52 _	
					X	CL		53 ₋ 54 ₋	LEAN CLAY, gray, moist
				SS	$V \setminus$	00	× × × ×	55 _	SILTSTONE, tan, highly weathered, soft, wet
				60	abla		X	56 ₋	Z
					$ \vee $		× × × ×	57 <u>-</u> 58 <u>-</u>	
					$ /\backslash $	RK	× × × ×	59 _	color change to blue-gray
					$\langle - \rangle$		x	60	slightly weathered, hard
							× × × ×	61 ₋	Halted drilling at 60 feet to evaluate wet zone Let boring sit overnight to allow infiltration of water
							x	63 _	Measured water level next morning @ 55.0 feet below groun
	1							64 _ 65 _	surface
								66 _	Advanced boring to 70 feet and installed monitor well SANDSTONE, green-gray, fine- to medium-grained, fresh,
						RK		67 _	hard, wet
								68 ₋	·
								70	
								71 -	Total Depth 70 feet
								72 ₋ 73 ₋	
								74 _	
								75 _	
								76 ₋ 77 ₋	
								78 _	
								79 _	
				<u></u>			14 115 1	. 08	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Pro	oject	Nar	me: .		rowe	Bla	nco P	roperue	es, LLC	
Pro	ject	Nur	nber:	1	02-1	162				Latitude: 36.729750°
Clie	ent:				Chene	ey-W	alters/	-Echols	<u> </u>	
Site	e Lo	catio	on: _	E	Blanco	<u>o, Ne</u>	ew Me	xico		
Rig	Ту	pe:			ME -	- 75				
										-
	_								core	•
		-		: _ N						
			all:		I/A					
, ,,,,		J	···· _	•	.,,,,					
Labora	aton	v Res	sults		Π					
	r		$r \rightarrow$	r 6	Sample Type & Length (in)	~		Soil Symbol	æ	
Dry Density (pcf) % Passing	#200 Sieve	ξ,×	Moisture Content (%)	Blows per	gt -	Recovery	nscs	E S	Depth (ft)	Soil Description
(pcf) Passi	Sign	stic rde	ist	WS	m en	ec	S	S	ebi	Soil Description
چ ای	[2;	<u>g</u> =	Σğ	쯢	Sa	LEC.		တိ		
								,,,,,,,,,,		
					\$5 60	Λ		<i>\\\\\\</i>	1 -	SANDY LEAN CLAY, brown, dry to damp
						X			2 -	
						$ / \setminus $	CL		4 -	
					SS 60	(-)			6	
						$ \setminus / $			7 _	
	1					$ \Lambda $		<i>/////////////////////////////////////</i>	8 9	SILTY SAND, brown, fine-grained, damp
.						/ N	SM		10_	SIETT SAND, Brown, line-grained, damp
	ŀ				SS 60		SIVI		11	contains white calcareous stringers
						V		I .ll	12 <u> </u>	SAND, tan, poorly graded, fine- to medium-grained, damp
						$ \Lambda $	SP		14	SAND, tall, poorly graded, into to modulin grained, damp
			İ		SS) J		15 _	
					60	\setminus		111	16 ₋	SILTY SAND, tan, fine- to medium-grained, damp
			1			X			18	moderate calcareous cementation
						$ / \setminus $	SM		19	
	İ				SS 60				20 _ 21 _	
						$ \setminus / $			22	
						ΙXΙ			23 _ 24 _ 25 _	SAND, tan, well graded, fine- to coarse-grained, damp
	Ì				ss	$/\setminus$	sw		25 _	
					60				 26 」	
	ĺ				İ	V			27 28	SILTY SAND, tan, fine-grained, damp
						/			29	moderate calcareous cementation
					ss		SM .		30 _	
					60	$\setminus A$			31 32	weak cementation
						ΙXΙ			33	
						$/\backslash$			34 _	SAND, tan, well graded, fine- to coarse-grained, damp
					SS 60	$\langle - \rangle$			35 _	no cementation
					60	\backslash / \mid	sw		36 37	
						χl			38 _	
						/\		[•:•:•:•]	39 _	
						/ \I		[•:•:•:•]	40	



Page 2 of 3

P C Si R D Si	rojectient: ite Lo ig Ty rilling ampl	t Nur cocation pe: g Met ing N	nber: on: hod: letho	1 	O2-1 Chene Blanco CME - " O.D.	162 ey-W o, Ne 75 O. HS tinuc	alters w Me	ropertie -Echols exico Core errel/HQ	core	Latitude: 36.729750° Longitude: -107.790940° Elevation: 5727 Boring Location: See Site Plan Groundwater Depth: Approx. 75 ft during drilling Logged By: DB
	% Passing war #200 Sieve	Plasticity & SI Index	Moisture E	Blows per 6"	Sample Type & Length (in)	Recovery	nscs	Soil Symbol	Depth (ft)	Soil Description
					\$\$ 60 \$\$ 60		SW		41 42 43 44 45 46 47 48 49 50	SAND, tan, well graded, fine- to coarse-grained, damp no cementation SAND, tan, poorly graded, fine- to medium-grained, damp SAND with gravel, tan, well graded, fine- to coarse-grained,
					SS 60 SS 60		sw		52 - 53 - 55 - 56 - 57 - 58 - 60 - 61 -	damp
							GP		63 - 64 - 65 - 66 - 67 - 68 - 70 - 71 - 72 -	GRAVEL with sand and cobbles, tan to gray, fine- to coarse-grained, damp rough drilling (jumping, grinding) no sample
A =	Auger	Cuttin	gs GI	RAB = H	HQ 84	ample	RK RK	Modified	76 _ 77 _ 78 _ 79 _ 80 _	SANDSTONE, moderately to highly weathered, moderately hard, damp Yauger refusal on cobbles at 75 ft begin HQ rock coring SHALE, blue-green, highly to moderately weathered, moderately soft to moderately hard, moist to wet below 75 ft (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Project Name:	Crowe Blanco I	Properties, LLC	Date Drilled:	7/19/2011
Project Number:	102-1162		Latitude:	36.729750°
Client:	Cheney-Walter	s-Echols	Longitude:	-107.790940°
Site Location:	Blanco, New M	exico		5727
Rig Type:	CME - 75		Boring Location:	See Site Plan
Drilling Method:	8" O.D. HSA/H	Q Core	Groundwater Depth:	Approx. 75 ft during drilling
Sampling Method	4" continuous b	arrel/HQ core	Logged By:	DB
Hammer Weight:	N/A		Remarks: 0' - 75' sa	mpled with 5' continuous sampler
Hammer Fall:	N/A			
Laboratory Results	- 9e C	<u> </u>		
Dry Density (pcf) % Passing #200 Sieve Plasticity Index Moisture Content (%)	Blows per 6" Sample Type & Length (in) Recovery USCS	Soil Symbol Depth (ft)	Soil D	escription
	RK	81		
	HQ RK	82 <u> </u>	NDSTONE, blue-green, m	edium-grained slightly
	30 X	* × × × × 84		85'> rec=50%, RQD=0
	HQ (derately weathered, soft to
			oderately soft, fissile, friat circulation at 85 - soft roo	
	RK	87 losi	to 92'> HQ core recover	,
	$ \wedge $	* * * * 88		y 00%, 11&D 0
		* * * * * 91	circulation at 90 ft	
		93 _ Tot	al Depth 92 feet	
		94 _ 95 _		
		96		
		97		
		98 - 99 -		
		100_		
		101 102		
		103		
		104		
		105_		
		107		
		108 1		
		110_		
		111		
		112 113		
		114		
		115_		
,		116		
		118		
		119		
A = Auger Cuttings CP	AB = Hand Sample MC	120 120	Sample) SS = Split Spoon HQ =	2.5" Rock Core



Borehole MW-9 Page 1 of 3

Project Number:	102-1162 Cheney-Walters Blanco, New Me CME - 75 B.25" O.D. Hollo I" continuous ba	s-Echols exico ow Stem Auge arrel	Longitude: -107.792420° Elevation: 5755
Dry Density (pcf) % Passing #200 Sieve Plasticity Index Moisture Content (%) Blows per 6"	Sample Type & Length (in) Recovery USCS	Soil Symbol Depth (ft)	Soil Description
	SS 60 SM SS 60 CL SS 60	1 2 3 4 5 6 7 8 9 10 11 12 13 13 14 15 16 17 18 19 20 21 21 20	SILTY SAND, brown, fine- to medium-grained, dry moderate calcareous cementation strong cementation SANDY LEAN CLAY, brown, damp contains white calcareous stringers
	SS SP	22 23 24 25 26 27	SAND, tan, poorly graded, fine-grained, damp, no cementation SILTY SAND, tan, fine-grained, damp
A = Augus Cuttions CDAD =	SM Sample MC	28 29 30 Modified California	a (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



102-116

Borehole MW-9

							/			Page 2 of 3
Pı	ojec	t Nar	ne:		rowe	: Bla	nco P	ropertie	s, LLC	Date Drilled: 7/20/2011
Pı	ojec	t Nur	nber:	1	02-11	162		,		Latitude: 36.724520°
C	ient:			C	<u>Chene</u>	∍y-W	alters/	-Echols	j	Longitude:107.792420°
Si	te Lo	ocatio	on: _			-		xico		-
							Hollo	w Stem		
								arrel		
	•	_		: <u> </u>						
		er Fa	_		VA					Nemarks. None
П	amm	ei ra	ali		<i>U</i> A					
Labo	orato	y Re	sults	=				l		
$\overline{}$	- O			 	Sample Type & Length (in)	ا چے ا	(0	Soil Symbol	Œ	
	sing ieve	₹ ¥	§ %	Blows per	gth g	Recovery	USCS	μý	Depth (ft)	Soil Description
	as 0 S	Plasticity Index	te st	§	[E 2	ည္တ	👸) de	Con Boompaon
(pcf)	% Passing #200 Sieve	ᆲ	Moisture Content (%)	ĕ	တ္တြဲဆ	L		လိ	_ 	
-			 		SS 80	\ 	 		0.4	SILTY SAND, tan, fine-grained, damp
					80	$\left \right / \left \right $	SM		31 _	Digit i Divito, tan, mo gramos, samp
						IV	Oivi		32 _	
		: :		,		1Λ			33 _	SAND, tan, well-graded, fine- to coarse-graded, damp
						/ \			34 _	g. alley tany took g. alless, and to be a series g.
			1		SS 60	(sw		35 _	
İ					00				36 _	
						17			37 _	SAND, tan, poorly graded, fine- to medium-grained, damp
j						$1 \Lambda 1$			38 _	arifical family grounds, and the second of
						// \!			39 _	
				,	SS 60	()			40 _ 41 _	
						\	SP		ł	
						V			42	
.			}			ΙΛ!	1		43 _	
						/ \			44 -	·
ĺ					SS 60			1111	45 _	SILTY SAND, brown, fine-grained, damp
					00				46 _	, 0.2., 0.3., 0.3., 0.3.
						Y			47 _	
						$ \wedge $	SM		48 ₋	
						// \/				
					SS 60	(50 _	
					00	$ \rangle / $	GP	ال ل	51 _	GRAVEL with sand and cobbles
						V	Gr	× × × ×	52 _	SILTSTONE, green-gray, highly weathered, soft, damp
						$ \Lambda $!	X X X X	53	Giar Di Orta, groon gray, nigniy moderolog, oon, aamp
						/ \			54 _	
					SS	$\left(- \right)$		× × × ×	55 _	
					60	\ /	RK	× × × × × × × × × × × × ×	56 _	
						$ \bigvee $		× × × ×	57 _	
								X	58 _	moderately weathered, moderately soft, damp
						/ \		X	59 ₋	moderately weathered, moderately soft, damp
- 1	f	I			1	u v	i	r ^ ^!	00	

A = Auger Cuttings GRAB = Hand Sample MC = Modified California (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



Project N	lame:		crowe	Bla	nco P	ropertie	s, LLC	Date Drilled:7/20/2011
Project N	lumber:	1	02-1	162				Latitude:36.724520°
Client: _	·		Chene	y-W	alters/	-Echols	<u> </u>	
Site Loca	ation: _	E	Blanco	o, Ne	ew Me	exico		
Rig Type								
Drilling M								-
Sampling								
Hammer								
Hammer	_		<u>√/A</u> √/A				· · · · · · · · · · · · · · · · · · ·	Nellaks. None
палппел	rall		N/P1		······································			
Laboratory F	Results		a _			_		
\$ 60 4	(%)	Blows per 6"	Sample Type & Length (in)	Recovery	တ	Soil Symbol	Depth (ft)	
Ssin Siev	t E ex	δ	ng Se	8	nscs	Syr	Æ	Soil Description
ast So as local	lnd lois rter	ð	Le al	A A	\supset	ie l	De	•
Dry Density (pcf) % Passing #200 Sieve Plasticity	Index Moisture Content (%)	ā	(ഗ് ≪			S	_	
			\$ <u>\$</u>			X	61 _	SILTSTONE, green-gray, highly weathered, soft, damp
				$ \backslash / $	RK	× × × ×	62	
						X X X X	63	
				/\			64	SHALE, green-gray, slightly weathered, moderately hard,
1			ss		RK		65 _	damp, fissile, friable
			60				66	
				\/[× × × ×	67	SILTSTONE, green-gray, fresh, moderately hard, damp
				X		X	68	-
				$ / \setminus $		X X X X	69	
			ss	/ N	RK	× × × × × × × × × × × ×	70 _	
	1 1		60	\bigcap		× × × ×	71	
				$ \setminus / $		× × × ×	72	weakly fissile
	li			XI		× × × × × × × ×	73	
				/\[74	SHALE, dark gray, fresh, moderately hard, damp, blocky to
				$oxed{oxed}$	RK		75 _	weakly fissile
							76 _	▽
						X		SILTSTONE, green-gray
						X	78 _	highly weathered, soft, wet between 76 and 78 ft
						X	79 _	
						x x x x	80 _	fresh, hard, damp to moist below 78 ft
						X	81	
					RK	× × × × × × × × × × × ×	82	
						× × × ×	83 _	
						x	84	
						× × × ×	85 _	
						× × × × × × × × × × × ×	86 _	
				\perp		\$ \$ \$ \$	87	
							88	Total Depth 87 feet
							89	
							90	
A = Auger Cut	ttings GF	RAB = H	land Sa	ample	MC =	Modified	California —	(Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core



915 Malta Avenue Farmington, NM 87401 Tel (505) 327-7928 Fax (505) 326-5721

Borehole MW-10

Rig Type: Drilling Method: Sampling Method: _ Hammer Weight:	102-1162 Cheney-Walters- Blanco, New Mex CME - 75 8.25" O.D. Hollov 4" continuous bar	Echols xico w Stem Auger	Latitude: 36.720440° Longitude: -107.780040° Elevation: 5783 Boring Location: See Site Plan Groundwater Depth: Approx 101 ft during drilling Logged By: DB
Dry Density (pcf) % Passing #200 Sieve Plasticity Index Moisture Content (%) Blows per 6"	Sample Type & Length (in) Recovery USCS	Soil Symbol Depth (ft)	Soil Description
	\$5 60 SM 50 60	1 SIL 2 3 4 5 6 7 7	TY SAND, brown, fine-grained, dry to damp
	ss 60 sw	8 9 SAN 10 11 12 13 13 14	D, brown, well-graded, fine- to coarse-grained, damp
	SS 60 SM	17] ca 18] 19] 20]	Y SAND, brown, fine-grained, damp, weak to moderate careous cementation
	60 SW SC	21 22 SAN 23 24 CL/	ID, brown, well-graded, fine- to coarse-grained, damp YEY SAND, red-brown, fine-grained, damp
5	SS 60	22 SAN 23 CLA 25 SIL 27 28 29 30	Y SAND, tan, fine-grained, damp
3EUMAT.GUI 08/25/11	SS 60 SM	30 _ 31 _ 32 _ 33 _ 34 _ 35 _ 36 _ 37 _ 38 _	
K	Hand Sample MC = I	39 40	Sample) SS = Split Spoon HQ = 2.5" Rock Core



Page 2 of 3

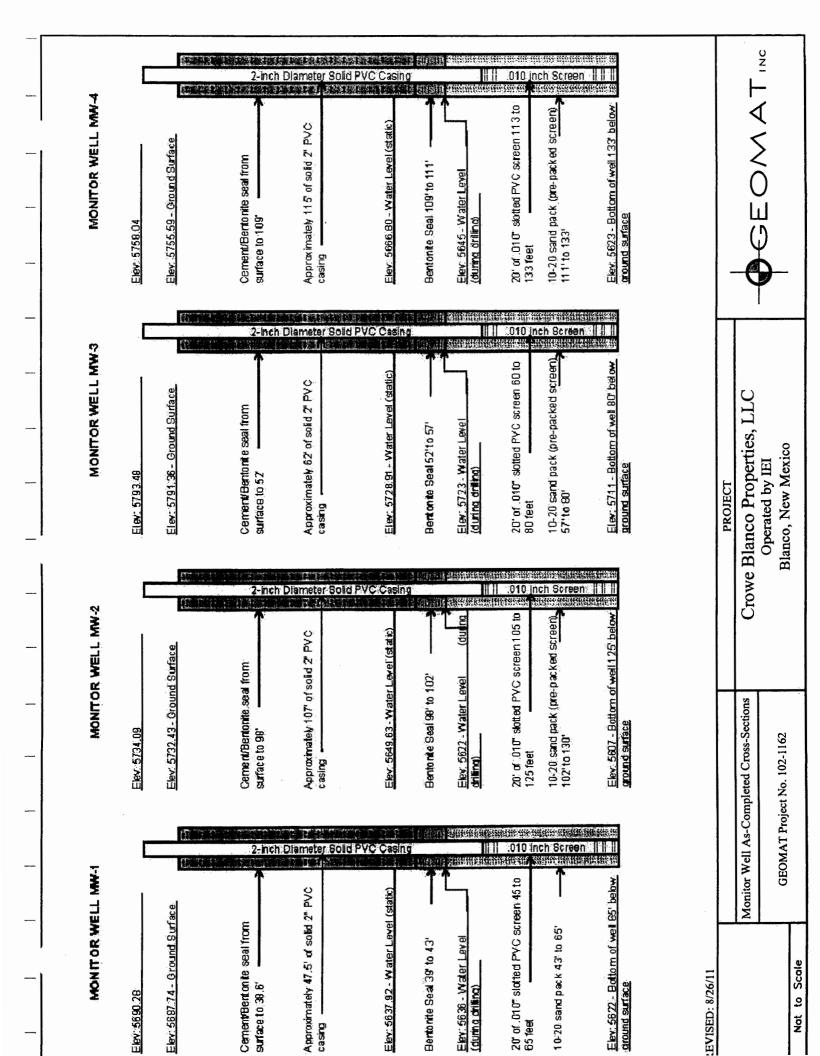
Laboratory Results Applied Ap		P S R D S H	rojectient: ite Lo ig Ty rilling ampl	t Nur peation pe: Met ing N	on: _ thod:	() E () () () () () () () () () () () () ()	Dhene Blanco CME - 3.25" (162 by-W b, Ne 75 D.D. tinuc	alters w Me	-Echols exico ow Stem arrel	Auger	Longitude: -107.780040° Elevation: 5783 Boring Location: See Site Plan Groundwater Depth: Approx. 101 ft during drilling
SS SS SS SS SS SS SS SS SS SS SS SS SS						per 6"	Type (th (in)	very	SS	/mbol	h (ff)	Call Danawintian
\$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$		Dry Den: (pcf)	% Passi #200 Sie	Plastici Index	Moistur Content (Blows	Sample & Leng	Reco)SN	Soil Sy	Dept	Soil Description
A = Auger Cuttings GRAB = Hand Sample MC = Modified California (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core	GEOMAT 102-11L GEOMAT.GDT 08/25/11						\$\$ 60 \$\$ 60 \$\$ 60 \$\$ 60 \$\$ 60 \$\$ 60		RK RK	X X X X X X X X X X X X X X X X X X X	42 43 44 45 46 47 48 49 55 56 57 58 60 61 72 73 74 75 76 77 78 79 80 80 80 80 80 80 80 80 80 80 80 80 80	contains layers/lenses of well graded sand SILTSTONE, green-gray, moderately weathered, moderately hard SHALE, green-gray, moderately weathered, blocky weakly fissile SILTSTONE, green-gray, slightly weathered, moderately hard

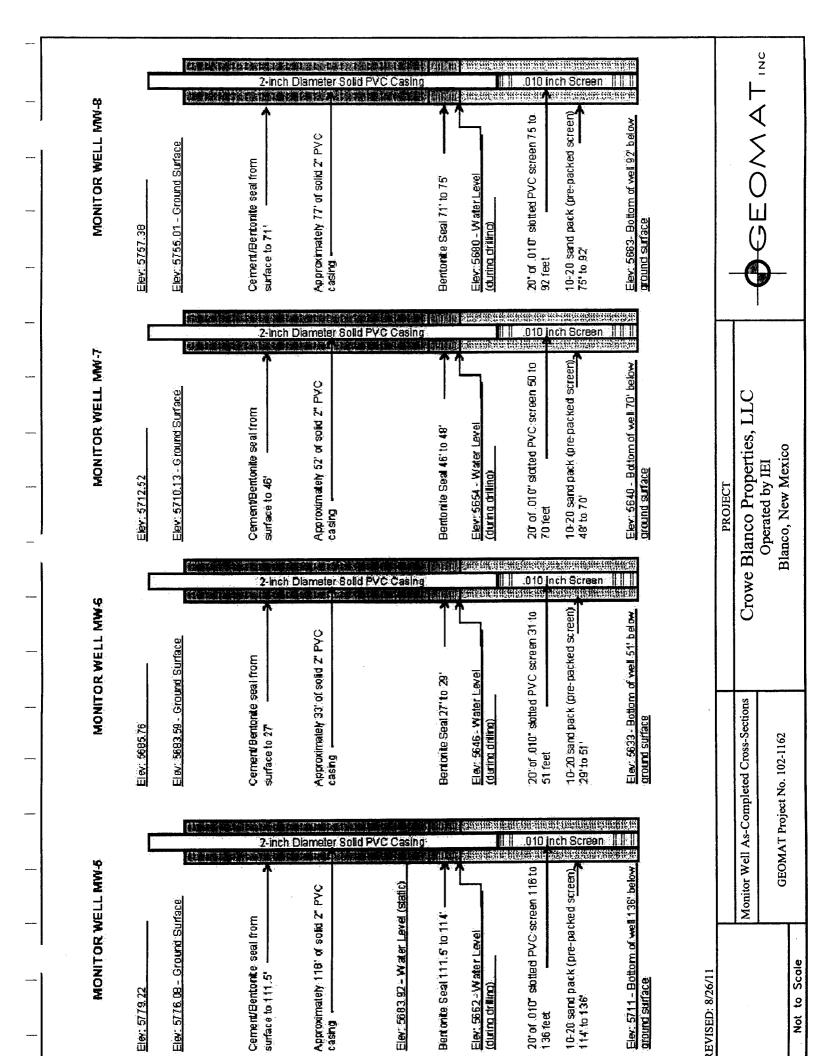


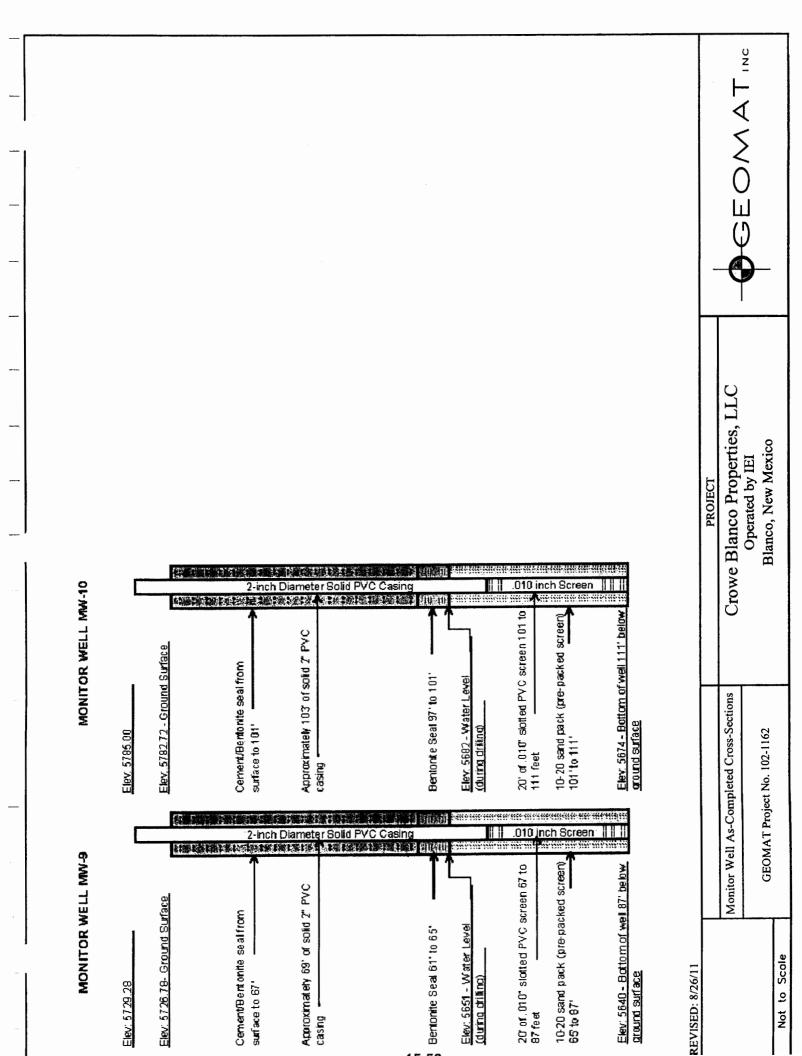
P	'rojec	t Nai	me:		cowe	Bla	nco P	ropertie	es, LLC	Date Drilled:7/26/2011
P	rojec	t Nui	mber:	1	02-11	162				Latitude: <u>36.720440°</u>
C	lient:			(Chene	y-W			S	
- 1									n Auger	-
1	_									•
i i				: <u> </u>						Remarks: None
1			ali:		V/A					Trondres
"	iaiiiii	CI F	all		N/A					
Lab	orator	y Re	sults	9	0					
A	တ စ		્ર	er 6	Sample Type & Length (in)	Recovery	S	Soil Symbol	€	
ensi (†)	Siev	iż x	ture (%	Blows per 6	g se	Š	nscs	Syr	Depth (ft)	Soil Description
98	Pa 90	last	lois	8	Leg	A W) >	ē) B	'
Dry Density (pcf)	% Passing #200 Sieve	۵	Moisture Content (%)	B	∖ડ જ	_		S	_	
					\$S 60	7	DI.	× × × × × × × × × × × × × × ×	81 _	SILTSTONE, green-gray, slightly weathered, moderately hard
						V	RK	X	82 _	
						Λ	RK		83 ₋ 84 ₋	SHALE, green-gray
					ss		RK		85 _	SANDSTONE, light gray, clayey, fine-grained, moderately to
i					60	\setminus]	X	86 ₋ 87 ₋	highly weathered, weakly cemented SILTSTONE, green-gray, fresh, moderately hard to hard
						X		X	88	GILTS TONE, green-gray, fresh, moderatery hard to hald
						$ / \setminus$		X	89 _	
					SS 60	$\langle - \rangle$		× × × ×	90 _ 91 _	hard drilling
İ		'			00	\setminus		X	92	That's drining
						X		× × × × × × × ×	93 _	
						$/\setminus$		× × × × × × × × × × × × ×	94 _ 95 _	
ŀ					SS 60			X	96 _	
						$ \bigvee $		X	97 _	
1						$ \Lambda $	RK	x	98 _ 99 _	purple-gray, fresh, hard, fissile
					ss			x x x x x x x x x x x x x x x x x x x x	100_	
					60	$\setminus A$		× × × ×	101 -	<mark>∑g</mark> reen-gray
						$ \chi $		**************************************	102 ₋ 103 ₋	between 101 and 103 ft - highly weathered, soft, wet
						$/\setminus$		× × × ×	104 ₋ 105_	purple-gray, fresh, hard, damp, fissile
					SS 60			X X X X	105_	parato gray, moon, mand, damp, moono
						$ \bigvee $		x	107 _	grou domn
						$ \wedge $		X	108 _ 109 _	gray, damp
						\angle		X	110_	·
.! !								x x x x	111	Total Dooth 444 foot
	٠								112 <u> </u>	Total Depth 111 feet
il l									114	
									115_	
;									116 ₋ 117 ₋	
									118	
									119 _	
 -				DAD - 1				Madica -	120_	 (Ring Sample) SS = Split Spoon HQ = 2.5" Rock Core
A=	Auger	Cuttir	igs G	KAR = F	nand Sa	ampie	MC=	Modified	Camornia	(traing sample) 33 - Split Spoot Tig - 2.5 (took Sole

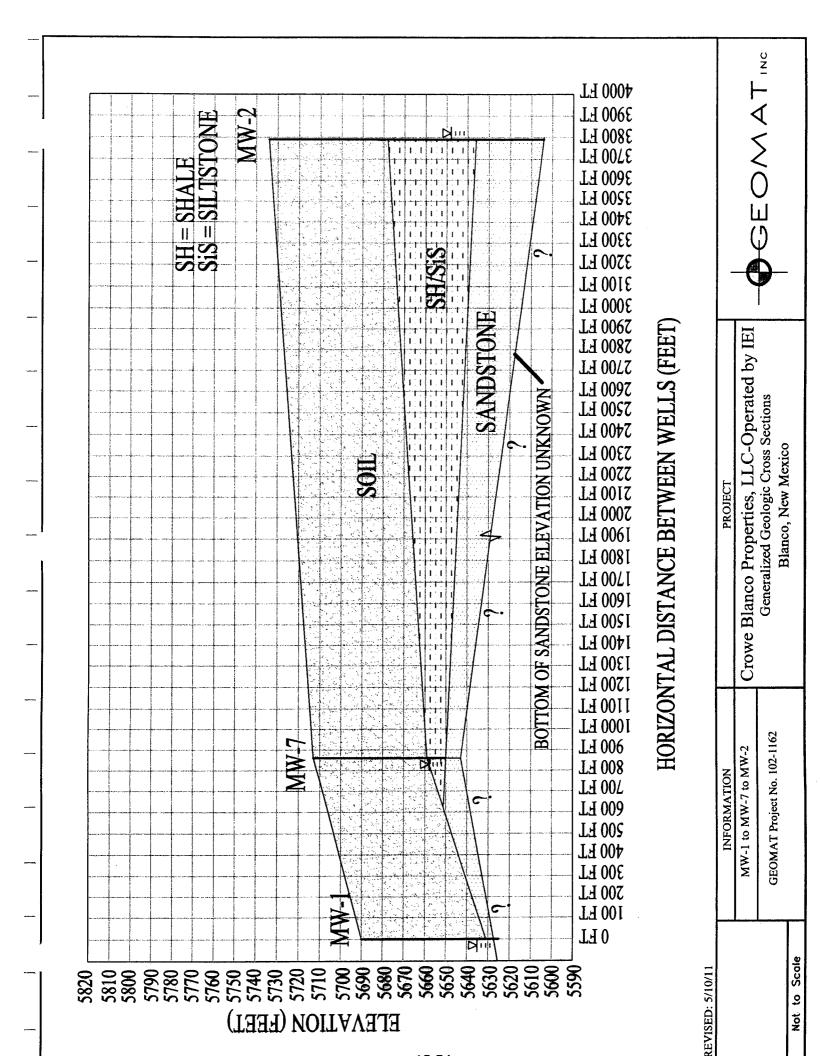
33						
5795						0080
5790						0870
6785						08/0
5780						5780
5776						09/6
5770			AND THE RESIDENCE OF THE PROPERTY OF THE PROPE	AND AND AND AND AND AND AND AND AND AND	- CONTRACTOR CONTRACTO	5770
5765 5765						0110
5760					MW-4	2010
5755						5755
5750					e e	00.70
27.50					6.00 (C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	97.00
740			the second state of the property of the property of the second state of the second sta		3((4)(2)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)	0,40
5/40			MW-2		0.000	5735
5730						37.50
			** CONTROLLED *** CON		CNAS YTHIS	200
5725						5725
5720	7-WM		10000			5720
5715			The state of the s			5715
5710			CINT A SAND			5710
5705						5705
2700					2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5700
5695	10(10))	The second secon	第20mmである。 ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・			5695
						5690
		SILTY SAND/	9-MM		I	5685
	SILTY SAND	LEAN CLAY			SHALE	2680
					and/or	5675
	CLAY					5670
				SILIY SAND	▼ static	5665
	2.00		ndor	CHAPTER CONTRACTOR CON	-	2660
	****	à	LISTONE *	Control of the contro		5655
5650	64A	■ SILTSTONE *	▼ static			5650
	ran			▼ during drilling	Confined	5645
		SANDSTONE *			1	5640
5635				SANDSTONE *		5635
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			Operated by IEI			├ (
	GEOMAT Project No. 102-1162	162	Blanco, New Mexico			

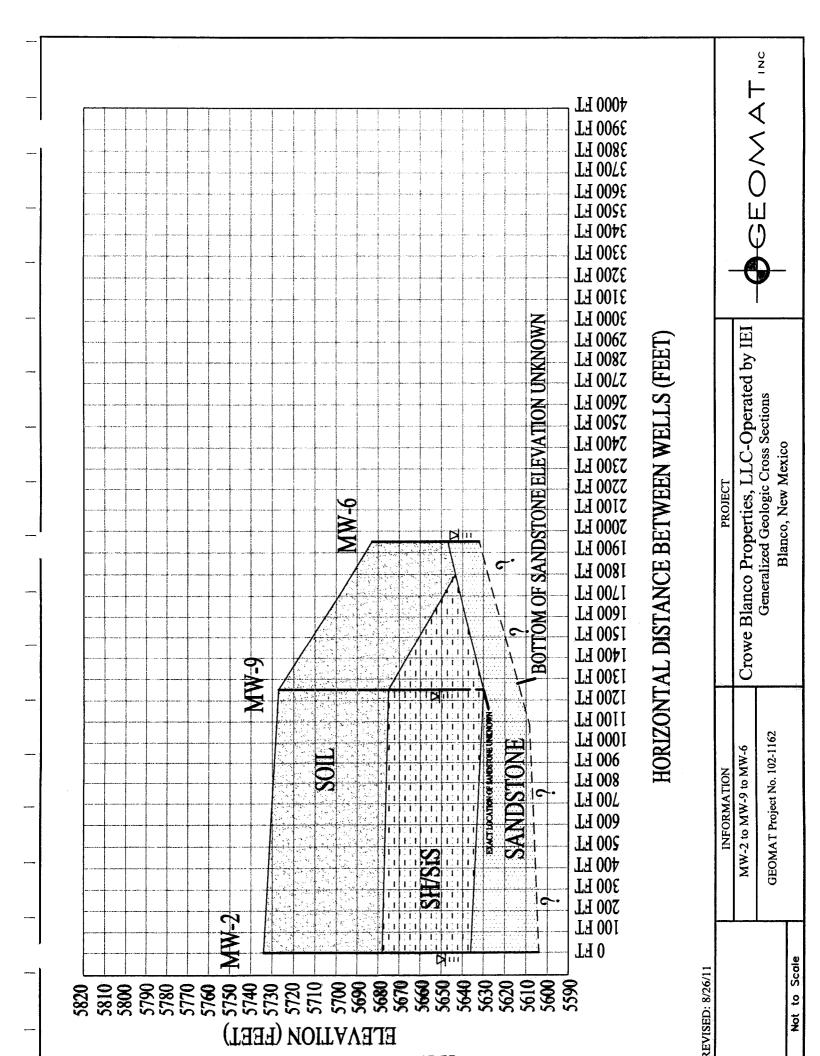
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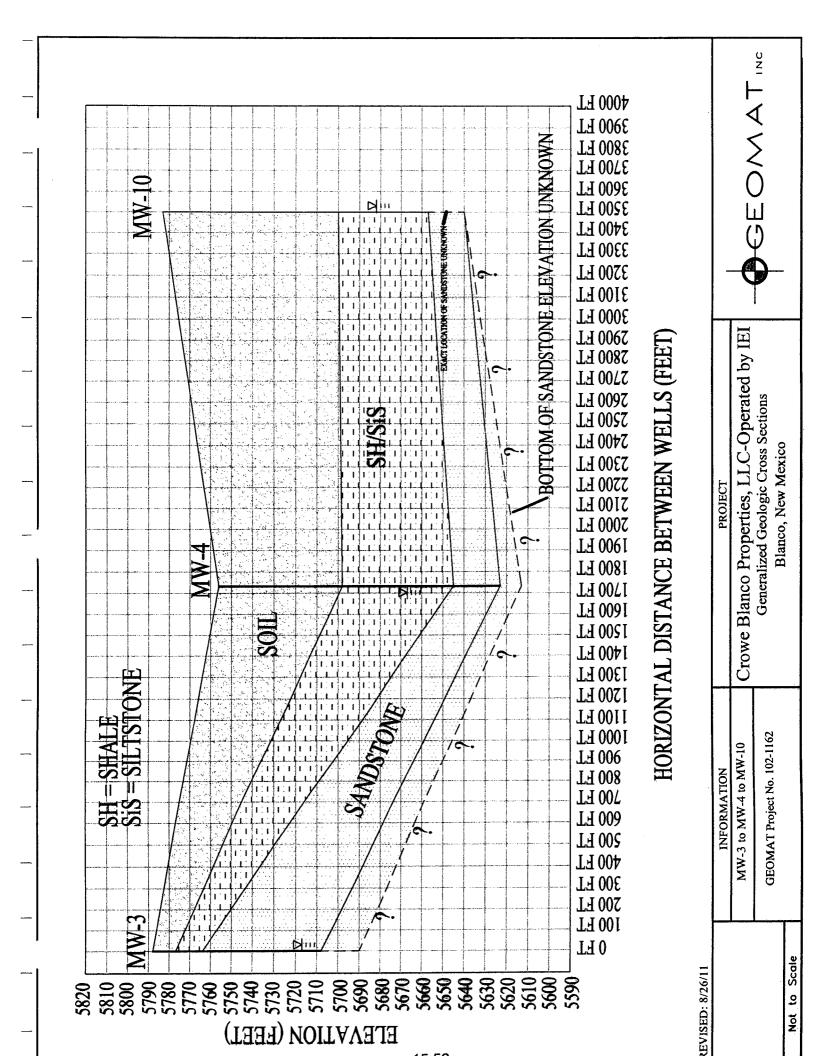


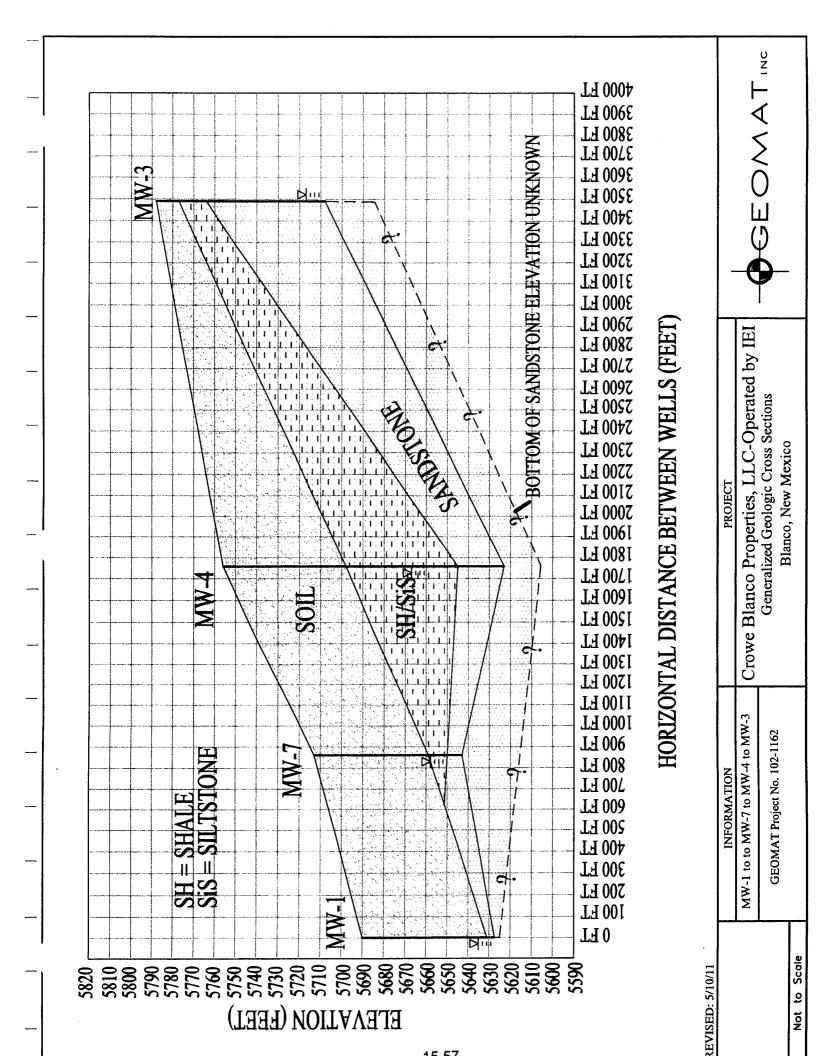


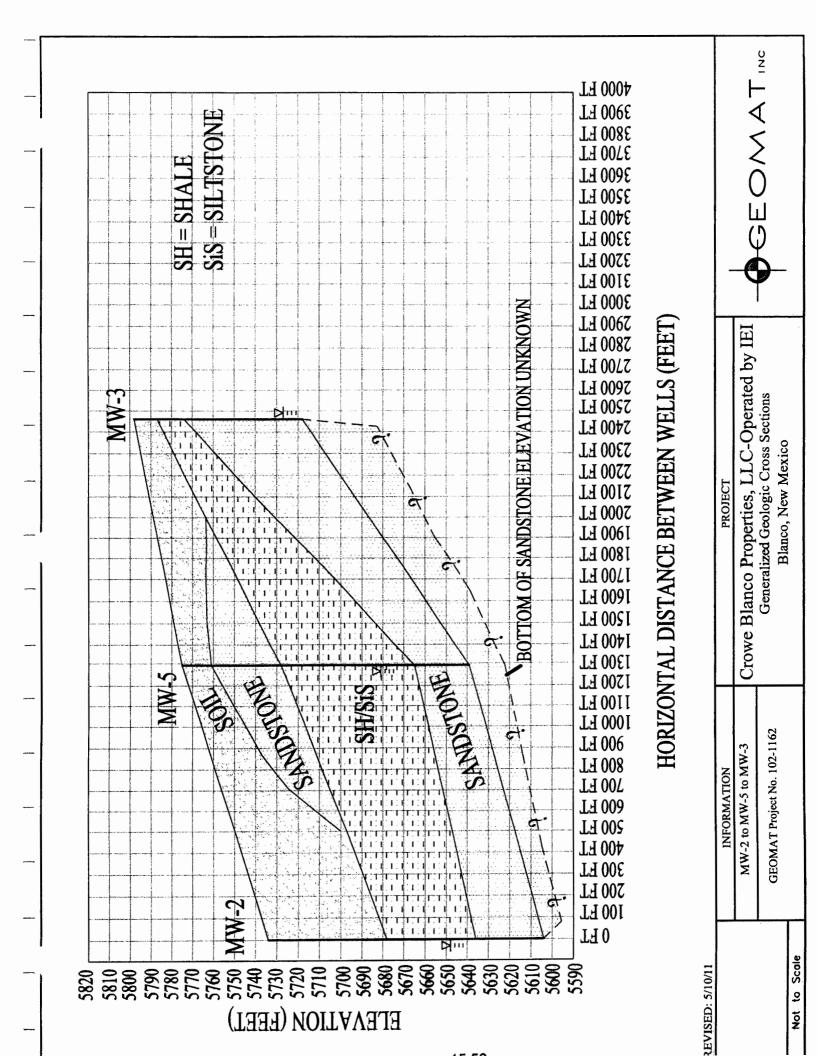


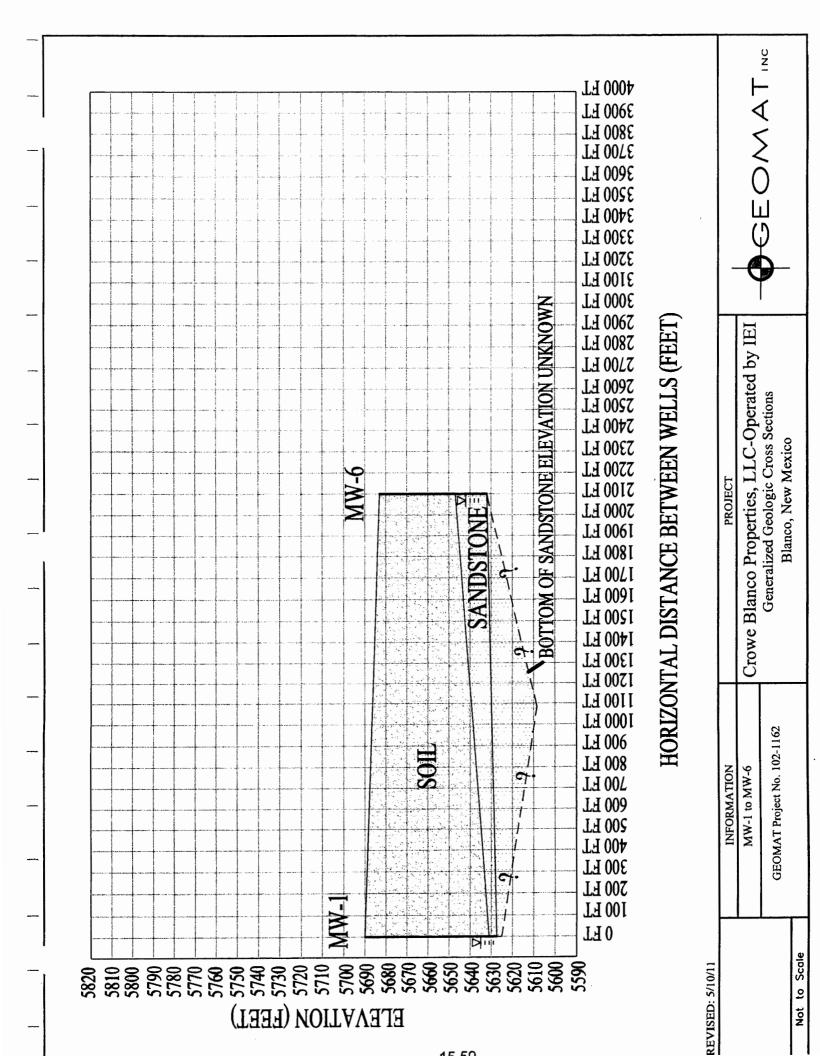












WATER LEVEL MEASUREMENTS

STATIC WATER LEVELS

_					.,			.,				
Static	Water Elevation	(ASL) ²	5637.96	5649.72	5728.72	5666.94	5683.82	5645.66	5654,13	5680.90	5648.28	5703.73
WL Below	Natural GS	(feet)*	49.87	82.71	62.64	88.65	92.26	37.93	56.00	74.11	78.50	78.99
WL below Pad	(feet) ³		49.78	82.71	62.64	88.65	93.26	37.93	26.00	74.11	78.50	78.99
WL below TOC	(measured)		52.32	84.37	64.76	91.10	95.40	40.10	58.39	76.48	81.00	81.27
DISTURBANCE WL below TOC WL below Pad WL Below	of NATURAL	GROUND ELEV	None	None	None	None	+1 ft of fill	None	None	None	None	None
CASING	STICKUP	(feet)	2.54	1.66	2.12	2.45	2.14	2.17	2.39	2.37	2.50	2.28
NATURAL	GROUND	SURFACE ²	5687.74	5732.43	5791.36	5755.59	5776.08	5683.59	5710.13	5755.01	5726.78	5782.72
TOP OF PAD	(ASL)1		5687.74	5732.43	5791.36	5755.59	5777.08	5683.59	5710,13	5755.01	5726.78	5782.72
TOC	(ASL)1		5690.28	5734.09	5793.48	5758.04	5779.22	5685.76	5712.52	5757.38	5729.28	5785.00
WELL	No.		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10

COMPARISON OF WATER LEVEL DURING DRILLING VS. STATIC WATER LEVEL

Z	(1)	-		Γ						-	Γ		Γ
DIFFERENCE BETWEEN	WIL DURING DRILLING	AND	STATIC WL (feet)	\$	27.7	5.7	21.9	21.8	1		1	2.7	24.7
Water ELEV	DURING	DRILLING?	(ASL)	9636	5622	5723	5645	5662	5646	5654	2680	5651	5582
Approx. WL	Observed during	Drilling		52	110	68	111	115	38	56	75	76	101
CASING DISTURBANCE	of NATURAL	GROUND ELEV		None	None	None	None	+1 ft of fill	None	None	None	None	None
CASING	STICKUP	(feed)		2.54	1.66	2.12	2.45	2.14	2.17	2.39	2.37	2.50	2.28
NATURAL	GROUND	SURFACE ²		5687.74	5732.43	5791.36	5755.59	5776.08	5683.59	5710.13	5755.01	5726.78	578272
TOP OF PAD NATURAL	(ASL) ¹			5687.74	5732.43	5791.36	5755.59	5777.08	5683.59	5710.13	5755.01	5726.78	578272
700	(ASL)1			5690.28	5734.09	5793.48	5758.04	5779.22	5685.76	5712.52	5757.38	5729.28	5785 00
WELL No.	Ö			MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	6-MM	MW-10

¹Elevations (in feet above sea level) surveyed by Cheney-Walters-Echols, Inc.

²Top of concrete pad minus ground disturbance

Measured water level (referenced to TOC) minus stickup

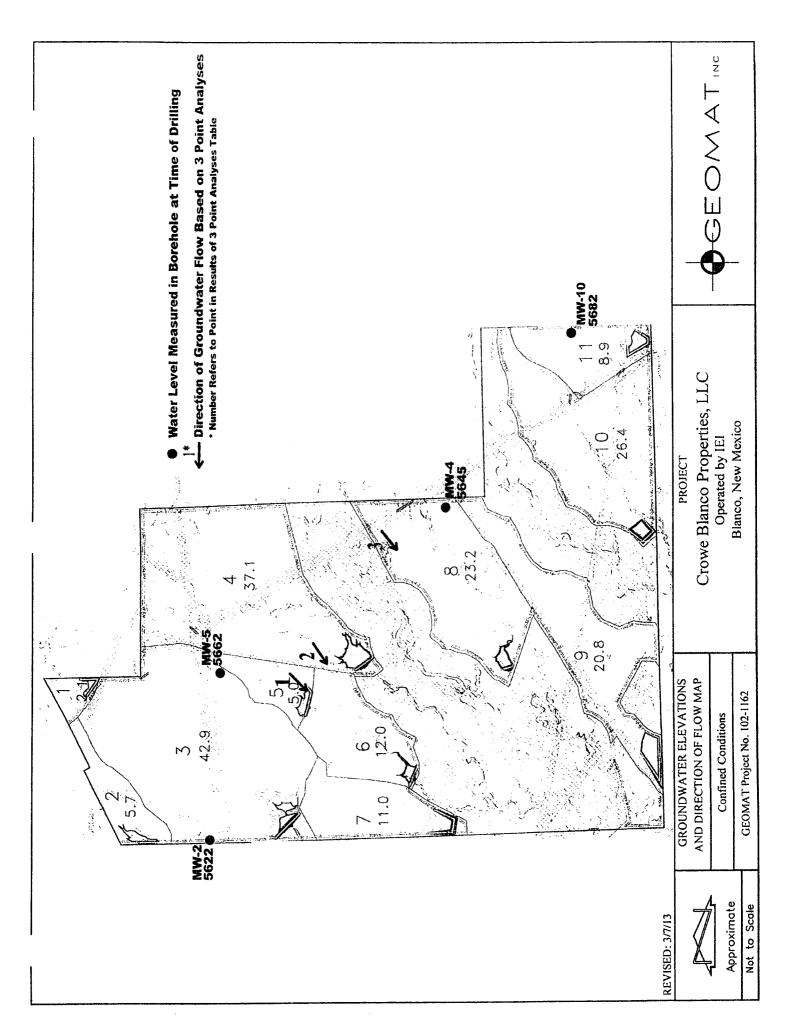
^{*}Water level (below concrete pad) minus ground disturbance Surveyed top of pad elevation minus water level below pad Approximate depth at which groundwater was first encountered at time of drilling Surveyed top of pad elevation minus water level observed during drilling

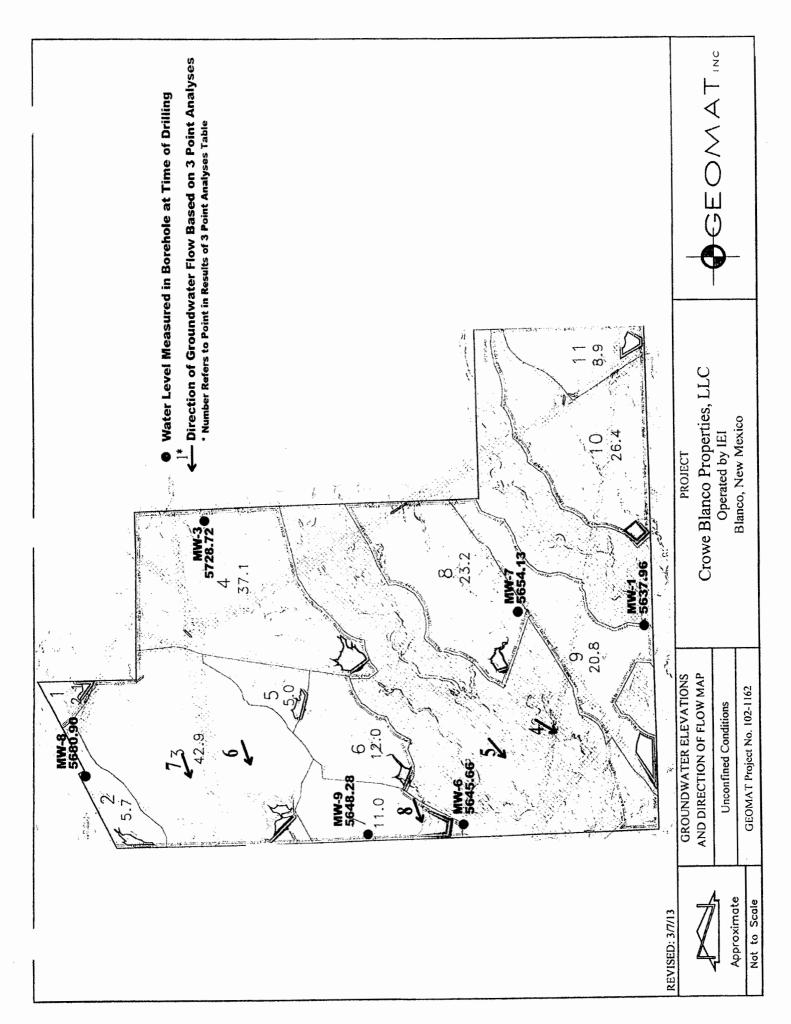
	Results of Thr	Results of Three Point Analyses	
	Using Confined	Using Confined Water Level Data ¹	
Мар	Wells	Flow	
Point ²	Analyzed	Direction	Gradient
	MW-#	(confined)	(confined)
1	2,4,5	S 47 W	2.7°
2	2,5,10	S 56 W	2.3°
3	4,5,10	S 51 W	4.9°
Average		S 51 W	3.3°

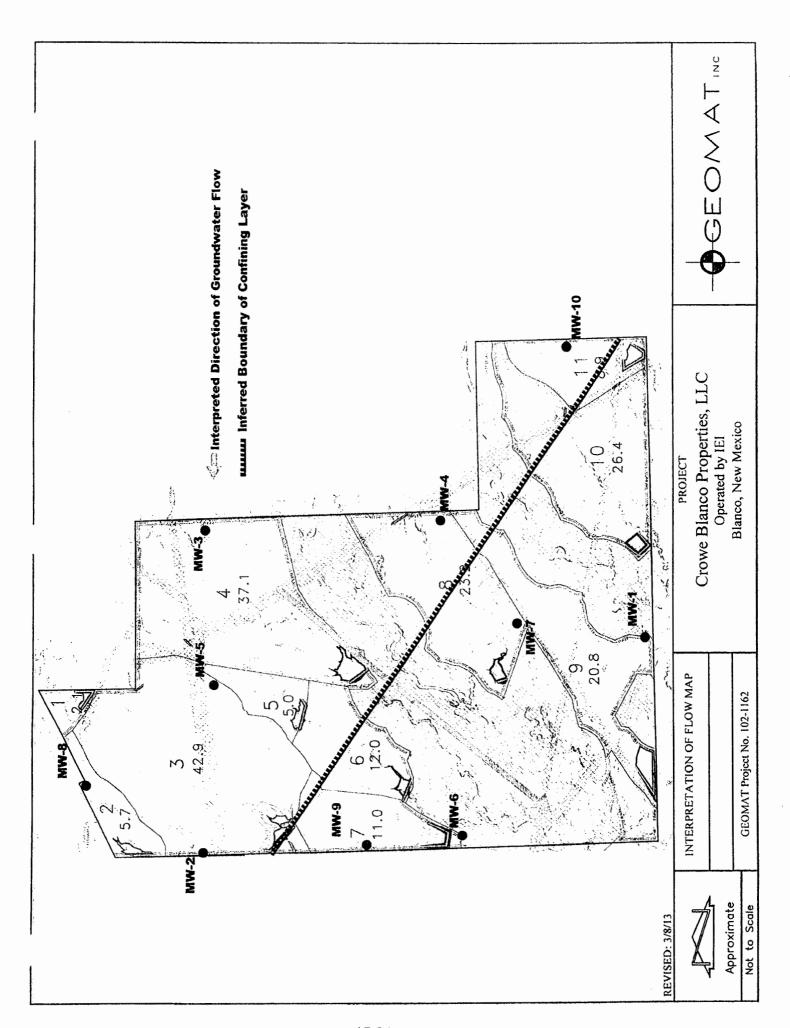
	Results of The	Results of Three Point Analyses	
	Using Static V	Using Static Water Level Data ³	
Map	Wells	Flow	
Point⁴	Analyzed	Direction	Gradient
	MW-#	(nucoutined)	(nucoutined)
4	1,6,7	S 33 W	1.10
5	1,7,9	S 49 W	1.4°
9	8'9'£	S 75 W	1.6°
7	6'8'6	S71W	1.7°
8	6,7,8	S 67 W	0.4°
Average		S 59 W	1.2°

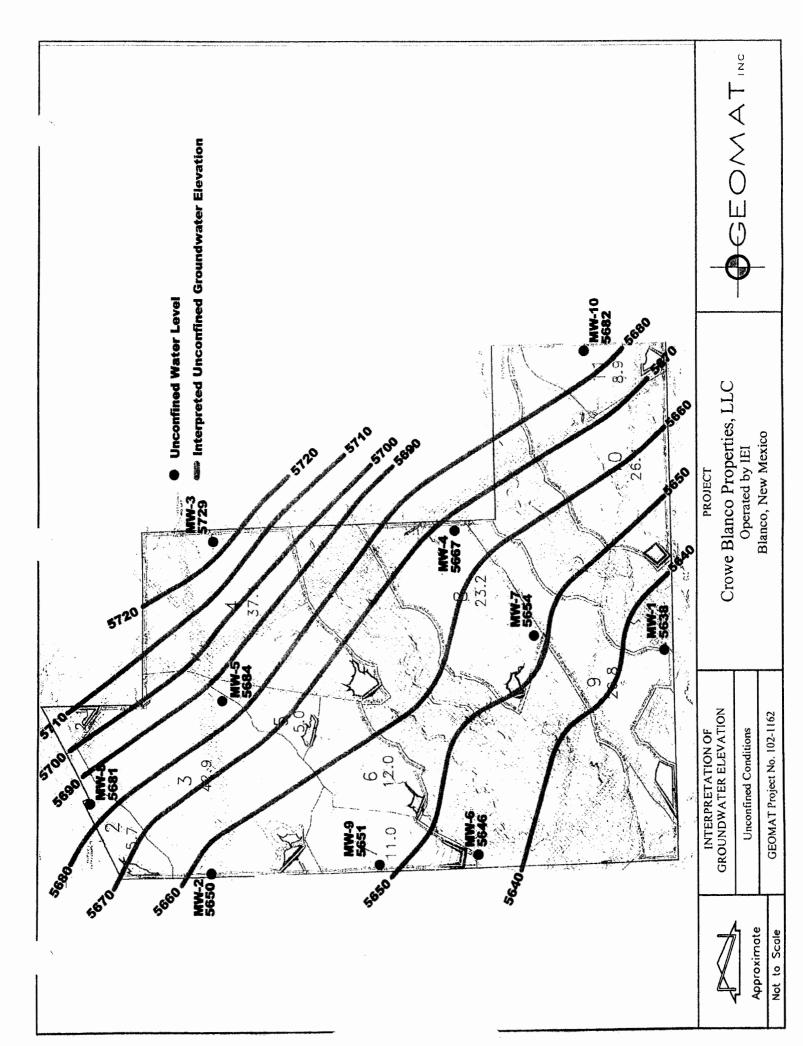
¹Wells used for analysis were MW-2, MW-4, MW-5, and MW-10 ²Corresponding point on **Groundwater Elevations and Direction of Flow Map** - **Confined Condition**

³Wells used for analysis were MW-1, MW-3, MW-6, MW-7, MW-8, and MW-9
⁴Corresponding point on **Groundwater Elevations** and **Direction of Flow Map** - **Unconfined Condition**











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13 September 2011

Marcella Marquez Industrial Ecosystems Inc. 49 CR 3150 Aztec, NM 87410

RE: MW6

Enclosed are the results of analyses for samples received by the laboratory on 08/31/11 14:55. The data to follow was performed, in whole or in part, by a subcontract laboratory with an additional report attached.

If you any any further assistance, please feel free to contact me.

Sincerely,

Debbie Zufelt

Reports Manager

Deldie Zufett



dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247 4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

Industrial Ecosystems Inc.

Project: MW6

49 CR 3150

Project Name / Number: 9932

Reported: 09/13/11 10:35

Aztec NM, 87410

Project Manager: Marcella Marquez

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW6	1109002-01	Water	08/31/11 09:30	08/31/11 14:55

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Deldie Zufett



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Industrial Ecosystems Inc.

49 CR 3150 Aztec NM, 87410 Project: MW6

Project Name / Number: 9932

Project Manager: Marcella Marquez

Reported:

09/13/11 10:35

MW6

1109002-01 (Water)

		Reporting						
Analyte	Result	Limit	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry								
Alkalinity, Bicarbonate	138	10.0	mg/L	1	09/01/11	2320 B		ABP
Alkalinity, Carbonate	ND	10.0	mg/L	1	09/01/11	2320 B		ABP
Alkalinity, Hydroxide	ND .	10.0	mg/L	1	09/01/11	2320 B		ABP
Alkalinity, Total	138	10.0	mg/L	1	09/01/11	2320 B		ABP
Chloride	26.0	10.0	mg/L	1	09/01/11	4500Cl B		ABP
rds	5120	10.0	mg/L	1	09/01/11	160.1/2540C		ABP
Sulfate	3700	1000	mg/L	1	09/02/11	4500SO4		ABP
Dissolved Metals by ICP								
Arsenic	ND	0.100	mg/L	1	09/07/11	200.7		JGS
Barium	ND	0.010	mg/L	1	09/07/11	200.7		JGS
Cadmium	ND	0.050	mg/L	1	09/07/11	200.7		JGS
Calcium	67.3	1.00	mg/L	1	09/07/11	200.7		JGS
Chromium	ND	0.050	mg/L	1	09/07/11	200.7		JGS
ron	1.17	0.050	mg/L	1	09/07/11	200.7		JGS
Lead	ND	0.100	mg/L	1	09/07/11	200.7		JGS
Magnesium	7.69	1.00	mg/L	1	09/07/11	200.7		JGS
Potassium	3.81	1.00	mg/L	1	09/07/11	200.7		JGS
Selenium	ND	0.200	mg/L	1	09/07/11	200.7		JGS
Silver	ND	0.050	mg/L	1	09/07/11	200.7		JGS
Sodium	1580	1.00	mg/L	1	09/07/11	200.7		JGS
Dissolved Mercury								
Mercury	ND	0.0002	mg/L	1	09/12/11	245.1		JGS

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Industrial Ecosystems Inc.

49 CR 3150

Aztec NM, 87410

Project: MW6

Project Name / Number: 9932

Project Manager: Marcella Marquez

Reported:

09/13/11 10:35

General Chemistry - Quality Control

Analyte	Result	Reporting	Hadas	Spike	Source	%REC	%REC	DDD	RPD	Notes
Analyte	Kesuit	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B109007 - General Prep - Wet Chem										
Blank (B109007-BLK1)				Prepared &	Analyzed:	09/01/11				
Chloride	ND	10,0	mg/L			,		1.00		
LCS (B109007-BS1)				Prepared &	Analyzed:	09/01/11				
Chloride	98.0	10,0	mg/L	100		98.0	85-115			
LCS Dup (B109007-BSD1)				Prepared &	: Analyzed:	09/01/11				
Chloride	98.0	10.0	mg/L	100		98.0	85-115	0.00	20	
Batch B109008 - General Prep - Wet Chem										
Blank (B109008-BLK1)				Prepared &	Analyzed:	09/02/11				
Sulfate	ND	10.0	mg/L							
.CS (B109008-BS1)				Prepared &	Analyzed:	09/02/11				
Sulfate	55.0	10.0	mg/L	50.0	-,	110	80-120			
LCS Dup (B109008-BSD1)				Prepared &	Analyzed:	09/02/11				
Sulfate	55.0	10.0	mg/L	50.0		110	80-120	0.00	20	
Batch B109011 - General Prep - Wet Chem										
Blank (B109011-BLK1)				Prepared &	Analyzed:	09/01/11				
Alkalinity, Total	ND	10.0	mg/L							
LCS (B109011-BS1)				Prepared &	Analyzed:	09/01/11				
Alkalinity, Total	102	10.0	mg/L	100		102	85-115			

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Project: MW6

49 CR 3150

Project Name / Number: 9932

Reported: 09/13/11 10:35

Aztec NM, 87410

Project Manager: Marcella Marquez

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B109011 - General Prep - Wet Chem										
LCS Dup (B109011-BSD1)				Prepared &	k Analyzed:	09/01/11				
Alkalinity, Total	103	10.0	mg/L	100		103	85-115	0.976	20	
Batch B109018 - General Prep - Wet Chem										
Blank (B109018-BLK1)				Prepared &	k Analyzed:	09/01/11				
TDS	ND	10.0	mg/L							
Duplicate (B109018-DUP1)	Sou	rce: 1108159	01	Prepared &	k Analyzed:	09/01/11				
TDS	1010	10.0	mg/L		1010			0.00	20	
Reference (B109018-SRM1)				Prepared &	Analyzed:	09/01/11				
TDS	3500	10.0	mg/L	3510		99.6	85-115			

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Industrial Ecosystems Inc.

Project: MW6

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Project Name / Number: 9932

Reported:

Aztec NM, 87410 Project Manager: Marcella Marquez

09/13/11 10:35

Dissolved Metals by ICP - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B109032 - Dissolved Metals										
Blank (B109032-BLK1)				Prepared &	: Analyzed:	09/07/11				
Arsenic	ND	0.100	mg/L							
Barium	ND	0.010	mg/L							
Cadmium	ND	0.050	mg/L							
Calcium	ND	1.00	mg/L							
Chromium	ND	0.050	mg/L							
Iron	ND	0.050	mg/L							
Lead	ND	0.100	mg/L							
Magnesium	ND	1.00	mg/L							
Potassium	ND	1.00	mg/L							
Selenium	ND	0,200	mg/L							
Silver	ND	0.050	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B109032-BS1)				Prepared &	: Analyzed:	09/07/11				
Arsenic	5.32	0,100	mg/L	5.00		106	85-115	· ·		-
Barium	2.62	0.010	mg/L	2.50		105	85-115			
Cadmium	2.73	0.050	mg/L	2.50		109	85-115			
Calcium	5.15	1.00	mg/L	5.00		103	85-115			
Chromium	2.70	0.050	mg/L	2.50		108	85-115			
Iron	5.38	0.050	mg/L	5.00		108	85-115			
Lead	2.74	0.100	mg/L	2.50		110	85-115			
Magnesium	27.6	1,00	mg/L	25.0		110	85-115			
Potassium	10.8	1.00	mg/L	10.0		108	85-115			
Selenium	10.7	0.200	mg/L	10.0		107	85-115			
Silver	0.128	0.050	mg/L	0.125		102	85-115			
Sodium	8.63	1.00	mg/L	8.10		106	85-115			
LCS Dup (B109032-BSD1)				Prepared &	Analyzed:	09/07/11				
Arsenic	5.32	0.100	mg/L	5.00		106	85-115	0.0250	20	
Barium	2.63	0.010	mg/L	2.50		105	85-115	0.359	20	
Cadmium	2.76	0.050	mg/L	2.50		110	85-115	0.925	20	
Calcium	5.20	1.00	mg/L	5.00		104	85-115	0.974	20	
Chromium	2.72	0.050	mg/L	2.50		109	85-115	0.488	20	
fron	5.44	0.050	mg/L	5.00		109	85-115	1.23	20	
Lead	2.78	0.100	mg/L	2.50		111	85-115	1.22	20	
Magnesium	27.8	1.00	mg/L	25.0		111	85-115	0.988	20	
Potassium	11.1	1.00	mg/L	10.0		111	85-115	2.89	20	
Selenium	10.7	0.200	mg/L	10.0		107	85-115	0.143	20	
Silver	0.129	0.050	mg/L	0.125		103	85-115	0.439	20	

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Prepared & Analyzed: 09/07/11

85-115

0.860

20

8.10

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Industrial Ecosystems Inc.

Project: MW6

49 CR 3150

Project Name / Number: 9932

1.00

8.70

Reported:

Aztec NM, 87410

LCS Dup (B109032-BSD1)

Sodium

Project Manager: Marcella Marquez

09/13/11 10:35

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B109032 - Dissolved Metals										

mg/L

Green Analytical Laboratories

Deldie Zufett

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.

at Page 7 of 14:



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Industrial Ecosystems Inc.

Project: MW6

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Project Name / Number: 9932

Reported:

Aztec NM, 87410

Project Manager: Marcella Marquez

09/13/11 10:35

Dissolved Mercury - Quality Control

		.		0 1	G		0/DEC		RPD	
		Reporting		Spike	Source		%REC			
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B109067 - EPA 245.1/7470										
Blank (B109067-BLK1)				Prepared &	Analyzed:	09/12/11				
Mercury	ND	0.0002	mg/L							
LCS (B109067-BS1)				Prepared &	: Analyzed:	09/12/11				
Mercury	0.0021	0.0002	mg/L	0.00200		107	85-115			
LCS Dup (B109067-BSD1)				Prepared &	: Analyzed:	09/12/11				
Mercury	0.0022	0.0002	mg/L	0.00200	•	110	85-115	2.49	20	

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Industrial Ecosystems Inc.

Project: MW6

49 CR 3150

Project Name / Number: 9932

Reported:

Aztec NM, 87410

Project Manager: Marcella Marquez

09/13/11 10:35

Notes and Definitions

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

*Results reported on as received basis unless designated as dry.

RPD Relative Percent Difference

LCS Laboratory Control Sample (Blank Spike)

Green Analytical Laboratories

Dellin Zufett

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.

Page 9 of 14

THE TOTAL PROPERTY OF THE PROP	Analytical		O	HA	CHAIN OF CUSTODY RECORD	OF (\overline{D}	STC	<u>d</u>	X K	Œ	Q.					Page	
-)		7		NOTES:	ä						L							
Contact: Marcell	te			1) Ens	1) Ensure proper container packaging.	er conta	iner p	ackagi	1g.				Table 1.	 	 Matrix Type 	ف ف	FOR	FOR GAL USE ONLY
Address: 49 CR	3150			2) Ship	2) Ship samples promptly following collection.	s prom	otly fo	llowing	s colle	ction.		= Sur	1 = Surface Water,	ater,	2 = Ground Water	d Water	9	GAL JOB#
Azrec Nr	2	01/1		3) Des	3) Designate Sample Reject Disposition.	ample F	Seger (Dispos	ition.		ω.	= Soi	/Sedin	ent, 4	= Rinsate	= Soil/Sediment, $4 = Rinsate$, $5 = Oil$	109	19-002
Phone Number: 505	05-632-	C801	ı	#04	2	2	1				9.	= Wa	ste, 7 =	E	6 = Waste, 7 = Other (Specify)			
FAX Number: 505-6	5-632-18	26	. 1	Projec	Project Name: MW	٤	2	6			Sar	nplers	Samplers Signature:	re:	0.11	2	The state of the s	
Lab Name: Green Anal	Green Analytical Laboratories	atories	6)	(970) 247-4220	4220	FA	X (97	FAX (970) 247-4227	4227		-		Ap	lyses I	Analyses Required			
Address: 75 Suttle S	75 Suttle Street, Durango, CO 81303	go, CO 813	03								3	17	2				7	
	Collection	tion		Miscellaneous	meons		-	Preservative(s)	ative	(8)	,	0	O					
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Sample ID	Date	Time	oted by: (ix Type Table 1	niatnoO to	ostatli4 slo	I) bavissa		ÞC		r (Specify)	WO1 10	XSI	and the second of the second			Соп	Comments
	,		Colle	noiA moiA	o oV			HCI HNC	H52	NAC	Othe	0	g				Temp 20.6	20.6 CC
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					-													

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



September 07, 2011

Debbie Zufelt

Green Analytical Laboratories

75 Suttle Street

Durango, CO 81303

RE: I E I

Enclosed are the results of analyses for samples received by the laboratory on 09/02/11 9:40.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydorcarbons

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

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Celeg & Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager.



Analytical Results For:

Green Analytical Laboratories Debbie Zufelt 75 Suttle Street Durango CO, 81303 (970) 247-4227

Fax To:

Received: 09/02/2011 Reported:

09/07/2011

Sampling Date: Sampling Type: 08/31/2011 Water

Project Name:

IEI

Sampling Condition:

Cool & Intact

Project Number: Project Location: 1109-002-01 NOT GIVEN

Sample Received By:

Jodi Henson

Sample ID: M W 6 (H101874-01)

BTEX 8021B	mg/	'L	Analyze	d By: CMS	,				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/06/2011	ND	0.053	106	0.0500	2.52	
Toluene*	<0.001	0.001	09/06/2011	ND	0.052	104	0.0500	3.08	
Ethylbenzene*	<0.001	0.001	09/06/2011	ND	0.053	105	0.0500	2.88	
Total Xylenes*	<0.003	0.003	09/06/2011	ND	0.157	105	0.150	2.73	

Surrogate: 4-Bromofluorobenzene (PIL

109 %

70.7-118

Cardinal Laboratories

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Celey D. Kuna Celey D. Keene, Lab Director/Quality Manager

Page 12 of 14



Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celeg D. Keins

Celey D. Keene, Lab Director/Quality Manager



Cardina) CHAIN OF CUSTODY RECORD

1) Ensure proper container packaging.

2) Ship samples promptly following colle

3) Designate Sample Reject Disposition. PO# GA 11 - 20

DURANGO, CO 81303 970-247-4220 970 - 247-4227

Phone Number: FAX Number

75 SUTTLE ST DEBIE ZUFELT

Contact: Address: Project Name:

Table 1. - Matrix Type

FOR GAL USE ONLY

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				SNO
GAL JOB#				LEASE CALL WITH ANY QUESTIONS
- 				ANY
				Ţ
Water	5 = Oil			\sqrt{N}
1 = Surface Water, 2 = Ground Water	3 = Soil/Sediment, 4 = Rinsate, 5 = Oil	6 = Waste, 7 = Other (Specify)_		ALL
2=	4 = R	er (Sp		<u> </u>
/ater,	nent,	Oth	ure:	A51
ace W	Sedin	e, 7	Samplers Signature:	LE
Surf	Soil	Wast	olers 5	اسا
#I.		= 9	Sam	
lection.				

Lab Name: Green Anal	Green Analytical Laboratories	ories)26)	(970) 247-4220		FAX ((026	FAX (970) 247-4227	723				Analy	Analyses Required	equire	9				
Address: 75 Suttle S	75 Suttle Street, Durango, CO 81303	, CO 8130	3										, 			• .	· 			
	Collection	αo	X	iscellancous	Snox		Pre	Preservative(s)	ive(s)								· · · · · · · · ·	· ·		
Sample ID HIDJSJU	Date	Time	Collected by: (Init.)	Parity Type 1 oldaT morff	No. of Containers Sample Filtered 7 Y/N	Unpreserved (Ice Only)	ЕОИН	HCr ś	H0204	Other (Specify)	1208 X318		and the second s					8	Comments	
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Relinquished by:				Date:		E	Time:		Received by	d by:								Datć: '	Time:	

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

Page 14 of 14



April 11, 2011

MARCELLA MARQUEZ

INDUSTRIAL ECOSYSTEMS

49 CR 3150

AZTEC, NM 87410

RE: BLANCO GROUNDWATER

Enclosed are the results of analyses for samples received by the laboratory on 03/30/11 8:00.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydorcarbons

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

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

INDUSTRIAL ECOSYSTEMS MARCELLA MARQUEZ 49 CR 3150 **AZTEC NM, 87410**

Fax To:

(505) 632-1876

Received:

03/30/2011

Reported: Project Name: 04/11/2011

BLANCO GROUNDWATER

Project Number: Project Location:

BLANCO GROUONDWATER

Sampling Date:

03/28/2011 Water

Sampling Type:

Sampling Condition: Sample Received By:

Cool & Intact Jodi Henson

Sample ID: MW 1 - #1 (H100628-01)

Arsenic, 200.7	mg,	/L	Analyzo	id By: JM					······································
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Arsenic	<0.100	0.100	04/05/2011	ND	4.03	101	4.00	2.77	GAL
Barlum, 200.7	mg	/L	* Analyze	MÇ ; Ç B bı					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Barium	0.140	0.010	04/05/2011	ND	1.94	97.0	2.00	2.61	GAL
Bicarbonate 2320B	mg	/L	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Bicarbonate	149	10.0	04/01/2011	ND				0.673	GAL
BTEX \$260B	mg	/L	Analyze	d By; CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.001	0.001	03/30/2011	ND	0.020	101	0.0200	10.4	
Toluene*	<0.001	0.001	03/30/2011	ND	0.020	98.8	0.0200	9.43	
Ethylbenzene*	<0.001	0.001	03/30/2011	ND	0.021	106	0.0200	9.50	
Total Xylenes*	<0.003	0.003	03/30/2011	ND	0.058	96. 9	0.0600	9.44	
Surrogate: Dibromofluoromethane	107	% 80-120							
Surrogate: Toluene-d8	94.6	% 80-120							
Surrogate: 4-Bromofluorobenzene	76.3	% 80-120							
Cadmium, 200.7	mg	<u>′L</u>	Analyze	d By: JM				 	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Cadmlum	<0.010	0.010	04/05/2011	ND	1.91	95.5	2.00	2.12	GAL

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*=Accredited Analyte

claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in All with written approval of Cardinal Laboratories.

Celey D. Kuna

Celey D. Keene, Lab Director/Quality Manager





Analyticai Results For:

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

Received:

03/30/2011

Reported:

04/11/2011

Project Name:

BLANCO GROUNDWATER

Project Number:

Project Location:

BLANCO GROUONDWATER

Sampling Date:

03/28/2011

Sampling Type:

Water

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: MW 1 - #1 (H100628-01)

Calcium, 200.7	mg/	'L	Analyza	d By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Calcium	222	0.500	04/05/2011	ND	4.20	84.0	5.00	2.90	GAL
Carbonate 2320B	mg/L		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Carbonate	<10.0	10.0	04/01/2011	ND					GAL
Chromium, 200.7	mg/	'L	Anaiyze	d By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chromium	<0.010	0.010	04/05/2011	ND	2.01	100	2.00	2.52	GAL
Hydroxide 2320B	mg/L		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Hydroxide	<10.0	10.0	04/01/2011	ND					GAL
Lead, 200.7	mg/L		Analyzed By: JM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Lead	<0.050	0.050	04/05/2011	ND	2.07	104	2.00	1.95	GAL
Magnesium, 200.7	mg/	L	Analyte	d By; JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Magnesium	26.4	0.500	04/05/2011	ND	20.4	81.8	25.0	3.23	GAL
Mercury, 245.1	mg/	'L	Analyze	d By: JM			•		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Mercury	<0.0002	0,0002	04/06/2011	ND	0.0022	110	0.00200	4.44	GAL
Potassium, 200.7	mg/	L	Anaiyze	d By; JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

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Celeg D. Keens

Celey D. Keene, Lab Director/Quality Manager





Analytical Results For:

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

Received:

03/30/2011

Reported:

04/11/2011

BLANCO GROUNDWATER

Project Name: Project Number:

Project Location:

BLANCO GROUONDWATER

Sampling Date:

03/28/2011

Sampling Type:

Water

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

Sample ID: MW 1 - #1 (H100628-01)

Potassium, 200.7	mg	/L	Analyze	ıd By; JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Potassium	6.40	0.500	04/05/2011	ND	8.34	83.4	10.0	0.964	GAL
Selenium, 200.7	mg	mg/L		Analyzed By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Selenium	<0.200	0.200	04/05/2011	ND	7.88	98.5	8.00	2.31	GAL
Silver, 200.7	mg	/L	Analyze	d By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier
Silver	<0.010	0.010	04/05/2011	ND	0.390	97.5	0.400	2.60	GAL
Sodium, 200.7	mg,	/L	Analyzed By: JM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sodium	748	0.500	04/05/2011	ND	6.61	110	6.00	3.86	GAL
Sulfate 4500SO4	mg/	/L	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Suifate	2300	10.0	03/30/2011	ND	58.0	107	54.0	0.00	GAL
TDS 2540C	mg/	/L	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	4000	10.0	03/29/2011	. ND	3540 _.	101	3510	2.53	GAL
Total Alkalinity 2320B	mg/	'L	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Total	149	10.0	04/01/2011	ND	340	96.6	352	0.673	GAL.

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ors arising out of or related to the performa

Celey D. Kuna

His Range A of 9



Analyticai Results For:

INDUSTRIAL ECOSYSTEMS MARCELLA MARQUEZ 49 CR 3150 **AZTEC NM, 87410**

Fax To:

(505) 632-1876

Received:

03/30/2011

Sampling Date:

03/28/2011

Reported:

04/11/2011

Sampling Type:

Water

Project Name:

BLANCO GROUNDWATER

Sampling Condition:

Cool & Intact

Project Number:

9590

Sample Received By:

Jodi Henson

Project Location:

BLANCO GROUONDWATER

Sample ID: MW 1 - #2 (H100628-02)

Arsenic, 200.7	mg	<u>/L</u>	Analyze	ME :ye bi					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Arsenic	<0.100	0.100	04/05/2011	ND	4.03	101	4.00	2.77	GAL
Barium, 200.7	mg	mg/L		Analyzed By: JM			.,		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Barium	0.190	0.010	04/05/2011	ND	1.94	97.0	2.00	2.61	GAL
Bicarbonate 2320B	mg	/L	Analyze	d By: CK	#*************************************				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Bicarbonate	139	10.0	04/01/2011	ND				0.673	GAL
BTEX \$260B	mg	/L	Analyze	d By; CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	03/30/2011	ND	0.020	101	0.0200	10.4	
Toluene*	<0.001	0.001	03/30/2011	ND	0.020	98.8	0.0200	9.43	
Ethylbenzene*	<0.001	0.001	03/30/2011	ND	0.021	106	0.0200	9.50	
Total Xylenes*	<0.003	0.003	03/30/2011	ND	0.058	96.9	0.0600	9.44	
Surrogate: Dibromofluoromethane	108	% 80-120							
Surrogate: Toluene-d8	93.1	% 80-120							
Surrogate: 4-Bromofluorobenzene	76.9	% 80-120							
Cadmium, 200.7	mg,	/L	Analyze	d By: JM		····			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Cadmium	<0.010	0.010	04/05/2011	ND	1.91	95.5	2.00	2.12	GAL

Cardinal Laboratories

*=Accredited Analyte

Celey D. Kuna

Celey D. Keene, Lab Director/Quality Manager





Analytical Results For:

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

Received:

03/30/2011

Reported:

04/11/2011

Sampling Date:

03/28/2011

Sampling Type:

Water

Project Name:

BLANCO GROUNDWATER

Sampling Condition:

Cool & Intact

Project Number:

Sample Received By:

Jodi Henson

Project Location:

BLANCO GROUONDWATER

Sample ID: MW 1 - #2 (H100628-02)

Calcium, 200.7	mg,	/L	Analyze	id By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Calcium	217	0.500	04/05/2011	ND	4.20	84.0	5.00	2.90	GAL
Carbonate 2320B	mg/L		Analyzed By; CK		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Carbonate	<10.0	10.0	04/01/2011	ND					GAL
Chromium, 200.7	mg	mg/L		d By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chromium	<0.010	0.010	04/05/2011	ND	2.01	100	2.00	2.52	GAL
Hydroxide 2320B	mg,	/L	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Hydroxide	<10.0	10.0	04/01/2011	ND					GAL
Lead, 200.7	mg/L		Analyzed By: JM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Lead	<0.050	0.050	04/05/2011	ND	2.07	104	2.00	1.95	GAL
Magnesium, 200.7	mg/	'L	Analyze	d By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifler
Magnesium	2 7 .2	0.500	04/05/2011	ND	20.4	81.8	25.0	3.23	GAL
Mercury, 245.1	mg/	'L	Analyze	d By; JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Mercury	<0.0002	0.0002	04/06/2011	ND	0.0022	110	0.00200	4.44	GAL
Potassium, 200.7	mg/	'L	Analyze	d By; JM		 	,		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whisther based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistower shall be deemed walved unless made in welling and received by Cardinal wellin limity (3D) days after completion of the applicable service. In ne event shall Cardinal be liable for indicantal or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subclaims, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims to based upon any of the above stated reasons or otherwises. Results relate only to the samples identified above. This report shall not be reproduced except in all with written approval of Cardinal Laboratories.

Celey D. Keens

Celey D. Keene, Lab Director/Quality Manager





Analytical Results For:

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

Received:

03/30/2011

Reported:

04/11/2011

BLANCO GROUNDWATER

Project Number: 9590

Project Location:

Project Name:

BLANCO GROUONDWATER

Sampling Date:

Sampling Type:

03/28/2011 Water

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: MW 1 - #2 (H100628-02)

Potassium, 200.7	mg	/L	stylenA	id By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Potassium	6.90	0.500	04/05/2011	ND	8.34	83.4	10.0	0.964	GAL
Selenium, 200.7	mg/	/L	Analyzed By: JM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Selenium	<0.200	0.200	04/05/2011	ND	7.88	98.5	8.00	2.31	GAL
Silver, 200.7	mg/	/L	Analyze	d By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Silver	<0.010	0.010	04/05/2011	ND	0.390	97.5	0.400	2.60	GAL
Sodium, 200.7	mg/	mg/L		Analyzed By: JM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sodium	772	0.500	04/05/2011	ND	6.61	110	6.00	3.86	GAL
Sulfate 4500SO4	mg/	mg/L		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier
Sulfate	2100	10.0	03/30/2011	ND	58.0	107	54.0	0.00	GAL
TDS 2540C *	mg/	L	stylenA	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	4000	10.0	03/29/2011	ND	3540	101	3510	2.53	GAL
Total Alkalinity 23208	mg/	'L	atylenA	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Total	139	10.0	04/01/2011	ND	340	96.6	352	0.673	GAL

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Uability and Dameges. Cardinal's Sability and client's exclusive remedy (or any claim arising, whether based in contract or text, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsonew shall be deemed welved unless made in westing and received by Cardinal washin thirty (20) days after completion of the applicable service. In no event shall Cardinal be Sable for incidental damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidialises, affiligips or auccessors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Results related notly to the samples identified above. This report shall not be reproduced accept in fall with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

Celey D. Keena

SECTOMOTO DESIGNATION



Notes and Definitions

GAL	Analysis subcontracted to Green Analytical Laboratories, a subsidiary of Cardinal Laboratories.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
•	Chloride by SM4500Cl-8 does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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

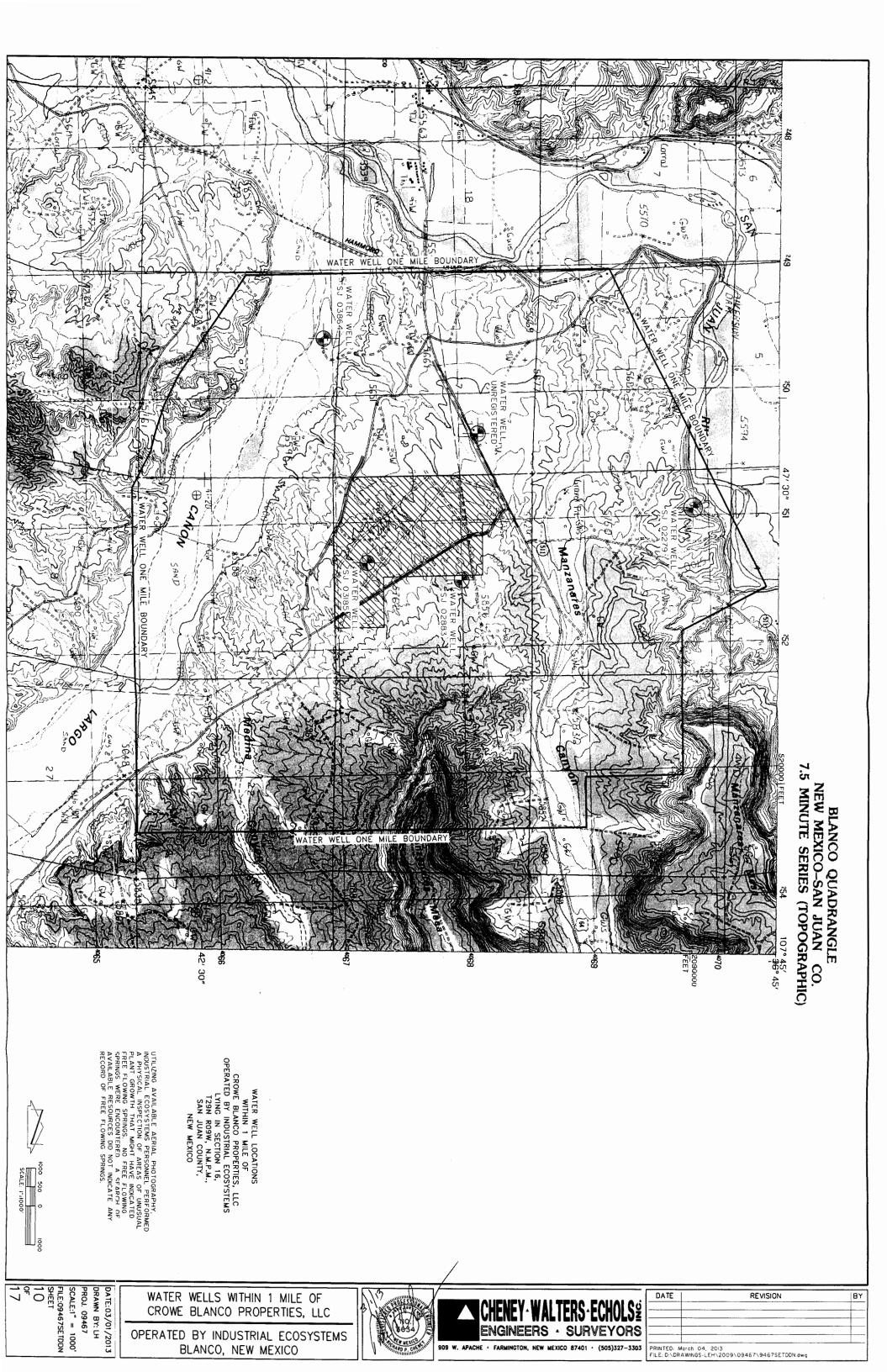
Celey D. Keens

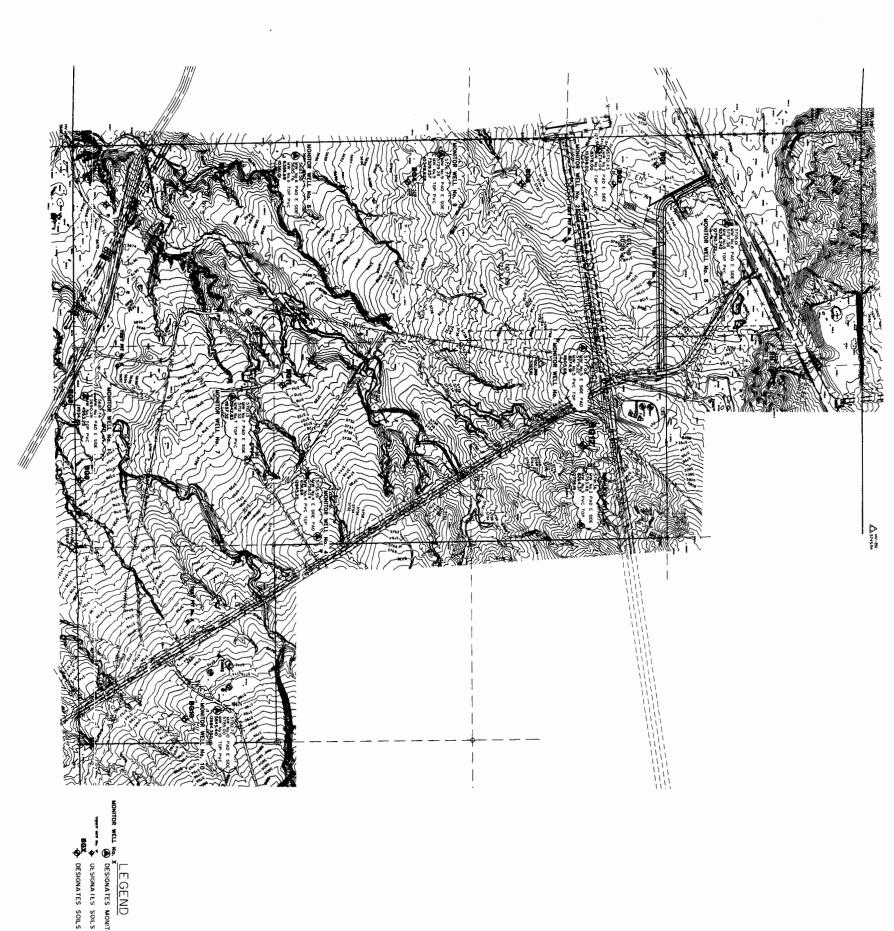
Celey D. Keene, Lab Director/Quality Manager



Page	round Water GAL JOB # usate, 5=0il city	
ECORD		Analyses Required
CHAIN OF CUSTODY RECORD NOTES.	1) Ensure proper container packaging. 2) Ship samples promptly following collection. 3) Designate Sample Reject Disposition. 6 = Waste, 7 = Officer Project Name: Blanco-9 found and Bla	(970) 247-4220 FAX (970) 247-4227
Great Analytical Analytical Laboratories	Adress: 49 CR 3/50 A2+e NM hone Number: 505-632-1876 AX Number: 565-632-1876	Lab Name: Green Analytical Laboratories

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	1 Troon My Mayou
	11 "The Open Park" Mayour
	11 moon my manguer 82 8/11





YELL LOCATION T PIT FOR BACKGROUND

DATE:02/26/2013
DRAWN BY: LH
PROJ. 09467
SCALE:N. T.S.
FILE:09467SET
SHEET
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OF
17

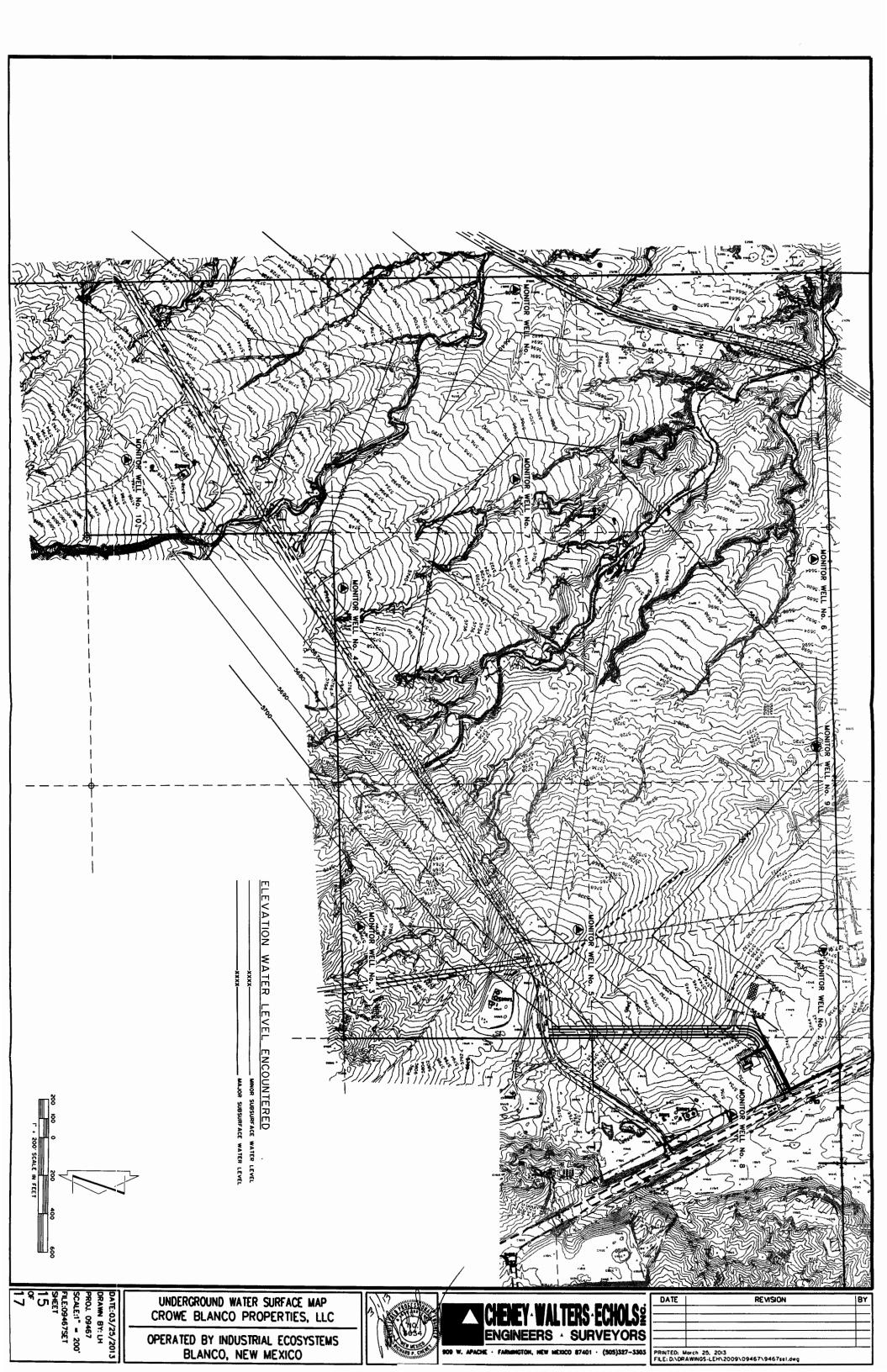
TEST PITS AND MONITOR WELLS LOCATIONS CROWE BLANCO PROPERTIES, LLC

OPERATED BY INDUSTRIAL ECOSYSTEMS BLANCO, NEW MEXICO





REVISION DATE BY PRINTED: March 04, 2013 FILE: D:\DRAWINGS-LEH\2009\09467\9467set.dwg



District I 1625 N. French Dr., Hobbs, NM 88240 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

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Form C-137 Revised August 1, 2011

Submit 1 Copy to Santa Fe Office

APPLICATION FOR SURFACE WASTE MANAGEMENT FACILITY

A meeting should be scheduled with the Division's Santa Fe office Environmental Bureau prior to pursuing an application for a surface waste management facility in order to determine if the proposed location is capable of satisfying the siting requirements of Subsections A and B of 19.15.36.13 NMAC for consideration of an application submittal.

1	Application:	⊠ New	☐ Modification	Ren	ewal	
2.	Type: Evaporation	Injection	☐ Treating Plant	Landfill	∠ Landfarm	Other
3.	Facility Status:	⊠ Co	mmercial	☐ Cer	ntralized	
4.	Operator: Crowe Blanco	Properties, LLC	Operated by: Industrial	Ecosystems, Inc.		
	Address: 49 CR 3150 24	Aziec NIMI 874 lú				
	Contact Person: Terry La	ttin, President/GN	M	Phone:	((31015)) 8600-78135 (6	nc(\$(00))(6892-)[7892
5.	Contact Person: Terry La Location: NW 1 /4					
		/4	Section 16	Township T	29N Range	

- 8. Attach a plat and topographic map showing the surface waste management facility's location in relation to governmental surveys (quarter-quarter section, township and range); highways or roads giving access to the surface waste management facility site; watercourses; fresh water sources, including wells and springs; and inhabited buildings within one mile of the site's perimeter.
- 9. Attach the names and addresses of the surface owners of the real property on which the surface waste management facility is sited and surface owners of the real property within one mile of the site's perimeter.
- 10. Attach a description of the surface waste management facility with a diagram indicating the location of fences and cattle guards, and detailed construction/installation diagrams of pits, liners, dikes, piping, sprayers, tanks, roads, fences, gates, berms, pipelines crossing the surface waste management facility, buildings and chemical storage areas.
- 11. Attach engineering designs, certified by a registered professional engineer, including technical data on the design elements of each applicable treatment, remediation and disposal method and detailed designs of surface impoundments.
- 12. Attach a plan for management of approved oil field wastes that complies with the applicable requirements contained in 19.15.36.13, 19.15.36.14, 19.15.36.15 and 19.15.36.17 NMAC.
- 13. Attach an inspection and maintenance plan that complies with the requirements contained in Subsection L of 19.15.36.13 NMAC.
 - 14. Attach a hydrogen sulfide prevention and contingency plan that complies with those provisions of 19.15.3.118 NMAC that apply to surface waste management facilities.

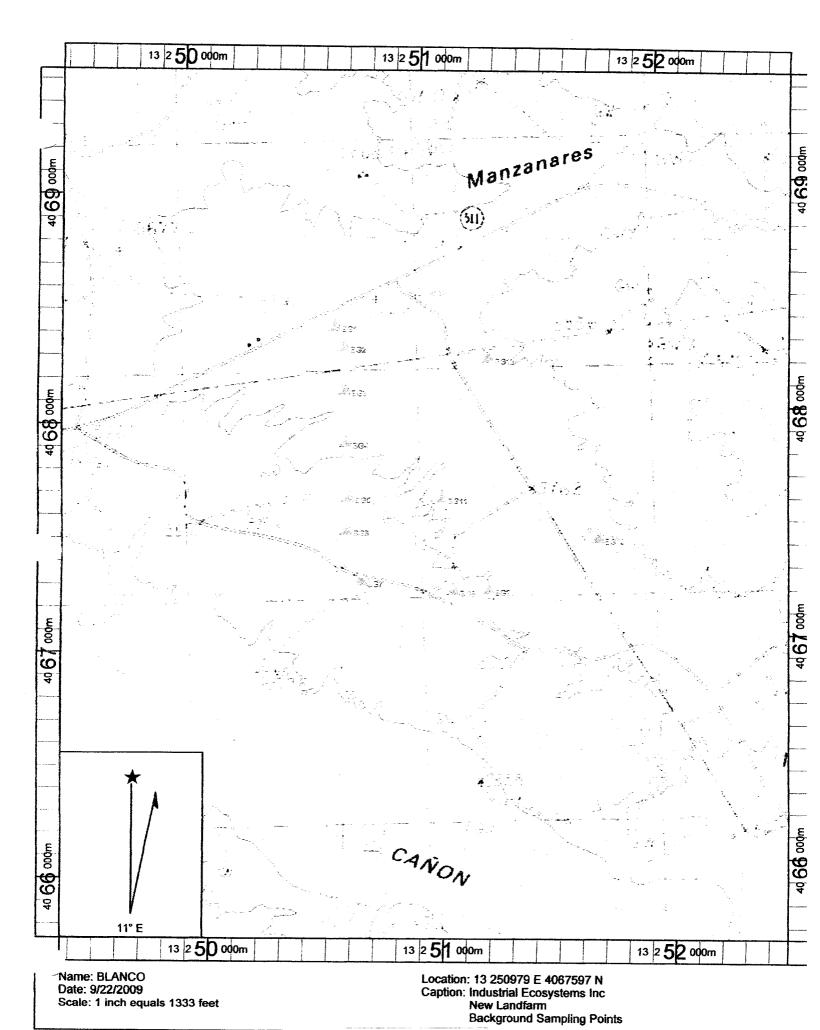
- 15. Attach a closure and post closure plan, including a responsible third party contractor's cost estimate, sufficient to close the surface waste management facility in a manner that will protect fresh water, public health, safety and the environment (the closure and post closure plan shall comply with the requirements contained in Subsection D of 19.15.36.18 NMAC).
- 16 Attach a contingency plan that complies with the requirements of Subsection N of 19.15.36.13 NMAC and with NMSA 1978, Sections 12-12-1 through 12-12-30, as amended (the Emergency Management Act).
- 17. Attach a plan to control run-on water onto the site and run-off water from the site that complies with the requirements of Subsection M of 19.15.36.13 NMAC.
- 18. In the case of an application to permit a new or expanded landfill, attach a leachate management plan that describes the anticipated amount of leachate that will be generated and the leachate's handling, storage, treatment and disposal, including final post closure options.
- 19. In the case of an application to permit a new or expanded landfill, attach a gas safety management plan that complies with the requirements of Subsection O of 19.15.36.13 NMAC
- 20. Attach a best management practice plan to ensure protection of fresh water, public health, safety and the environment.
- 21. Attach a demonstration of compliance with the siting requirements of Subsections A and B of 19.15.36.13 NMAC.
- 22. Attach geological/hydrological data including:
 - a map showing names and location of streams, springs or other watercourses, and water wells within one mile of (a) the site:
 - laboratory analyses, performed by an independent commercial laboratory, for major cations and anions; benzene, toluene, ethyl benzene and xylenes (BTEX); RCRA metals; and total dissolved solids (TDS) of ground water samples of the shallowest fresh water aguifer beneath the proposed site;
 - depth to, formation name, type and thickness of the shallowest fresh water aquifer;
 - soil types beneath the proposed surface waste management facility, including a lithologic description of soil and rock members from ground surface down to the top of the shallowest fresh water aquifer;
 - (e) geologic cross-sections;
 - (f) potentiometric maps for the shallowest fresh water aquifer; and
 - porosity, permeability, conductivity, compaction ratios and swelling characteristics for the sediments on which the contaminated soils will be placed.
- 23. In the case of an existing surface waste management facility applying for a minor modification, describe the proposed change and identify information that has changed from the last C-137 filing.
- 24. The division may require additional information to demonstrate that the surface waste management facility's operation will not adversely impact fresh water, public health, safety or the environment and that the surface waste management facility will comply with division rules and orders

25. CERTIFICATION

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name:

Signature:



Page 1

Markers

Name: BG1

Short Name: BG1

Coordinates: 13 250609 E, 4068397 N

Name: BG2

Short Name: BG2

Coordinates: 13 250647 E, 4068309 N

Name: BG3

Short Name: BG3

Coordinates: 13 250646 E, 4068123 N

Name: BG4

Short Name: BG4

Coordinates: 13 250644 E, 4067892 N

Name: BG5

Short Name: BG5

Coordinates: 13 250648 E, 4067650 N

Name: BG6

Short Name: BG6

Coordinates: 13 250637 E, 4067501 N

Name: BG7

Short Name: BG7

Coordinates: 13 250691 E, 4067280 N

Name: BG8

Short Name: BG8

Coordinates: 13 251091 E, 4067231 N

Name: BG9

Short Name: BG9

Coordinates: 13 251239 E, 4067230 N

Name: BG10

Short Name: BG10

Coordinates: 13 251714 E, 4067442 N

Name: BG11

Short Name: BG11

Coordinates: 13 251049 E, 4067638 N

Name: BG12

Short Name: BG12

Coordinates: 13 251261 E, 4068246 N

_ 4

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

BLANCO LANDFARM BACKGROUND SAMPLING PROTOCOL

Background soil samples were collected by Blagg Engineering, Inc. (BEI) on August 17, 2009 at the location of the proposed Industrial Ecosystems, Inc. Blanco landfarm facility in San Juan County, New Mexico prior to initiation of any ground surface disturbance. The purpose of the sampling was to establish analytical parameters in accordance with NMAC 19.15.36.15 (B), "Background Testing". A total of twelve (12) composite background soil samples, each consisting of 16 discrete samples, were collected from throughout the proposed landfarm site. The composite samples were collected with a sample spade at a depth of at least six (6) inches below the original ground surface, thoroughly mixed, placed into sample containers and stored in an ice chest with ice. The sampling spade and composite mixing bowl was cleaned with an Alconox soap mix and rinsed with distilled water between sample events. Following collection, the samples were express delivered to Benchmark Analytics, Inc. in Center Valley, Pennsylvania in with chain-of-custody documentation.

Following the initial laboratory analytical testing by Benchmark, BEI was notified that the lab could not run total petroleum hydrocarbons by U.S. EPA Method 418.1, or Vinyl Chloride on soil, as these were tests unique to the State of New Mexico. On December 16, 2010 BEI revisited the original background sample locations (using GPS coordinates) and recollected the twelve (12) composite background soil samples, each consisting of 16 discrete samples. As with the original sampling, the composite samples were collected with a sample spade at a depth of at least six (6) inches below the original ground surface, thoroughly mixed, placed into sample containers and stored in an ice chest with ice. Sampling equipment was cleaned between sample events as described above. Following collection, the samples were express delivered to Hall Environmental Laboratories in Albuquerque, New Mexico with chain-of-custody documentation.

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413 Phone: (505)632-1199 Fax: (505)632-3903

BLANCO LANDFARM SAMPLING PLAN FOR 8/17/2009 EVENT

- 1) Contact Benchmark Analytical to establish proper containers and obtain containers and Chain-of-Custody paperwork.
- 2) Identify proposed landfarm perimeter and locate 12 background sample spots throughout interior at undisturbed, natural surface.
- 3) Assemble Sampling Equipment:
 - -GPS Unit
 - -Sample Spade
 - -1 Gallon Collection Baggies
 - -12" SS Mixing Bowl
 - -Sample Containers (16 oz Glass Jars with Teflon Lined Lids) with labels
 - -2 Each 5 Gallon Buckets (Pre-Cleaned)
 - -10 Gallons Distilled Water
 - -Powered Alconox Soap
 - -Paper Towels
 - -Nitril Sampling Gloves
 - -Large Ice Chest with Ice
 - -Chain-of-Custody Forms
- 4) At each pre-determined sample point, use sample spade to collect a 16 point composite sample from a minimum depth of 6-inches below ground surface and place into a new, unused 1-gallon sample baggie, wearing new, unused sample gloves.
- 5) Mix sample in baggie, then transfer to mixing bowl. Continue to thoroughly mix, removing any rocks.
- 6) Transfer mixed sample to 16-ounce sample jar. Label jar, then place into ice chest.
- 7) Wash sample spade and mixing bowl in 5-gallon bucket with Alconox in distilled water, then rinse in 5-gallon bucket with distilled water. Pat dry with paper towels.
- 8) Move to next sample point and repeat sampling sequence.
- 9) Complete and sign Chain-of-Custody documentation. Wrap sample containers in protective bubble wrap for express shipment in ice chest. Seal ice chest and label.
- 10) Deliver ice chest to shipping service.

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413 Phone: (505)632-1199 Fax: (505)632-3903

BLANCO LANDFARM SAMPLING PLAN FOR 12/16/2010 EVENT

- 1) Using GPS unit, identify original 12 background sample spots from 8/17/09 sample event.
- 2) Assemble Sampling Equipment:
 - -GPS Unit
 - -Sample Spade
 - -1 Gallon Collection Baggies
 - -12" SS Mixing Bowl
 - -Sample Containers (4 oz Glass Jars with Teflon Lined Lids) with labels
 - -2 Each 5 Gallon Buckets (Pre-Cleaned)
 - -10 Gallons Distilled Water
 - -Powered Alconox Soap
 - -Paper Towels
 - -Nitril Sampling Gloves
 - -Large Ice Chest with Ice
 - -Chain-of-Custody Forms
- 3) At each pre-determined sample point, use sample spade to collect a 16 point composite sample from a minimum depth of 6-inches below ground surface and place into a new, unused 1-gallon sample baggie, wearing new, unused sample gloves.
- 4) Mix sample in baggie, then transfer to mixing bowl. Continue to thoroughly mix, removing any rocks.
- 5) Transfer mixed sample to 4-ounce sample jar. Label jar, then place into ice chest.
- 6) Wash sample spade and mixing bowl in 5-gallon bucket with Alconox in distilled water, then rinse in 5-gallon bucket with distilled water. Pat dry with paper towels.
- 7) Move to next sample point and repeat sampling sequence.
- 8) Complete and sign Chain-of-Custody documentation. Wrap sample containers in protective bubble wrap for express shipment in ice chest. Seal ice chest and label.
- 9) Deliver ice chest to shipping service.

LAB ID: PA39-401

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

1 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

Page 1 of 39

SAMPLE: #1	La	ib ID: 09083072-001A	Grab			
SAMPLED BY: Jeff Blagg	Sample 3	Fime: 08/17/2009 9:10	_			
<u>Test</u>	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Mercury	< 0.169 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-CV
Arsenic	< 5.11 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Barium	123 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Cadmium	< 0.204 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Chromium	10.9 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Copper	9.62 mg/Kg-dry	EPA 8010B		08/26/09 10:30	08/27/09	RMD-CV
Iron	14700 mg/ Kg -dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	8.99 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Manganese	301 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/28/09	RMD-CV
Selenium	< 8.18 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Silver	< 1.43 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Zinc	34.9 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
SAMPLE: #1	La	b ID: 09083072-001B	Grab			
SAMPLED BY: Jeff Blagg	Sample 7	ime: 08/17/2009 9:10	D			
Test	<u>Result</u> 7.22 @ 23.5°C	<u>Method</u> EPA 9045D	Reg Limit	Analysis Start 08/25/09 10:30	Analysis End 08/25/09	Analyst * TLB-CV
рН	-	EPA 300.0		08/20/09 15:49	08/20/09	LNP-CV
Fluoride	< 10.2 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/20/09	LNP-CV
Chloride	27.7 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/20/09	LNP-CV
Nitrate	< 10.2 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/20/09	LNP-CV
Sulfate	< 25.6 mg/Kg-dry	EPA 300.0 EPA 9010C		08/28/09 13:15	08/28/09	LNP-CV
Cyanide, Total	< 0.2 mg/Kg-dry	EPA 420.4		08/25/09 12:05	08/25/09	SKK-CV
Total Phenols	< 1.0 mg/Kg-dry	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
Percent Moisture	2.4 %	SM2540G SM2540G		08/21/09 15:35	08/24/09	DMB-CV
Total Solids	976000 mg/Kg	31VIZ040G				

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

MANAGER	cli Meli	DATE:	9/11/2009
WANAGER			

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

09083072

2 of 39

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

PO#:

WO#:

PAGE:

TEST REPORT

PWS ID#

PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

Page 2 of 39

SAMPLE: #1		Lab ID: 09083072-001C	Grab			
SAMPLED BY: Jeff Blagg	Sampl	e Time: 08/17/2009 9:10	_			
<u>Test</u>	Result	Method	Reg Limit	Analysis Start	Analysis End	
Diesel Range Organics	< 26 mg/Kg-dry	API-PHC 8015MOD		08/27/09 9:00	08/28/09	ASC-CV
Gasoline Range Organics	< 1.02 mg/Kg-dry	API-GRO 8015MOD		08/27/09 14:00	08/28/09	ASC-CV
SAMPLE: #1		Lab ID: 09083072-001D	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 9:10				
		* * - d d	Req	A Lota State		
Test	Result	Method	Limit	Analysis Start	Analysis End	
Aroclor 1016	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	J76-CA
Aroclor 1221	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Arodor 1232	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1242	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1248	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1260	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1268	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Naphthalene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
2-Methylnaphthalene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
1-Methylnaphthalene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Acenaphthylene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Acenaphthene	< 0,34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Fluorene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Phenanthrene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Anthracene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Fluoranthene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Pyrene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV

REMARKS:

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

MANAGER	Cli Meli	DATE:	9/11/2009
MANAGEN			

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Page 3 of 39

Phone: (610) 974-8100 Fax: (610) 974-8104

TEST REPORT

DATE: 08/20/2009 9:10

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc.

ADDRESS:

PO Box 87

Bloomfield, NM 87413

WO#: 09083072

PAGE:

3 of 39

PO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm RECEIVED FOR LAB BY: DMB

	Andrew An				
Benzo[a]anthracene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Chrysene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[b]fluoranthene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[k]fluoranthene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[a]pyrene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Indeno[1,2,3-cd]pyrene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Dibenz[a,h]anthracene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[g,h,i]perylene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
1,1-Dichloroethylene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1-Dichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Chloroform	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,1-Trichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Benzene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,2-Dichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Trichloroethylene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV

EPA 8260B

EPA 8260B EPA 8260B

EPA 8260B

EPA 8260B

EPA 8260B

REMARKS:

Tetrachloroethylene

Ethylene dibromide

1,1,2,2-Tetrachloroethane

Ethylbenzene

m,p-Xylene

o-Xylene

The above test procedures meet all the requirements of NELAC and relate only to these samples.

< 0.041 mg/Kg-dry

< 0.041 mg/Kg-dry

< 0.041 mg/Kg-dry

< 0.041 mg/Kg-dry

< 0.041 mg/Kg-dry

< 0.041 mg/Kg-dry

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

MANAGER

climele

DATE:

08/20/09 9:53

08/20/09 9:53

08/20/09 9:53

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08/20/09 9:53

08/20/09 9:53

9/11/2009

08/20/09

08/20/09

08/20/09

08/20/09

08/20/09

08/20/09

DN-CV

DN-CV

DN-CV

DN-CV

DN-CV

DN-CV

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

4 of 39

PO#:

PHONE:

FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

DECEMED FOR LAR BY, DMD

DATE: ORIGODODO OLIO

08/20/09

08/20/09 15:49

LNP-CV

RECEIVED FOR LAB BY: DMB	DATE: (08/20/2009 9:10			Pa	ge 4 of 39
SAMPLE: #1 SAMPLED BY: Jeff Blagg		ab ID: 09083072-001E Time: 08/17/2009 9:10	Grab			
<u>Test</u>	Result	Method	<u>Rea</u> Limit	Analysis Start	Analysis End	Analyst *
Uranium	568.8 µg/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
Uranium	381.1 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
SAMPLE: #2	La	ab ID: 09083072-002A	Grab			
SAMPLED BY: Jeff Blagg	Sample 1	Time: 08/17/2009 9:25				
<u>Test</u>	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Mercury	< 0.169 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-CV
Arsenic	< 5.07 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Barium	132 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Cadmium	< 0.203 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Chromium	10.2 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Copper	9.42 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Iron	13900 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	7.97 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Manganese	280 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/28/09	RMD-CV
Selenium	< 8.12 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Silver	< 1.42 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Zinc	37.2 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
SAMPLE: #2	La	b ID: 09083072-002B	Grab			
SAMPLED BY: Jeff Blagg	Sample T	ime: 08/17/2009 9:25	Reg			
<u>Test</u>	Result	<u>Method</u>	Limit	Analysis Start	Analysis End	Analyst *
pH	7.83 @ 23.6°C	EPA 9045D		08/25/09 10:30	08/25/09	TLB-CV
Fluoride	< 10,2 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/20/09	LNP-CV

REMARKS:

Chloride

The above test procedures meet all the requirements of NELAC and relate only to these samples.

31.6 mg/Kg-dry

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- Due to matrix effects, not all quality control parameters met acceptance criteria

Cli Meli DATE: 9/11/2009 MANAGER

EPA 300.0

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

Nitrate

Sulfate

Cyanide, Total

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

5 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

08/20/09 15:49

08/20/09 15:49

08/28/09 13:15

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

EPA 300.0

EPA 300.0

EPA 9010C

< 10.2 mg/Kg-dry

< 25.5 mg/Kg-dry

< 0.2 mg/Kg-dry

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LNP-CV

LNP-CV

LNP-CV

08/20/09

08/20/09

08/28/09

Total Phenois	< 1.0 mg/Kg-dry	EPA 420.4		08/25/09 12:05	08/25/09	SKK-CV
Percent Moisture	1.8 %	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
Total Solids	982000 mg/Kg	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
SAMPLE: #2		Lab ID: 09083072-002C	Grab			
SAMPLED BY: Jeff Blagg	Sample	e Time: 08/17/2009 9:25				
			Reg			
Test	Result	<u>Method</u>	Limit	Analysis Start	Analysis End	Analyst *
Diesel Range Organics	< 25 mg/Kg-dry	API-PHC 8015MOD		08/27/09 9:00	08/28/09	ASC-CV
Gasoline Range Organics	< 1.02 mg/Kg-dry	API-GRO 8015MOD		08/27/09 14:00	08/28/09	ASC-CV
SAMPLE: #2		Lab ID: 09083072-002D	Grab	7.111		

SAMPLE: #2

SAMPLED BY: Jeff Bland

Lab ID: 09083072-002D

nia Tima: 08/17/2000 0:25

SAMPLED BY: Jeff Blagg	Sample	11119; 00/17/2009 9:25				
			Reg			
Test	Result	Method	Limit	Analysis Start	Analysis End	Analyst *
Aroclor 1016	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1221	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Arodor 1232	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1242	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-Ç∨
Aroclor 1248	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1260	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1268	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Naphthalene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
2-Methylnaphthalene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
1-Methylnaphthalene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Acenaphthylene	< 0.34 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

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cli Meli 9/11/2009 DATE: MANAGER

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

09083072

6 of 39

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

PAGE:

WO#:

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10		Pa	ge 6 of 39
Acenaphthene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Fluorene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Phenanthrene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Anthracene	< 0.34 mg/Kg-dry	EPA 8270C	. 08/21/09 9:00	08/25/09	116-C/
Fluoranthene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Pyrene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[a]anthracene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Chrysene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[b]fluoranthene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[k]fluoranthene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[a]pyrene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Indeno[1,2,3-cd]pyrene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Dibenz[a,h]anthracene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[g,h,i]perylene	< 0.34 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
1,1-Dichloroethylene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1-Dichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Chloroform	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,1-Trichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Benzene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,2-Dichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Trichloroethylene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Tetrachloroethylene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Ethylene dibromide	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Ethylbenzene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV

REMARKS:

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

MANAGER	Cli Meh.	DATE:	9/11/2009
MANAGEN	- Comment of the comm		

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

7 of 39

PO#:

(505) 632-1199

PHONE: FAX:

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

Page 7 of 39

m,p-Xylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
o-Xylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachloroethane	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
SAMPLE: #2	La	b ID: 09083072-002E	Grab			
SAMPLED BY: Jeff Blagg	Sample 1	ime: 08/17/2009 9:25	_			
Test	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Uranium	555.4 µg/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
Uranium	372.1 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
SAMPLE: #3	La	b ID: 09083072-003A	Grab			
SAMPLED BY: Jeff Blagg	Sample T	ime: 08/17/2009 9:40				
	•		Reg			
Test	Result	Method	<u>Limit</u>	Analysis Start	Analysis End	Analyst *
Mercury	< 0.173 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-CV
Arsenic	< 5.05 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Barium	141 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Cadmium	< 0.202 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Chromium	11.1 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Copper	9.02 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Iron	15200 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	8.62 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Manganese	295 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/28/09	RMD-CV
Selenium	< 8.08 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Silver	< 1.41 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Zinc	35.2 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV

REMARKS:

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MANAGED	Cli Meli	DATE:	9/11/2009
MANAGER		. D, , , L.	

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

8 of 39

PO#:

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(505) 632-1199

TEST REPORT

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB	DATE	: 08/20/2009 9:10			Pag	ge 8 of 39
SAMPLE: #3		Lab ID: 09083072-003B	Grab			
SAMPLED BY: Jeff Blagg	Samp	le Time: 08/17/2009 9:40	_			
Test	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
pH	7.80 @ 23.8°C	EPA 9045D		08/25/09 10:30	08/25/09	TLB-CV
Fluoride	< 10.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Chloride	25.9 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Nitrate	< 10.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Sulfate	< 25.4 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Cyanide, Total	< 0.2 mg/Kg-dry	EPA 9010C		08/28/09 13:15	08/28/09	LNP-CV
Total Phenois	< 1.0 mg/Kg-dry	EPA 420.4		08/25/09 12:05	08/25/09	SKK-CV
Percent Moisture	1.4 %	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
Total Solids	986000 mg/Kg	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
SAMPLE: #3		Lab ID: 09083072-003C	Grab			
SAMPLED BY: Jeff Blagg	Samp	le Time: 08/17/2009 9:40	B			
Test	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Diesel Range Organics	< 25 mg/Kg-dry	API-PHC 8015MOD		08/27/09 9:00	08/28/09	ASC-CV
Gasoline Range Organics	< 1.01 mg/Kg-dry	API-GRO 8015MOD		08/27/09 14:00	08/28/09	ASC-CV
SAMPLE: #3		Lab ID: 09083072-003D	Grab			
SAMPLED BY: Jeff Blagg	Samp	le Time: 08/17/2009 9:40				
Test	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Aroclor 1016	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1221	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Arodor 1232	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Arodor 1242	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclar 1248	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
FIF COLOT	-1113.143.17					

REMARKS:

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range L
- Due to matrix effects, not all quality control parameters met acceptance criteria

MANAGER	Cli Meli	DATE:	9/11/2009
---------	----------	-------	-----------

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS:

PO Box 87

Bloomfield, NM 87413

TEST REPORT

WO#:

09083072

PAGE:

9 of 39

PO#:

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PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10		Pa	ge 9 of 39
Aroclor 1260	< 0.03 mg/Kg-dry	EPA 8082	08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082	08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1268	< 0.03 mg/Kg-dry	EPA 8082	08/27/09 9:00	08/29/09	JJ6-CV
Naphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
2-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
1-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Acenaphthylene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Acenaphthene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Fluorene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Phenanthrene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[a]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Chrysene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[b]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[k]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[a]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Indeno[1,2,3-cd]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Dibenz[a,h]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[g,h,i]perylene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
1,1-Dichloroethylene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1-Dichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Chloroform	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,1-Trichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Benzene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV

REMARKS:

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

MANAGER	Cli Meli	DATE:	9/11/2009
MANAGEN			

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

10 of 39

PO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

TEST REPORT

Industrial Ecosystems New Land F	arm					
RECEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10			Page	e 10 of 39
1,2-Dichloroethane	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Trichloroethylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Tetrachloroethylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylene dibromide	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylbenzene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
m,p-Xylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
o-Xylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachloroethane	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
SAMPLE: #3		Lab ID: 09083072-003E	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 9:40				
Tank	Desult	3.8-4h d	Reg	Ameliania Otas	Analysis Fud	A
Test	Result	Method	Limit	Analysis Start	Analysis End	
Uranium	635.8 μg/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
Uranium	426.0 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
SAMPLE: #4		Lab ID: 09083072-004A	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 9:55	D			
<u>Test</u>	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Mercury	< 0.128 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-CV
Arsenic	< 5.01 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Barium	169 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/28/09	RMD-CV
Cadmium	< 0.200 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Chromium	9.11 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Copper	8.00 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Iron	12300 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	6,11 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Manganese	257 mg/Kg-dry	EPA 6010B		08/26/09 10;30	08/28/09	RMD-CV

REMARKS:

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MANAGER	cli Meli	DATE:	9/11/2009	

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

Selenium

Silver

NAME:

Jeff Blagg

COMPANY:

Blagg Engineering Inc

ADDRESS:

PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

11 of 39

PO#:

PHONE:

FAX:

(505) 632-1199

TEST REPORT

PWS ID#

08/26/09 10:30

08/26/09 10:30

Analysis Start

08/27/09 9:00

08/27/09 14:00

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

EPA 6010B

EPA 6010B

< 8.02 mg/Kg-dry

< 1.40 mg/Kg-dry

Page 11 of 39

RMD-CV

RMD-CV

08/27/09

08/27/09

Analysis End

08/28/09

08/28/09

Analyst *

ASC-CV

ASC-CV

Zinc	26.5 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
SAMPLE: #4	L	ab ID: 09083072-004B	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 9:55	_			
<u>Test</u>	Result	Method	Reg Limit	Analysis Start	Analysis End	
pH Fluoride	7.63 @ 23.7°C < 10.1 mg/Kg-dry	EPA 9045D EPA 300.0		08/25/09 10:30 08/20/09 15:49	08/25/09 08/21/09	TLB-CV LNP-CV
Chloride Nitrate	27.1 mg/Kg-dry < 10.1 mg/Kg-dry	EPA 300.0 EPA 300.0		08/20/09 15:49 08/20/09 15:49	08/21/09 08/21/09	LNP-CV LNP-CV
Sulfate	< 25.3 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Cyanide, Total Total Phenols	< 0.2 mg/Kg-dry < 0.98 mg/Kg-dry	EPA 9010C EPA 420.4		08/28/09 13:15 08/25/09 12:05	08/28/09 08/25/09	LNP-CV SKK-CV
Percent Moisture	1.3 %	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
Total Solids	987000 mg/Kg	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
SAMPLE: #4	La	ib ID: 09083072-004C	Grab			

Sample Time: 08/17/2009 9:55

SAMPLE: #4

<u>Teşt</u>

API-GRO 8015MOD

API-PHC 8015MOD

Method

Lab ID: 09083072-004D Grab

SAMPLED BY: Jeff Blagg

SAMPLED BY: Jeff Blagg

Diesel Range Organics

Gasoline Range Organics

Sample Time: 08/17/2009 9:55

Method Result

Reg

Req

<u>Limit</u>

<u>Limit</u> Analysis End Analyst * Test Analysis Start 08/29/09 < 0.03 mg/Kg-dry **EPA 8082** 08/27/09 9:00 JJ6-CV Aroclor 1016 **EPA 8082** 08/27/09 9:00 08/29/09 JJ6-CV < 0.03 mg/Kg-dry Aroclor 1221 **EPA 8082** 08/27/09 9:00 08/29/09 JJ6-CV Aroclor 1232 < 0.03 mg/Kg-dry

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

Result

< 25 mg/Kg-dry

< 1.01 mg/Kg-dry

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
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cli Meli DATE: 9/11/2009 MANAGER

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

12 of 39

PO#:

PHONE:

(505) 632-1199

TEST REPORT

PWS ID#

FAX:

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB	DATE: (08/20/2009 9:10		Pag	e 12 of 39
Aroclor 1242	< 0.03 mg/Kg-dry	EPA 8082	08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1248	< 0.03 mg/Kg-dry	EPA 8082	08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082	08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1260	< 0.03 mg/Kg-dry	EPA 8082	08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082	08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1268	< 0.03 mg/Kg-dry	EPA 8082	08/27/09 9:00	08/29/09	JJ6-CV
Naphthalene	< 0,33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
2-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
1-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Acenaphthylene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Acenaphthene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Fluorene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Phenanthrene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[a]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Chrysene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[b]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[k]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[a]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Indeno[1,2,3-cd]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Dibenz[a,h]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
Benzo[g,h,i]perylene	< 0.33 mg/Kg-dry	EPA 8270C	08/21/09 9:00	08/25/09	JJ6-CV
1,1-Dichloroethylene	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1-Dichloroethane	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Chloroform	< 0.041 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV

REMARKS:

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MANAGER	Cli Meli	DATE:	9/11/2009
MANAGER	Carren.		

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME: Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

13 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

FAX:						
Industrial Ecosystems New Land F	arm					
RECEIVED FOR LAB BY: DMB		08/20/2009 9:10			Page	e 13 of 39
1,1,1-Trichloroethane	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Benzene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,2-Dichloroethane	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Trichloroethylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Tetrachloroethylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylene dibromide	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylbenzene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
m,p-Xylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
o-Xylene	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachloroethane	< 0.041 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
SAMPLE: #4	L	ab ID: 09083072-004E	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 9:55	D			
Test	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Uranium	697.6 µg/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
Uranium	467.4 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
SAMPLE: #5	L	ab ID: 09083072-005A	Grab			-
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 10:10				
Test	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Mercury	< 0.152 mg/Kg-dry	EPA 7471A	<u> </u>	08/26/09 9:00	08/27/09	KW-CV
Arsenic	< 4.95 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Barium	51.4 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Cadmium	< 0.198 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Chromium	3.23 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Copper	2,41 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV

REMARKS:

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- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

MANAGER	cli Medi	DATE:	9/11/2009	
1411 (141 (0)	V - La			

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

TEST REPORT

WO#:

09083072

PAGE:

14 of 39

PO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

RECEIVED FOR LAB BY: DMB	DATE	: 08/20/2009 9:10			Page	e 14 of 39
Iron	4320 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	2.95 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Manganese	131 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Selenium	< 7.91 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Silver	< 1.38 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Zinc	9.91 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
SAMPLE: #5		Lab ID: 09083072-005B	Grab			
SAMPLED BY: Jeff Blagg	Samp	le Time: 08/17/2009 10:10				
Test	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
pH	7.81 @ 23.9°C	EPA 9045D	Entre 1	08/25/09 10:30	08/25/09	TLB-CV
Fluoride	< 10.0 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Chloride	< 25.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Nitrate	< 10.0 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Sulfate	< 25.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Cyanide, Total	< 0.2 mg/Kg-dry	EPA 9010C		09/10/09 9:15	09/10/09	LNP-CV
Total Phenois	< 0.95 mg/Kg-dry	EPA 420.4		08/25/09 12:05	08/25/09	SKK-CV
Percent Moisture	0.4 %	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
Total Solids	996000 mg/Kg	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
SAMPLE: #5		Lab ID: 09083072-005C	Grab			
SAMPLED BY: Jeff Blagg	Samp	le Time: 08/17/2009 10:10	Pen			
<u>Test</u>	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Diesel Range Organics	< 25 mg/Kg-dry	API-PHC 8015MOD		08/27/09 9:00	08/28/09	ASC-CV
Gasoline Range Organics	< 1.00 mg/Kg-dry	API-GRO 8015MOD		08/27/09 14:00	08/28/09	ASC-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range L
- Due to matrix effects, not all quality control parameters met acceptance criteria

cli Meli 9/11/2009 DATE: MANAGER

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering inc

ADDRESS:

PO Box 87

Bloomfield, NM 87413

TEST REPORT

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PAGE: 15 of 39

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FAX:

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

Page 15 of 39

SAMPLE: #5	La	ab ID: 09083072-005D	Grab			
SAMPLED BY: Jeff Blagg	Sample 3	Time: 08/17/2009 10:10	_			
Test	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Aroclor 1016	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1221	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1232	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Araclor 1242	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1248	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1260	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Arodor 1262	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Aroclor 1268	< 0.03 mg/Kg-dry	EPA 8082		08/27/09 9:00	08/29/09	JJ6-CV
Naphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
2-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
1-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Acenaphthylene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Acenaphthene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Fluorene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	.08/25/09	JJ6-CV
Phenanthrene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Anthracene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Pyrene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Benzo[a]anthracene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Chrysene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Benzo[b]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Benzo(k)fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Benzo[a]pyrene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Indeno[1,2,3-cd]pyrene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

Cli Meli **MANAGER**

DATE:

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc.

ADDRESS: PO Box 87

Bloomfield, NM 87413

TEST REPORT

WO#:

09083072

PAGE:

16 of 39

PO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm

RECEIVED FOR LAR BY: DMR

DATE:	08/20/2009	9:10

RECEIVED FOR LAB BY: DMB	DATE: (08/20/2009 9:10			Pag	e 16 of 39
Dibenz[a,h]anthracene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
Benzo[g,h,i]perylene	< 0.33 mg/Kg-dry	EPA 8270C		08/21/09 9:00	08/25/09	JJ6-CV
1,1-Dichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-ÇV
1,1-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Chloroform	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,1-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Benzene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,2-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Trichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Tetrachloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylene dibromide	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylbenzene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
m,p-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
o-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
SAMPLE: #5	Le	b ID: 09083072-005E	Grab			
SAMPLED BY: Jeff Blagg	Sample 1	ime: 08/17/2009 10:10	Dog			
<u>Test</u>	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Uranium	< 239.5 µg/Kg	EPA 200.8	30	08/31/09 9:00	09/03/09	JRA-CV
Uranium	< 162.8 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV

REMARKS:

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MANAGER	cli Meli	DATE:	9/11/2009
MANAOLIN	O out, en	Φ/ () L .	

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

17 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

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DATE: 08/20/2009 9:10

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SAMPLE: #6	La	b ID: 09083072-006A	Grab			
SAMPLED BY: Jeff Blagg	Sample 1	ime: 08/17/2009 10:25	D==			
<u>Test</u>	Result	Method	Req Limit	Analysis Start	Analysis End	Analyst
Mercury	< 0.182 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-C\
Arsenic	< 5.16 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Barium	104 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-0
Cadmium	< 0.207 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Chromium	6.70 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Copper	5.02 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Iron	8960 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Lead	5.14 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Manganese	221 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/28/09	RMD-C
Selenium	< 8.26 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Silver	< 1.45 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Zinc	20.2 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
AMPLE: #6	La	b ID: 09083072-006B	Grab		,	
SAMPLED BY: Jeff Blagg	Sample T	ime: 08/17/2009 10:25				
<u>Test</u>	Result	Method	<u>Req</u> <u>Limit</u>	Analysis Start	Analysis End	
pΗ	8.10 @ 23.1°C	EPA 9045D		08/25/09 10:30	08/25/09	TLB-C
Fluoride	< 10.4 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-C
Chloride	31.7 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-C
Nitrate	< 10.4 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-C
Sulfate	< 26.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-C
Cyanide, Total	< 0.2 mg/Kg-dry	EPA 9010C		09/10/09 9:15	09/10/09	LNP-C
Total Phenois	< 0.96 mg/Kg-dry	EPA 420.4		08/25/09 12:05	08/25/09	SKK-C
Percent Moisture	4.1 %	SM2540G		08/21/09 15:35	08/24/09	DMB-C
Total Solids	959000 mg/Kg	SM2540G		08/21/09 15:35	08/24/09	DMB-C

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Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

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SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

TEST REPORT

WO#: PAGE:

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09083072

PO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

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SAMPLE: #6	*	Lab ID: 09083072-006C	Grab			
SAMPLED BY: Jeff Blagg	Samp	le Time: 08/17/2009 10:25				
<u>Test</u> Diesel Range Organics	Result < 26 mg/Kg-dry	Method API-PHC 8015MOD	Reg Limit	Analysis Start 08/27/09 9:00	Analysis End 08/28/09	Analyst * ASC-CV
Gasoline Range Organics	< 1.04 mg/Kg-dry	API-GRO 8015MOD		08/27/09 14:00	08/28/09	ASC-CV
SAMPLE: #6		Lab ID: 09083072-006D	Grab			
SAMPLED BY: Jeff Blagg	Sampl	e Time: 08/17/2009 10:25				
Test	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Arodor 1016	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1221	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1232	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1242	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1248	< 0.03 mg/Kg-dry	EPA 8082	•	08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Araclor 1260	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1268	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Naphthalene	< 0.34 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
2-Methylnaphthalene	< 0.34 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
1-Methylnaphthalene	< 0.34 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthylene	< 0.34 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthene	< 0.34 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Fluorene	< 0.34 mg/Kg-dry	Q EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Phenanthrene	< 0.34 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Anthracene	< 0.34 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Fluoranthene	< 0.34 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Pyrene	< 0.34 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV

REMARKS:

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MANAGER	Cli Meli	DATE:	9/11/2009
---------	----------	-------	-----------

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

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PO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

TEST REPORT

EIVED FOR LAB BY: DMB	DATE: 0	08/20/2009 9:10		Pag	e 19 of 3
Benzo[a]anthracene	< 0.34 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-C\
Chrysene	< 0.34 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-C\
Benzo[b]fluoranthene	< 0.34 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-C\
Benzo[k]fluoranthene	< 0.34 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-C\
Benzo[a]pyrene	< 0.34 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-C\
Indeno[1,2,3-cd]pyrene	< 0.34 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-C\
Dibenz[a,h]anthracene	< 0.34 mg/Kg-dry	EPA 8270C	08/28/09 9;00	09/01/09	JJ6-C\
Benzo[g,h,i]perylene	< 0.34 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-C\
1,1-Dichloroethylene	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1-Dichloroethane	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Chloroform	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,1-Trichtoroethane	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-C\
Benzene	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-C\
1,2-Dichloroethane	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-C\
Trichloroethylene	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Tetrachioroethylene	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Ethylene dibromide	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Ethylbenzene	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
m,p-Xylene	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-C\
o-Xylene	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachloroethane	< 0.042 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-C\

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples. * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

Cli Meli DATE: 9/11/2009 MANAGER

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

09083072

20 of 39

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

TEST REPORT

PAGE: PO#:

WO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB	DATE: 0	08/20/2009 9:10			Page	20 of 39
SAMPLE: #6		ib ID: 09083072-006E	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 10:25	Reg			
Test	Result	Method	Limit	Analysis Start	Analysis End	Analyst *
Uranium	524.0 μg/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
Uranium	351.1 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-ÇV
SAMPLE: #7	La	b ID: 09083072-007A	Grab			
SAMPLED BY: Jeff Blagg	Sample 1	ime: 08/17/2009 10:40				
T	Depuit	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Test	Result < 0.133 mg/Kg-dry	<u>Metriod</u> EPA 7471A	Lillin	08/26/09 9:00	08/27/09	KW-CV
Mercury	* * *	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Arsenic	< 4.74 mg/Kg-dry			08/26/09 10:30	08/27/09	RMD-CV
Barium	114 mg/Kg-dry	EPA 6010B				
Cad m ium	< 0.190 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Chromium	5.95 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Copper	5.11 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
lron	8050 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	4.74 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Manganese	189 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/28/09	RMD-CV
Selenium	< 7.59 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Silver	< 1.33 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Zinc	20.1 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
SAMPLE: #7	La	b ID: 09083072-007B	Grab			
SAMPLED BY: Jeff Blagg	Sample 1	ime: 08/17/2009 10:40	Pog			
Test	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
pH	7.72 @ 23.2°C	EPA 9045D		08/25/09 10:30	08/25/09	TLB-CV
Fluoride	< 10.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Chloride	< 25.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV

REMARKS:

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range L
- Due to matrix effects, not all quality control parameters met acceptance criteria Q

	•		
MANAGER	climet.	DATE:	9/11/2009
AIL-JUANOEUV			

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

21 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

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Nitrate	< 10.1 mg/Kg-dry	EPA 300.0	08/20/09 15:49	08/21/09	LNP-CV
Sulfate	< 25.1 mg/Kg-dry	EPA 300.0	08/20/09 15:49	08/21/09	LNP-CV
Cyanide, Total	< 0.2 mg/Kg-dry	EPA 9010C	09/10/09 9:15	09/10/09	LNP-CV
Total Phenois	< 0.97 mg/Kg-dry	EPA 420.4	08/25/09 12:05	08/25/09	SKK-CV
Percent Moisture	0.5 %	SM2540G	08/21/09 15:35	08/24/09	DMB-CV
Total Solids	995000 mg/Kg	SM2540G	08/21/09 15:35	08/24/09	DMB-CV
SAMPLE: #7	La	b ID: 09083072-007C	Grab		

SAMPLE: #7

<u>Test</u>

SAMPLED BY: Jeff Blagg

Diesel Range Organics

Lab ID: 09083072-007C

Method

API-PHC 8015MOD

Sample Time: 08/17/2009 10:40

Reg Limit

Analysis Start 08/27/09 9:00 08/28/09

08/28/09

08/27/09 14:00

Analysis End Analyst * ASC-CV

ASC-CV

Gasoline Range Organics < 1.01 mg/Kg-dry API-GRO 8015MOD Lab ID: 09083072-007D SAMPLE: #7

Result

< 25 mg/Kg-dry

SAMPLED BY: Jeff Blagg

Sample Time: 08/17/2009 10:40

Grab Reg

<u>Test</u>	<u>Result</u>	Method	<u>Llmit</u>	Analysis Start	Analysis End	Analyst *
Aroclor 1016	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclar 1221	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1232	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-ÇV
Aroclor 1242	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1248	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1260	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Arocior 1268	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Naphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
2-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
1-Methylnaphthalene	< 0.33 mg/ Kg- dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthylene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV

REMARKS:

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria Q

MANAGER	Cli Meli	DATE:	9/11/2009	

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

PHONE:

FAX:

NAME: Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

(505) 632-1199

Bloomfield, NM 87413

WO#:

09083072

PAGE: 22 of 39

PO#:

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAR BY: DMR DATE: 08/20/2009 9:10 Page 22 of 30

TEST REPORT

<u> </u>	ECEIVED FOR LAB BY: DMB	DATE: (08/20/2009 9:10		Pag	e 22 of 39
-	Acenaphthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Fluorene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Phenanthrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[a]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Chrysene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[b]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[k]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[a]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Indeno[1,2,3-cd]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Dibenz[a,h]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[g,h,i]perylene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	1,1-Dichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Methylene chloride	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	1,1-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Chloroform	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	1,1,1-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Carbon tetrachloride	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Benzene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	1,2-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Trichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Toluene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	1,1,2-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Tetrachloroethylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-ÇV
	Ethylene dibromide	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Ethylbenzene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	-					

REMARKS:

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- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

	n /		
MANAGER	Cli Mel.	DATE:	9/11/2009
INITIALICALIA			

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

TEST REPORT

WO#:

09083072

PAGE:

23 of 39

PO#:

PWS ID#

08/20/09 9:53

Analysis Start

PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB DATE: 08/20/2009 9:10 m,p-Xylene < 0.040 mg/Kg-dry **EPA 8260B**

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DN-CV

08/20/09

Analysis End Analysi *

o-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
SAMPLE: #7	L	ab ID: 09083072-007E	Grab		4	
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 10:40	Reg			
<u>Test</u>	Result	Method	Limit	Analysis Start	Analysis End	Analyst *
Uranium	372.5 µg/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
Uranium	249.6 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
SAMPLE: #8	L	ab ID: 09083072-008A	Grab			
SAMPLED BY: Jeff Blagg	Sample ³	Time: 08/17/2009 10:55				
			Reg			

<u>l est</u>	Result	Method	Limit	Analysis Start	Analysis End	Analyst "
Mercury	< 0.118 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-CV
Arsenic	< 4.78 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Barium	73.8 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Cadmium	< 0.191 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Chromium	4.72 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Copper	5.05 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Iron	6220 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	4.68 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Manganese	152 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Selenium	< 7.64 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Silver	< 1.34 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Zinc	19.7 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV

Mathod

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

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- Value above calibration range but within annually verified linear range L
- Due to matrix effects, not all quality control parameters met acceptance criteria

Cli Meli MANAGER

9/11/2009 DATE:

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc.

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

24 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10			Page	24 of 39
SAMPLE: #8 SAMPLED BY: Jeff Blagg	Sample	Lab ID: 09083072-008B e Time: 08/17/2009 10:55	Grab			
<u>Test</u>	Result	<u>Method</u>	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
pH .	7.73 @ 23.9°C	EPA 9045D	•	08/25/09 10:30	08/25/09	TLB-CV
Fluoride	< 10.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Chloride	27.7 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Nitrate	< 10.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Sulfate	< 25.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Cyanide, Total	< 0.2 mg/Kg-dry	EPA 9010C		09/10/09 9:15	09/10/09	LNP-CV
Total Phenois	< 0.85 mg/Kg-dry	EPA 420.4		08/25/09 12:05	08/25/09	SKK-CV
Percent Moisture	0.5 %	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
Total Solids	995000 mg/Kg	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
SAMPLE: #8		Lab ID: 09083072-008C	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 10:55				
**	<u> </u>		Reg			*
Test	Result	Method	<u>Limit</u>	Analysis Start	Analysis End	
Diesel Range Organics	< 25 mg/Kg-dry	API-PHC 8015MOD		08/27/09 9:00	08/28/09	ASC-CV
Gasoline Range Organics	< 1.01 mg/Kg-dry	API-GRO 8015MOD		08/27/09 14:00	08/28/09	ASC-CV
SAMPLE: #8	1	Lab ID: 09083072-008D	Grab		•	
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 10:55				
Test	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Aroclor 1016	< 0.03 mg/Kg-dry	EPA 8082	211111	08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1221	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1232	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1242	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1248	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

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Cli Meli DATE: MANAGER

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

09083072

25 of 39

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

PO#:

WO#:

PAGE:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

CEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10	·	Pag	e 25 of 39
Arocior 1260	< 0.03 mg/Kg-dry	EPA 8082	08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082	08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1268	< 0.03 mg/Kg-dry	EPA 8082	08/31/09 9:00	09/01/09	JJ6-CV
Naphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
2-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
1-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthylene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Fluorene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Phenanthrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[a]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Chrysene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[b]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[k]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[a]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
indeno[1,2,3-cd]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Dibenz[a,h]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[g,h,i]perylene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
1,1-Dichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1-Dichloroethane	< 0,040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Chloroform	< 0,040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,1-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Benzene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV

REMARKS:

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

		•	
	Cli Mel.	DATE	9/11/2009
MANAGER	- Courres		

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

26 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

ndustrial Ecosystems New Land F	arm					
RECEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10			Pag	e 26 of 3
1,2-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-C\
Trichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-C\
Tetrachloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-C\
Ethylene dibromide	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-C\
Ethylbenzene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
m,p-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
o-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachioroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
SAMPLE: #8		Lab ID: 09083072-008E	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 10:55				
Tool	Danult	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst
Test	<u>Reşult</u> 318.4 µg/Kg	<u>Method</u> EPA 200.8	Little	08/31/09 9:00	09/03/09	JRA-C
Uranium Uranium	213.3 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-C
SAMPLE: #9		Lab ID: 09083072-009A	Grab			
SAMPLED BY: Jeff Blagg		Time: 08/17/2009 11:10	0,22			
SAIVIPLED BY. Self blagg	Gampio	71116. 00/1/2000 71.10	Reg			
<u>Test</u>	Result	Method	Limit	Analysis Start	Analysis End	
Mercury	< 0.196 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-C\
Arsenic	< 4.87 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Barlum	74.3 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Cadmium	< 0.195 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Chromium	4.98 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Copper	4.92 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Iron	7610 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Lead	4.95 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C
Manganese	143 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C

REMARKS:

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

		•		
	P = P	i Meli	DATE:	9/11/2009
JANAGER		~//ledi	DATE.	7/11/2007

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY:

Blagg Engineering Inc.

ADDRESS:

PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

27 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm RECEIVED FOR LAB BY: DMB DATE: 08/20/2009 9:10 Page 27 of 39 Selenium < 7.80 mg/Kg-dry **EPA 6010B** 08/26/09 10:30 08/27/09 RMD-CV Silver < 1.36 mg/Kg-dry **EPA 6010B** 08/26/09 10:30 08/27/09 RMD-CV Zinc 17.9 mg/Kg-dry **EPA 6010B** 08/26/09 10:30 08/27/09 RMD-CV SAMPLE: #9 Lab ID: 09083072-009B SAMPLED BY: Jeff Blagg Sample Time: 08/17/2009 11:10 Reg Result Limit Method Analysis Start Analysis End Analyst * рH 8.21 @ 23.0°C **EPA 9045D** 08/25/09 10:30 08/25/09 TLB-CV Fluoride < 10.1 mg/Kg-dry **EPA 300.0** 08/20/09 15:49 08/21/09 LNP-CV Chloride 27.4 mg/Kg-dry EPA 300.0 08/20/09 15:49 08/21/09 LNP-CV Nitrate < 10.1 mg/Kg-dry EPA 300.0 08/20/09 15:49 08/21/09 LNP-CV Sulfate < 25.2 mg/Kg-dry EPA 300.0 08/20/09 15:49 08/21/09 LNP-CV 09/10/09 Cyanide, Total < 0.2 mg/Kg-dry **EPA 9010C** 09/10/09 9:15 LNP-CV 08/25/09 12:05 08/25/09 **Total Phenois** < 0.94 mg/Kg-dry EPA 420.4 SKK-CV Percent Moisture 0.8 % SM2540G 08/21/09 15:35 08/24/09 DMB-CV SM2540G 08/21/09 15:35 08/24/09 992000 mg/Kg DMB-CV **Total Solids** Lab ID: 09083072-009C Grab SAMPLE: #9 Sample Time: 08/17/2009 11:10 SAMPLED BY: Jeff Blagg Req Limit Analysis Start Analysis End Analyst * Result Method Test API-PHC 8015MOD 08/27/09 9:00 08/28/09 ASC-CV Diesel Range Organics < 25 mg/Kg-dry API-GRO 8015MOD 08/27/09 14:00 08/28/09 ASC-CV < 1.01 mg/Kg-dry Gasoline Range Organics

SAMPLED BY: Jeff Blagg

SAMPLE: #9

Sample Time: 08/17/2009 11:10

Lab ID: 09083072-009D

Grab

Reg Analysis Start Analysis End Analyst * Result Method Limit Test 09/01/09 < 0.03 mg/Kg-dry EPA 8082 08/31/09 9:00 JJ6-CV Aroclor 1016 **EPA 8082** 08/31/09 9:00 09/01/09 JJ6-CV < 0.03 mg/Kg-dry Aroclor 1221 EPA 8082 08/31/09 9:00 09/01/09 JJ6-CV < 0.03 mg/Kg-dry Aroclor 1232

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

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- Due to matrix effects, not all quality control parameters met acceptance criteria Q

chi Meli 9/11/2009 DATE: ANAGER

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

28 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

EIVED FOR LAB BY: DMB	DATE: (08/20/2009 9:10		Pag	e 28 of 39
Aroclor 1242	< 0.03 mg/Kg-dry	EPA 8082	08/31/09 9:00	09/01/09	JJ6-CV
Arodor 1248	< 0.03 mg/Kg-dry	EPA 8082	08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082	08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1260	< 0.03 mg/Kg-dry	EPA 8082	08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082	08/31/09 9:00	09/01/09	JJ6-CV
Arodor 1268	< 0.03 mg/Kg-dry	EPA 8082	08/31/09 9:00	09/01/09	JJ6-CV
Naphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
2-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
1-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthylene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	· JJ6-CV
Acenaphthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Fluorene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Phenanthrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[a]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Chrysene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[b]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[k]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[a]pyrene	< 0,33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Indeno[1,2,3-cd]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Dibenz[a,h]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[g,h,i]perylene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
1,1-Dichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Chloroform	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV

REMARKS:

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- Due to matrix effects, not all quality control parameters met acceptance criteria

cli Meli JANAGER

DATE:

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc.

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

29 of 39

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land F	arm					
RECEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10			Page	29 of 39
1,1,1-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Benzene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,2-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Trichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Tetrachloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylene dibromide	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylbenzene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
m,p-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
o-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachioroethane	< 0.040 mg/Kg-dry	EPA 8280B		08/20/09 9:53	08/20/09	DN-CV
SAMPLE: #9		Lab ID: 09083072-009E	Grab			7,1,
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 11:10	Cl			
Test	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Uranium	396.7 µg/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
Uranium	265.8 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
SAMPLE: #10		Lab ID: 09083072-010A	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 11:25	-			
Test	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Mercury	< 0.137 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-CV
Arsenic	< 4.86 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Barium	64.3 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Cadmium	< 0.195 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Chromium	4.48 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Copper	4.46 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Coppei	4.40 mg/ng 6/7					

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MANAGER	Cli Meli	DATE:	9/11/2009
MINIANGEIX		_	

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME: Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

TEST REPORT

WO#:

09083072

PAGE:

30 of 39

PO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm RECEIVED FOR LAR BY: DMR

RECEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10			Page	e 30 of 39
Iron	6690 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	4.45 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Manganese	144 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Selenium	< 7.78 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Silver	< 1.36 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Zinc	18.2 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
SAMPLE: #10		Lab ID: 09083072-010B	Grab			
SAMPLED BY: Jeff Blagg	Sampl	e Time: 08/17/2009 11:25				
<u>Test</u>	Result	Method	<u>Req</u> Limit	Analysis Start	Analysis End	Analyst *
рН	7.05 @ 22.9°C	EPA 9045D		08/25/09 10:30	08/25/09	TLB-CV
Fluoride	< 10.1 mg/Kg-dry	EPA 300,0		08/20/09 15:49	08/21/09	LNP-CV
Chloride	31.9 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Nitrate	< 10.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Sulfate	< 25.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Cyanide, Total	< 0.2 mg/Kg-dry	EPA 9010C		09/10/09 9:15	09/10/09	LNP-CV
Total Phenois	1.6 mg/Kg-dry	EPA 420.4		08/25/09 12:05	08/25/09	SKK-CV
Percent Moisture	0.5 %	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
Total Solids	995000 mg/Kg	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
SAMPLE: #10		Lab ID: 09083072-010C	Grab			
SAMPLED BY: Jeff Blagg	Sample Time: 08/17/2009 11:25		Dog			
<u>Test</u>	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Diesel Range Organics	< 25 mg/Kg-dry	API-PHC 8015MOD		08/27/09 9:00	08/28/09	ASC-CV
Gasoline Range Organics	< 1.01 mg/Kg-dry	API-GRO 8015MOD		08/27/09 14:00	08/28/09	ASC-CV

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	at I may 1		
JANAGER	Cli Meh.	DATE:	9/11/2009
W COLI	<u> </u>		

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

09083072

31 of 39

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

PO#:

PAGE:

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(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

Page 31 of 39

AMPLE: #10		Lab I	D: 09083072-010D	Grab			
SAMPLED BY: Jeff Blagg	Samp	ole Tim	e: 08/17/2009 11:25				
Test	Result		Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Aroclor 1016	< 0.03 mg/Kg-dry		EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1221	< 0.03 mg/Kg-dry		EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1232	< 0.03 mg/Kg-dry		EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1242	< 0.03 mg/Kg-dry		EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Araclar 1248	< 0.03 mg/Kg-dry		EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry		EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1260	< 0.03 mg/Kg-dry		EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry		EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1268	< 0.03 mg/Kg-dry		EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Naphthalene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
2-Methylnaphthalene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
1-Methylnaphthalene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthylene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Fluorene	< 0.33 mg/Kg-dry	Q	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Phenanthrene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Anthracene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Fluoranthene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Pyrene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Benzo[a]anthracene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Chrysene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Benzo[b]fluoranthene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Benzo[k]fluoranthene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Benzo[a]pyrene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Indeno[1,2,3-cd]pyrene	< 0.33 mg/Kg-dry		EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV

REMARKS:

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	• 1 · · · ·		
MANAGER	Cli Meli	DATE:	9/11/2009
			· · · · · · · · · · · · · · · · · · ·

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME: Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

32 of 39

PO#:

PWS ID#

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(505) 632-1199

TEST REPORT

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB	DATE: 0	8/20/2009 9:10			Page	32 of 39
Dibenz[a,h]anthracene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Benzo[g,h,i]perylene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
1,1-Dichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Chloroform	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,1-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Benzene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,2-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Trichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Tetrachloroethylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylene dibromide	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
Ethylbenzene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
m,p-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
o-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachloroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
SAMPLE: #10	La	b ID: 09083072-010E	Grab			
SAMPLED BY: Jeff Blagg	Sample T	ime: 08/17/2009 11:25	Reg			
<u>Test</u>	Result	Method	Limit	Analysis Start	Analysis End	Analyst *
Uranium	381.9 µg/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
Uranium	255.8 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV

REMARKS:

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- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

	* / ·	
MANAGER	Cli Meli	D/

ATE: 9/11/2009

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Phone: (610) 974-8100 Fax: (610) 974-8104 Work Order: 09083072

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

33 of 39

PO#:

PHONE:

CAMPLE. 444

(505) 632-1199

TEST REPORT

PWS ID#

FAX:

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

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SAMPLE: #11	La	ab ID: 09083072-011A	Grab			
SAMPLED BY: Jeff Blagg	Sample 3	Time: 08/17/2009 11:40				
Test	Result	<u>Method</u>	<u>Req</u> Limit	Analysis Start	Analysis End	Analyst
Mercury	< 0.174 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-CV
Arsenic	< 4.90 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Barium	104 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Cadmium	< 0.196 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Chromium	6.97 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Copper	6.97 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Iron	9310 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	5.27 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Manganese	231 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
Selenium	< 7.85 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Silver	< 1.37 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Zinc	28.9 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-C\
SAMPLE: #11	La	b ID: 09083072-011B	Grab			
SAMPLED BY: Jeff Blagg	Sample T	ime: 08/17/2009 11:40	_			
<u>Test</u>	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
рН	7.71 @ 23.3°C	EPA 9045D		08/25/09 10:30	08/25/09	TLB-CV
Fluoride	< 10.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Chloride	< 25.3 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Nitrate	< 10.1 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Sulfate	< 25.3 mg/Kg-dry	EPA 300.0		08/20/09 15:49	08/21/09	LNP-CV
Cyanide, Total	< 0.2 mg/Kg-dry	EPA 9010C		09/10/09 9:15	09/10/09	LNP-CV
Total Phenois	< 0.98 mg/Kg-dry	EPA 420.4		08/25/09 12:05	08/25/09	SKK-CV
Percent Moisture	1.2 %	SM2540G		08/21/09 15:35	08/24/09	DMB-CV
Total Solids	988000 mg/Kg	SM2540G		08/21/09 15:35	08/24/09	DMB-CV

REMARKS:

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

	4 / ma 1		
MANAGER	Cli Meli	DATE:	9/11/2009

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

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PO Box 87

Bloomfield, NM 87413

09083072

PAGE:

WO#:

34 of 39

PO#:

PHONE:

SAMPLE: #11

FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

Lab ID: 09083072-011C

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Oram CL. #11	·		-			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 11:40	_			
Test	Result < 25 mg/Kg-dry	Method API-PHC 8015MOD	<u>Req</u> Limit	Analysis Start 08/27/09 9:00	Analysis End	Analyst *
Diesel Range Organics					08/28/09	
Gasoline Range Organics	< 1.01 mg/Kg-dry	API-GRO 8015MOD		08/27/09 14:00		ASC-CV
SAMPLE: #11	l	ab ID: 09083072-011D	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 11:40	P			
<u>Test</u>	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Aroclor 1016	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1221	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1232	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Arocior 1242	< 0.03 mg/Kg-dry	EPA 8082	•	08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1248	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Arodor 1254	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1260	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Arodor 1268	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Naphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
2-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
1-Methylnaphthalene	< 0,33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthylene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Fluorene		Q EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Phenanthrene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Anthracene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Pyrene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
. 1.4.10		-				

REMARKS:

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- Due to matrix effects, not all quality control parameters met acceptance criteria

AAANA OED	Cli Meli	DATE:	9/11/2009
MANAGER	CW/10%		

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

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TEST REPORT

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Jeff Blagg

COMPANY: Blagg Engineering Inc

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Bloomfield, NM 87413

WO#:

09083072

PAGE:

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PO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10		Pag	e 35 of 39
Benzo[a]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Chrysene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[b]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[k]fluoranthene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[a]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Indeno[1,2,3-cd]pyrene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Dibenz[a,h]anthracene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
Benzo[g,h,i]perylene	< 0.33 mg/Kg-dry	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
1,1-Dichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Methylene chloride	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-ÇV
Chloroform	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,1-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Carbon tetrachloride	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Benzene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,2-Dichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Trichloroethylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Toluene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,2-Trichloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Tetrachloroethylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Ethylene dibromide	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
Ethylbenzene	< 0.040 mg/Kg-dry	EPA 8250B	08/20/09 9:53	08/20/09	DN-CV
m,p-Xylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
o-Xylene	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachloroethane	< 0.040 mg/Kg-dry	EPA 8260B	08/20/09 9:53	08/20/09	DN-CV

REMARKS:

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- Due to matrix effects, not all quality control parameters met acceptance criteria

MANAGER	cli Meli	DATE:	9/11/2009
WANAGER		DAIE.	7/11/4007
	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

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NAME:

Jeff Blagg

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Bloomfield, NM 87413

WO#:

09083072

PAGE:

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PO#:

Grab

Reg

<u>Limit</u>

EPA 9045D

EPA 300.0

EPA 300.0

Analysis Start

08/25/09 10:30

08/20/09 15:49

08/20/09 15:49

Analysis End Analyst *

TLB-CV

LNP-CV

LNP-CV

08/25/09

08/21/09

08/21/09

PHONE: FAX:

SAMPLE: #11

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB

DATE: 08/20/2009 9:10

Lab ID: 09083072-011E

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SAMPLED BY: Jeff Blagg	Sample Time: 08/17/2009 11:40					
Test	Result	Method	<u>Reg</u> Limit	Analysis Start	Analysis End	Analyst *
Uranium	402.4 µg/Kg	EPA 200.8	4077111	08/31/09 9:00	09/03/09	JRA-CV
		•				
Uranium	269.6 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
SAMPLE: #12	La	b ID: 09083072-012A	Grab			
SAMPLED BY: Jeff Blagg	Sample T	Time: 08/17/2009 11:55				
			Reg			
<u>Test</u>	Result	Method	Limit	Analysis Start	Analysis End	Analyst *
Mercury	< 0.149 mg/Kg-dry	EPA 7471A		08/26/09 9:00	08/27/09	KW-CV
Arsenic	< 4.90 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Barium	69.5 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Cadmium	< 0.196 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Chromium	3.89 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Copper	3.76 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Iron	5770 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Lead	3.68 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Manganese	113 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Selenium	< 7.83 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Silver	< 1.37 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
Zinc	16.3 mg/Kg-dry	EPA 6010B		08/26/09 10:30	08/27/09	RMD-CV
SAMPLE: #12	La	b ID: 09083072-012B	Grab			
SAMPLED BY: Jeff Blagg	gg Sample Time: 08/17/2009 11:55					

REMARKS:

Test pН

Fluoride Chloride

The above test procedures meet all the requirements of NELAC and relate only to these samples.

Result

7.77 @ 23.3°C

< 10.1 mg/Kg-dry

< 25.1 mg/Kg-dry

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
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industrial Ecosystems New Land F	arm
RECEIVED FOR LAB BY: DMB	

DATE: 08/20/2009 9:10

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Nitrate	< 10.1 mg/Kg-dry	EPA 300.0	08/20/09 15:49	08/21/09	LNP-CV
Sulfate	< 25.1 mg/Kg-dry	EPA 300.0	08/20/09 15:49	08/21/09	LNP-CV
Cyanide, Total	< 0.2 mg/Kg-dry	EPA 9010C	09/10/09 9:15	09/10/09	LNP-CV
Total Phenois	< 0.89 mg/Kg-dry	EPA 420.4	08/25/09 12:05	08/25/09	SKK-CV
Percent Moisture	0.5 %	SM2540G	08/21/09 15:35	08/24/09	DMB-CV
Total Solids	995000 mg/Kg	SM2540G	08/21/09 15:35	08/24/09	DMB-CV
SAMPLE: #12	La	b ID: 09083072-012C G	rab		

SAMPLE: #12

SAMPLED BY: Jeff Blagg

Lab ID: 09083072-012C

API-GRO 8015MOD

Sample Time: 08/17/2009 11:55 Result Method Test < 25 mg/Kg-dry API-PHC 8015MOD Diesel Range Organics

< 1.01 mg/Kg-dry

Reg Limit **Analysis Start** 08/27/09 9:00 08/27/09 14:00

Analysis End Analyst* 08/28/09 ASC-CV 08/28/09 ASC-CV

SAMPLE: #12

Lab ID: 09083072-012D

Grab

Reg

SAMPLED BY: Jeff Blagg

Gasoline Range Organics

Sample Time: 08/17/2009 11:55

<u>Test</u>	Result	Method	Limit	Analysis Start	Analysis End	<u>Analyst *</u>
Aroclor 1016	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Arodor 1221	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1232	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1242	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1248	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1254	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1260	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1262	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Aroclor 1268	< 0.03 mg/Kg-dry	EPA 8082		08/31/09 9:00	09/01/09	JJ6-CV
Naphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
2-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
1-Methylnaphthalene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV
Acenaphthylene	< 0.33 mg/Kg-dry	EPA 8270C		08/28/09 9:00	09/01/09	JJ6-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

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MANAGER	cli Mes

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TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAR BY: DMP

DATE: 08/20/2000 0:10

KE	CEIVED FOR LAB BY: DMB	DATE:	08/2	0/2009 9:10		Pag	e 38 of 39
	Acenaphthene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Fluorene	< 0.33 mg/Kg-dry	Q	EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Phenanthrene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Anthracene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Fluoranthene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Pyrene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[a]anthracene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Chrysene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[b]fluoranthene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[k]fluoranthene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[a]pyrene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	indeno[1,2,3-cd]pyrene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Dibenz[a,h]anthracene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	Benzo[g,h,i]perylene	< 0.33 mg/Kg-dry		EPA 8270C	08/28/09 9:00	09/01/09	JJ6-CV
	1,1-Dichloroethylene	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Methylene chloride	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	1,1-Dichloroethane	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Chloroform	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	1,1,1-Trichloroethane	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Carbon tetrachloride	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Benzene	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	1,2-Dichloroethane	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Trichloroethylene	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09·	DN-CV
	Toluene	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	1,1,2-Trichloroethane	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Tetrachloroethylene	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Ethylene dibromide	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV
	Ethylbenzene	< 0.040 mg/Kg-dry		EPA 8260B	08/20/09 9:53	08/20/09	DN-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria Q

MANAGER	Cli Mel	DATE:	9/11/2009

Benchmark Analytics, Inc.

4777 Saucon Creek Road Center Valley, PA 18034

Work Order: 09083072

Phone: (610) 974-8100 Fax: (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bioomfield, NM 87413

WO#:

09083072

PAGE:

39 of 39

PO#:

PHONE:

(505) 632-1199

TEST REPORT

PWS ID#

FAX:

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMB	DATE:	08/20/2009 9:10			Page	39 of 39
m,p-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
o-Xylene	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
1,1,2,2-Tetrachioroethane	< 0.040 mg/Kg-dry	EPA 8260B		08/20/09 9:53	08/20/09	DN-CV
SAMPLE: #12	L	ab ID: 09083072-012E	Grab			
SAMPLED BY: Jeff Blagg	Sample	Time: 08/17/2009 11:55				
<u>Test</u>	Result	Method	Reg Limit	Analysis Start	Analysis End	Analyst *
Uranium	463.9 µg/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV
Uranium	310.8 pCi/Kg	EPA 200.8		08/31/09 9:00	09/03/09	JRA-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

- * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA
- Value above calibration range but within annually verified linear range
- Due to matrix effects, not all quality control parameters met acceptance criteria

	# / ma /		
MANAGER	Cli Meli	DATE:	9/11/2009
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			

BENCHMARK ANALYTICS, INC. 4777 Saucon Creek Road Center Valley, PA 18034-9004

Work Order: 09083072

PHONE (610) 974-8100 FAX (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

TEST REPORT

WO#:

09083072

PAGE:

1 of 3

PO#:

PWS ID#

PHONE: FAX:

(505) 632-1199

Industrial Ecosystems New Land Farm

RECEIVED FOR LAR BY: DMP

RECEIVED FOR LAB BY:	DMB		DA	ATE: 08/20/2	2009 9:10		Page 1 of 3
SAMPLE: #1 SAMPLED BY: Jeff Blage		0.		1-1-1-	09083072-001E	Grab	
SAMPLED BY. Jelf Blagg	3	58	arripie Hm	e 08/17/2009	9:10		
Test	Result	Uncert.	MDA	<u>Units</u>	Method	MCL	Analysis Start Analysis End Analyst *
Radium-226	155.2	± 13.65	74.55	pCi/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	787.9	± 429.7	197.5	pCi/Kg	EPA 904.0		08/28/09 8:30 09/01/09 AVB-CV
SAMPLE: #2				Lab ID:	09083072-002E	Grab	
SAMPLED BY: Jeff Blagg		Sa	imple Tim	e 08/17/2009 (9:25		
<u>Test</u>	Result	Uncert.	MDA	<u>Units</u>	Method	MCL	Analysis Start Analysis End Analyst *
Radium-226	150.9	± 12.53	73.16	pCi/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	724.3	± 397.2	197.6	pCi/Kg	EPA 904.0		08/28/09 8:30 09/01/09 AVB-CV
SAMPLE: #3				Lab ID:	09083072-003E	Grab	
SAMPLED BY: Jeff Blagg		Sa	mple Tim	e 08/17/2009 9	9:40		
<u>Test</u>	Result	Uncert.	MDA	<u>Units</u>	Method	MCL	Analysis Start Analysis End Analyst *
Radium-226	182.2	± 14.76	74.55	pCi/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	629.1	± 173.8	197.5	pCi/Kg	EPA 904.0		08/28/09 8:30 09/01/09 AVB-CV
SAMPLE: #4	,			Lab ID:	09083072-004E	Grab	
SAMPLED BY: Jeff Blagg		Sa	mpie Time	e 08/17/2009 9	3:55		
Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start Analysis End Analyst *
Radium-226	177.9	± 14.24	76.8 2	p Ci/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	7.22	± 144.3	276.1	pCi/Kg	EPA 904.0		09/02/09 8:20 09/09/09 AVB-CV
SAMPLE: #5		,		Lab ID:	09083072-005E	Grab	
SAMPLED BY: Jeff Blagg		Sa	mple Time	9 08/17/2009 1	0:10		
<u>Test</u>	Result	Uncert.	MDA	<u>Units</u>	Method	MCL	Analysis Start Analysis End Analyst *
Radium-226	60.48	± 8.18	70.48	pCi/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	-9 5.71	± 123.0	278	pCi/Kg	EPA 904.0		09/02/09 8:20 09/09/09 AVB-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

MANAGER Clime	DATE:	9/11/2009
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^{*} CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

BENCHMARK ANALYTICS, INC. 4777 Saucon Creek Road Center Valley, PA 18034-9004

Work Order: 09083072

PHONE (610) 974-8100 FAX (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

PO#: PWS ID#

WO#:

PAGE:

PHONE: FAX:

(505) 632-1199

TEST REPORT

09083072

2 of 3

Industrial Ecosystems New RECEIVED FOR LAB BY: I		arm	DA	TE: 08/20	/2009 9:10		Page 2 of 3
SAMPLE: #6 SAMPLED BY: Jeff Blagg		Sa	ample Tim	Lab (C e 08/17/2009	9: 09083072-006E 9:10:25	Grab	
Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start Analysis End Analysi *
Radium-226	108.6	± 11.13	71.97	pCl/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	-67.24	± 141.9	275.9	pCi/Kg	EPA 904.0		09/02/09 8:20 09/09/09 AVB-CV
SAMPLE: #7				Lab ID	: 09083072-007E	Grab	
SAMPLED BY: Jeff Blagg		Sa	ımple Time	e 08/17/2009	10:40		
Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start Analysis End Analyst *
Radium-226	103.4	± 10.86	74.11	pCi/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	274.8	± 243.0	272.7	pCi/Kg	EPA 904.0		09/02/09 8:20 09/09/09 AVB-CV
SAMPLE: #8				Lab ID	: 09083072-008E	Grab	
SAMPLED BY: Jeff Blagg		Sa	mple Time	08/17/2009	10:55		
Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start Analysis End Analyst *
Radium-226	90.08	± 10.38	76.82	pCi/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	623.1	± 229.5	276.8	pCi/Kg	EPA 904.0		09/02/09 8:20 09/09/09 AVB-CV
SAMPLE: #9				Lab ID	: 09083072-009E	Grab	
SAMPLED BY: Jeff Blagg		Sa	mple Time	08/17/2009	11:10		
<u>Test</u>	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start Analysis End Analyst *
Radium-226	100.4	± 10.97	69.95	pCi/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	179.6	± 188.1	276.6	pCi/Kg	EPA 904.0		09/02/09 8:20 09/09/09 AVB-CV
SAMPLE: #10			24. /	Lab ID:	09083072-010E	Grab	
SAMPLED BY: Jeff Blagg		Sa	mple Time	08/17/2009	11:25		
Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start Analysis End Analyst *
Radium-226	89.36	± 10.25	67.49	pCi/Kg	EPA 903.0		08/22/09 14:25 09/04/09 BH-CV
Radium-228	9.03	± 180.4	276.8	pCi/Kg	EPA 904.0		09/02/09 8:20 09/09/09 AVB-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples.

MANAGER	climel	
MANAGEN	O - COM	

DATE: 9/11/2009

^{*} CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

BENCHMARK ANALYTICS, INC. 4777 Saucon Creek Road Center Valley, PA 18034-9004

Work Order: 09083072

PHONE (610) 974-8100 FAX (610) 974-8104

SEND DATA TO:

NAME:

Jeff Blagg

COMPANY: Blagg Engineering Inc

ADDRESS: PO Box 87

Bloomfield, NM 87413

WO#:

09083072

PAGE:

3 of 3

PO#:

PHONE: FAX:

(505) 632-1199

TEST REPORT

PWS ID#

Industrial Ecosystems New Land Farm

RECEIVED FOR LAB BY: DMR

DATE: 08/20/2009 9:10

Page 3 of 3

NECEIVED FOR LAB BY:	DIVIB		DA	16. 00/20/	2009 9:10			r	age 3 of 3
SAMPLE: #11 SAMPLED BY: Jeff Blag	g	Sa	ample Time	Lab ID e 08/17/2009	: 09083072-011E 11:40	Grab			
<u>Test</u>	Result	Uncert.	MDA	<u>Units</u>	Method	MCL	Analysis Start A	nalysis End	Analyst *
Radium-226	109.2	± 10.88	67.47	p Ci/Kg	EPA 903.0		08/22/09 14:25	09/04/09	BH-CV
Radium-228	286.7	± 212.7	277.0	pCi/Kg	EPA 904.0		09/02/09 8:20	09/09/09	AVB-CV
SAMPLE: #12				Lab ID:	09083072-012E	Grab			
SAMPLED BY: Jeff Blag	g	Sa	imple Time	08/17/2009	11:55				
Test	Result	Uncert.	MDA	Units	Method	MCL	Analysis Start A	nalysis End	Analyst *
Radium-226	59.76	± 8.54	74.22	pCi/Kg	EPA 903.0		08/22/09 14:25	09/04/09	BH-CV
Radium-228	-229.8	± 205.6	276.6	pCi/Kg	EPA 904.0		09/02/09 8:20	09/09/09	AVB-CV

REMARKS:

The above test procedures meet all the requirements of NELAC and relate only to these samples. * CV = Benchmark Analytics, Inc. Center Valley, PA; SA = Benchmark Analytics, Inc. Sayre, PA

	1/100/
MANAGER	 Climes

9/11/2009 DATE:

Benchmark Analytics, Inc.

Blagg Engineering Inc CLIENT:

Work Order: Project:

09083072 Industrial Ecosystems New Land Farm

ANALYTICAL QC SUMMARY REPORT

Sample ID MBLK 8/21 SOIL	SampType: MBLK	Test	TestCode: 8270_S	Units: mg/Kg	ξ.	Prep C	Prep Date: 8/21/2009	/2009	RunNo: 43450	t50	
Client ID: PBS	Batch ID: 3626	4	TestNo: SW8270C	0C SW3550A		Analysis D	Analysis Date: 8/21/2009	12009	SeqNo: 868722	3722	
Analyte	Result	Po	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
Naphthalene	< 0.33	0.33									
2-Methylnaphthalene	< 0.33	0.33									
Acenaphthylene	< 0.33	0.33									
Acenaphthene	< 0.33	0.33									
Fluorene	< 0.33	0.33									
Phenanthrene	< 0.33	0.33									
Anthracene	< 0.33	0.33									
Fluoranthene	< 0.33	0.33									
Pyrene	< 0.33	0.33									
Benzo[a]anthracene	< 0.33	0.33									
Chrysene	< 0.33	0.33									
Benzo[b]fluoranthene	< 0.33	0.33									
Benzofk)fluoranthene	< 0.33	0.33									
Benzo(a)pyrene	< 0.33	0.33									
Indeno[1,2,3-cd]pyrene	< 0.33	0.33									
Dibenz[a,h]anthracene	< 0.33	0.33									
Benzo(g,h,i]perylene	< 0.33	0.33									
1-Methylnaphthalene	< 0.33	0.33									

Sample ID LFB 8/21 SOIL	B 8/21	SOIL	SampType: LFB	Test	TestCode: 8270_S	Units: mg/Kg	/Kg	Prep D	Prep Date: 8/21/2009	2009	RunNo: 43450	150	
Client ID: ZZZZZZ	77777		Batch ID: 3626	Te	TestNo: SW8270C	C SW3550A		Analysis D	Analysis Date: 8/21/2009	2009	SeqNo: 868723	1723	
Analyte			Result	PaL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Naphthalene			1.32	0.33	2.50	0	53	21	133				
Acenaphthylene	ą		1.48	0.33	2.50	0	93	33	145				
Acenaphthene	41		1.46	0.33	2.50	0	28	47	145				
Fivorene			1.55	0.33	2.50	0	62	29	121				
Phenanthrene	•		1.67	0.33	2.50	0	29	54	120				
Anthracene			1.70	0.33	2.50	0	88	27	133				
Qualifiers:	田口氏	Value above quantitation range Value above calibration range but with RPD outside accepted recovery limits	Valuc above quantitation range Value above calibration range but within annual RPD outside accepted recovery limits	nally verifie	y verified linear range	2 0 0	Analyte reponder to matra Spike Recon	Analyte reported below quantitation limits Due to matrix effects, not all quality control para Spike Recovery outside accepted recovery limits	uantitation li t all quality co	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria Spike Recovery outside accepted recovery limits	met acceptance		Page 1 of 27

ANALYTICAL OC SIIMMARY REPORT		BatchID: 3626
Blagg Engineering Inc	09083072	Industrial Ecosystems New Land Farm
CLIENT:	Work Order:	Project:

Sample ID LFB 8/21 SOIL	SampType: LFB	Test	TestCode: 8270_S	Units: mg/Kg	, p	Prep Da	Prep Date: 8/21/2009	RunNo: 43450	
Client ID: ZZZZZZ	Batch ID: 3626	Te	TestNo: SW8270C	SW3550A		Analysis Da	Analysis Date: 8/21/2009	SeqNo: 868723	
Analyte	Result	PQL	SPK value SPK Ref Val	K Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	il %RPD RPDLimit Qual	t Qual
Fluoranthene	1.66	0.33	2.50	0	99	26	137		
Pyrene	1.78	0.33	2.50	0	71	52	115		
Benzo[a]anthracene	1.78	0.33	2.50	0	7.	33	143		
Chrysene	1.79	0.33	2.50	0	72	17	168		
Benzo[b]fluoranthene	1.66	0.33	2.50	0	99	24	159		
Benzo[k]fluoranthene	1.80	0.33	2.50	0	72	-	162		
Benzo[a]pyrene	1.73	0.33	2.50	0	69	17	163		
Indeno[1,2,3-cd]pyrene	1.75	0.33	2.50	0	20	-	171		
Dithenz[a,h]anthracene	1.76	0.33	2.50	0	2	-	727		
Benzo(g,h,ilperylene	1.74	0.33	2.50	0	69		219		

E Value above quantitation range Page 2 of 27	L Value above calibration range but within annually verified linear range	R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits
3 Value a	Value	RPD ou
Qualifiers:	-	_

CLIENT:	Blagg Engineering Inc	eering Inc					ANALY	ANALYTICAL QC SUMMARY REPORT	JMMARY RE	PORT
Project:	Industrial Eco	Industrial Ecosystems New Land Farm	_					BatchID:	3643	
Sample ID MBL	MBLK 8/27 SOIL	SampType: MBLK Ratch ID: 3643	TestC	TestCode: 8082_S TestMo: SWA082	Units: mg/Kg	Kg	Prep Date:	ate: 8/27/2009 ate: 8/27/2009	RunNo: 43704 SeaNo: 874502	
		Result	Pol	SPK value SP	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	nit Qual
Arodor 1016		< 0.03	0.03							
Arodor 1221		< 0.03	0.03							
Arodor 1232		< 0.03	0.03							
Arodor 1242		< 0.03	0.03							
Arodor 1248		< 0.03	0.03							
Arodor 1254		< 0.03	0.03							
Arodor 1260		< 0.03	0.03							
Arodor 1262		< 0.03	0.03							
Arodor 1268		< 0.03	0.03							
Sample ID LFB 8/27 SOIL	8/27 SOIL	SampType: LFB	Test	TestCode: 8082_S	Units: mg/Kg	¥6	Prep Date:	ate: 8/27/2009	RunNo: 43704	
Client (D: 222222	777	Batch (D: 3643	Ť	TestNo: SW8082	SW3550A		Analysis D.	Analysis Date: 8/27/2009	SeqNo: 874503	
Analyte		Result	Pol	SPK value SF	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	nit Qual
America 1016		80.0	0.03	010	6	8	15	200		
0101 10001		90.0	3	2 9	•	3 !	i d	207		
Aroclor 1260		0.09	0.03	0.10	0	8	œ	127		
		·								
			,							
Qualifiers:	E Value above que L Value above co	Value above quantitation range Value above calibration range but within annually verified linear range RPD outside accepted recovery limits	ually verific	ed linear range	o o	Analyte rep Due to matr Spike Reco	orted below qurix effects, not very outside a	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria Spike Recovery outside accepted recovery limits	rs met acceptance criteria	Page 3 of 27

Blagg Engineering Inc 09083072 CLIENT:

Work Order:

Industrial Ecosystems New Land Farm

Project:

ANALYTICAL QC SUMMARY REPORT

											l
Sample ID MBLK 8/28 SOIL	SampType: MBLK	Test	TestCode: 8270_S	Units: mg/Kg	5	Prep	Prep Date: 8/28/2009	8/2009	RunNo: 43757	.27	
Client ID: PB\$	Batch ID: 3650	ř	TestNo: SW8270C	SW3550A		Analysis	Analysis Date: 8/28/2009	8/2009	SeqNo: 876102	102	
Analyte	Result	PaL	SPK value SPK Ref Val	PK Ref Vai	%REC	LowLimit	HighLimi	%REC LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	< 0.33	0.33									
2-Methylnaphthalene	< 0.33	0.33									
Acenaphthylene	< 0.33	0.33									
Acenaphthene	< 0.33	0.33									
Fluorene	< 0.33	0.33									
Phenanthrene	< 0.33	0.33									
Anthracene	< 0.33	0.33									
Fluoranthene	< 0.33	0.33									
Pyrene	< 0.33	0.33									
Benzo[a]anthracene	< 0.33	0.33									
Chrysene	< 0.33	0.33									
Benzolojfluoranthene	< 0.33	0.33									
Benzofkjfluoranthene	< 0.33	0.33									
Benzo(a)pyrene	< 0.33	0.33									
Indeno[1,2,3-odjpyrene	< 0.33	0.33									
Dibenz[a,h]anthracene	< 0.33	0.33									
Benzo(g,h,i]perylene	< 0.33	0.33									
1-Methylnaphthalene	< 0.33	0.33									

Sample ID LFB 8/28 SOIL	-B 8/2	8 SOIL	SampType: LFB	Tes	TestCode: 8270_S	Units: mg/Kg	ı/Kg	Prep l	Prep Date: 8/28/2009	42009	RunNo: 43757	
Client ID: ZZZZZZ	7777		Batch ID: 3650	-	TestNo: SW8270C	0C SW3550A		Analysis I	Analysis Date: 8/28/2009	1/2009	SeqNo: 876103	
Analyte			Resutt	절		SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual	nit Qual
Naphthalene			1.12	0.33	2.50	0	45	21	133			
Acenaphthylene	Je		1.36	0.33	2.50	0	32	33	145			
Acenaphthene	es.		1.36	0.33	2.50	0	\$	47	145			
Fluorene			1.46	0.33	2.50	0	28	29	121			SQ
Phenanthrene	۵.		1.55	0.33	2.50	0	62	2	120			
Anthracene			1.55	0.33	2.50	0	62	27	133			
Fluoranthene			1.57	0.33	2.50	0	63	56	137			
Pyrene			1.61	0.33	2.50	0	2	25	115			
Quatifiers:	Е	Value above quantitation range	utitation range			ſ	Analyte rep	Analyte reported below quantitation limits	quantitation	limits		Page 4 of 27
	1	Value above calib	Value above calibration range but within annually verified linear range	nually verif	ied linear range	0	Due to mat	rix effects, no	it all quality	control parameters	Due to matrix effects, not all quality control parameters met acceptance criteria)
	~	RPD outside acce	RPD outside accepted recovery limits			S	Spike Reco	Spike Recovery outside accepted recovery limits	accepted reco	overy limits		

Blagg Engineering Inc
CLIENT:

Work Order:

Project:

09083072 Industrial Ecosystems New Land Farm

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Sample ID LFB 8/28 SOIL	SampType: LFB	Test	TestCode: 8270_S	Units: mg/Kg	Kg	Prep [Prep Date: 8/28/2009	2009	RunNo: 43757	25	
Client ID: ZZZZZZ	Batch ID: 3650	Te	TestNo: SW8270C	C SW3550A		Analysis [Analysis Date: 8/28/2009	2009	SeqNo: 876103	103	
Anatyte	Result	Po	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qua
Benzo[a]anthracene	1.64	0.33	2.50	0	99	33	143				
Chrysene	1.63	0.33	2.50	0	65	17	168				
Benzo[b]fluoranthene	2.14	0.33	2.50	0	88	24	159				
Benzo[k]fluoranthene	2.21	0.33	2.50	0	88	=	162				
Benzo[a]pyrene	2.13	0.33	2.50	0	82	17	163				
Indeno[1,2,3-cd]pyrene	2.24	0.33	2.50	0	8	-	171				
Dibenz[a,h]anthracene	2.21	0.33	2.50	0	88	-	227				
Benzo(g,h,i]perylene	2.20	0.33	2.50	0	88	-	219				

Qualifiers:	\Box	Value above quantitation range	¬	Analyte reported below quantitation limits	Page 5 of 27
	-1	Value above calibration range but within annually verified linear range	0	Due to matrix effects, not all quality control parameters met acceptance criteria	ı
	~	RPD outside accepted recovery limits	s	Spike Recovery outside accepted recovery limits	

Blagg Engineering Inc
Blagg I
CLIENT:

Work Order: Project:

09083072 Industrial Ecosystems New Land Farm

ANALYTICAL QC SUMMARY REPORT

Sample ID MBLK 8/31 SOIL	SampType: MBLK	Test	TestCode: 8082_S	Units: mg/Kg	ن و	Prep Da	Prep Date: 8/31/2009	/2009	RunNo: 43764	.64	
Client ID: PBS	Batch ID: 3655	<u>ie</u>	TestNo: SW8082	SW3550A		Analysis Date: 8/31/2009	ate: 8/31	/2009	SeqNo: 876308	308	
Analyte	Result	Pol	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Arodor 1016	< 0.03	0.03									
Arodor 1221	< 0.03	0.03									
Aroclor 1232	< 0.03	0.03									
Arodor 1242	< 0.03	0.03									
Aroclor 1248	< 0.03	0.03									
Arodor 1254	< 0.03	0.03									
Arodor 1260	< 0.03	0.03									
Arodor 1262	< 0.03	0.03									
Arador 1268	< 0.03	0.03									

Sample ID LFB 8/31 SOIL	SampType: LFB	Test	TestCode: 8062_S	Units: mg/Kg	₹ª	Prept	Prep Date: 8/31/2009	(2009	RunNo: 43764	99.	
Client ID: 222222	Batch ID: 3655	Te.	TestNo: SW8062	2 SW3550A		Analysis [Analysis Date: 8/31/2009	(2009	SeqNo: 876309	309	
Anable	Result	POL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	KREC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Aroclor 1016	0.10	0.03	0.10	0	101	12	200				
Aroclor 1260	0.09	0.03	0.10	0	82	80	127				

limits Page 6 of 27	control parameters met acceptance criteria	overy limits
Analyte reported below quantitation 1	Due to matrix effects, not all quality of	Spike Recovery outside accepted reco
∵	ď	S
E Value above quantitation range	L Value above calibration range but within annually verified linear range	R RPD outside accepted recovery limits
Ξ	7	×
ualifiers:		

CLIENT:		Blagg Engineering Inc	ing Inc					ANAL	YTIC/	ANALYTICAL QC SUMMARY REPORT	MMARY	REPO	RT
Project:		Industrial Ecosy	Industrial Ecosystems New Land Farm							BatchID: E	ES 083109 A		
Sample ID Client ID:	MBLK E PBW	MBLK ES 083109 A PBW	SampType: MBLK Batch ID: ES 083109 A		TestCode: U_200.8 TestNo: E200.8	Units: µg/Kg	ıg/Kg	Prep Date: Analysis Date:	1	8/31/2009	RunNo: 43922 SeqNo: 880027	22 027	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium			< 239.1 2	239.1									
Sample ID LFB ES 083109 A	LFB ES	083109 A	SampType: LFB	TestCo	TestCode: U_200.8	Units: µg/Kg	g/Kg	Prep Date:	Date:		RunNo: 43922	22	
Client ID:	777777		Batch ID: ES 083109 A		TestNo: E200.8			Analysis Date:		8/31/2009	SeqNo: 880028	028	
Analyte			Result	POL	SPK value	SPK Ref Val	%REC		HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Uranium			19450 2	238.2	19060	0	102	. 85	115				
Sample 1D	"	09083072-001E MS	SampType: MS	TestCo	TestCode: U_200.8	3 Units: µg/Kg	ag/Kg	Prep Date:	Date:		RunNo: 43922	22	
Client 1D:	Ī		Batch ID: ES 083109 A		TestNo: E200.8			Analysis Date:		6/31/2009	SeqNo: 680034	034	
Analyte			Result	PQ.	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium			19250	242.1	19370	568.8	96	6	130				
			•										
Qualifiers:	н П	Value above quantitation range Value above calibration range b RPD outside accepted recovery	Value above quantitation range Value above calibration range but within annually RPD outside accepted recovery limits		verified linear range	S		Analyte reported below quantitation limits Due to matrix effects, not all quality control para Spike Recovery outside accepted recovery limits	quantitation ot all quality accepted rec	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria Spike Recovery outside accepted recovery limits	met acceptance		Page 7 of 27

Blagg Engineering Inc 09083072 CLIENT:

Work Order:

Project:

Industrial Ecosystems New Land Farm

ANALYTICAL QC SUMMARY REPORT

BatchID: OS 082609 A

Sample ID OS 082609A MBLK	SampType: MBLK	TestC	TestCode: ME_ICP_S	S Units: mg/Kg	y/Kg	Prep Date:	Date:		RunNo: 43606	909	
Client ID: PBS	Batch ID: OS 082609	Tes	TestNo: SW6010B	80		Analysis	Analysis Date: 8/26/2009	2009	SeqNo: 872493	2493	
Analyte	Result	Po	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Arsenic	< 4.92	4.92									
Barium	< 3.93	3.93									
Cadmium	< 0.197	0.197									
Chromium	< 1.97	1.97									
Copper	< 1.97	1.97									
Iron	< 19.7	19.7									
Lead	< 1.97	1.97									
Manganese	< 1.97	1.97									
Selenium	< 7.87	7.87									
Silver	< 1.38	1.38									
Zinc	< 3.93	3.93									

Sample ID OS 082609A LFB	SampType: LFB	Test	estCode: ME_ICP_S		Units: mg/Kg	Prep Date:	Date:		RunNo: 43606	90;	
Client ID: 222222	Batch ID: OS 082609	Þ	TestNo: SW6010B			Analysis	Analysis Date: 8/26/2009	12009	SeqNo: 872494	2494	
Analyte	Result	절	SPK value SPK Ref Val	PK Ref Val	%REC	LowLinit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Arsenic	41.2	4.86	38.9	0	50	8	120				
Barium	38.5	3.89	38.9	0	66	8	120				
Cadmium		0.194	38.9	0	101	8	120				ш
Chromium	37.3	1.94	38.9	0	8	8	120				
Copper	38.7	1.94	38.9	0	5	8	120				
Iron	3770	19.4	3920	0	8	8	120				Ш
Lead	38.7	<u>1</u> .9	38.9	0	100	8	120				
Manganese	38.2	1.94	38.9	0	86	8	120				
Selenium	34.2	7.77	38.9	0	88	8	120				
Silver	18.2	1.36	19.4	0	\$	88	120				
Zinc	39.4	3.89	38.9	0	101	8	120				

			A service of the serv
Qualifiers:	H	Value above quantitation range	Analyte reported below quantitation limits Page 8 of 27
	ı	Value above calibration range but within annually verified linear range	Due to matrix effects, not all quality control parameters met acceptance criteria
	×	RPD outside accepted recovery limits	Spike Recovery outside accepted recovery limits

Project:	Industrial Eco	Industrial Ecosystems New Land Farm							BatchID:	OS 082609 A	_	BatchID: OS 082609 A
Sample ID 090 Client ID: ZZZ	Sample ID 09082996-005A MS Client ID: ZZZZZZ	SampType: MS Batch ID: OS 082609	TestCo	TestCode: ME_ICP_S TestNo: SW6010B	Units: mg/Kg	ng/Kg	Prep Date: Analysis Date:	11	8/26/2009	RunNo: 43606 SeqNo: 872497	06	
Analyte		Result	ğ	SPK value SP	SPK Ref Vai	%REC	LowLimit		HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Copper		204	1.83	36.5	128	209	75	125	5			S E 4x
Sample ID 090 Client ID: ZZ	Sample ID 09082996-005A MSD Client ID: 222222	SampType: MSD Batch ID: OS 082609	TestC	TestCode: ME_ICP_S TestNo: SW6010B	Units: mg/Kg	mg/Kg	Prep Date: Analysis Date:	Prep Date: Analysis Date: 8/26/2009	26/2009	RunNo: 43606 SeqNo: 872498	06 498	
			Pol	SPK value SP	SPK Ref Val	%REC		HighLim	LowLimit HighLimit RPD Ref Val		RPDLimit	Qual
Copper		₹. £.	1.83	36.5	128		27	125		m	8	ω σ
Qualifiers:		Value above quantitation range					Analyte reported below quantitation limits	quantitatio	n limits			Page 9 of 27
		Value above calibration range but within annually verified linear range	ally verified	i linear range		Q Due to ma	trix effects, no	ot all quali	Due to matrix effects, not all quality control parameters met acceptance criteria	ers met acceptance	criteria	
	R RPD outside ac	RPD outside accepted recovery limits					overy outstuc	accepted	Spike Recovery outside accepted recovery limits			

Party Part	CLIENT:	Blagg Engineering Inc	ering Inc					ANAL	YTICA	ANALYTICAL QC SUMMARY REPORT	MMAR	Y REPO	RT
Color Colo	Project:	Industrial Eco	osystems New Land Farm	_					-		43249		
Poblatic Poblatic	11	X	SampType: LCS Batch ID: R43249	Test	Sode: ANION	11	بـ	Prep Analysis	11	72009	RunNo: 43	249	
1.0 1.0	Analyte		Result	Pal	SPK value		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Quai
10 MBLK SampType: MBLK TestCode: AMION 300 110 90 9	Fluoride		2.99	0.10	3.00	0	5	8	110				
150 MBLK SampTypes MBLK TestCode: AMION JOLG Units: mg/L Analysis Date: 87207009 110	Chloride		14.7	0.25	15.0	0	86	8	110				
10 MBLK SampType: MBLK TestCode: ANION_200. Units: mg/L Prep Date: 8720209 Seque: 823088	Suffate		15.0	0.25	15.0	0	5	8	110				
PBW Batch ID: R43249 TestNo: E300.0 Units: mg/L Analysis Date: 8/20/2009 SeqNo: 63308 Republication range Analysis Date: 8/20/2009 SeqNo: 63308 Analysis Date: 8/20/2009 SeqNo: 63308 Analysis Date: 8/20/2009 SeqNo: 63308 Analysis Date: 8/20/2009 SeqNo: 63308 Analysis Date: 8/20/2009 SeqNo: 63308 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date: 8/20/2009 Analysis Date:	Nitrate		3.01	0.10	3.00	0	100	90	110				
Park Batch ID: R43248 Teatho: E300.0 Analysis Date: 81202009 Sequive S95808 Seq		×	SampType: MBLK	Test	Code: ANION	Units:	یے ا	Prep	Date:			249	
Column C		~	Batch ID: R43249	P	stNo: E300.0			Analysis		12009	SeqNo: 86	3808	
Continue Continue	Analyte		Resutt	Pol	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Continue Continue	Fluoride		< 0.10	0.10									
Composition Composition	Chloride		< 0.25	0.25									
Color Colo	Suffate		< 0.25	0.25									
SampType: MS TestCode: AMMON_300.0 Units: mg/L Analysis Date: B/LODB RUNNO: 43249 Batch ID: R43249 TestMo: E300.0 Units: MREC LowLimit HighLimit RPD Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD In 11.59 0.10 5.00 1.55 1 90 110 RPD Ref Val RPD In 2.50 2.50 2.50 11.7 1 90 110 RPD Ref Val RPD In 2.50 0.10 5.00 2.62 -3 90 110 RPD Ref Val RPD	Nitrate		< 0.10	0.10									
Political Section Political Poli	Sample ID 090	82764-001AMS	SampType: MS	Test	Code: ANION	1_300.0 Units: mg	٦	Prep	Date:		RunNo: 43	249	
Figure F		7272	Batch (D: R43249	Te.	stNo: E300.0			Analysis		/2009	SeqNo: 86	3815	
1.59 0.10 0.25 25.0 1.57 104 90 110	Analyte		Result	Pat	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
11.9 0.25 25.0 11.7 1 90 110	Fluoride		1.59	0.10	5.00	1.55	-	8	110				s
11.9 0.25 25.0 11.7 1 90 110 11.0 1	Chloride		31.0	0.25	25.0	5.07	\$	8	110				
10 MBLK SampType: MBLK TestCode: ANION_300.0 Units: mg/L Prep Date: RunNo: 43249 RunNo: 43249 RetVal %REC LowLimit HighLimit RPD Ref Val %RPD RPDLin RPD Ref Val %RPD Ref Val RPD Ref Val RPD Ref Val RPD Ref Recovery outside accepted recovery limits RPD Ref Recovery outside accepted recovery limits RPD Ref Recovery outside accepted recovery limits RPD Ref Recovery Ref Recovery limits RPD Ref Recovery R	Sulfate		11.9	0.25	25.0	11.7	-	8	110				S
SampType: MBLK TestCode: AMION_300.0 Units: mg/L Analysis Date: 8/20/2009 SeqNo: 43249 Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLin < 0.10	Nitrate		2.50	0.10	5.00	2.62	ဂု	06	110				S
PBW Batch ID: R43249 TestNo: E300.0 Analysis Date: 8/20/2009 SeqNo: 863817	Sample tO MB	רא	SampType: MBLK	Test	Code: ANION	1	٦.	Prep	Date:		RunNo: 43	249	
SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLin RPDLin		\$	Batch ID: R43249	۳	estNo: E300.(Analysis		7,2009	SeqNo: 86	3817	
 < 0.10 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25	Analyte		Result	PaL	SPK value		%REC	LowLimit	HighLimit		%RPD	RPDLimit	Qual
 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25	Fluoride		< 0.10	0.10									
 c 0.25 c value above quantitation range d Analyte reported below quantitation limits b Value above calibration range c Value above calibration range d Due to matrix effects, not all quality control parameters net acceptance criteria R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits 	Chloride		< 0.25	0.25						,			
E Value above quantitation range L Value above calibration range L Value above calibration range but within annually verified linear range Q Due to matrix effects, not all quality control parameters net acceptance criteria R RPD outside accepted recovery limits	Sulfate		< 0.25	0.25					•				
Value above calibration range but within annually verified linear range RPD outside accepted recovery limits S	Qualifiers:		uantitation range			1	Analyte rep	orted below	quantitation	limits			Page 10 of 27
RPD outside accepted recovery limits			alibration range but within annu	ally verific	ed linear range	0	Due to mat	rix effects, n	ot all quality	control parameters	met acceptance		
			ecepted recovery limits			'n	Spike Reco	very outside	accepted rec	overy limits			

Marchital Ecosystems New Land Farm Free Lands: E300.0 Units: mg/L Arabyas Date: 8702000 Sendro: 853817 Result POL SPK value SPK Rel'Vsi WREC LowLinit HighLinit RPD Rel'Vsi Scapto: 853817 Result POL SPK value SPK Rel'Vsi WREC LowLinit HighLinit RPD Rel'Vsi Scapto: 853818 Sendro Result POL SPK value SPK Rel'Vsi WREC LowLinit HighLinit RPD Rel'Vsi WARD Rel'Vsi Sendro: 853818 Sendro Rel'Vsi Sendro: 853818 Sendro Rel'Vsi Sendro: 853818 Sendro Rel'Vsi Sendro: 853818 Sendro Rel'Vsi Sendro: 853818 Sendro Rel'Vsi Sendro: 853818 Sendro Rel'Vsi Sendro: 853818 Sendro Rel'Vsi Sendro: 853818 Sendro Rel'Vsi Sendro: 853818 Sendro Rel'Vsi Sen	CLIENT:	Blagg Engineering Inc					ANALY	TICAL QC SI	ANALYTICAL QC SUMMARY REPORT	ORT
PBM Batch D. K43246 TeatCode: ANION; 200.0 Units: mglf Analysis Dute: 8.202009 Section: 853817	Project:	Industrial Ecosystems New Land Farm						BatchID:	R43249	
Color Colo		Š	TestC	code: ANION	300.0 Units: mg	J/L	Prep Dat	1	RunNo: 43249	
Color Colo		Resutt	집	SPK value	SPK Ref Val	%REC	3	Limit	%RPD RPDLimit	Qual
CLCSW Barch ID: R43249 TestRocke: ANION_300.0 Units: mg/L Anialysis Date: 8202009 SnqhVo: 8532828 Result Pol. SPK vabe SPK Ref Val %RPC LowLinit HighLinit RPD Ref Val %RPD RPDLIN R	Nitrate	< 0.10	0.10							
CLCSW Result POL SPK Nation SPK Nat	Sample ID LCS	SampType: LCS	Test	ode: ANION	300.0 Units: m	g/L	Prep Dat	6:	RunNo: 43249	
122 10 10 10 10 10 10 10			Te	stNo: E300.0			Analysis Dat		SeqNo: 863828	
15.1 15.2 1.0 1.	Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit H			Qual
15.1 15.2 15.0 15.0 10.0	Fluoride	3.25	0.10	3.00	0	108	8	110		
15.3 12.5 15.0 0 102 90 110	Chloride	. 15.1	0.25	15.0	0	101	8	110		
10 MBLK Sampfype: MBLK FestNo: E30.0 103 90 11	Suffate	15.3	0.25	15.0	0	102	8	110		
Sampfype: MBLK TestCode: ANION_300.0 Units: mg/L Prep Date: 820/2009 SeqNo: 863829	Nitrate	3.06	0.10	3.00	0	103	06	110		
PBW Result PQL SPK value SPK Ref Val %REC LowLinit RPD Ref Val %RPD RPDLin RPD Ref Val %RPD RPDLin RPD Ref Val %RPD RPDLin RPD Ref Val %RPD RPDLin RPD Ref Val %RPD RPDLin RPD Ref Val %RPD RPDLin RPD Ref Val %RPD RPDLin RPD Ref Val %RPD RPDLin RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val RPD Ref Val %RPD Ref Val RPD Ref Val %RPD Ref Val RPD Ref Val RPD Ref Val RPD Ref Val RPD Ref Val %RPD Ref Val RPD Ref V	Sample ID MBLK		Test	Sode: ANION	Units:	g/f.	Prep Dat	.e.		
SampType: MBLK POL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RPDLine RPD Ref Val %RPD RPDLine RPDRine RPD Ref Val %RPD RPDLine RPD Ref Val %RPD RPDLine RP		Batch ID: R43249	₽ P	stNo: E300.0			Analysis Dal		SeqNo: 863829	
Coulo Coul	Analyte	Resut	정	SPK value	SPK Ref Val	%REC				Qual
Course C	Fluoride	< 0.10	0.10							
+ ID MBLK SampType: MBLK TestCode: Anion 300.0 Units: mg/L Prep Date: RunNo. 43249 Ranno. 43249 D: PBW TestNo: E300.0 Units: mg/L Analysis Date: 8/20/2009 SeqNo: 863844 Sequility Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLin Sequility C.0.10 0.10 0.10 SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD Ref Val %RPD SPRPD Ref Val %RPD RRPD Ref Val %RPD SPRPD Ref Val %RPD RPD Na SRPD RPD Na SPRP Na RPD Na	Chloride	< 0.25	0.25							
Coursi C	Suffate	< 0.25	0.25							
ID MBLK SampType: MBLK TestCode: ANION_300.0 Units: mg/L Prep Date: RunNo: 43249 RunNo: 43249 RunNo: 43249 SeqNo: 863844 Seque a least to the source of th	Nitrate	< 0.10	0.10							
PBW Batch ID: R43249 Tesitlo: E300.0 Analysis Date: 8/20/2009 SeqNo: 863844	Sample ID MBLK		Test	Code: ANION	300.0 Units: m	g/L	Prep Da	ie:	RunNo: 43249	
Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD Ref Val %RPD RPDLit			Τe	stNo: E300.0			Analysis Da		SeqNo: 863844	
 < 0.10 0.00 < 0.25 < 0.25 < 0.25 < 0.10 < 0.25 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10	Analyte	Result	Pal	SPK value	SPK Ref Val	%REC				Qual
 < 0.25 < 0.25 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10	Fluoride	< 0.10	0.10							
 < 0.25 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10 < 0.10	Chloride	< 0.25	0.25							
ctrs: E Value above quantitation range L Value above calibration range L Value above calibration range R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits S Spike Recovery outside accepted recovery limits	Suffate	< 0.25	0.25							
E Value above quantitation range L Value above calibration range but within annually verified linear range Q Due to matrix effects, not all quality control parameters met acceptance criteria R RPD outside accepted recovery limits S pike Recovery outside accepted recovery limits	Nitrate	< 0.10	0.10		,					
E Value above quantitation range L Value above calibration range but within annually verified linear range Q Due to matrix effects, not all quality control parameters met acceptance criteria R RPD outside accepted recovery limits										
L Value above calibration range but within annually verified linear range Q Due to matrix effects, not all quality control parameters met acceptance criteria R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits					f	Analyte re	ported below qua	ntitation limits	Pa	re 11 of 27
RPD outside accepted recovery limits			ally verific	od lincar range	8	Due to ma	trix effects, not a	If quality control paramete		
	æ				S	Spike Rec	overy outside acc	epted recovery limits		

CLIENT:	Blagg Engineering Inc	ering Inc					ANAL	YTICA	ANALYTICAL QC SUMMARY REPORT	MMAR	Y REPO	RT
Project:	Industrial Eco	Industrial Ecosystems New Land Farm	_					E	BatchID: F	R43249		:
Sample ID LCS		SampType: LCS	Test	Code: ANION	TestCode: ANION_300.0 Units: mg/L	1/1	Prep Date:	Jate:		RunNo: 43249	249	
Client ID: LCSW		Batch ID: R43249	۳	TestNo: E300.0			Analysis Date:		8/20/2009	SeqNo: 864539	4539	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		3.10	0.10	3.00	0	103	8	110				
Chloride		14.9	0.25	15.0	0	8	8	110	,			
Sulfate		14.6	0.25	15.0	0	26	6	110				
Nitrate		3.02	0.10	3.00	0	101	8	110				
Sample ID MBLK		SampType: MBLK	Test	TestCode: ANION_300.0	300.0 Units: mg/L	7,	Prep Date:	Date:		RunNo: 43249	249	
Client ID: PBW		Batch ID: R43249	ĭ	TestNo: E300.0			Analysis Date:		8/20/2009	SeqNo: 864540	4540	
Analyte		Resutt	Pal	SPK value	SPK Ref Vai	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		< 0.10	0.10									
Chloride		< 0.25	0.25				•					
Sutfate		< 0.25	0.25									
Nitrate		< 0.10	0.10									
Sample ID 09082	09082534-002GMS	SampType: MS	Test	TestCode: ANION_300.0	300.0 Units: mg/L	7,	Prep Date:	Date:		RunNo: 43	43249	
Client ID: ZZZZZZ	22	Batch ID: R43249	۳	TestNo: E300.0			Analysis Date:		6/20/2009	SeqNo: 863820	3820	, · ,
Analyte		Resut	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		124	0.10	125	1.29	88	8	120				
Chloride		704	0.25	625	38.4	106	80	120		٠		
Sulfate		636	0.25	625	7.17	5	8	120				
Nitrate		131	0.10	125	0	105	80	120				
Qualifiers: E		Value above quantitation range Value above calibration range but within annually verified linear range	ually verif	ied linear range	7	Analyte rep Due to man	onted below rix effects, no	Analyte reported below quantitation limits Due to matrix effects, not all quality contro	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria	met acceptance		Page 12 of 27
α.		RPD outside accepted recovery limits			S	Spike Reo	very outside	Spike Recovery outside accepted recovery limits	overy limits			

Blagg Engineering Inc 09083072 CLIENT:

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Project:

ANALYTICAL QC SUMMARY REPORT

Sample ID SAND BLANK		SampType: MBLK	TestC	TestCode: 8260_S	Units: mg/Kg	Кg	Prep Date:	ate:		RunNo: 43264	75	
Client ID: PBS	Ba	Batch ID: R43264	Tes	TestNo: SW8260B			Analysis Date:	ate: 8/20/2009	5009	SeqNo: 864137	1137	
Analyte		Resuft	Pal	SPK value SP	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethylene		< 0.040	0.040									
Methylene chloride		< 0.040	0.040									
1,1-Dichloroethane		< 0.040	0.040									
Chloroform		< 0.040	0.040									
1,1,1-Trichloroethane		< 0.040	0.040									
Carbon tetrachloride		< 0.040	0.040									
Benzene		< 0.040	0.040									
1,2-Dichloroethane		< 0.040	0.040									
Trichloroethylene		< 0.040	0.040									
Toluene		< 0.040	0.040									
1,1,2-Trichloroethane		< 0.040	0.040									
Tetrachloroethylene		< 0.040	0.040									
Ethylene dibromide		< 0.040	0.040									
Ethylbenzene		< 0.040	0.040									
m,p-Kylene		< 0.040	0.040									
o-Xylene		< 0.040	0.040									
1,1,2,2-Tetrachloroethane	hane	< 0.040	0.040									
Naphthalene		< 0.040	0.040									
Sample ID 20 ppb MS		SampType: MS	Test	TestCode: 8260_W	Units: mg/L	<i>ا</i> د	Prep Date:	ate:		RunNo: 43264	264	
Client ID: ZZZZZZ	8	Batch ID: R43264	Te	TestNo: SW8260B			Analysis Date:		8/20/2009	SeqNo: 864129	1129	
Analyte		Result	Pal	SPK value SI	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethylene		0.024	0.001	0.020	0	120	5	234				
Methylene chloride		0.021	0.001	0.020	0	103	2	221				
1,1-Dichloroethane		0.022	0.001	0.020	0	110	29	155				
Chloroform		0.020	0.001	0.020	0	101	51	138				
1,1,1-Trichloroethane	e)	0.022	0.001	0.020	0	11	52	162				
Carbon tetrachloride		0.023	0.001	0.020	0	114	2	140				
Benzene		0.021	0.001	0.020	0	\$	37	151				
1,2-Dichloroethane		0.020	0.001	0.020	0	6 6	49	155				
Qualifiers: E	Value above quantitation range	n range			-	Analyte rep	Analyte reported below quantitation limits	uantitation !	imits		Pag	Page 13 of 27
ר	Value above calibration range but within annually verified linear range	range but within anni	ally verifie	ed linear range	0	Due to matt	ix effects, no	all quality	Due to matrix effects, not all quality control parameters met acceptance criteria	met acceptance		
ĸ	RPD outside accepted recovery limits	ecovery limits			S	Spike Reco	Spike Recovery outside accepted recovery limits	ocepted reco	overy limits			

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ANALYTICAL QC SUMMARY REPORT

Sample ID 20 ppb MS	SampType: MS	Test	TestCode: 8260_W	Units: mg/L	mg/L	Prep Date	Date:		RunNo: 43264	
Client ID: ZZZZZZ	Batch ID: R43264	μ.	TestNo: SW8260B	9		Analysis Date:		8/20/2009	SeqNo: 864129	
Analyte	Result	Pg	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit	mit Qual
Trichloroethylene	0.022	0.001	0.020	0	110	71	157			
Toluene	0.022	0.001	0.020	0	108	47	150	_		
1,1,2-Trichloroethane	0.020	0.00	0.020	0	88	52	150			
Tetrachloroethylene	0.023	0.001	0.020	0	113	29	148	-		
Ethylene dibromide	0.018	0.001	0.020	0	9	LO	200			
Ethylbenzene	0.022	0.001	0.020	0	17	37	162			
m.p-Xylene	0.042	0.001	0.040	0	106	ιn	700			
o-Xylene	0.021	0.001	0.020	0	106	S	200	_		
1,1,2,2-Tetrachloroethane	0.018	0.001	0.020	0	6	46	157			
Naphthalene	0.019	0.001	0.020	0	97	5	200			
Sample ID 20 ppb MS0	SampType: MSD	Tes	TestCode: \$260_W	/ Units: mg/L	mg/L	Prep	Prep Date:		RunNo: 43264	
Client ID: ZZZZZZ	Batch ID: R43264	μ Ξ	TestNo: SW8260B	8		Analysis Date:		6/20/2009	SeqNo: 864130	•
Analyte	Result	Š.	SPK value	SPK Ref Val	%REC	C LowLimit	HighLimit	t RPD Ref Val	%RPD RPDLimit	mit Qual
1,1-Dichloroethylene	0.024	0.001	0.020	0	120	5	234			
Methylene chloride	0.020	0.001	0.020	0	101	5	221	_		
1,1-Dichloroethane	0.023	0.001	0.020	0	114	59	155	10		
Chloroform	0.021	0.001	0.020	0	103	51	138	m		
1, 1, 1-Trichloroethane	0.023	0.001	0.020	0	114	52	162	2		
Carbon tetrachloride	0.023	0.001	0.020	0	115	02	140	0		
Benzene	0.021	0.001	0.020	0	105	37	151	_		
1,2-Dichloroethane	0.020	0.001	0.020	0	5	49	155	10		
Trichtoroethylene	0.022	0.001	0.020	0	112	71	157	2		
Tolvene	0.022	0.001	0.020	0	110	47	150	0		
1,1,2-Trichloroethane	0.020	0.001	0.020	0	102	52	150	0		
Tetrachloroethylene	0.023	0.001	0.020	0	116		148	80		
Ethylene dibromide	0.019	0.001	0.020	0	98		200	0		
Ethylbenzene	0.022	0.001	0.020	0	112	37	162	2		
m,p-Xylene	0.043	0.001	0.040	0	108		200	0		
o-Xylene	0.022	0.001	0.020	0	108	2	200	0		
Qualifiers: E Value above quantitation range	antitation range				J Analyte	Analyte reported below quantitation limits	quantitatio	ı limits		Page 14 of 27
L Value above call	Value above calibration range but within annually	nally verif	verified linear range		Q Due to 1	natrix effects, n	ot all qualit	y control parameter	Due to matrix effects, not all quality control parameters met acceptance criteria	
R RPD outside acc	RPD outside accepted recovery limits				S Spike R	Spike Recovery outside accepted recovery limits	accepted re	covery limits		

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Industrial Ecosystems New Land Farm

ANALYTICAL QC SUMMARY REPORT

Sample ID 20 ppb MSD	SampType: MSD	Test	TestCode: 8260_W	Units: mg/L	mg/L	Prep	Prep Date:		RunNo: 43264	
Client ID: ZZZZZZ	Batch ID: R43264	₽ P	TestNo: SW8260B	m		Analysis	Analysis Date: 8/20/2009	12009	SeqNo: 864130	
Analyte	Resuft	POL	SPK value SPK Ref Val	SPK Ref Val	%REC		HighLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,1,2,2-Tetrachloroethane	0.019	0.00	0.020	0 0	97	46	157			
Natural arcine	0.020	3	0.020							
Sample ID Method Blank	SampType: MBLK	Test	TestCode: 8260_W	Units: mg/L	mg/L	Prep	Prep Date:		RunNo: 43264	
Client ID: PBW	Batch ID: R43264	¥	TestNo: SW8260B	M		Analysis	Analysis Date: 8/20/2009	72009	SeqNo: 864131	
Analyte	Result	Pal	SPK value SPK Ref Val	SPK Ref Val	%REC		HighLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,1-Dichloroethylene	< 0.001	0.001								
Methylene chloride	< 0.001	0.001								
1,1-Dichloroethane	< 0.001	0.001								
Chloroform	< 0.001	0.001								
1,1,1-Trichloroethane	< 0.001	0.001				٠.				
Carbon tetrachloride	< 0.001	0.001								
Benzene	< 0.001	0.001								
1,2-Dichloroethane	< 0.001	0.001								
Trichloroethylene	< 0.001	0.001							٠	
Toluene	< 0.001	0.001								
1,1,2-Trichloroethane	< 0.001	0.001								
Tetrachloroethylene	< 0.001	0.001								
Ethylene dibromide	< 0.001	0.001								
Ethytbenzene	< 0.001	0.001								
m,p-Xylene	< 0.001	0.001								
o-Xylene	< 0.001	0.001								
1,1,2,2-Tetrachloroethane	< 0.001	0.001								
Naphthalene	< 0.001	0.001								

Qualifiers:	щ	Value above quantitation range	J Analyte reported below quantitation limits Page 15 of 27
	_	Value above calibration range but within annually verified linear range	Q Due to matrix effects, not all quality control parameters met acceptance criteria
	ĸ	RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery limits

CLIENT:	Blagg Engineering Inc					ANALY	TICAL Q	C SUN	ANALYTICAL QC SUMMARY REPORT	PORT	—
Project:	oyooyo 12 Industrial Ecosystems New Land Farm	І Ғатт					BatchID:		R43383		
11 0	Š		estCode: PMOIST	Units: %		Prep Date.			RunNo: 43383		
Client ID: PBS	Batch ID: R43383	-					8/21/		75		
Analyte	Resutt	Pol	SPK value SF	SPK Ref Val	%REC	LowLimit His	HighLimit RPD Ret Val	tet Val	%RPD RPDLimit	nit Qual	ē
Percent Moisture	< 0.0	0.0									
Sample ID MB2	SampType: MBLK		FestCode: PMOIST	Units: %		Prep Date:	i i		RunNo: 43383		Ė
Client ID: PBS	Batch ID: R43383		TestNo: D2216			Analysis Date:	e: 8/21/2009		SeqNo: 866751		·
Analyte	Resuk	PQL	SPK value Si	SPK Ref Vai	%REC	LowLimit HighLimit		RPD Ref Val	%RPD RPDLimit	nit Qual	le l
Percent Moisture	0.0 >	0.0									
Sample ID MB3	SampType: MBLK		TestCode: PMOIST	Units: %		Prep Date:	ej.		RunNo: 43383		
Client ID: PBS	Batch ID: R43363		TestNo: D2216			Analysis Dat	Analysis Date: 8/21/2009		SeqNo: 866855		
Analyte	Result	Pa	SPK value SI	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD F	RPD Ref Val	%RPD RPDLimit		Qual
Percent Moisture	< 0.0	0.0									
•											
Qualifiers: E	E Value above quantitation range L Value above calibration range but within annually		rerified linear range	- O	Analyte rep Due to mate	Analyte reported below quantitation limits Due to matrix effects, not all quality contro	intitation limits Il quality control p	saranieters r	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria	Page 16 of 27	5 of 27
			•	· s	Spike Reco	very outside acc	Spike Recovery outside accepted recovery limits	nits			

CLIENT:	Blagg Engineering Inc	ing Inc				ANAL	ANALYTICAL QC SUMMARY REPORT	IMMARY REI	PORT
Project:	Industrial Ecosy	Industrial Ecosystems New Land Farm	e				BatchID: F	R43461	
Sample ID MBlank / Solid Blank	nk / Solid Blank	SampType: MBLK	TestCo	TestCode: PHENOL_420 Units: mg/Kg	mg/Kg	Prep Date:	Date:	RunNo: 43461	
Client ID: PBS		Batch ID: R43461	Tesh	TestNo: E420.2		Analysis I	Analysis Date: 8/25/2009	SeqNo: 868817	
Analyte		Result	Pal	SPK value SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	nit Qual
Total Phenois		o o o o o o o o o o o o o o o o o o o	0.000 4000						
Qualifiers:	E Value above quantitation range L Value above calibration range b R RPD outside accepted recovery	Value above quantitation range Value above calibration range but within annually verified linear range RPD outside accepted recovery limits	nally verified	l linear range	J Analyte rep Q Due to mat S Spike Recc	ported below trix effects, n overy outside	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria Spike Recovery outside accepted recovery limits	s met acceptance criteria	Page 17 of 27

Blagg Engineering Inc	09083072
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Project:

ANALYTICAL QC SUMMARY REPORT

Sample ID MBLK SOIL	SampType: MBLK	Test	TestCode: GRO_S	Units: mg/Kg	g/Kg	Prep Date:)ate:		RunNo: 43616	16	
Client ID: PBS	Batch ID: R43616	<u>+</u>	TestNo: APIGRO			Analysis [Analysis Date: 8/27/2009	/2009	SeqNo: 872683	683	
Analyte	Result	ğ	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
Gasoline Range Organics	< 1.00	1.00									
Sample ID LFB SOIL	SampType: LFB	Test	TestCode: GRO_S	Units: mg/Kg	g/Kg	Prep Date:	Jate:		RunNo: 43616	16	
Client ID: ZZZZZZ	Batch ID: R43616	Te.	TestNo: APIGRO			Analysis [Analysis Date: 8/27/2009	/2009	SeqNo: 872684	684	
Analyte	Result	Pol	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Gasoline Range Organics	7.41	1.00	10.00	0	74	જ	<u>6</u>				
Sample ID LFBD \$01L	SampType: LFBD	Test	TestCode: GRO_S	Units: mg/Kg	g/Kg	Prep Date:	Jate:		RunNo: 43616	16	
Client ID: ZZZZZZ	Batch ID: R43616	Te	Testino: APIGRO			Anatysis [Analysis Date: 8/27/2009	12009	SeqNo: 872685	685	
Anatyte	Result	POL	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
Gasoline Range Organics	8.22	1.00	10.00	0	82	90	100	7.41	10	20	

CLIENT:	Blagg Engineering Inc	ring Inc					ANAL	YTICA	ANALYTICAL QC SUMMARY REPORT	MMARY	REPC)RT
Project:	Industrial Ecos	Industrial Ecosystems New Land Farm						EQ.	BatchID: F	R43627		
Sample ID MBLK SOIL 8/27 Client ID: PBS	SOIL 8/27	SampType: MBLK Batch ID: R43627	TestCade: DRO_S TestNo: APIPHC	stCode: DRO_S TestNo: APIPHC	Units: mg/Kg	g/Kg	Prep Date: Analysis Date:	Prep Date: Analysis Date: 8/27/2009	2009	RunNo: 43627 SeqNo: 872865	27 865	
Anatyte		Result	PQL SP	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics	anics	< 25	25									
Sample ID LFB SOIL	JIO	SampType: LFB	TestCode: DRO_S	: DRO_S	Units: mg/Kg	g/Kg	Prep Date:	ate:		RunNo: 43627	27	
Client ID: ZZZZZZ	2	Batch ID: R43627	TestNo	TestNo: APIPHC			Analysis Date:	ate: 8/27/2009	5009	SeqNo: 872866	998	
Analyte		Resutt	PQL SP	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics	anics	399	25	200	0	80	02	130				
Sample ID LFBD SOIL	SOIL	SampType: LFBD	TestCode	TestCode: DRO_S	Units: mg/Kg	ıgıKg	Prep Date:	ate:		RunNo: 43627	27	
Client ID: ZZZZZZ	Z	Batch ID: R43627	TestNo	TestNo: APIPHC			Analysis Date:	ate: 8/27/2009	2009	SeqNo: 872867	867	
Analyte		Result	PQL SP	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics	anics	396	25	200	0	79	70	130	399	1	20	
Qualifiers: E	Value above quantitation range	antitation range			ſ		Analyte reported below quantitation limits	uantitation [imits		Par	Page 19 of 27
1		Value above calibration range but within annually verified linear range	ally verified lin	ear range	0		rix effects, no	t all quality o	Due to matrix effects, not all quality control parameters met acceptance criteria	s met acceptance		
×		RPD outside accepted recovery limits			S		Spike Recovery outside accepted recovery limits	ccepted reco	very limits			

CLIENT: Work Order:	Blagg Engineering Inc	; Inc				-	ANAL	YTICA	ANALYTICAL QC SUMMARY REPORT	MMAR	Y REPO	RT
Project:	Industrial Ecosyste	Industrial Ecosystems New Land Farm						æ	BatchID: R	R43659		
Sample ID MB-R43659		SampType: MBLK	TestCod	TestCode: CN_TT_9010	Units: mg/Kg	/Kg	Prep Date:)ate:		RunNo: 43659	659	
Client ID: PBS		Batch ID: R43659	TestN	TestNo: SW9010C	٠		Anatysis [Analysis Date: 8/28/2009	2009	SeqNo: 873525	3525	
Anatyte		Resutt	POL SI	SPK value SPK	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total		* 0.2	0.2									
Qualifiers: E	E Value above quantitation range L Value above calibration range but with R RPD outside accepted recovery limits	Value above quantitation range Value above calibration range but within annually RPD outside accepted recovery limits	ally verified li	verified linear range	J 0	Analyte rep Due to mati Spike Reco	orted below orix effects, no very outside a	Analyte reported below quantitation limits Due to matrix effects, not all quality control para Spike Recovery outside accepted recovery limits	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria Spike Recovery outside accepted recovery limits	met acceptance	ļ	Page 20 of 27
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	eering Inc				ANALYTICAL OC SUMMARY REPORT	CSUM	MARY REPO	RT
Work Order: 09083072	09083072				BotobID		D43887	}
	Osystems New Land Faili				DAICH		100 /	
Sample ID BLANK	SampType: MBLK	TestCode: RA228_904.0	904.0 Units: pCI/L		Prep Date:	u-	RunNo: 43887	
Client ID: PBW	Batch ID: R43887	TestNo: E904.0			Analysis Date: 8/28/2009	o,	SeqNo: 879211	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD	RPD Ref Val	%RPD RPDLimit	Qual
Radium-228	0.67							
Sample ID LCS	SampType: LCS	TestCode: RA228_904.0	904.0 Units: pCi/I		Prep Date:	4	RunNo: 43887	
Client ID: LCSW	Batch ID: R43887	TestNo: E904.0			Analysis Date: 8/28/2009	o,	SeqNo: 879213	
Analyte	Result	POL SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD	RPD Ref Val	%RPD RPDLimit	Quat
Radium-228	11.31	11.19	0	101	57 143			
Sample ID LFB-1	SampType: LFB	TestCode: RA228_904.0	904.0 Units: pCiff		Prep Date:	4	RunNo: 43887	
Client ID: ZZZZZ	Batch ID: R43887	TestNo: E904.0			Analysis Date: 8/28/2009	v,	SeqNo: 879214	
Analyte	Resuft	PQL SPK value	SPK Ref Vai	%REC	LowLimit HighLimit RPD	RPD Ref Val	%RPD RPDLimit	Qual
Radium-228	24.33	22.39	0	109	57 143			
Sample ID LFB-2	SampType: LFB	TestCode: RA228_904.0	904.0 Units: pCi/I	-	Prep Date:	4	RunNo: 43887	
Client ID: ZZZZZZ	Batch ID: R43887	TestNo: E904.0			Analysis Date: 8/28/2009	o,	SeqNo: 879215	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	Ref Val	%RPD RPDLimit	Qual
Radium-228	19.51	22.39	0	87	57 143			
Sample ID LFBD-1	SampType: LFBD	TestCode: RA228	904.0 Units: pCi/I		Prep Date:		RunNo: 43887	
Client ID: ZZZZZZ	Batch ID: R43887	TestNo: E904.0			Analysis Date: 8/28/2009	o,	SeqNo: 879216	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD	RPD Ref Val	%RPD RPDLimit	Qual
Radium-228	19.08	22.39	0	82	57 · 143		24 0	
Sample ID LFBD-2	SampType: LFBD	TestCode: RA228_904.0	904.0 Units: pCi/L	1	Prep Date:	4	RunNo: 43887	
Client ID: ZZZZZZ	Batch ID: R43887	TestNo: E964.0			Analysis Date: 8/28/2009	•,	SeqNo: 879217	
Analyte	Result	PQL SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD	RPD Ref Val	%RPD RPDLimit	Qual
	Value above quantitation range Value above calibration range but within annually	ially verified linear range	700	Analyte rep Due to matr	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria	parameters me	1	Page 21 of 27
K KPD outside:	KFD outside accepted recovery timits			Spire nero	Spike Kecovery outside accepted recovery limits	mus		

CLIENT:	Blagg Engineering Inc	ering Inc				ANALYT	ICAL QC SU	ANALYTICAL QC SUMMARY REPORT	ORT
Project:	Industrial Eco	Industrial Ecosystems New Land Farm					BatchID: R	R43887	
Sample ID LFBD-2 Client ID: ZZZZZZ	7 2	SampType: LFBD Batch ID: R43887	TestCode: RA228_904.0 TestNo: E904.0	Units: pCI/L		Prep Date: Analysis Date:	8/28/2009	RunNo: 43887 SeqNo: 879217	
Analyte		Result	PQL SPK value SPK Ref Val	tef Val	%REC	LowLimit High	HighLimit RPD Ref Val	%RPD RPDLimit	ık Qual
Radium-228		79.79				25	143		o
Qualifiers:	E Value above qu L Value above ca R RPD outside a	Value above quantitation range Value above calibration range but within annually RPD outside accepted recovery limits	lly verified linear range	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	unalyte repo Sue to matri pike Recov	Analyte reported below quantitation limits Due to matrix effects, not all quality contro Spike Recovery outside accepted recovery	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria Spike Recovery outside accepted recovery limits	Į.	Page 22 of 27

CLIENT:	Blagg Engineering Inc					ANAL	YTICA	T oc su	ANALYTICAL QC SUMMARY REPORT	REPOI	RT
	Industrial Ecosystems New Land Farm						9	BatchID: F	R44011		
Sample ID BLANK Client ID: PBW	SampType: MBLK Batch ID: R44011	TestC	TestCode: RA226_903.0 TestNo: E903.0	903.0 Units: pCi/L	JVL	Prep Date: Analysis Date:	1	8/22/2009	Runivo: 44011 SeqNo: 882137	1	
Analyte	Result	Pal	SPK value	SPK Ref Vai	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD R	RPDLimit	Qual
Radium-226	0.02										
Sample ID LCS	SampType: LCS	TestC	ode: RA226_	TestCode: RA226_903.0 Units: pCI/I	3/L	Prep Date:)ate:		RunNo: 44011		
Client ID: LCSW	Batch ID: R44011	Tes	TestNo: E903.0			Analysis Date:		8/22/2009	SeqNo: 882139	g	
Analyte	Result	Par	SPK value	SPK Ref Vai	%REC	LowLimit	LowLimit HighLimit	RPD Ref Val	%RPD R	RPDLimit	Qual
Radium-226	9.22		10.63	0	87	74	126				
Sample ID LCS DUP	P 1 SampType: LCSD	TestC	TestCode: RA226_903.0	903.0 Units: pCt/AL	SAL.	Prep Date:	Jate:		RunNo: 44011		
Client ID: LCSS02	Batch ID: R44011	Tes	TestNo: E903.0			Analysis Date:		8/22/2009	SeqNo: 862140	2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Analyte	Result	PQ.	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD R	RPDLimit	Qual
Radium-226	9:34		10.63	0	\$	74	126		80	0	
Sample ID LCS DUP 2	JP 2 SampType: LCSD	TestC	TestCode: RAZZ6_903.0	903.0 Units: pCVL	CM.	Prep Date:	Jate:		RunNo: 44011		
Client ID: LCSS02	Batch ID: R44011	<u>ië</u>	TestNo: E903.0			Analysis Date:		8/22/2009	SeqNo: 882141	E	
Analyte	Result	PaL	SPK value	SPK Ref Val	%REC		LowLimit HighLimit	RPD Ref Val	%RPD R	RPDLimit	Qual
Radium-226	10.81		10.63	0	102	74	126		16	0	
Qualifiers: E L R	Value above quantitation range Value above calibration range but within annually verified linear range RPD outside accepted recovery limits	nally verifio	d lincar range	7 0 S		Analyte reported below quantitation limits Due to matrix effects, not all quality control para Spike Recovery outside accepted recovery limits	quantitation of all quality a	imits control parameter every limits	Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters met acceptance criteria Spike Recovery outside accepted recovery limits		Page 23 of 27.

Industrial Ecosystems New Land Farm	CLIENT: Work Order:	Blagg Engineering Inc 09083072			ANALYTICAL QC SUMMARY REPORT	MMARY REPORT
SampType: MBLK TestCode: RAZ28_904.0 Units: pCtII		Industrial Ecosystems New Land Farm			BatchID: F	R44138
122 122	Sample ID BLANK Client ID: PBW	SampType: MBLK Batch ID: R44138	H	Çil.	11	RunNo: 44138 SeqNo: 885815
1.22 SampType: MBLK TestCode: RA228_904.0 Units: pctil Result PQL SPK value SPK Ref Val	Analyte	Result	SPK value	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
SampType: MBLK TestCode: RA228_904.0 Units: pCtll	Radium-228	1.22				
Batch ID: R44138 TestNo: E904.0	Sample ID BLANK-			CUL	Prep Date:	RunNo: 44138
SampType: LCS TestCode: RA228_904.0 Units: pCull Result PQL SPK value SPK Ref Val		Batch ID: R44138	TestNo: E904.0			SeqNo: 885816
SampType: LCS TestCode: RA228_904.0 Units: pCt/II	Analyte	Result	SPK value	%REC		%RPD RPDLimit Qual
SampType: LCS TestCode: RA228_904.0 Units: pCttl	Radium-228	0.59				
1.158W Batch ID: R44138 TestNo: E904.0	Sample ID LCS	SampType: LCS	TestCode: RA228_904.0 Units: pv	Car	Prep Date:	RunNo: 44138
12.29 11.19 0		Batch ID: R44136	TestNo: E904.0	·		SeqNo: 885817
12.29	Analyte	Resutt	SPK value	%REC		%RPD RPDLimit Qual
SampType: LFB TestCode: RA228_904.0 Units: pCM Result PQL SPK value SPK Ref Val	Radium-228	12.29		110		
PQL SPK value SPK Ref Value SPK Ref Value SPK Ref Value SPK Ref Value SampType: LFB TestCode: RA228_904.0 Units: pCV	Sample ID LFB-1	SampType: LFB	ı	CAL	Prep Date:	RunNo: 44138
POL SPK value SPK Ref Val		Batch ID: R44138	TestNo: E904.0			SeqNo: 885818
SampType: LFB	Analyte	Result	SPK value	%REC		%RPD RPDLimit Qual
SampType: LFB	Radium-228	21.14		94		
Result DQL SPK value SPK Ref Val	Sample ID LFB-2	SampType: LFB	ı	OCIVL	Prep Date:	RunNo: 44138
PQL SPK value SPK Ref Value above quantitation range Result PQL SPK value SPK Ref Val 23.72 22.39 0 22.39 0 1D LFBD-1 SampType: LFBD TestCode: RA228_904.0 Units: pCW Result PQL SPK value SPK Ref Val Result PQL SPK value SPK Ref Val 1 Value above quantitation range but within annually vcrifted linear range		Batch IO: R44138	TestNo: E904.0			SeqNo: 885819
SampType: LFBD TestCode: RA228_904.0 Units: pCiv Batch ID: R44138 TestNo: E904.0 Result PQL SPK value SPK Ref Val Value above quantitation range Value above calibration range Using the policy of t	Analyte	Result	SPK value	%REC		%RPD RPDLimit Qual
SampType: LFBD TestCode: RA228_904.0 Units: pCife Batch ID: R44138 TestNo: E904.0 Result PQL SPK value SPK Ref Val Value above quantitation range Value above culibration range Value above culibration range	Radium-228	23.72		106		
D: ZZZZZZ Batch ID: R44138 TestNo: E904.0 Result PQL SPK value SPK Ref Val rs: E Value above quantitation range L Value above calibration range but within annually vcrifted linear range	Sample ID LFBD-1	SampType: LFB0	Units:	pCift.	Prep Date:	RunNo: 44138
Result PQL SPK value SPK Ref Values: E Value above quantitation range J L Value above calibration range but within annually verified linear range			TestNo: E904.0			SeqNo: 885820
E Value above quantitation range L Value above calibration range but within annually verified linear range	Analyte	Result	SPK value	%REC	- 1	%RPD RPDLimit Qual
RPD outside accepted recovery limits		Value above quantitation range Value above calibration range but within annu RPD outside accepted recovery limits			Analyte reported below quantitation limits Due to matrix effects, not all quality control parameters Spike Recovery outside accepted recovery limits	Page 24 of 27

March Each	CLIENT:	Blagg Engineering Inc	eering Inc			-		ANAL	YTIC	ANALYTICAL QC SUMMARY REPORT	MMAR	Y REP	ORT
Batch ID: R44138 Testicode: R428, 904.0 Units: pCat. Prop. Date: 912009 Sequic: 898200	work Order: Project:	UNOSOU12 Industrial Ec	osystems New Land Farm								R44138		
POL SPK Ral Vale SFK Ral Vale	Sample ID LFBD Client ID: ZZZZ	7 7	SampType: LFBD Batch ID: R44138	TestCo Test	de: RA228_No: E904.0	904.0 Units: I	pCi/L	Prep I Analysis [Date: 9/	2/2009	RunNo: 441 SeqNo: 885	138 5820	
14.30 12.39 0 64 57 143 39 39 39 39 39 39 39	Analyte		Resutt	g Z		SPK Ref Val	%REC		HighLim	it RPD Ref Val	%RPD	RPDLimit	Qual
SampType: LPBD TestCode: RA228_904.0 Units: pClf. Prap Date: RunNo: 4138 Reg21 Batch ID: R44138 TestNo: E904.0 Analysis Date: 9/2/2009 SeqNo: 88821 RPDIA 21.30 22.39 0 95 57 143 1 21.30 22.39 0 95 57 143 1 Value shore quantistion rage Value shore quantistion rage Value shore calibration rage but whitin smoothly verified linear range J. Analyse reported below quantitation limits Value above calibration range but whitin smoothly verified linear range J. Analyse reported below quantitation limits J. Analyse reported below quantitation limits Spike Rozovery limits Spike Rozovery usual quantity components not acceptance criterial processory limits Spike Rozovery usual quantity components not acceptance criterial Spike Rozovery limits	Radium-228		14.30	l l	22.39	0	2	25	4	63	39	0	
Packet P	Sample ID LFBD)-2	SampType: LFBD	TestCo	de: RA228_	904.0 Units: p	pCi/L	Prep (Date:		RunNo: 441	138	
Feesut POL SPK value SPK Feel Val WRPD RPDLiant HightLimit RPD Ret Val WRPD RPDLiant RPD Ret Val WRPD RPDLiant		Į,	Batch ID: R44138	Test	No: E904.0			Anatysis I	Date: 9/	2/2009	SeqNo: 88	5821	
21.30 22.39 0 95 57 143 1 The state of the	Analyte		Result		SPK value	SPK Ref Val	%REC			it RPD Ref Val	%RPD	RPDLimit	Qual
E Value above quantitation range L Value above calibration range but within annually verified linear range Q Due to matrix effects, not all quality courted parameters met acceptance criteria R RPD outside accepted recovery limits	Radium-228		21.30		22.39					a .	-	. •	
value above cationation range but within annually vertitied linear range RPD outside accepted recovery limits			quantitation range					ported below	quantitatio	n limits		· ·	Page 25 of 27
			calibration range but within annu accepted recovery limits	ाबापु verified	linear range	<i>J</i> • <i>J</i>		itrix effects, no overy outside	ot all quali accepted n	ty control parameters ecovery limits	s inct acceptance	criteria	

CLIENT: Work Order:	Blagg Engineering Inc	ing Inc			ANALY	TICAL QC SU	ANALYTICAL QC SUMMARY REPORT	ORT
Project:	Industrial Ecos	Industrial Ecosystems New Land Farm				BatchID:	R44173	
Sample ID MB-R44173 Client ID: PBS	(44173	SampType: MBLK Batch ID: R44173	TestCode: CN_TT_9010 TestNo: SW9010C	Units: mg/Kg	Prep Date: Analysis Date:	Prep Date: Analysis Date: 9/10/2009	RunNo: 44173 SeqNo: 886584	
Analyte		Result	PQL SPK value SPK i	SPK Ref Val %REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Cyanide, Total		< 0.2	0.2					
				*				
		·						
				2 abilian	Analyte reported below an artistical limits	ntitation limits	6	2032 70
Çarınıcıs:	Value above calibration range b DDD cutcide accounted recovery	vatue above quantitation tange. Value above calibration range but within annually verified linear range DDD careide accepted recovery limits	ally verified linear range		natrix effects, not al	forting to reported before quantities. Due to matrix effects, not all quality control parameters met acceptance criteria. Spike Recovery outside accented recovery limits.		rage 20 01 27
		cpica recovery mines			Advery variance are	cpites tecestraly minus		

CLIENT:	Blagg Engineering Inc	ring Inc					ANAL	YTICA	T OC SO	ANALYTICAL QC SUMMARY REPORT	POR	T.
Project:	Industrial Ecos	Industrial Ecosystems New Land Farm						H	BatchID: S	S 082609		
Sample ID MB S 082609	082609	SampType: MBLK	TestC	TestCode: HG_7471_S	S Units: mg/Kg	ng/Kg	Prep Date:			RunNo: 43599		
Client ID: PBS		Batch ID: S 082609	Ţ	TestNo: SW7471A			Analysis Date:		8/26/2009	SeqNo: 872283		
Analyte		Result	Pol	SPK value SP	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit		Qual
Mercury		< 0.128	0.128									
Sample ID LFB S 082609	\$ 082609	SampType: LFB	Test	TestCode: HG_7471_S	S Units: mg/Kg	ng/Kg	Prep Date:	Date:		RunNo: 43599		
Client ID: ZZZZZZ	72	Batch ID: S 082609	ĕ	TestNo: SW7471A			Analysis Date:		8/26/2009	SeqNo: 872284		
Analyte		Result	Pal	SPK value SF	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit		Qual
Mercury		1.64	0.165	1.65	0	66	80	120				
Sample ID 09083693-001A MS	3693-001A MS	SampType: MS	Test	TestCode: HG_7471_S	S Units: mg/Kg	ng/Kg	Prep Date:	Date:		RunNo: 43599		
Client (D: ZZZZZ	22	Batch ID: S 062609	نة	TestNo: SW7471A			Analysis Date:		8/26/2009	SeqNo: 872286		
Analyte		Result	POL	SPK value SF	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit		Ouai
Mercury		1.83	0.179	1.79	0	102	50	150				
Sample ID 09083693-001A MSD	3693-001A MSD	SampType: MSD	Test	TestCode: HG_7471_S	S Units: mg/Kg	ng/Kg	Prep Date:	Date:		RunNo: 43599		
Client ID: ZZZZZZ	77	Batch ID: S 082609	<u>e</u>	TestNo: SW7471A			Analysis Date:		8/26/2009	SeqNo: 872287		
Analyte		Resutt	Pol	SPK value Sf	SPK Ref Val	%REC	LowLimit		HighLimit RPD Ref Val	%RPD RPDLimit		Qual
Mercury		1.76	0.174	1.74	0	101	S	150	1.83	4	70	
Qualifiers:	E Value above quantitation range	intitation range				J Analyte rep	Analyte reported below quantitation limits	quantitation	limits		Page 2	Page 27 of 27
	L Value above cali	Value above calibration range but within annually verified linear range RPD outside accepted recovery limits	ıally verifie	ed linear range	S	Q Due to mat S Spike Reco	Due to matrix effects, not all quality control para Spike Recovery outside accepted recovery limits	ot all quality	control parameter.	Due to matrix effects, not all quality control parameters met acceptance criteria Spike Recovery outside accepted recovery limits		

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enchmark Analytics Inc 35 Stokes Avenue East Stroudsburg, PA 18301 c (570) 421-5122 Fax (570) 421-5707	LAWBFARM	emiT t	n Around	- 1	100	002	500	£00¢	900	900	001	800	6003	010	011	613	1	Organics D	(dds: [100	Inphemeraled on U7(09:⊒00)7
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	FU Number:	3								• 1							recial In	TRC/pH Fee:	Compositor Fee: Pickup Fee: SDWA Form:	onditio	Matrix
CHAIN OF CUSTODY Page 1 of 1 W		Phone: 50C - 632 - 1197 Fax: E-Mail: Jeffcblog @ Auc.	LA Be.95	Sample Identification													Time: Received By: (Sig)		Time: Received By: (Sig.) (C	Time: Received For Laboratory By: (Sig)	ห: By: (Sig)
CUS		; M	3	<i>></i>	_	2	#3	71 15	22	92	7	8	67	01#	11	2/4				Date: Ti	te: Time:
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2nchmark Analytics In 4777 Saucon Creek Road Center Valley, PA 18024-9004	3578	\$ 0 ¢	ignaure: JEFF	Time	0000	2250	0460	2560	0101	5201	0401	2501	<u>0</u>	5211	1140	1155	(0	. %	(gi	(B)	c-mailed
Benchmark Analytics Inc 4777 Saucon Creek Road Center Valley, PA 18034-5004 Phone (610) 974-8100 Fax (610) 974-8104	Attn: JEFF	BLOOMFIELD, NM B	Sampler's Name / Signature.	Date	8/1/2	}		7	7		r	3	:	1	=	78	Relinguished Ry. (Sio)	4 1850	quished By: (Sig)	Relinquished By: (Sig)	
E B	Attn: Address	87.8	Sample	Site #	_	7	M	7	V	و	1	æ	•	2	51	15	Reling	CI	Refudu	Relinqu	Faxed



COVER LETTER

Tuesday, December 28, 2010

Jeff Blagg Blagg Engineering P. O. Box 87 Bloomfield, NM 87413

TEL: (505) 632-1199 FAX (505) 632-3903

RE: Industrial Ecosystems New LF

Dear Jeff Blagg:

Order No.: 1012730

Hall Environmental Analysis Laboratory, Inc. received 12 sample(s) on 12/20/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



Hall Environmental Analysis Laboratory, Inc.

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Client Sample ID: Background 1

Lab Order:

1012730

Project:

1012730-01

Collection Date: 12/16/2010 10:05:00 AM

Lab ID:

Industrial Ecosystems New LF

Date Received: 12/20/2010

Matrix: SOIL

Analyses	Result	PQL C	ual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/22/2010 7:51:12 PM
Surr: 1,2-Dichloroethane-d4	83.0	77.8-97.5	%REC	1	12/22/2010 7:51:12 PM
Surr: 4-Bromofluorobenzene	93.3	82.2-105	%REC	1	12/22/2010 7:51:12 PM
Surr: Dibromofluoromethane	85. 2	63.7-133	%REC	1	12/22/2010 7:51:12 PM
Surr: Toluene-d8	100	87.2-105	%REC	1	12/22/2010 7:51:12 PM
EPA METHOD 418.1: TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - Spike recovery outside accepted recovery limits

Page 1 of 12

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Lab Order:

1012730

1012130

Industrial Ecosystems New LF

Project: Lab ID:

1012730-02

Client Sample ID: Background 2

Collection Date: 12/16/2010 10:20:00 AM

Date Received: 12/20/2010

Matrix: SOIL

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES				, <u>, , , , , , , , , , , , , , , , , , </u>	Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/22/2010 10:40:01 PM
Surr: 1,2-Dichloroethane-d4	81.2	77.8-97.5	%REC	1	12/22/2010 10:40:01 PM
Surr: 4-Bromofluorobenzene	94.1	82.2-105	%REC	1	12/22/2010 10:40:01 PM
Surr: Dibromofluoromethane	85.1	63.7-133	%REC	1	12/22/2010 10:40:01 PM
Surr: Toluene-d8	96.3	87.2-105	%REC	' 1	12/22/2010 10:40:01 PM
EPA METHOD 418.1: TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - S Spike recovery outside accepted recovery limits

Page 2 of 12

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Lab Order:

1012730

Industrial Ecosystems New LF

Project: Lab ID:

1012730-03

Client Sample ID: Background 3

Collection Date: 12/16/2010 10:35:00 AM

Date Received: 12/20/2010

Matrix: SOIL

Analyses	Resuit	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES			· · · · · · · · · · · · · · · · · · ·		Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/22/2010 11:08:06 PM
Surr: 1,2-Dichloroethane-d4	81.7	77.8-97.5	%REC	1	12/22/2010 11:08:06 PM
Surr: 4-Bromofluorobenzene	94.0	82.2-105	%REC	1	12/22/2010 11:08:06 PM
Surr: Dibromofluoromethane	85.6	63.7-133	%REC	1	12/22/2010 11:08:06 PM
Surr: Toluene-d8	102	87.2-105	%REC	1	12/22/2010 11:08:06 PM
EPA METHOD 418.1: TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - S Spike recovery outside accepted recovery limits

Page 3 of 12

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Lab Order:

1012730

Client Sample ID: Background 4

Project:

Industrial Ecosystems New LF

Collection Date: 12/16/2010 10:50:00 AM

Date Received: 12/20/2010

Matrix: SOIL Lab ID: 1012730-04

Analyses	Result	PQL (Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/22/2010 11:36:12 PM
Surr: 1,2-Dichloroethane-d4	80.2	77.8-97.5	%REC	1	12/22/2010 11:36:12 PM
Surr: 4-Bromofluorobenzene	91.1	82.2-105	%REC	1	12/22/2010 11:36:12 PM
Surr: Dibromofluoromethane	85.0	63,7-133	%REC	1	12/22/2010 11:38:12 PM
Surr: Toluene-d8	95.1	87.2-105	%REC	1	12/22/2010 11:36:12 PM
EPA METHOD 418.1: TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - Spike recovery outside accepted recovery limits

Date: 28-Dec-10

CLIENT:

Lab ID:

Blagg Engineering

Lab Order:

1012730

1012730-05

Client Sample ID: Background 5

Collection Date: 12/16/2010 11:05:00 AM

Project: Industrial Ecosystems New LF Date Received: 12/20/2010

Matrix: SOIL

Analyses	Result	PQL C	ual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/23/2010 12:04:19 AM
Surr: 1,2-Dichloroethane-d4	82.2	77.8-97.5	%REC	1	12/23/2010 12:04:19 AM
Surr: 4-Bromofluorobenzene	92.3	82,2-105	%REC	1	12/23/2010 12:04:19 AM
Surr: Dibromofluoromethane	87.2	63.7-133	%REC	1 .	12/23/2010 12:04:19 AM
Surr: Toluene-d8	97.7	87.2-105	%REC	1	12/23/2010 12:04:19 AM
EPA METHOD 418.1: TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits

Page 5 of 12

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Client Sample ID: Background 6

Lab Order:

1012730

Collection Date: 12/16/2010 11:25:00 AM

Project:

Industrial Ecosystems New LF

Date Received: 12/20/2010

Lab ID:

1012730-06

Matrix: SOIL

Analyses	Result	PQL (Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES				***************************************	Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/23/2010 12:32:26 AM
Surr: 1,2-Dichloroethane-d4	80.2	77.8-97.5	%REC	1	12/23/2010 12:32:26 AM
Surr: 4-Bromofluorobenzene	92.6	82,2-105	%REC	1 .	12/23/2010 12:32:26 AM
Surr: Dibromofluoromethane	84.4	63.7+133	%REC	1	12/23/2010 12:32:26 AM
Surr: Toluene-d8	98.9	87.2-105	%REC	1	12/23/2010 12:32:26 AM
EPA METHOD 418.1: TPH			. •		Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - S Spike recovery outside accepted recovery limits

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Lab Order:

1012730

Client Sample ID: Background 7

Project:

Industrial Ecosystems New LF

Collection Date: 12/16/2010 11:45:00 AM

Date Received: 12/20/2010

Lab ID:

1012730-07

Matrix: SOIL

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/23/2010 1:00:32 AM
Surr: 1,2-Dichloroethane-d4	81.7	77.8-97.5	%REC	1	12/23/2010 1:00:32 AM
Surr: 4-Bromofluorobenzene	91.2	82.2-105	%REC	1	12/23/2010 1:00:32 AM
Surr: Dibromofluoromethane	85.7	63.7-133	%REC	1	12/23/2010 1:00:32 AM
Surr: Toluene-d8	96.4	87.2-105	%REC	1	12/23/2010 1:00:32 AM
EPA METHOD 418.1: TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Estimated value E
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - Spike recovery outside accepted recovery limits

Page 7 of 12

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Lab Order:

1012730

Industrial Ecosystems New LF

Project: Lab ID:

1012730-08

Client Sample ID: Background 8

Collection Date: 12/16/2010 12:10:00 AM

Date Received: 12/20/2010

Matrix: SOIL

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES			•		Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/23/2010 1:28:38 AM
Surr: 1,2-Dichloroethane-d4	83.5	7 7.8-9 7.5	%REC	1	12/23/2010 1:28:38 AM
Surr: 4-Bromofluorobenzene	91.7	82.2-105	%REC	1	12/23/2010 1:28:38 AM
Surr: Dibromofluoromethane	85.6	63.7-133	%REC	1	12/23/2010 1:28:38 AM
Surr: Toluene-d8	98.2	87.2-105	%REC	1	12/23/2010 1:28:38 AM
EPA METHOD 418.1: TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 8 of 12

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Lab Order:

1012730

1012/30

Industrial Ecosystems New LF

Project: Lab ID:

1012730-09

Client Sample ID: Background 9

Collection Date: 12/16/2010 12:30:00 PM

Date Received: 12/20/2010

Matrix: SOIL

Analyses	Result	PQL Qua	l Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/23/2010 1:56:48 AM
Surr: 1,2-Dichloroethane-d4	81.4	77.8-97.5	%REC	1	12/23/2010 1:56:48 AM
Surr: 4-Bromofluorobenzene	94.3	82.2-105	%REC	1	12/23/2010 1:56:48 AM
Surr: Dibromofluoromethane	84.2	63.7-133	%REC	1	12/23/2010 1:56:48 AM
Surr: Toluene-d8	97.6	87.2-105	%REC	1	12/23/2010 1:56:48 AM
EPA METHOD 418.1; TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - S Spike recovery outside accepted recovery limits

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Client Sample ID: Background 10

Lab Order:

1012730

Collection Date: 12/16/2010 12:50:00 PM

Project:

Industrial Ecosystems New LF

Date Received: 12/20/2010

Lab ID:

1012730-10

Matrix: SOIL

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: MMS
Vinyl chioride	ND	0.050	mg/Kg	1	12/23/2010 2:24:54 AM
Surr: 1,2-Dichloroethane-d4	81.8	77.8-97.5	%REC	1	12/23/2010 2:24:54 AM
Surr: 4-Bromofluorobenzene	93.1	82.2-105	%REC	1	12/23/2010 2:24:54 AM
Surr: Dibromofluoromethane	84.0	63.7-133	%REC.	1	12/23/2010 2:24:54 AM
Surr: Toluene-d8	95.9	87.2-105	%REC	1	12/23/2010 2:24:54 AM
EPA METHOD 418.1; TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits

Page 10 of 12

Date: 28-Dec-10

CLIENT:

Blagg Engineering

Lab Order: Project:

1012730

Industrial Ecosystems New LF

Lab ID:

1012730-11

Client Sample ID: Background 11

Collection Date: 12/16/2010 1:05:00 PM

Date Received: 12/20/2010

Matrix: SOIL

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES		Hally September 1 weeks			Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/23/2010 2:52:52 AM
Surr: 1,2-Dichloroethane-d4	80.7	77.8-97.5	%REC	1	12/23/2010 2;52:52 AM
Surr: 4-Bromofluorobenzene	94.1	82.2-105	%REC	1	12/23/2010 2:52:52 AM
Surr: Dibromofluoromethane	85.2	63.7-133	%REC	1	12/23/2010 2:52:52 AM
Surr: Toluene-d8	96.6	87.2-105	%REC	1	12/23/2010 2:52:52 AM
EPA METHOD 418.1: TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	12/22/2010

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - Spike recovery outside accepted recovery limits

Date: 28-Dec-10

CLIENT: Lab Order: Blagg Engineering

1012730

Industrial Ecosystems New LF

Project: Lab ID:

1012730-12

Client Sample ID: Background 12

Collection Date: 12/16/2010 1:20:00 PM

Date Received: 12/20/2010

Matrix: SOIL

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Analyst: MMS
Vinyl chloride	ND	0.050	mg/Kg	1	12/23/2010 3:20:53 AM
Surr: 1,2-Dichloroethane-d4	83.0	77.8-97.5	%REC	1	12/23/2010 3:20:53 AM
Surr: 4-Bromofluorobenzene	90.9	82.2-105	%REC	1	12/23/2010 3:20:53 AM
Surr: Dibromofluoromethane	87.7	83.7-133	%REC	1	12/23/2010 3:20:53 AM
Surr: Toluene-d8	95.8	87.2-105	%REC	1	12/23/2010 3:20:53 AM
EPA METHOD 418.1: TPH					Analyst: JB
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	. 1	12/22/2010

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - Spike recovery outside accepted recovery limits

Page 12 of 12

Date: 28-Dec-10

QA/QC SUMMARY REPORT

ے۔nt:

Blagg Engineering

Project:

Industrial Ecosystems New LF

Work Order:

1012730

Result	Units	PQL	SPK Val S	SPK ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimit	Qual
ТРН	MBLK				Batch ID:	24962	Analysi	s Date:		12/22/2010
ND	mg/Kg LCS	20			Batch ID:	24962	Analysi	s Date:		12/22/2010
98.66	mg/Kg LCSD	20	100	0	98.7 Batch ID:	86.8 24962	116 Analysia	s Date:		12/22/2010
97.38	mg/Kg	20	100	0	97.4	86.8	118	1.31	16.2	
VOLATILES ND	<i>MBLK</i> mg/Kg	0.050			Batch ID:	24960	Analysis	s Date:	12/22/2010	6:55:01 PM
	98.66 97.38 VOLATILES	MBLK ND mg/Kg LCS 98.66 mg/Kg LCSD 97.38 mg/Kg VOLATILES MBLK	MBLK ND mg/Kg 20 LCS 98.66 mg/Kg 20 LCSD 97.38 mg/Kg 20 VOLATILES MBLK	MBLK ND mg/Kg 20 LCS 98.66 mg/Kg 20 100 LCSD 97.38 mg/Kg 20 100 VOLATILES MBLK	MBLK ND mg/Kg 20 LCS 98.66 mg/Kg 20 100 0 LCSD 97.38 mg/Kg 20 100 0 VOLATILES MBLK	MBLK Batch ID: ND mg/Kg 20 LCS Batch ID: 98.66 mg/Kg 20 100 0 98.7 LCSD Batch ID: 97.38 mg/Kg 20 100 0 97.4 VOLATILES MBLK Batch ID:	MBLK Batch ID: 24962 ND mg/Kg 20 LCS Batch ID: 24962 98.66 mg/Kg 20 100 0 98.7 86.8 LCSD Batch ID: 24962 97.38 mg/Kg 20 100 0 97.4 86.8 VOLATILES MBLK Batch ID: 24960	MBLK Batch ID: 24962 Analysis ND mg/Kg 20 LCS Batch ID: 24962 Analysis 98.66 mg/Kg 20 100 0 98.7 86.8 116 LCSD Batch ID: 24962 Analysis 97.38 mg/Kg 20 100 0 97.4 86.8 116 VOLATILES MBLK Batch ID: 24960 Analysis	MBLK Batch ID: 24962 Analysis Date: ND mg/Kg 20 Batch ID: 24962 Analysis Date: 98.66 mg/Kg 20 100 0 98.7 86.8 116 LCSD Batch ID: 24962 Analysis Date: 97.38 mg/Kg 20 100 0 97.4 86.8 116 1.31 VOLATILES MBLK Batch ID: 24960 Analysis Date:	MBLK Batch ID: 24962 Analysis Date: ND mg/Kg 20 Batch ID: 24962 Analysis Date: 98.66 mg/Kg 20 100 0 98.7 86.8 116 LCSD Batch ID: 24962 Analysis Date: 97.38 Date: 118 1.31 16.2 VOLATILES MBLK Batch ID: 24960 Analysis Date: 12/22/2010

differs:

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

RPD outside accepted recovery limits

Page 1

Sample Receipt Checklist

Jilent Name BLAGG		Date Re	aceived:	12/20/2010		
Work Order Number 1012730		Receiv	ved by: AMG			
Checklist completed by:	14	Sampl	e ID labels checked	by: Milials		
Matrix: Carrier na	ame Greyho	und				
Shipping container/cooler in good condition?	Yes Y	Ø No □	Not Present			
Custody seals intact on shipping container/cooler?	Yes 🖫	No □	Not Present	Not Shipped		
Custody seals intact on sample bottles?	Yes [No 🗆	N/A	\mathbf{Z}		
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 🗆		Number of preserv		
1/ater - VOA vials have zero headspace? No VOA vials	submitted 🔽	Yes 🗆	No 🗔	bottles checked for pH:		
ater - Preservation labels on bottle and cap match?	Yes 🗆	No 🗆	N/A 🗹			
Water - pH acceptable upon receipt?	Yes 🗔	No □	N/A 🗹	<2 >12 unless noted below.	İ	
Container/Temp Blank temperature?	1.6°	<6° C Acce	•	20.017.		
COMMENTS:		lf given suff	icient time to cool.			
•						
10 100 100 100 100 100 100 100 100 100						
Client contacted Date contacted:			Person contacted	***************************************	-	
Contacted by: Regarding		····				
Comments:						
					-	
				•		
orrective Action				ramonales de 1970 de la finida de Miller (Mill		

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			S NEW Life								10	1-06-1191	7-	-3	7.9	\$-	9-	۲-	8-	5	٦/٥	1)-	7) -	Date Time	Date Ime
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Tum-Around Time:	X Standard	Project Name	LNDUSTRAL	Project #:		Project Manager:	JEFF	T. Tolomo	On the Control	Sample Temper	Container Type and #	402x1	¥	1)1	<u></u>	ĭ	-	'n	11	11	2	J1	Received by:	Received by:
				SIML8			(1)			3233		77	7	# 3	77	#0	e _t	4.7	\$	6.	9/	1)#	#12		"
Chan. of-Custody Record	ENGINEERWE INC.		Eox 87	MY	632-1199		A /Euff / Collection	Level 4 (ruil valik			Sample Request ID	BACKGROWN #				١ ـ	l	١.				1 / 7	BACK GRUM ?	Slegg	d by:
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าสโC	Client: BLAGG		Mailing Address: P.O.	~	10		ackage:	ation	<u>a</u>	EDD (Type)	Time	1002	020	1035	0501	(105	1125	1145	1210	1230	0571	1305	1320	29	Time:
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State of New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez

Governor

John Bemis
Cabinet Secretary

Brett F. Woods, Ph.D. Deputy Cabinet Secretary Jami Bailey
Division Director
Oil Conservation Division



OCTOBER 10, 2012

Mr. John P. Crowe Secretary Crowe Blanco Properties, LLC 1015 West 54th Street Kansas City, MO 64112

RE: Notice of Administrative Completeness Determination

Dear Mr. Crowe:

Pursuant to 19.15.36.8(E) NMAC, the Oil Conservation Division (OCD) has reviewed your Surface Waste Management Facility application and has found it to be administratively complete. Given the administrative completeness determination, you may now proceed to the notice as specified in 19.15.36.9(A) NMAC. As the applicant you are required to furnish proof to OCD that required notices have been given. Please provide this proof to OCD as soon as possible. Proof of notice may begin the 30 day public comment period.

OCD will also provide notice of its administrative completeness determination within 30 days from the date of this letter per 19.15.36.9(B) NMAC. The public has 30 days to comment from the date of notice provided by the applicant or the date that OCD distributes notice, whichever is later. (See 19.15.36.9(C) NMAC)

The determination of administrative completeness does not mean that the application meets the technical requirements of 19.15.36 NMAC. OCD will now evaluate the technical merits of your application. Within 60 days after the end of public comment period, OCD will issue its tentative decision regarding your application. (See 19.15.36.9(D) NMAC)

If you have any questions, please feel free to contact Brad Jones at Brad.A.Jones@state.nm.us or (505) 476-3487.

Sincerely,

Daniel Sanchez

Compliance and Enforcement Manager

DS/baj



State of New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez

Governor

John Bemis
Cabinet Secretary

Brett F. Woods, Ph.D. Deputy Cabinet Secretary Jami Bailey
Division Director
Oil Conservation Division



CERTIFIED MAIL RECEIPT # 7099 3220 0009 7873 0721

February 7, 2013

John P. Crowe Secretary Crowe Blanco Properties, LLC 1015 West 54th Street Kansas City, Missouri 64112

RE: Tentative Decision

Crowe Blanco Properties, LLC - Blanco Landfarm

Facility Location: W/ and SW/4 SE/4 of Section 16, Township 29 North, Range 9

West NMPM

San Juan County, New Mexico

Dear Mr. Crowe:

Pursuant to 19.15.36.9(D) NMAC, the Oil Conservation Division (OCD) has completed the technical review of Crowe Blanco Properties, LLC's (Crowe Blanco) revised application, dated July 30, 2012, for a commercial surface waste facility permit for the Blanco Landfarm. OCD has determined that Crowe Blanco's permit application is <u>deficient</u> and hereby disapproves it. OCD's reasons for disapproval are enclosed. OCD's tentative decision has also been posted on the OCD's webpage at http://www.emnrd.state.nm.us/OCD/env-draftpublicetc.html.

Given OCD's tentative decision, Crowe Blanco is now required to issue notice of the tentative decision in accordance with 19.15.36.9(E) NMAC. This must include, but not limited to, notice by first class mail or email to the OCD's list of interested parties (found at http://www.emnrd.state.nm.us/OCD/env-draftpublicetc.html) and by first class mail to the following person(s) that contacted the OCD regarding the application:

Ms. Joellen M. Bolli P.O. Box 579 Blanco, NM 87412



Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 2 of 12

In addition, Crowe Blanco must notice by first class mail or email the governmental agencies listed in the application as noticed for the application. Crowe Blanco may also pursue the additional option of requesting a hearing in accordance with 19.15.36.10(A) NMAC.

If there are any questions regarding this matter, please do not hesitate to contact Brad Jones at (505) 476-3487 or <u>brad.a.jones@state.nm.us</u>.

Sincerely,

Scott Dawson Deputy Director

SD/baj

Attachments: Review Comments

Cc: OCD District III Office, Aztec w/ attach

Terry Lattin, Industrial Ecosystems, Inc., 49 CR 3150, Aztec, NM 87410 w/ attach

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 3 of 12

Review Comments Crowe Blanco Properties, LLC – Blanco Landfarm Commercial Surface Waste Management Facility February 7, 2013

Tab 19.15.36.8.C.2, Plat & Topographic Map:

Page 2.0:

Please provide and/or identify the location of a plat and topographic map showing the surface waste management facility's location in relation to governmental surveys (quarter-quarter section, township and range) of springs within one mile of the site's perimeter.

Page 2.1, Sheet 1 of 17, Boundary Survey:

Please provide and/or or identify the location of a map or plat that identifies the "206 + (permitted) acres" for which Crowe Blanco is requesting a surface waste management facility permit. The total of the surveyed area is identified on the plat as 276.74 acres, as illustrated within the Lot 5 area. The plat identifies the acreage of each lot which adds up to a total of 329.69 acres.

Page 2.3, Sheet 11 of 17, Homes Within One Mile:

Please provide and/or identify the location of a plat and topographic map showing the surface waste management facility's location in relation to governmental surveys (quarter-quarter section, township and range) of inhabited buildings within one mile of the site's perimeter. The one-mile assessment should mimic the proposed facility boundary/perimeter.

Tab 19.15.36.8.C.4, Facility Description & Diagram:

Page 4.1:

Please provide and/or or identify the location of the detailed construction/installation diagram of the lined, bermed features "around disposal areas to capture contaminated stormwater" as mentioned in other sections of the permit application.

Page 4.2, Sheet 1 of 17, Boundary Survey:

Please provide and/or or identify the location of a map or plat that identifies the "206 +- (permitted) acres" for which Crowe Blanco is requesting a surface waste management facility permit.

Tab 19.15.36.8.C.5, Engineering Design & Technical Data:

Page 5.5, Sheet C105, Typical Site Cross Section, Section C-C:

Please provide a cross-section illustration across the proposed building to clarify if the impoundment liner system extends beneath the building or how the liner installation will occur around the building foundation.

Page 5.9, Sheet C109, Septic System Design:

Please provide and/or or identify the location of technical data on the design elements of the proposed septic system if it is being proposed as an applicable treatment, remediation and disposal method for the oil field waste received. If it represents a domestic sewage system that

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 4 of 12

Crowe Blanco is seeking a permit from the New Mexico Environment Department, please omit engineering design of the septic system from the application for OCD's consideration of approval.

Tab 19.15.36.8.C.6, Management Plan:

Page 6.3, 3.2 Form C-133:

OCD recommends modifying the response to include verification of the C-133's obtained from drivers by checking the C-133 against the monthly updated approved C-133 hauler list located on the OCD website.

Page 6.4, 4.1 Flowchart for Waste Acceptance/Disposal:

Please modify the flowchart to demonstrate that the "Soil/Gravel & Drill Cuttings (solids)" will be subject to the paint filter test for compliance with Subsection A of 19.15.36.15 NMAC.

Please modify the flowchart to demonstrate that "virgin" soils will be subject to chloride testing, after being used for solidification of tank bottom and/or drill cuttings fluids, prior to placement into a landfarm cell and compliance with Subsection A of 19.15.36.15 NMAC.

Page 6.9, 5.4 Centrate Water.

The second paragraph references Subsection B of 19.15.34.12 NMAC. This provision applies to waste haulers and generators. If Crowe Blanco proposes to take "centrate water" offsite for disposal, please clarify and please address proper manifesting, use of an approved hauler, and identify potential off-site disposal facilities. If not, please omit.

Page 6.10, 7.1 Treatment Zone Monitoring:

Please modify the response to reflect that the "operator shall spread contaminated soils on the surface in eight-inch or less lifts or approximately 1000 cubic yards per acre per eight-inch lift" and to recognize that the treatment zone monitoring is required to determine if an additional lift can be added to the biopile during it's "under construction" phase as described in Sections 5.1 through 5.3 of the permit application.

The response states that "a landfarm cell would be 4 biopiles per acre = 40 biopiles per landfarm cell (10 acre cells)." Please provide and/or reference the location of a map that illustrates the 10 acre landfarm cells that indicates the number of usable acres, within the 10 acre cells, that is available for landfarming.

Page 6.10, 7.2 Semi-Annual Monitoring:

Please modify the response to reflect the required test method of 418.1 for TPH, as "specified below" in Paragraph (3) of 19.15.36.15.F NMAC.

Page 6.12, 8.0 Treatment Zone Closure Performance Standards:

Please modify the response to reflect the required test method of 418.1 for TPH in Paragraph (3) of 19.15.36.15.F NMAC.

Page 6.14, 10.8 Run On/Off Water Control:

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 5 of 12

In the second bullet in the second paragraph, please demonstrate compliance with Paragraphs 4 through 6 of 19.15.36.8.C NMAC regarding detailed construction/installation diagrams, engineering designs, and waste management associated with the proposed use of "liners and berms around disposal areas to capture contaminated stormwater and process wastewater."

In the third bullet in the second paragraph, please demonstrate compliance with Paragraphs (5) and (6) of 19.15.36.8.C NMAC regarding engineering designs and waste management associated with the proposal to "direct stormwater from the site to an on-site settling pond or series of ponds." Also, please provide additional information on the proposed use of the contaminated stormwater run-off for "dust control" in order for OCD to determine if the activity warrants permitting by the Water Quality Control Commission Regulations (see 20.6.2 NMAC).

In the sixth bullet in the second paragraph, please demonstrate compliance with Paragraphs (4) and (5) of 19.15.36.8.C NMAC regarding the proposed locations within the facility, detailed construction/installation diagrams, and engineering designs associated with the proposal to "seal above ground fuel and chemical additive storage areas with liners and berms..."

Page 6.15, 11.0 Records Management:

Please modify the response to discuss all of the record management provisions of 19.15.36 NMAC, including 19.15.36.13.F NMAC, 19.15.36.13.G NMAC, 19.15.36.13.L NMAC, 19.15.36.13.P NMAC, Paragraph (9) of 19.15.36.15.C NMAC and Paragraph (4) of 19.15.36.15.E NMAC.

Page 6.25, Addendum H, Allowable Chloride in Water Calculation:

Due to the default parameters for the volume of soil and water, as identified on the spreadsheet, contaminated water cannot be applied to a biopile while "under construction." The spreadsheet only considers the application of 80 barrels of centrate wastewater or contaminated stormwater added to 750 cubic yards of contaminated soils. The "under construction" phase is completed once a biopile reaches approximately 750 cubic yards or the proposed design dimensions of a 12' base x 4' top x 8' height x 316' length. Please modify the appropriate sections of the *Management Plan* to identify the limitations associated with applying contaminated water to a biopile. Also, please provide an electronic version of the spreadsheet.

Tab 19.15.36.8.C.7, Inspection & Maintenance Plan:

Page 7.1, *Table 1*:

Please modify the frequency of task for Freestanding Liquids to demonstrate compliance to <u>all</u> of the requirements of Paragraph (8) of 19.15.36.15.C NMAC. The regulatory language and sources (centrate and contaminated stormwater) of pooling of liquids does not recognize the proposed limit of consideration to a "storm."

Please modify the proposed inspection frequency for Retention Ponds to correctly reflect the inspection requirements of "quarterly and after a major rainfall or windstorm" pursuant to Paragraph (3) of 19.15.36.13.L NMAC. The proposed volume of "0.5" or greater" is not recognized in the regulation.

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 6 of 12

Page 7.2, Inspection and Maintenance Checklist:

Please modify the proposed inspection frequency for Freestanding Liquids to demonstrate compliance to <u>all</u> of the requirements of Paragraph (8) of 19.15.36.15.C NMAC. The regulatory language does not recognize the proposed limit of consideration to "after a storm event."

Tab 19.15.36.8.C.8, Hydrogen Sulfide Contingency Plan:

Page 8.4, Section IV, Regulatory Threshold:

Please demonstrate compliance with Paragraphs (4) through (6) of 19.15.36.8.C NMAC regarding the proposed locations within the facility and detailed construction/installation diagrams regarding chemical storage, and engineering designs and technical data on the design elements of the proposed treatment of liquid waste with "H2S Breaker." Please provide the required information under the appropriate provisions and/or regulatory tab headings.

Page 8.5, Section IV, Activation Levels:

In the fourth paragraph, please identify the instrument or device the emergency coordinator will use to monitor the area for H2S "manually" and ensure that the proposed equipment possess the capabilities and function provided in the written description.

Page 8.6, Section V: General Evacuation Procedures For Buildings/Facility Occupants: In the third procedure, please identify the "appropriate PPE" that the emergency coordinator will require to search for any remaining personnel.

Page 8.6, Section VI: Disabled Occupants:

Please identify the "appropriate supplied air/oxygen breathing device" that will be provided to disabled occupants waiting for assistance.

Page 8.10, Section XII: Training and Communications:

Please modify the response to identify the specific type of training required by Subparagraph (d) of 19.15.11.9.B.(2) NMAC, such as training of residents on the proper protective measures to be taken in the event of a release and briefing of public officials on issues such as evacuation or shelter-in-place plans.

Page 8.16:

Several pieces of equipment are mentioned or alluded to for use under the proposed contingency plan. Please "include information on the availability and location of necessary safety equipment and supplies" as required of Subparagraph (a) of 19.15.11.9.B.(2) NMAC and ensure that the proposed equipment possesses the capabilities of its proposed task.

Tab 19.15.36.8.C.9, Closure and Post Closure Plan:

Page 9.3, Section 1, Introduction:

In the third paragraph, please clarify the condition that all other previously active landfarm cells will be in while IEI utilizes "up to four active cells for treatment of contaminated soils." OCD requires this information to determine if the proposed closure activities and closure costs are appropriate.

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 7 of 12

Page 9.5, Section 5, Processing Area Closure:

The proposed written sampling protocol does not coincide with the cost estimates for soil sampling and laboratory costs on page 9.8. Please compare and modify appropriately.

In the first sentence of the third paragraph, please identify in the written response the constituents for analysis regarding the proposed two five-point surface samples and modify the cost estimates on page 9.8 appropriately. In the second sentence of the third paragraph, please identify all of the constituents required under the treatment zone closure performance standards identified in Paragraphs (1-5) of 19.15.36.13.F NMAC. Also, please explain and clarify what will happen to soils covering the liner if the proposed "no additional action will be taken" is determined.

Page 9.5, Section 6, Landfarm Closure:

Please modify the paragraph to demonstrate compliance to the semi-annual vadose zone monitoring requirements of Subsection E of 19.15.36.15 NMAC, while the proposed treatment of contaminated soils continues.

Page 9.6, Section 6, Landfarm Closure:

The second sentence in the first paragraph proposes to "collect one sample composited from four discreet locations in each active "treatment" cell (1 sample for analysis for each of the four cells)..." Please clarify how the proposed sampling protocol for treatment zone closure standards will be applied when sampling biopiles and justify how the one composite sample will represent 40 individually built and developed biopiles per 10 acre landfarm cell.

In the first sentence of the third paragraph, please modify the response to recognize that "the landfarm remediation area is filled in with native soil" pursuant to Subparagraph (c) of 19.15.36.18.D.(4) NMAC after the removal of soils that cannot be or have not been remediated to the closure standards specified in Subsection F of 19.15.36.13 NMAC.

Page 9.6, Section 8, Other Closure Procedures & Re-Vegetation:

In the second paragraph, please modify the response to recognize that the operator shall maintain the "cover through two successive growing seasons" pursuant to Paragraph (6) of 19.15.36.18.A NMAC.

Page 9.7, Table 1: Facility Closure Testing Requirements:

When addressing the testing of soils above the liner, in the row titled *Processing Area Closure*, please modify the response to include all of the required testing to demonstrate compliance with the treatment zone closure performance standards specified in Subsection F of 19.15.36.15 NMAC. Also, please modify the vadose zone standards, for the soils beneath the liner, to "higher of the PQL or background" for all of the proposed constituents.

Page 9.8, Table 2: Processing Area Closure:

In the second half/section of Table 2, under the heading Labor costs for soils sampling, please modify the proposed number of samples to coincide with the written protocol so that the protocol and table match. Under the heading Laboratory costs, please modify appropriately to demonstrate that all of the samples are proposed for testing. Please modify the proposed number of samples to coincide with the written protocols and limit the test requirements for the

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 8 of 12

constituents listed in Subsections A and B of 20.6.2.3103 NMAC to as "determined by EPA SW-846 methods 6010B or 6020 or other methods approved by the division."

Page 9.9, Table 3: Landfarm Closure:

In the second section of Table 3, under the heading Landfarm Monitoring (semi-annual), please modify the table and laboratory costs to demonstrate compliance to the required laboratory analytical testing of DRO/DRO combined by EPA Method 8015M as required in Subsection F of 19.15.36.15 NMAC. Also, please modify the table appropriately to clarify that TPH by method 418.1 is required in Subsections E and F of 19.15.36.15 NMAC.

In the fifth section of Table 3, under the heading *Laboratory costs*, please compare the proposed 20.6.2.3103 testing to the required constituents identified in Paragraph (5) of 19.15.36.15.F NMAC. Please limit the test requirements for the constituents listed in Subsections A and B of 20.6.2.3103 NMAC to as "determined by EPA SW-846 methods 6010B or 6020 or other methods approved by the division" and adjust laboratory costs appropriately.

<u>Tab 19.15.36.8.C.10, Contingency Plan:</u>

Pages 10.10 through 10.14, Section XI, Control & Response Actions:

A demonstration of compliance with 19.15.29 NMAC and 19.15.30 NMAC is not requested under Subsection N of 19.15.36.13 NMAC. Pursuant to Subsection K of 19.15.36.13 NMAC, "The operators shall comply with the spill reporting and corrective action provisions of 19.15.30 NMAC or 19.15.29 NMAC." These are separate regulations that are to be pursued outside of the requirements of Part 36 and are not requested to be the basis or incorporated into the contingency plan. Please propose a contingency plan that demonstrates compliance and is based upon to the requirements Subsection N of 19.15.36.13 NMAC.

Please describe the actions surface waste management facility personnel shall take in response to fires, explosions or releases to air, soil, surface water or ground water of contaminants or oil field waste containing constituents to minimize hazards to fresh water, public health, safety or the environment as required of Paragraph (1) of 19.15.36.13.N NMAC. The described actions should be carried out immediately to minimize hazards to fresh water, public health, safety or the environment from fires, explosions or an unplanned sudden or non-sudden release of contaminants or oil field waste to air, soil, surface water or ground water.

Page 10.14, Section XII, Prevention of Recurrence or Spread:

The last sentence of the second paragraph proposed to place a leaking "component" in secondary containment "unless it is above ground and can be readily inspected." Please modify the response to acknowledge the repair of the leaking component prior to returning it to service.

Page 10.15, Section XIII, Correction and/or Remediation:

Please modify the response to identify and/or list <u>procedures for investigation</u>, <u>containment and correction or remediation</u> as required of Paragraph (6) of 19.15.36.13.N NMAC.

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 9 of 12

Please modify the response and <u>describe how</u> the incompatible released material <u>is</u> <u>treated</u>, <u>stored or disposed of until cleanup procedures are complete</u> as required of Paragraph (13) of 19.15.36.13.N NMAC.

Page 10.15, Section XVI, Incident Investigation:

Please modify the response and <u>describe how</u> the emergency coordinator will immediately <u>identify the character</u>, <u>exact source</u>, <u>amount and extent of released materials</u> and <u>describe how</u> the emergency coordinator will <u>concurrently assess possible (direct and indirect)</u> <u>hazards</u> to fresh water, public health, safety or the environment as required of Paragraph (10) of 19.15.36.13.N NMAC.

Page 10.15, Section XVII, Post-Emergency Waste Treatment, Storage, & Disposal:

Please modify the response and <u>describe how</u> the emergency coordinator <u>will provide for treating</u>, storing or disposing of recovered oil field waste, or other material that results from a <u>release</u>, fire or explosion at a surface waste management facility, immediately after an emergency, as required of Paragraph (12) of 19.15.36.13.N NMAC.

Page 10.16, Section XVIII, Emergency Equipment:

Please identify the number, types, and available air (time) for the proposed respiratory protection equipment and SCBA(s). Please identify the number, types, and capabilities of the proposed H2S monitors as required of Paragraph (4) of 19.15.36.13.N NMAC. Please identify the capabilities of all of the proposed equipment.

Page 10.17, Section XIX, Coordination Arrangements:

Throughout the contingency plan, there is the statement "More detailed reporting requirements are contained in Section XIX." This section does not address report requirements. Please make the appropriate modification throughout the contingency plan.

Page 10.17, Section XX, Availability and Revision of the Contingency Plan:

The written response references Section XVIII, *Emergency Equipment*, as the source for the list of "local authorities/organizations." Please provide the correct reference.

Tab 19.15.36.8.C.11, Run on/off Control Plan:

Page 11.1

In the second bullet in the second paragraph, please demonstrate compliance with Paragraphs (4) through (6) of 19.15.36.8.C NMAC regarding detailed construction/installation diagrams, engineering designs, and waste management associated with the proposal to "use liners and berms around disposal areas to capture contaminated stormwater and process water."

In the third bullet in the second paragraph, please demonstrate compliance with Paragraphs (5) and (6) of 19.15.36.8.C NMAC regarding engineering designs and waste management associated with the proposal to "direct stormwater from the entire site to an on-site settling pond or series of ponds." Also, please provide additional information on the proposed use of the contaminated stormwater run-off for "dust control" in order for OCD to determine if the activity warrants permitting by the Water Quality Control Commission Regulations (see 20.6.2 NMAC).

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 10 of 12

In the sixth bullet in the second paragraph, please demonstrate compliance with Paragraphs (4) and (5) of 19.15.36.8.C NMAC regarding detailed construction/installation diagrams and engineering designs associated with the proposal to "seal above ground fuel and chemical additive storage areas with liners and berms..." The engineered drawings provided in Section 19.15.36.8.C.5, Engineering Designs & Technical Data, do not illustrate the abovementioned features as described.

Page 11.17, Sheet 5 of 17, Retention Dikes and Details, H/5: Manure Stockpile Containment Detail:

Please demonstrate compliance with Paragraphs (4) and (5) of 19.15.36.8.C NMAC regarding detailed construction/installation diagrams and engineering designs by illustrating the design depth of the proposed v-ditch feature and the design height of the proposed berm feature.

Tab 19.15.36.8.C.14, Best Management Practices:

Page 14.3, Section 2.5, Obligations of General Personnel:

In the second paragraph, please demonstrate compliance with Paragraphs (5) and (6) of 19.15.36.8.C NMAC regarding engineering designs for containment and waste management associated with the generation of a waste "residue" from personnel washing out and washing down equipment.

Page 14.7, Section 5, Stormwater:

Please see comments above provided for page 11.1 of Section 19.15.36.8.C.11 above, Run on/off Control Plan.

Tab 19.15.36.8.C.15, Geological/Hydrological Data:

Page 15.6

In the fifth paragraph, please properly identify the "unconfined water level" as the "static water level" in the discussion.

In the last partial paragraph, the first sentence indicates that it was not possible to obtain the static water levels in MW-9 and MW-10 back in July 2011. At this point in time, data should have been obtained, incorporated, and discussed in this section of the permit application. Please obtain the data and update the ground water assessment.

Pages 15.40 and 15.41, Lithologic Fence Diagrams:

Please continue the elevation lines across the diagrams to ensure that formations and ground water are properly illustrated. Also, please correct and modify the lithologic diagrams that are located on or within inappropriate elevations.

Page 15.51, Water Measurements:

The first table is titled, *Unconfined Condition*. The measured water elevations at the end of the table, identified "UNCONFINED" are actually the measured "static" water elevations. Please properly identify the data.

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 11 of 12

The second table is titled, *Confined Condition*. This table includes monitoring well data from wells that were installed in an unconfined aquifer. Please modify the information in the table appropriately or properly identify the data.

Page 15.52, Results of Three Point Analysis:

Footnotes 2 and 3 indicate that the "flow directions and gradient represent the confined (naturally occurring) condition." If the data used was from the second table on page 15.51 titled, Confined Condition, then an inappropriate use and comparison of data was completed. The current combined comparison of confined and unconfined data is not appropriate for the determination of flow direction and gradient. A comparison of the confined aquifer data is appropriate. A comparison of the unconfined aquifer data is appropriate. A comparison of the static water levels might be appropriate if the other two comparisons do not suggest more than one aquifer. Please determine or demonstrate if there is more than one water bearing zone beneath the proposed facility and then determine the appropriate flow direction and gradient.

Page 15.53, Groundwater Elevations and Direction of Flow Map – Confined Conditions:

The map inappropriately demonstrates the combined comparison of confined and unconfined aquifer data, which is not appropriate for the determination of flow direction and gradient. Please provide a proper assessment that demonstrates the confined aquifer data.

Page 15.54, Interpretation of Flow Map – Confined Conditions:

The map inappropriately demonstrates the combined comparison of confined and unconfined aquifer data, which is not appropriate for the determination of flow direction. Please provide a proper assessment that demonstrates the confined aquifer data.

Page 15.55, Interpretation of Groundwater Elevation – Unconfined Conditions:

The map seems to illustrate the "static" water levels obtained after the monitoring wells were installed, except where the confined aquifer elevations were used for MW-9 and MW-10. Please see the comments for Page 15.52, Results of Three Point Analysis and complete the assessment to determine if there is more than one water bearing zone beneath the proposed facility.

Tab SPCC, Spill Prevention Control & Countermeasures:

Page 13, Section 3.1, Containment and Diversionary Structures, Secondary Containment:

Please demonstrate compliance with Paragraphs (4) and (5) of 19.15.36.8.C NMAC regarding detailed construction/installation diagrams and engineering designs by illustrating the "0.5% north-south slope at the elevation of the liner to the liquid collection point" design feature of the secondary containment for the processing area.

Regarding the discussion of the diesel tank, please modify to properly identify the proposed "12,000-gallon earthen vehicle fueling secondary containment" as an earthen stormwater run-off containment feature to capture contaminated run-off from the fueling station. Sheet C107 of the application and Figure 4 of the SPCC plan properly illustrates the primary containment of the fuel tank installed in the secondary containment of the stock tank. Also, please clarify or justify why the proposed stormwater run-off containment feature is proposed without a liner.

Crowe Blanco Properties, LLC Blanco Landfarm February 7, 2013 Page 12 of 12

Page 15, Section 3.5.1, Secondary Containment for Vehicles:

Please see the comment in the paragraph above, for Page 13, Section 3.1, and please modify the text to properly identify the proposed features and clarify or justify why the proposed stormwater run-off containment feature is proposed without a liner.

Page 18, Section 3.10.2, Inspections at saltwater (oil field brine) disposal facility:

OCD has been unable to locate any additional information requesting consideration of the permitting of a saltwater disposal facility within the permit application. Section 19.15.36.8.C.6, *Management Plan*, of the permit application does not identify saltwater or oilfield brine as proposed waste streams to be accepted at the facility. Please update the permit application to address the new waste stream or make the appropriate modifications to this section.

Figure 3, Processing Containment Area:

Please identify the proposed illustrated features within the building. Also, the two bermed tanks within the northeast portion of the processing area are identified as "400 bbl Hydrocarbon Containment Tanks." In Section 19.15.36.8.C.5, Engineering Design & Technical Data, of the permit application, the proposed site plan illustrated on Sheets C104 and the plan view illustrated on Sheets C108 indicates the same area and tanks for tank bottoms and rinsate. Please modify the appropriate section to clarify the contents of the proposed above-grade tanks.

Figure 4, Diesel Containment Area:

The note provided in the lower right-hand comer states "See Sheet C108 For Tank Details." Sheet C108 does not illustrate the tank details. Please provide the correct reference.

Appendix 6, Emergency Spill Procedures:

This appendix has been added to the Spill Prevention Control & Countermeasures Plan in order to demonstrate compliance to Paragraph (10) of 19.15.36.8.C NMAC regarding releases to the ground surface. Please submit a complete contingency plan under the tab heading 19.15.36.8.C.10, Contingency Plan that demonstrates compliance to the provision and does not provide portions of the contingency plan elsewhere within the permit application.

GUARDIAN ABSTRACT & TITLE CO., INC. 221 NORTH AUBURN FARMINGTON, NEW MEXICO 87401

PROPERTY OWNERS WITHIN 1/2 MILE, EXCLUDING ROADWAYS AND ALLEYS OF

THE FOLLOWING DESCRIBED PROPERTY: Blanco Land Subdivision No. 2

Lot 2A, 4A, 3A, 5A, PT. Lots 1A, 6A and 7A Blanco Land Subdivision No.1 Lot 4

OWNER:

Crowe Blanco Properties, LLC

4050 Pennsylvania Ave. Ste. 215 Kansas City, MO 64111-4111

1495/99, 1495/98

ADJOINING OWNER	ADDRESS	LEGAL DESCRIPTION
United States of America (Federal Lands)	Attn: BLM Office 1235 La Plata Hwy Farmington, NM 87401 (Per Phone Book) Note: No address in San Juan County records For United States of America	T29N, R9W, Sec. 15 NW1/4, SW1/4 T29N, R9W, Sec. 22 NW1/4, SW1/4 T29N, R9W, Sec. 21 All T29N, R9W, Sec. 20 NE1/4 T29N, R9W, Sec. 17 NW1/4, SW1/4 Pt. NE1/4 Pt. SE1/4 T29N, R9W, Sec. 9 SW1/4, SE1/4 T29N, R9W, Sec. 8 SW1/4
Crowe Blanco Properties LLC 1495/99, 1495/98	4050 Pennsylvania Ave. Ste. 215 Kansas City, MO 64111-4111	Blanco Land Subdivision No. 2 Pt. Lots 1A, 6A and 7A

El Paso Field Services Company 1305/176, 1296/5	Attn: Enterprise Property Tax P.O Box 4018 Houston, TX 77210-4324	T29N, R9W, Sec. 17 NE1/4
Bolack, Tommy Revocable Trust 1521/603	3901 Bloomfield Hwy Farmington, NM 87401-7401	Michael E. Atchison Subdivision No. 1 Lots 1, 2, 4, 5, T29N, R9W, Sec. 16 Pt. NW1/4NE1/4
Atchison, Michael E. 1499/232	P.O Box 537 Blanco, NM 87412-7412	Michael E. Atchison Subdivision No. 1 Lot 3
Price, Michael D. 1298/336	P.O Box 5 Flora Vista, NM 87415-7415	Blanco Land Subdivision No. 1 Lot 1
Castro, Alfred R. and Elvera 1540/232	P.O Box 571 Blanco, NM 87412-7412	T29N, R9W, Sec. 16 NW1/4NE1/4
Joiner, David W. and Nancy S. Waggoner, Jeff W. and Deena A. 1508/320	P.O Box 570 Blanco, NM 87412-0570	T29N, R9W, Sec. 16 SW1/4NE1/4
Prado, Ralph 1411/400, 1404/863	6784 US 64 Bloomfield, NM 87413-9565	Blanco Land Subdivision No. 1 Lot 3 T29N, R9W, Sec. 16 NE1/4SE1/4
Adams, William J. and Sondra A. 1278/14	P.O Box 28093 Santa Fe, NM 87592-8093	T29N, R9W, Sec. 16 NE1/4NE1/4
Prouse, Bradley D. and Wendy R. 1454/197	23259 County Road G2 Cortez, CO 81321-1321	Blanco Land Subdivision No. 1 Lot 2

2 of 3

Bolli, Richard E. and Joellen M. 1469/943 P.O Box 579 Blanco, NM 87412-0579 T29N, R9W, Sec. 16 SE1/4SE1/4

SJ County Commission



Industrial Ecosystems Inc. Soil Reclamation Center

P.O. Box 2043 Farmington, NM 87499

Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL / RETURN RECEIPT

October 26, 2012

*

Re: Notice of Surface Waste Management Facility Permit Application

United States of America (Federal Lands)
Attn: BLM Office

1235 La Plata Hwy Farmington, NM 87401

Dear United States of America (Federal Lands)/BLM Office:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

The proposed facility is located near mile marker 75.77 on US Hwy. 64 in Section 16, Township 29 North, Range 09 West, Blanco, New Mexico (San Juan County). The facility's West property line borders the East side of the Enterprise Manzanares Compressor Station. The current access onto the property is located at CR 4445 (19.15.36.9.F.2)

The facility will consist of 206+- permitted acres and will accept and remediate Non-Hazardous, RCRA Exempt oilfield waste derived from Exploration and Production (E&P) activities. (19.15.36.9.F.3 NMAC)

The depth to ground water in the shallowest aquifer beneath the permitted area of the site is at 52' with a TDS concentration of 4000 ppm. (19.15.36.9.F.4.NMAC)

Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

President/General Manager

Industrial Ecosystems, Inc. 49 CR 3150 Aztec, NM 87410

(Paradala) WALS



3500 0000 7475 0574

BLM Office 1235 La Plata Hwy. Farmington, NM 87401

SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.
- 1. Article Addressed to:

BLM Office 1235 La Plata Hwy. Farmington, NM 87401

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7	ំ 1235 La Pla	ata Hwy.	

Farmington, NM 87401

PS Form 3800, August 2006

102595-02-M-1540 Domestic Return Receipt .

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Industrial Ecosystems Inc. Soil Reclamation Center

P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL / RETURN RECEIPT

October 26, 2012

Re:

Notice of Surface Waste Management Facility Permit Application

El Paso Field Services Company Attn: Enterprise Property Tax PO Box 4018 Houston, TX 77210

Dear Sir or Madam,

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

The proposed facility is located near mile marker 75.77 on US Hwy. 64 in Section 16, Township 29 North, Range 09 West, Blanco, New Mexico (San Juan County). The facility's West property line borders the East side of the Enterprise Manzanares Compressor Station. The current access onto the property is located at CR 4445 (19.15.36.9.F.2)

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The depth to ground water in the shallowest aquifer beneath the permitted area of the site is at 52' with a TDS concentration of 4000 ppm. (19.15.36.9.F.4.NMAC)

Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

President/General Manager

dustrial Ecosystems, Inc. CR 3150 rtec, NM 87410 GERTIFIED MAIL



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	Restricted Delivery Fee (Endorsement Required)
3500	Total Postage & Fees \$ 5.75
,-7	See El Paso Field Services Company
7077	Str. Attn: Enterprise Property Tax
[~	P.O. Box 4018
	Houston, TX 77210-4324
	PS Form 3800, August 2006 See Reverse for Instructions

El Paso Field Services Company Attn: Enterprise Property Tax P.O. Box 4018 Houston, TX 77210-4324

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SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY				
 Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. 	A. Signature X ☐ Agent ☐ Addresse				
Attach this card to the back of the mailpiece, or on the front if space permits.	B. Received by (Printed Name) C. Date of Deliver				
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El Paso Field Services Company					
Attn: Enterprise Property Tax					
Attn: Enterprise Property Tax P.O. Box 4018 Houston, TX 77210-4324	3: Service Type Service Type Express Mail Registered Return Receipt for Merchandise C.O.D.				
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Industrial Ecosystems Inc. Soil Reclamation Center

P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

Tommy Bolack 3901 Bloomfield Highway Farmington, NM 87401-7401

Dear Tommy Bolack:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

The proposed facility is located near mile marker 75.77 on US Hwy. 64 in Section 16, Township 29 North, Range 09 West, Blanco, New Mexico (San Juan County). The facility's West property line borders the East side of the Enterprise Manzanares Compressor Station. The current access onto the property is located at CR 4445 (19.15.36.9.F.2)

The facility will consist of 206+- permitted acres and will accept and remediate Non-Hazardous, RCRA Exempt oilfield waste derived from Exploration and Production (E&P) activities. (19.15.36.9.F.3 NMAC)

The depth to ground water in the shallowest aquifer beneath the permitted area of the site is at 52' with a TDS concentration of 4000 ppm. (19.15.36.9.F.4.NMAC)

Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

President/General Manager

lustrial Ecosystems, Inc. CR 3150 'ec, NM 87410





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Tommy Bolack Revocable Trust 3901 Bloomfield Hwy. Farmington, NM 87 401-7401

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SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIV	'ERY
■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ■ Print your name and address on the reverse	A. Signature	☐ Agent ☐ Addressee
so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.	B. Received by (Printed Name)	C. Date of Delivery
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Tommy Bolack Revocable Trust 3901 Bloomfield Hwy.		
Farmington, NM 871401-7401	3. Service Type X Certified Mail	pt for Merchandise
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2. Article Number (Transfer from service label)	4. Restricted Delivery? (Extra Fee) 00 0000 7475 0598	☐ Yes



Industrial Ecosystems Inc. Soil Reclamation Center

P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

Michael E. Atchison PO Box 537 Blanco, NM 87412-7412

Dear Michael E. Atchison:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

The proposed facility is located near mile marker 75.77 on US Hwy. 64 in Section 16, Township 29 North, Range 09 West, Blanco, New Mexico (San Juan County). The facility's West property line borders the East side of the Enterprise Manzanares Compressor Station. The current access onto the property is located at CR 4445 (19.15.36.9.F.2)

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Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

President/General Manager

Industrial Ecosystems, Inc. 49 CR 3150 'ztec, NM 87410



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Michael E. Atchison P.O. Box 537 Blanco, NM 87412-7412

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- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.
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Michael E. Atchison P.O. Box 537 Blanco, NM 87412-7412

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Michael E. Atchison P.O. Box 537 Blanco, NM 87412-7412

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☐ Yes



P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

Michael D. Price PO Box 5 Flora Vista, NM 87415-7415

Dear Michael D. Price:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

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Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

Industrial Ecosystems, Inc. 49 CR 3150 Aztec, NM 87410

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Michael D. Price P.O. Box 5 Flora Vista, NM 87415-7415

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P.O. Box 2043 Farmington, NM 87499

Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

Alfred R & Elvera Castro PO Box 571 Blanco, NM 87412-7412

Dear Alfred R & Elvera Castro:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

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Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

President/General Manager

In last

Industrial Ecosystems, Inc. 49 CR 3150 Aztec, NM 87410

PS Form 3811, February 2004

CERTIFIED MAIL



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Alfred R. & Elvera Castro P.O. Box 571 Blanco, NM 87412-7412

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SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
 Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse 	A. Signature X
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Alfred R. & Elvera Castro P.O. Box 571	
Blanco, NM 87412-7412	3. Service Type Certified Mail Registered Insured Mail C.O.D.
	4. Restricted Delivery? (Extra Fee) ☐ Yes
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Domestic Return Receipt

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(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at w/w.usps.com
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(Endorsement Required)
Restricted Delivery Fee
(Endorsement Required)
Total Postage & Fees

Si Alfred R. & Elvera Castro

^{or} P.O. Box 571

Blanco, NM 87412-7412



P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

David W. & Nancy S. Joiner PO Box 570 Blanco, NM 87412-0570

Dear David W. & Nancy S. Joiner:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

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Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

President/General Manager

In Cal

Industrial Ecosystems, Inc. 49 CR 3150 ^ztec, NM 87410

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7011 3500 0000 7475 0697

David W. & Nancy S. Joiner P.O. Box 570 Blanco, NM 87412-0570

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
 Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature X. Agent Addressee
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David W. & Nancy S. Joiner P.O. Box 570	
Blanco, NM 87412-0570	3. Service Type 2. Certified Mail Registered Insured Mail C.O.D.
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(Transfer from service label) PS Form 3811, February 2004

2. Article Number

Domestic Return Receipt

7011 3500 0000 7475 0697 U.S. Postal Service™ CERTIFIED MAILT RECEIPT (Domestic Mail Only; No Insurance Coverage Provided) 7475 0000 Restricted Delivery Fee (Endorsement Required) 3,500 Total Postage & Fees \$ Sent To David W. & Nancy S. Joiner Street, P.O. Box 570 огров Вапсо, NM 87412-0570

See Reverse for Instructions



P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

Jeff W. & Deena A. Waggoner PO Box 570 Blanco, NM 87412-0570

Dear Jeff W. & Deena A. Waggoner:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

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Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

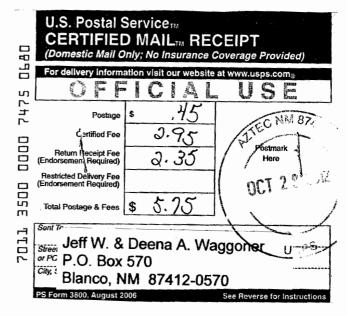
Industrial Ecosystems, Inc. 49 CR 3150 * tec, NM 87410 BAMUALEU WANG



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Jeff W. & Deena A. Waggoner P.O. Box 570 Blanco, NM 87412-0570

ENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse	A. Signature ☐ Agent ☐ Addressee
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Jeff W. & Deena A. Waggoner P.O. Box 570	
Blanco, NM 87412-0570	3. Service Type
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P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

Ralph Prado 6784 US 64 Bloomfield, NM 87413

Dear Ralph Prado:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

The proposed facility is located near mile marker 75.77 on US Hwy. 64 in Section 16, Township 29 North, Range 09 West, Blanco, New Mexico (San Juan County). The facility's West property line borders the East side of the Enterprise Manzanares Compressor Station. The current access onto the property is located at CR 4445 (19.15.36.9.F.2)

The facility will consist of 206+- permitted acres and will accept and remediate Non-Hazardous, RCRA Exempt oilfield waste derived from Exploration and Production (E&P) activities. (19.15.36.9.F.3 NMAC)

The depth to ground water in the shallowest aquifer beneath the permitted area of the site is at 52' with a TDS concentration of 4000 ppm. (19.15.36.9.F.4.NMAC)

Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

Industrial Ecosystems, Inc. 49 CR 3150 tec, NM 87410 CERTIFIED MAIL.

7011 3500 0000 7475 0642

Ralph Prado 6784 US 64 Bloomfield, NM 87413-9565

SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece	A. Signature X
or on the front if space permits. 1. Article Addressed to: Ralph Prado	D. Is delivery address different from item 1? ☐ Yes If YES, enter delivery address below: ☐ No
6784 US 64 Bloomfield, NM 87413-9565	3. Service Type ☐ Certified Mail ☐ Express Mail ☐ Registered ☐ Return Receipt for Merchandise ☐ Insured Mail ☐ C.O.D. 4. Restricted Delivery? (Extra Fee) ☐ Yes
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6784 US 64

Bloomfield, NM 87413-9565



P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876

#49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

William J. & Sondra A. Adams PO Box 28093 Santa Fe, NM 87592-8093

Dear William J. & Sondra A. Adams:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

The proposed facility is located near mile marker 75.77 on US Hwy. 64 in Section 16, Township 29 North, Range 09 West, Blanco, New Mexico (San Juan County). The facility's West property line borders the East side of the Enterprise Manzanares Compressor Station. The current access onto the property is located at CR 4445 (19.15.36.9.F.2)

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The depth to ground water in the shallowest aquifer beneath the permitted area of the site is at 52' with a TDS concentration of 4000 ppm. (19.15.36.9.F.4.NMAC)

Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

President/General Manager

In lot

Industrial Ecosystems, Inc. 49 CR 3150 ^ztec, NM 87410

7011 3500 0000 7475 0659

William J. & Sondra A. Adams P.O. Box 28093 Santa Fe, NM 87592-8093

COMPLETE THIS SECTION ON DELIVERY SENDER: COMPLETE THIS SECTION A. Signature Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ☐ Agent X □ Addressee Print your name and address on the reverse so that we can return the card to you. C. Date of Delivery B. Received by (Printed Name) M Attach this card to the back of the mailpiece, or on the front if space permits. D. Is delivery address different from item 1? 1. Article Addressed to: If YES, enter delivery address below: William J. & Sondra A. Adams P.O. Box 28093 Santa Fe, NM 87592-8093 3. Service Type

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Return Receipt for Merchandise ☐ Registered ☐ Insured Mail ☐ C.O.D. 4. Restricted Delivery? (Extra Fee) ☐ Yes 2. Article Number 7011 3500 0000 7475 0659 (Transfer from service label) U.S. Postal Service ; PS Form 3811, February 2004 Domestic Return Receipt CERTIFIED MAIL RECEIPT 0000 Certified Fee Return Receipt Fee (Endorsement Required) Restricted Delivery Fee (Endorsement Required) 3500 Total Postage & Fees Siree William J. & Sondra A. Adams or PC P.O. Box 28093

Santa Fe, NM 87592-8093



P.O. Box 2043 Farmington, NM 87499

Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

Bradley D. & Wendy R. Prouse 23259 CR G2 Cortez, CO 81321-1321

Dear Bradley D. & Wendy R. Prouse:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

The proposed facility is located near mile marker 75.77 on US Hwy. 64 in Section 16, Township 29 North, Range 09 West, Blanco, New Mexico (San Juan County). The facility's West property line borders the East side of the Enterprise Manzanares Compressor Station. The current access onto the property is located at CR 4445 (19.15.36.9.F.2)

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The depth to ground water in the shallowest aquifer beneath the permitted area of the site is at 52' with a TDS concentration of 4000 ppm. (19.15.36.9.F.4.NMAC)

Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

Industrial Ecosystems, Inc. 49 CR 3150 rtec, NM 87410



7011 3500 0000 7475 0727

Bradley D. & Wendy R. Prouse 23259 CR G2 Cortez, CO 81321-1321

U.S. Postal Service

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Domestic Return Receipt

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PS Form 3811, February 2004



P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

Richard E. & Joellen M. Bolli PO Box 579 Blanco, NM 87412-0579

Dear Richard E. & Joellen M. Bolli:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

The proposed facility is located near mile marker 75.77 on US Hwy. 64 in Section 16, Township 29 North, Range 09 West, Blanco, New Mexico (San Juan County). The facility's West property line borders the East side of the Enterprise Manzanares Compressor Station. The current access onto the property is located at CR 4445 (19.15.36.9.F.2)

The facility will consist of 206+- permitted acres and will accept and remediate Non-Hazardous, RCRA Exempt oilfield waste derived from Exploration and Production (E&P) activities. (19.15.36.9.F.3 NMAC)

The depth to ground water in the shallowest aquifer beneath the permitted area of the site is at 52' with a TDS concentration of 4000 ppm. (19.15.36.9.F.4.NMAC)

Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

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Industrial Ecosystems, Inc. 49 CR 3150 Aztec, NM 87410

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ર Richard E. and Joellen M. Bolli ^c₇P.O, Box 579 Blanco, NM 87412-0579

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Blanco, NM 87412-0579	3. Service Type Certified Mail Express Mail Registered Return Receipt for Merchandise Insured Mail C.O.D. 4. Restricted Delivery? (Extra Fee)
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PS Form 3811, February 2004

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P.O. Box 2043 Farmington, NM 87499 Phone: (505) 632-1782 Fax: (505) 632-1876 #49 CR 3150 Aztec, NM 87410

CERTIFIED MAIL / RETURN RECEIPT

October 26, 2012

Re: Notice of Surface Waste Management Facility Permit Application

San Juan County Commission 100 S. Oliver Aztec, NM 87410

Dear San Juan County Commission:

This notice is being issued pursuant to Subsection A of 19.15.36.9 NMAC, as per the State of New Mexico Oil Conservation Division (NMOCD) Notice Requirements for New Surface Waste Management Facilities (SWMF).

Crowe Blanco Properties, LLC operated by Industrial Ecosystems, Inc. (49 CR 3150, Aztec, NM 87410) has submitted an application to construct and operate a commercial Surface Waste Management Facility. (19.15.36.9.F.1 NMAC)

The proposed facility is located near mile marker 75.77 on US Hwy. 64 in Section 16, Township 29 North, Range 09 West, Blanco, New Mexico (San Juan County). The facility's West property line borders the East side of the Enterprise Manzanares Compressor Station. The current access onto the property is located at CR 4445 (19.15.36.9.F.2)

The facility will consist of 206+- permitted acres and will accept and remediate Non-Hazardous, RCRA Exempt oilfield waste derived from Exploration and Production (E&P) activities. (19.15.36.9.F.3 NMAC)

The depth to ground water in the shallowest aquifer beneath the permitted area of the site is at 52' with a TDS concentration of 4000 ppm. (19.15.36.9.F.4.NMAC)

Any/all comments should be directed to New Mexico Oil Conservation Division 1220 South St. Francis Drive, Santa Fe, New Mexico 87505.

Respectfully,

Terry Lattin

CERTIFIED MAIL.

Industrial Ecosystems, Inc. 49 CR 3150 tec, NM 87410



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San Juan County Commission 100 S. Oliver Aztec, NM 87410

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 so that we can return the card to you. Attach this card to the back of the mail or on the front if space permits. 	piece,	B. Received by (Printed Name)	C. Date of Delivery
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STATE OF NEW MEXICO County of San Juan:

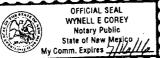
JOHN ELCHERT, being duly sworn says: That HE is the PUBLISHER of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication and appeared in the Internet at The Daily Times web site on the following day(s):

Thursday, March 07, 2013

And the cost of the publication is \$479.38

ON 3/26/(3 JOHN ELCHERT appeared before me, whom I know personally to be the person who signed the above document.

OFFICIAL SEAL



COPY OF PUBLICATION



RECEIVED

AFFIDAVIT OF PUBLICATION

ROP Display

STATE OF NEW MEXICO County of San Juan:

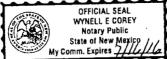
JOHN ELCHERT, being duly sworn says: That HE is the PUBLISHER of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication and appeared in the Internet at The Daily Times web site on the following day(s):

Thursday, March 07, 2013

And the cost of the publication is \$479.38

ON 3/24/13 JOHN ELCHERT appeared before me, whom I know personally to be the person who signed the above document.

Dynall E. Corry



COPY OF PUBLICATION



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Affidavit of Publication

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	City, State, Zip:	7777 Jefferson NE Albuquerque, New Mexico 87103	
	Phone#:	505-823-7777	
	State of:	New Mexico	
	County of:	Bernalillo	
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	Albuquerque Journ (Name of Publication)	nal, published in the city of	
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Hereby certify	that the advertisement	for Industrial Ecosyste	MS
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	was published in said	newspaper on the following dates:	
	3 9	13	
Civen under	r my hand, this Zde	el Ass. 1 2012	
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Signature:	naula & Mon	Text	
Sworn to and	subscribed before me (this 2 rd day of Gove 2011, at	
	Bernalello Ca	this 2nd day of april 2011, at	
Notary Public	1	B. Julieny	
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EWBURYPORT DAILY NEWS/AP

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A magazine for those 50+

The first Saturday in March, June, September and December

NOTICE OF PUBLICATION

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCE DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that the New Mexico Oil Conservation Division ("Division") has issued its tentative decision pursuant to Surface Waste Management Facilities Regulations (Subsection E of 19.15.36.9 NMAC), regarding the following Surface Waste Management Facility permit application, which was submitted to the Division at 1220 South Saint Francis Drive, Santa Fe, New Mexico, 87505, (505) 476-3440:

Crowe Blanco Properties, LLC, operated by Industrial Ecosystems, Inc. (49 County Road 3150, Aztec, New Mexico, 87410), has submitted an application to the Division to construct and operate a commercial Surface Waste Management Facility ("Facility"). The proposed Facility is located near mile-marker 75.77 on U.S. Highway 64, in Section 16, Township 29 North, Range 9 West, in the town of Blanco, San Juan County, New Mexico. Access onto the property is located off County Road 4445 and the Facility's west property line borders the east side of the Enterprise Manzanares Compressor Station site. The proposed Facility will consist of approximately 206 permitted acres and will accept and remediate non-hazardous, oilfield waste that is exempt from the federal Resource Conservation and Recovery Act and derived from oil and gas exploration and production activities. The depth to the shallowest aquifer beneath the area to be permitted is approximately 52 feet. The groundwater in the aquifer has a concentration of total dissolved solids of approximately 4000 parts per million. Pursuant to Rule19.15.36.9.F(5) NMAC, the Division's tentative decision is available on its Web site at http://www.emnrd.state.nm.us/OCD/envdraftpublicetc.html, or upon request from the Division clerk, Florene Davidson, at 1220 S. Saint Francis Drive, Santa Fe, New Mexico, 87505, or by calling (505) 476-3458. Pursuant to Division Rules, the Director shall allow a period of at least thirty days after the date of publication of this notice, during which time interested persons may submit comments or request that the Division hold a public hearing. Any interested person may file comments or request a hearing on the application with the Division clerk within 30 days after the date of this notice. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if (1) the Division has proposed to deny the application or grant it subject to conditions not expressly required by rule, and Crowe Blanco Properties, LLC requests a hearing; (2) the Director determines that there is significant public interest; (3) the Director determines that comments have raised objections that have probable technical merit; or, (4) determination of the application requires the Division, pursuant to Paragraph (3) of Subsection F of 19.15.2.7 NMAC, to determine whether a water source has a present or reasonably foreseeable beneficial use that contamination would impair. The Division may issue a permit for a proposed facility upon finding that the conditions of 19.15.36.9 and 11 NMAC have been met and that the surface waste management facility can be constructed and operated in compliance with applicable statutes and rules and without endangering fresh water, public health, safety or the environment. Should the application proceed to hearing, parties wishing to present testimony or evidence are required by Division Rule 19.15.4.13.B NMAC to file a pre-hearing statement and serve copies on other parties or, for parties that are represented, their attorneys no later than 5 p.m. on the Thursday preceding the scheduled hearing date at the Division's Santa Fe office at the above-specified address. Pre-hearing statements should include the following information: (1) the names of the parties and their attorneys; (2) a concise statement of the case; (3) the names of all witnesses the party will call to testify at the hearing; (4) the approximate time the party will need to present its case; and (5) identification of any procedural matters that are to be resolved prior to the hearing. Hearings are conducted before Division Hearing Examiners, and persons testifying are

required to do so under oath and on the record.

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AVISO DE PUBLICACIÓN

ESTADO DE NUEVO MEXICO

Energía, minerales y DEPARTAMENTO DE RECURSOS NATURALES ACEITE DE DIVISIÓN DE CONSERVACIÓN

La presente se notifica que el Nuevo Aceite de México División de Conservación ("división") ha emitido su decisión provisional de conformidad con la superficie las instalaciones de residuos Reglamentos (Subsección E de 19.15.36.9 NMAC), en relación con los siguientes residuos Superficie Facility Management solicitud de permiso, el cual fue presentado a la División en 1220 South Saint Francis Drive, Santa Fe, Nuevo México, 87505, (505) 476-3440:

Crowe Propiedades de Blanco, LLC, operado por Ecosistemas Industriales, Inc. (49 County Road 3150, Aztec, Nuevo México, 87410), ha presentado una solicitud a la División para la construcción y explotación de una superficie comercial de Residuos Management Facility ("Fondo"). La instalación propuesta se encuentra cerca de una milla de 75,77 marcador en EE.UU. la autopista 64, en la Sección 16, Municipio 29 al Norte, Hilera 9 West, en la ciudad de Blanco, San Juan County, New Mexico. Acceso a la propiedad se encuentra fuera de County Road 4445 y la linea del Fondo de propiedad al oeste limita con el lado este del sitio Empresa Manzanares Estación de Compresión. El Fondo para el proyecto constará de aproximadamente 206 hectáreas permitidas y aceptará y remediar no peligrosos, residuos petroleros que está exento de la conservación de los recursos federales y la Ley de Recuperación y derivados de la exploración de petróleo y gas y actividades de producción. La profundidad a la que la menos profunda del acuífero debajo de la zona esté permitida es de aproximadamente 52 pies. El agua subterránea en el acuífero tiene una concentración de sólidos disueltos totales de aproximadamente 4000 partes por millón. De conformidad con Rule19.15.36.9.F (5) NMAC, la decisión provisional de la División se encuentra disponible en su sitio Web en http://www.emnrd. state.nm.us/OCD/env-draftpublicetc.html, oa petición del secretario de la División, Florene Davidson, en 1220 S. San Francisco Drive, Santa Fe, Nuevo México, 87505, o llamando al (505) 476 a 3.458. De conformidad con las Reglas de la División, el Director deberá establecer un período de al menos treinta días después de la fecha de publicación del presente anuncio, durante el cual las personas interesadas en tiempo podrán hacer observaciones o solicitar que la División de celebrar una audiencia pública. Cualquier persona interesada podrá presentar observaciones o solicitar una audiencia sobre la solicitud ante el secretario de la división dentro de los 30 días siguientes a la fecha de este aviso. Las solicitudes de audiencia pública deberá establecer las razones por las que debe basarse una audiencia. La audiencia se llevará a cabo si (1) la División ha propuesto negar la solicitud o concesión de someterla a condiciones que no estén expresamente requeridos por ley, y Crowe Blanco Properties, LLC solicita una audiencia, (2) el Director determina que existe un importante público interés, (3) el Director determina que los comentarios han formulado objeciones que tienen méritos técnicos probable, o bien, (4) la determinación de la aplicación requiere la Sección, de conformidad con el párrafo (3) de la subsección F de 19.15.2.7 NMAC, para determinar si una fuente de agua tiene un uso beneficioso presentes o razonablemente previsibles que la contaminación pueda afectar. La División puede emitir un permiso para una instalación propuesta al encontrar que las condiciones de 19.15.36.9 y 11 NMAC se han cumplido y que los residuos superficie instalación de gestión pueden ser construidos y operados de acuerdo con las leyes y normas aplicables y sin poner en peligro el agua dulce, la salud pública, la seguridad o el medio ambiente. Si la solicitud procederá a una audiencia, las partes que deseen presentar testimonio o evidencia son requeridos por la División de Regla NMAC 19.15.4.13.B a presentar una declaración previa a la audiencia y entregar copias a las otras partes o, para los partidos que están representados, sus abogados no más tarde de las 5 pm el jueves anterior a la fecha programada para la audiencia oficina en Santa Fe de la División, en la dirección arriba indicada. Audiencia previa a las declaraciones deberán incluir la siguiente información: (1) los nombres de las partes y sus abogados, (2) una declaración concisa del caso, (3) los nombres de todos los testigos del partido llamará a declarar en la audiencia; (4) el tiempo aproximado que el partido tendrá que presentar su caso, y (5) la identificación de las cuestiones de procedimiento que deben ser resueltos antes de la audiencia. Las audiencias se llevan a cabo antes de Examinadores de Audiencia de la División, y las personas que testifican están obligados a hacerlo bajo juramento y en el expediente.