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AUG 2012
NMED Hazardous Waste Bureau

Environmental Protection Division
Water Quality & RCRA Group (ENV-RCRA)
P.O. Box 1663, MS K490
Los Alamos, New Mexico 87545
505-667-0666

National Nuclear Security Administration
Los Alamos Site Office, A316
3747 West Jemez Road
Los Alamos, New Mexico 87545
(505) 667-5794/FAX (505) 667-5948

Date: AUG 1 3 2012
Refer To: *ENV-RCRA-12-0189*
LAUR: *12-23557*

Mr. Jerry Schoeppner, Chief
Ground Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, Room N2261
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Dear Mr. Schoeppner:

SUBJECT: NOTICE OF INTENT TO DISCHARGE POTABLE WATER USED FOR DUST SUPPRESSION AND DECONTAMINATION AT TECHNICAL AREA 54 DISPOSAL PIT 38

In accordance with Subsection A of 20.6.2.1201 New Mexico Administrative Code (NMAC), the U.S. Department of Energy and Los Alamos National Security, LLC (DOE/LANS) are filing this notice of intent (NOI) to discharge potable water for dust suppression and decontamination at Technical Area 54 (TA-54) disposal Pit 38. Potable water from the Los Alamos County Municipal Water Supply System will be used to (1) suppress dust to protect worker health and safety and (2) decontaminate waste bins and trucks used in the storage and transport of low-level radioactive waste. We propose to discharge a maximum of 7,000 gallons per day of potable water into Pit 38 for approximately 50 business days during a campaign to empty approximately 350 bins of low-level radioactive waste.

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Low-level radioactive waste disposed in Pit 38 includes waste from Environmental Restoration (ER) activities conducted at Los Alamos National Laboratory (LANL). Approximately 500 waste bins of low-level radioactive waste were generated during the remediation of historic waste disposal trenches at Material Disposal Area (MDA) B. The waste consists primarily of soil that is contaminated with small amounts of radionuclides. None of these bins contain free liquids, mixed low-level waste, or hazardous waste as these wastes cannot be disposed of at TA-54.

Beginning July 2, 2012, DOE/LANS began a campaign to dispose of approximately 500 waste bins containing predominantly bulk soil waste from ER activities into Pit 38. On August 2, 2012, after approximately 150 waste bins had been emptied, LANL paused disposal operations; accordingly, approximately 350 waste bins remain assigned for disposal. In accordance with communications between DOE/LANS and NMED Ground Water Quality Bureau staff, DOE/LANS is submitting the enclosed NOI to resume discharges to Pit 38 for approximately 50 business days while the remaining bins are emptied. Once the campaign to empty the above-referenced 350 waste bins is complete, all future disposal operations at Pit 38 will be conducted without water (ie, dry) or a new notice of intent (NOI) to discharge will be submitted to the NMED by DOE/LANS.

Please contact Robert S. Beers by telephone at (505) 667-7969 or by email at bbeers@lanl.gov if you have questions regarding this NOI.

Sincerely,

for AG

Anthony R. Grieggs
Group Leader
Water Quality & RCRA Group (ENV-RCRA)
Los Alamos National Security, LLC

Sincerely,

Gene E. Turner
Environmental Permitting Manager
Environmental Projects Office
Los Alamos Site Office
U.S. Department of Energy

ARG:GET/kt

Enclosures:

1. Disposal Pit 38 Location Map
2. MDA B Chemical Waste Characterization Data
3. Plan and Profile Views of Pit 38

Cy: James Hogan, NMED/SWQB, Santa Fe, NM, w/enc.
John E. Kieling, NMED/HWB, Santa Fe, NM, w/enc.

Stephen M. Yanicak, NMED/DOE/OB, w/enc., (E-File)
Gene E. Turner, LASO-EPO, w/enc., (E-File)
Hai Shen, LASO-EPO, w/enc., (E-File)
Carl A. Beard, PADOPS, w/o enc., A102
Michael T. Brandt, ADESH, w/o enc., (E-File)
Bruce G. Schappell, ADEP, w/o enc., (E-File)
Alison M. Dorries, ENV-DO, w/o enc., (E-File)
Victoria A. George, REG-DO, w/enc., (E-File)
Kathryn M. Roberts, REG-SP, w/enc., (E-File)
Andrew R. Baumer, WPS, w/enc., J910 (E-File)
Sean B. French, WPS, w/enc., J910 (E-File)
Derek G. Faulk, WPS-WS, w/enc., J970 (E-File)
Robert A. Lechel, ENV-ES, w/enc., J967, (E-File)
Michael T. Saladen, ENV-RCRA, w/enc., K490 (E-File)
Robert S. Beers, ENV-RCRA, w/enc., K490 (E-File)
IRM-RMMSO, w/enc., A150, (E-File)
ENV-RCRA, Correspondence File, w/enc., K490

1. **Name and mailing address of person proposing to discharge:**

Andrew R. Baumer
Los Alamos National Security, LLC
P.O. Box 1663, Mail Stop K490
Los Alamos, NM 87544

Work Phone: 505-665-0343
Cell/Home Phone: 505-412-7609
Fax: na
Email: andybaumer@lanl.gov

Point of Contact: Robert Beers, 505-667-7969, bbeers@lanl.gov

2. **Name of facility: Los Alamos National Laboratory (LANL),**

3. **Physical location of discharge (if applicable, give street address, township, range, section, distance from closest town or landmark, directions to facility, location map):**

   Low-Level Waste Disposal Pit 38 is located at Technical Area (TA)-54. See Enclosure 1, Location Map.

4. **Type of operation generating the discharge (e.g., truck wash, food processing plant, restaurant, etc.):**

   Low-level radioactive waste disposal.

   LANL proposes to discharge potable water into Pit 38 during a 50-day campaign to dispose of low-level radioactive bulk soil waste from approximately 350 waste bins.

   Pit 38 is regulated by the US Department of Energy (DOE) under the Atomic Energy Act (AEA). Pit 38 is not part of the Consolidated Unit 54-013(b)-99 that is covered under the Compliance Order on Consent (Consent Order).

5. **Source(s) of the discharge. Describe how the wastewater, sludge, or other discharges processed and/or disposed at your facility are generated. Identify all sources. Attach additional pages if needed:**

   Discharges into Pit 38 are potable water from the Los Alamos County Municipal Water Supply System that has been used in the following three applications:

   - **Return-to-service decontamination of trucks hauling waste bins to Pit 38.**
   - **Return-to-service wash-out and decontamination of waste bins.**
   - **Suppression of dust during the emptying of waste bins into Pit 38, as directed by LANL's Radiation Protection Division**

6. **Expected contaminants in the discharge (e.g., nitrate-nitrogen, metals, organic compounds, salts, etc.) Include estimated concentration if known, and copies of results of laboratory analyses, if available:**

   Approximately 500 bins of low-level radioactive waste were generated during the remediation of historic waste disposal trenches at Material Disposal Area (MDA) B. Approximately 350 waste bins remain assigned for disposal. The waste consists primarily of soil that is contaminated with small amounts of radionuclides. These bins do not contain liquids, chemicals, sludge, discolored soil or ash. Wastes other than soil and debris were segregated during excavation and managed separately. None of these bins contain mixed low-level waste or hazardous waste as these wastes cannot be disposed of at TA-54.

   The sampling of the waste in these bins was performed in accordance with the MDA B Waste Characterization Strategy Form (WCSF) and the MDA B Sampling and Analysis Plan (SAP). Nineteen composite samples representative of the soil and debris removed from MDA B were collected during excavation. The results of the laboratory analysis of these samples are summarized in Enclosure 2. Samples were analyzed for HEXPs, VOCs, SVOCs, PCBs, TPH, Dioxins, Furans, Herbicides, Pesticides and Metals. All detected analytes were significantly below regulatory limits. The results of the comprehensive sampling of waste containers demonstrated that neither hazardous constituents nor PCBs were present at regulated concentrations in the soil destined for disposal at Pit 38. The presence of these constituents was associated with anomalies such as containers, discolored soils, powders, and other items. All anomalies were segregated, sampled appropriately and characterized separately for disposal at an appropriate off-site Treatment, Storage and Disposal Facility. Because the disposal of hazardous waste or radioactive mixed waste is prohibited at TA-54, no hazardous or mixed wastes from MDA B have been or will be disposed of at Pit 38. The results of all waste characterization activities, including the segregation and sampling of anomalies, are documented in the April 2012 Investigation/Remediation Report for Material Disposal Area B, Solid Waste Management Unit 21-015, Revision 1 (LA-UR- 12-20089).

7. **Describe all components of wastewater processing, treatment, storage, and disposal system (e.g., grease interceptor, lagoon, septic tank/leachfield, etc.) Include sizes, site layout map, plans and specifications, etc. if available:**

As originally constructed, disposal Pit 38 is generally rectangular with approximate dimensions of 600 ft x 80 ft x 60 ft (length x width x depth). In 2012, disposal Pit 38 was extended to the east to provide additional disposal capacity; disposal of LLW has not yet occurred in the extension. The approximate dimensions of the extension are 250 ft x 60 ft x 35 ft. Enclosure 3 provides plan and profile views of Pit 38. Table 1 below provides information on the surface area and volume of Pit 38.

Table 1: Area and Volume for Disposal Pit 38

Unit	Area (sq ft)	Volume (cu yd)
Pit 38 as originally constructed	58,600	78,800
Pit 38 extension	17,850	15,700

Pit 38 is currently designated as a Radiation Area (RA) and Contamination Area (CA). Trucks with a full 20 cubic yard or 25 cubic yard bin enter the CA and back up to the pit edge. At this time, dust suppression water is applied to the ground at the rear of the truck/bin where the bin will be emptied. The bin door is opened, which is at the rear of the bin and truck, and the bin is tilted from the front using hydraulic lifts on the truck so that the soil and or debris waste comes out the rear door and into the pit. Dust suppression water is applied to the waste coming out of the bin and ground where the waste is falling during this process. Once the bin is emptied, the hydraulic lifts are lowered so the bin is horizontal again. The truck moves to the fire hose to wash out the inside of the bin. The bin door is then closed and the truck moves to the truck wash station where the exterior of the truck, tires, and bin are decontaminated with pressure sprayers. From there the truck goes to the CA boundary to be surveyed by technicians for contamination prior to release from the CA.

8. **Estimated maximum daily discharge volume in gallons per day (or other units):**

7000 gal/day

NOTE: This is a limited duration discharge; the maximum daily discharge will occur over approximately 50 business days. Discharges will commence once LANL receives approval from NMED Ground Water Quality Bureau. Once the campaign to empty the above-referenced 350 waste bins is complete, all future disposal operations at Pit 38 will be conducted without water (i.e., dry) or a new notice of intent (NOI) to discharge will be submitted to the NMED by DOE/LANS.

9. **Estimated depth to ground water (ft):** 900 ft below ground surface (bgs)

Pit 38 is sited on Mesita del Buey on the Pajarito Plateau. Mesita del Buey is one of the drier mesas at LANL and the pores within the vadose zone are unsaturated. No significant perched-intermediate groundwater occurs beneath Pit 38. Borehole 54-25105 at TA-54 was drilled to a depth of 700 feet bgs and did not encounter perched groundwater. The seven regional monitoring wells drilled in the vicinity also did not encounter perched groundwater. The regional aquifer beneath Pit 38 is at a depth of approximately 900 feet bgs.

Signature: DAVID E. FREDERICI FOR **Date:** 08.09.2012

Printed name: Andrew R. Baumer **Title:** Program Director

Please return this form to:
NMED Ground Water Quality Bureau
P.O. Box 5469
Santa Fe, New Mexico 87502-5469

Telephone: 505-827-2900
Fax: 505-827-2965

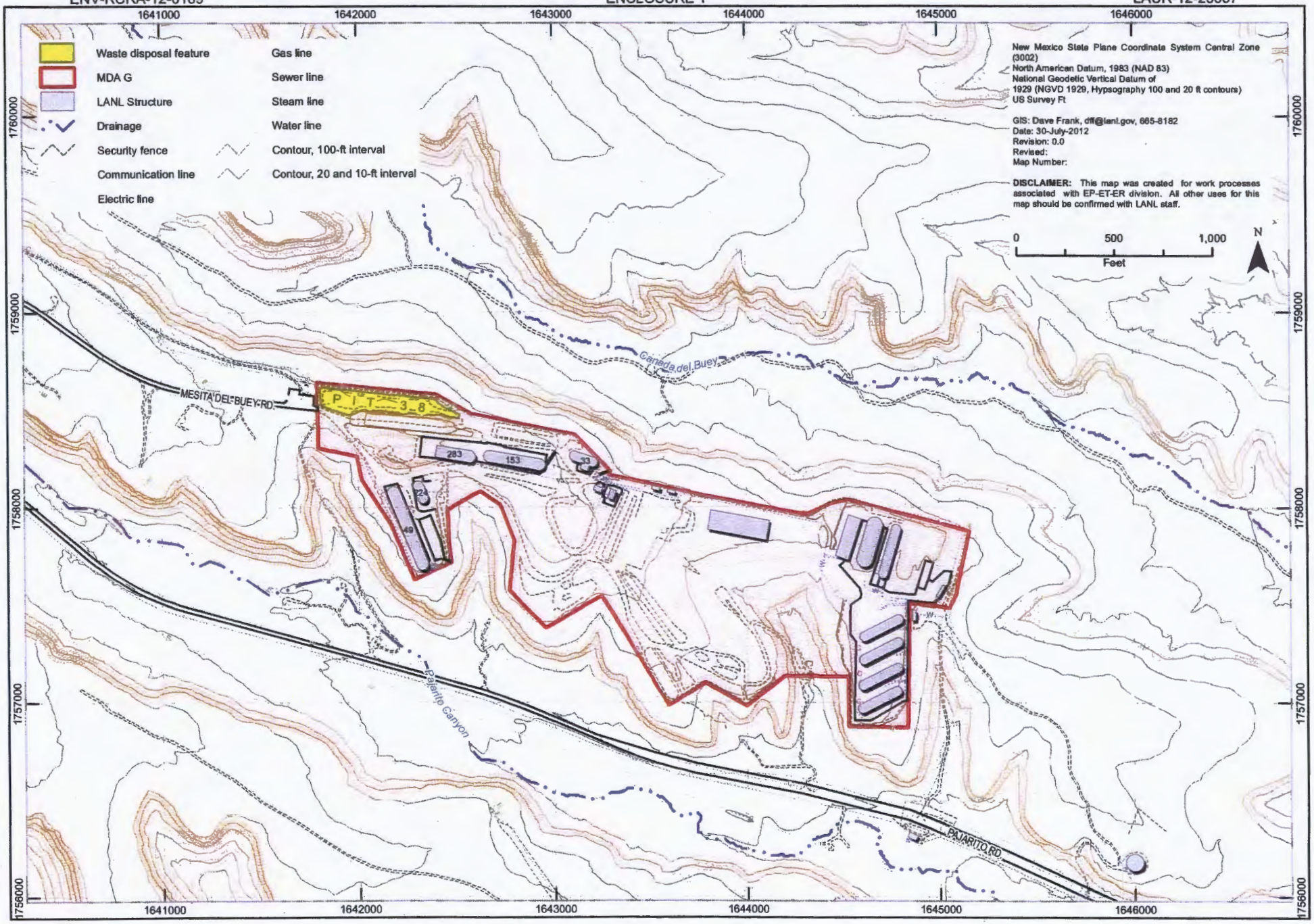
ENCLOSURE 1

Disposal Pit 38 Location Map

ENV-RCRA-12-0189

LAUR-12-23557

Date: AUG 1 3 2012


Waste disposal feature
MDA G
LANL Structure
Drainage
Security fence
Communication line
Electric line
Gas line
Sewer line
Steam line
Water line
Contour, 100-ft interval
Contour, 20 and 10-ft interval
New Mexico State Plane Coordinate System Central Zone (3002)
North American Datum, 1983 (NAD 83)
National Geodetic Vertical Datum of 1929 (NGVD 1929, Hypsography 100 and 20 ft contours)
US Survey Ft
GIS: Dave Frank, dff@lanl.gov, 665-8182
Date: 30-July-2012
Revision: 0.0
Revised:
Map Number:
DISCLAIMER: This map was created for work processes associated with EP-ET-ER division. All other uses for this map should be confirmed with LANL staff.
0 500 1,000
Feet
N
1641000
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MESITA DEL BUEY RD
PIT 3-8
283
153
23
22
49
Canada del Buey
Pajarito Canyon
PAJARITO RD

ENCLOSURE 2

MDA B Chemical Waste Characterization Data

ENV-RCRA-12-0189

LAUR-12-23557

Date: AUG 1 3 2012

Table 1. Summary of Composite Samples Collected from MDA B Waste

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
DIOXIN_FURAN	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	mg/kg	8	5	62%	2.20704E-05	2.595E-05	8.53E-07	0.00001415	0.0000772
DIOXIN_FURAN	Heptachlorodibenzodioxins (Total)	mg/kg	8	8	100%	4.03388E-05	4.6315E-05	0.00000105	0.0000251	0.000136
DIOXIN_FURAN	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	mg/kg	8	7	88%	6.39021E-05	9.8298E-05	5.07E-07	1.5185E-05	0.000285
DIOXIN_FURAN	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	mg/kg	8	3	38%	7.4925E-07	5.6246E-07	3.84E-07	5.085E-07	0.00000209
DIOXIN_FURAN	Heptachlorodibenzofurans (Total)	mg/kg	8	8	100%	0.000121799	0.00018793	0.00000118	3.1275E-05	0.000548
DIOXIN_FURAN	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	mg/kg	8	0	0%					
DIOXIN_FURAN	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	mg/kg	8	4	50%	1.69013E-06	2.1713E-06	3.84E-07	7.705E-07	0.00000682
DIOXIN_FURAN	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	mg/kg	8	1	12%	5.08875E-07	1.4033E-07	3.84E-07	4.73E-07	8.43E-07
DIOXIN_FURAN	Hexachlorodibenzodioxins (Total)	mg/kg	8	5	62%	6.48963E-06	8.6756E-06	3.84E-07	0.00000256	0.000025
DIOXIN_FURAN	Hexachlorodibenzofuran[1,2,3,4,7,8-]	mg/kg	8	4	50%	1.17388E-06	1.1825E-06	3.84E-07	8.005E-07	0.00000394
DIOXIN_FURAN	Hexachlorodibenzofuran[1,2,3,6,7,8-]	mg/kg	8	3	38%	6.7325E-07	4.5993E-07	3.84E-07	4.97E-07	0.00000179
DIOXIN_FURAN	Hexachlorodibenzofuran[1,2,3,7,8,9-]	mg/kg	8	1	12%	6.395E-07	4.9051E-07	3.84E-07	4.82E-07	0.00000185
DIOXIN_FURAN	Hexachlorodibenzofuran[2,3,4,6,7,8-]	mg/kg	8	3	38%	6.985E-07	4.3548E-07	3.84E-07	5.13E-07	0.0000017
DIOXIN_FURAN	Hexachlorodibenzofurans (Total)	mg/kg	8	7	88%	3.99111E-05	5.8598E-05	4.91E-07	1.2015E-05	0.000168
DIOXIN_FURAN	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	mg/kg	8	8	100%	0.000198313	0.00024342	0.0000101	0.00009775	0.000667
DIOXIN_FURAN	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	mg/kg	8	5	62%	3.12165E-05	4.3422E-05	9.82E-07	1.3435E-05	0.000129
DIOXIN_FURAN	Pentachlorodibenzodioxin[1,2,3,7,8-]	mg/kg	8	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
DIOXIN_FURAN	Pentachlorodibenzodioxins (Total)	mg/kg	8	1	12%	6.15625E-07	4.3156E-07	3.84E-07	4.73E-07	0.00000168
DIOXIN_FURAN	Pentachlorodibenzofuran[1,2,3,7,8-]	mg/kg	8	0	0%					
DIOXIN_FURAN	Pentachlorodibenzofuran[2,3,4,7,8-]	mg/kg	8	2	25%	5.64875E-07	2.2933E-07	3.84E-07	4.825E-07	0.00000111
DIOXIN_FURAN	Pentachlorodibenzofurans (Totals)	mg/kg	8	6	75%	2.56388E-06	2.6274E-06	3.84E-07	0.00000165	0.00000745
DIOXIN_FURAN	Tetrachlorodibenzodioxin[2,3,7,8-]	mg/kg	8	0	0%					
DIOXIN_FURAN	Tetrachlorodibenzodioxins (Total)	mg/kg	8	0	0%					
DIOXIN_FURAN	Tetrachlorodibenzofuran[2,3,7,8-]	mg/kg	8	0	0%					
DIOXIN_FURAN	Tetrachlorodibenzofurans (Totals)	mg/kg	8	2	25%	1.06775E-06	1.0166E-06	2.69E-07	5.16E-07	0.00000286
HERB	D[2,4-]	mg/kg	19	0	0%					
HERB	Dalapon	mg/kg	19	0	0%					
HERB	DB[2,4-]	mg/kg	19	1	5%	0.006708947	0.00559247	0.00523	0.00545	0.0298
HERB	Dicamba	mg/kg	19	0	0%					
HERB	Dichlorprop	mg/kg	19	1	5%	0.007150526	0.00546795	0.00523	0.00545	0.0272
HERB	Dinoseb	mg/kg	19	0	0%					
HERB	MCPA	mg/kg	19	0	0%					
HERB	MCPP	mg/kg	19	0	0%					
HERB	T[2,4,5-]	mg/kg	19	0	0%					
HERB	TP[2,4,5-]	mg/kg	19	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
HEXP	2,4-Diamino-6-nitrotoluene	mg/kg	10	0	0%					
HEXP	2,6-Diamino-4-nitrotoluene	mg/kg	10	0	0%					
HEXP	3,5-Dinitroaniline	mg/kg	10	0	0%					
HEXP	Amino-2,6-dinitrotoluene[4-]	mg/kg	10	0	0%					
HEXP	Amino-4,6-dinitrotoluene[2-]	mg/kg	10	0	0%					
HEXP	Dinitrobenzene[1,3-]	mg/kg	10	0	0%					
HEXP	Dinitrotoluene[2,4-]	mg/kg	10	0	0%					
HEXP	Dinitrotoluene[2,6-]	mg/kg	10	0	0%					
HEXP	HMX	mg/kg	10	0	0%					
HEXP	Nitrobenzene	mg/kg	10	0	0%					
HEXP	Nitrotoluene[2-]	mg/kg	10	0	0%					
HEXP	Nitrotoluene[3-]	mg/kg	10	0	0%					
HEXP	Nitrotoluene[4-]	mg/kg	10	4	40%	7.1758	18.5253982	0.49	0.534	59.7
HEXP	PETN	mg/kg	10	0	0%					
HEXP	RDX	mg/kg	10	0	0%					
HEXP	TATB	mg/kg	10	0	0%					
HEXP	Tetryl	mg/kg	10	0	0%					
HEXP	Trinitrobenzene[1,3,5-]	mg/kg	10	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
HEXP	Trinitrotoluene[2,4,6-]	mg/kg	10	0	0%					
HEXP	Tris (o-cresyl) phosphate	mg/kg	10	0	0%					
METALS	Aluminum	mg/kg	19	19	100%	4359.473684	1008.80278	3030	4410	7590
METALS	Antimony	mg/kg	19	7	37%	1.401263158	1.63539386	0.39	1.06	7.94
METALS	Arsenic	mg/kg	19	19	100%	1.118473684	0.23962363	0.763	1.08	1.62
METALS	Barium	mg/kg	19	19	100%	73.55263158	27.3451472	40.2	69.2	159
METALS	Beryllium	mg/kg	19	19	100%	0.402368421	0.08853136	0.264	0.409	0.637
METALS	Cadmium	mg/kg	19	15	79%	0.315631579	0.17827732	0.108	0.261	0.678
METALS	Calcium	mg/kg	19	19	100%	4332.631579	1370.18588	2260	4620	7410
METALS	Chromium	mg/kg	19	17	89%	7.145789474	2.52568872	2.26	7.12	11.5
METALS	Cobalt	mg/kg	19	19	100%	2.7	0.98211789	1.08	2.55	4.82
METALS	Copper	mg/kg	19	18	95%	19.45473684	18.8212685	3.15	12.1	63
METALS	Iron	mg/kg	19	19	100%	10231.05263	2176.17119	6140	10200	13600
METALS	Lead	mg/kg	19	17	89%	10.25736842	4.23372287	5.52	8.77	20.9
METALS	Magnesium	mg/kg	19	19	100%	1562.578947	521.260152	686	1670	2620
METALS	Manganese	mg/kg	19	19	100%	260.6315789	46.5536853	188	257	383
METALS	Mercury	mg/kg	19	19	100%	0.6761	0.6039798	0.0909	0.38	2.42
METALS	Nickel	mg/kg	19	18	95%	5.789473684	1.55633642	3.25	5.81	8.64

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
METALS	Potassium	mg/kg	19	18	95%	635.9473684	145.906543	483	601	1090
METALS	Selenium	mg/kg	19	0	0%					
METALS	Silver	mg/kg	19	13	68%	0.388	0.18444933	0.149	0.306	0.722
METALS	Sodium	mg/kg	19	17	89%	206.3157895	56.5499314	120	205	347
METALS	Thallium	mg/kg	19	18	95%	0.109973684	0.04071395	0.0594	0.102	0.231
METALS	Uranium	mg/kg	19	19	100%	10.20168421	36.3332395	0.508	1.26	160
METALS	Vanadium	mg/kg	19	19	100%	16.23789474	5.6311244	6.05	17.4	25.8
METALS	Zinc	mg/kg	19	18	95%	78.11578947	102.195571	25.8	53.6	484
PCB	Aroclor-1016	mg/kg	10	0	0%					
PCB	Aroclor-1221	mg/kg	10	0	0%					
PCB	Aroclor-1232	mg/kg	10	0	0%					
PCB	Aroclor-1242	mg/kg	10	0	0%					
PCB	Aroclor-1248	mg/kg	10	0	0%					
PCB	Aroclor-1254	mg/kg	10	7	70%	0.127808	0.2461795	0.00359	0.0106	0.778
PCB	Aroclor-1260	mg/kg	10	4	40%	0.02259	0.02759135	0.0018	0.00925	0.0799
PEST	Aldrin	mg/kg	19	0	0%					
PEST	BHC[alpha-]	mg/kg	19	1	5%	0.000780474	0.00033603	0.000387	0.000723	0.00213
PEST	BHC[beta-]	mg/kg	19	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
PEST	BHC[delta-]	mg/kg	19	0	0%					
PEST	BHC[gamma-]	mg/kg	19	0	0%					
PEST	Chlordane[alpha-]	mg/kg	19	0	0%					
PEST	Chlordane[gamma-]	mg/kg	19	1	5%	0.000786474	0.00032991	0.000492	0.000728	0.00213
PEST	DDD[4,4'-]	mg/kg	19	0	0%					
PEST	DDE[4,4'-]	mg/kg	19	0	0%					
PEST	DDT[4,4'-]	mg/kg	19	6	32%	0.001371368	0.00079807	0.000424	0.00143	0.00426
PEST	Dieldrin	mg/kg	19	0	0%					
PEST	Endosulfan I	mg/kg	19	0	0%					
PEST	Endosulfan II	mg/kg	19	0	0%					
PEST	Endosulfan Sulfate	mg/kg	19	0	0%					
PEST	Endrin	mg/kg	19	0	0%					
PEST	Endrin Aldehyde	mg/kg	19	0	0%					
PEST	Endrin Ketone	mg/kg	19	0	0%					
PEST	Heptachlor	mg/kg	19	0	0%					
PEST	Heptachlor Epoxide	mg/kg	19	0	0%					
PEST	Methoxychlor[4,4'-]	mg/kg	19	0	0%					
PEST	Toxaphene (Technical Grade)	mg/kg	19	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
SVOC	Acenaphthene	mg/kg	19	0	0%					
SVOC	Acenaphthylene	mg/kg	19	0	0%					
SVOC	Aniline	mg/kg	19	0	0%					
SVOC	Anthracene	mg/kg	19	0	0%					
SVOC	Azobenzene	mg/kg	19	0	0%					
SVOC	Benzo(a)anthracene	mg/kg	19	0	0%					
SVOC	Benzo(a)pyrene	mg/kg	19	0	0%					
SVOC	Benzo(b)fluoranthene	mg/kg	19	0	0%					
SVOC	Benzo(g,h,i)perylene	mg/kg	19	0	0%					
SVOC	Benzo(k)fluoranthene	mg/kg	19	0	0%					
SVOC	Benzoic Acid	mg/kg	19	1	5%	1.400263158	1.67909453	0.53	0.728	7.45
SVOC	Benzyl Alcohol	mg/kg	19	0	0%					
SVOC	Bis(2-chloroethoxy)methane	mg/kg	19	0	0%					
SVOC	Bis(2-chloroethyl)ether	mg/kg	19	0	0%					
SVOC	Bis(2-ethylhexyl)phthalate	mg/kg	19	0	0%					
SVOC	Bromophenyl-phenylether[4-]	mg/kg	19	0	0%					
SVOC	Butylbenzylphthalate	mg/kg	19	0	0%					
SVOC	Chloro-3-methylphenol[4-]	mg/kg	19	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
SVOC	Chloroaniline[4-]	mg/kg	19	0	0%					
SVOC	Chloronaphthalene[2-]	mg/kg	19	0	0%					
SVOC	Chlorophenol[2-]	mg/kg	19	0	0%					
SVOC	Chlorophenyl-phenyl[4-] Ether	mg/kg	19	0	0%					
SVOC	Chrysene	mg/kg	19	0	0%					
SVOC	Dibenz(a,h)anthracene	mg/kg	19	0	0%					
SVOC	Dibenzofuran	mg/kg	19	0	0%					
SVOC	Dichlorobenzene[1,2-]	mg/kg	19	0	0%					
SVOC	Dichlorobenzene[1,3-]	mg/kg	19	0	0%					
SVOC	Dichlorobenzene[1,4-]	mg/kg	19	0	0%					
SVOC	Dichlorobenzidine[3,3'-]	mg/kg	19	0	0%					
SVOC	Dichlorophenol[2,4-]	mg/kg	19	0	0%					
SVOC	Diethylphthalate	mg/kg	19	0	0%					
SVOC	Dimethyl Phthalate	mg/kg	19	0	0%					
SVOC	Dimethylphenol[2,4-]	mg/kg	19	0	0%					
SVOC	Di-n-butylphthalate	mg/kg	19	3	16%	0.717105263	0.83761088	0.195	0.363	3.72
SVOC	Dinitro-2-methylphenol[4,6-]	mg/kg	19	0	0%					
SVOC	Dinitrophenol[2,4-]	mg/kg	19	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
SVOC	Dinitrotoluene[2,4-]	mg/kg	19	0	0%					
SVOC	Dinitrotoluene[2,6-]	mg/kg	19	0	0%					
SVOC	Di-n-octylphthalate	mg/kg	19	0	0%					
SVOC	Diphenylamine	mg/kg	19	0	0%					
SVOC	Fluoranthene	mg/kg	19	0	0%					
SVOC	Fluorene	mg/kg	19	0	0%					
SVOC	Hexachlorobenzene	mg/kg	19	0	0%					
SVOC	Hexachlorobutadiene	mg/kg	19	0	0%					
SVOC	Hexachlorocyclopentadiene	mg/kg	19	0	0%					
SVOC	Hexachloroethane	mg/kg	19	0	0%					
SVOC	Indeno(1,2,3-cd)pyrene	mg/kg	19	0	0%					
SVOC	Isophorone	mg/kg	19	0	0%					
SVOC	Methylnaphthalene[2-]	mg/kg	19	0	0%					
SVOC	Methylphenol[2-]	mg/kg	19	0	0%					
SVOC	Methylphenol[4-]	mg/kg	19	0	0%					
SVOC	Naphthalene	mg/kg	19	0	0%					
SVOC	Nitroaniline[2-]	mg/kg	19	0	0%					
SVOC	Nitroaniline[3-]	mg/kg	19	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
SVOC	Nitroaniline[4-]	mg/kg	19	0	0%					
SVOC	Nitrobenzene	mg/kg	19	0	0%					
SVOC	Nitrophenol[2-]	mg/kg	19	0	0%					
SVOC	Nitrophenol[4-]	mg/kg	19	0	0%					
SVOC	Nitrosodimethylamine[N-]	mg/kg	19	0	0%					
SVOC	Nitroso-di-n-propylamine[N-]	mg/kg	19	0	0%					
SVOC	Oxybis(1-chloropropane)[2,2'-]	mg/kg	19	0	0%					
SVOC	Pentachlorophenol	mg/kg	19	0	0%					
SVOC	Phenanthrene	mg/kg	19	0	0%					
SVOC	Phenol	mg/kg	19	0	0%					
SVOC	Pyrene	mg/kg	19	0	0%					
SVOC	Pyridine	mg/kg	19	0	0%					
SVOC	Trichlorobenzene[1,2,4-]	mg/kg	19	0	0%					
SVOC	Trichlorophenol[2,4,5-]	mg/kg	19	0	0%					
SVOC	Trichlorophenol[2,4,6-]	mg/kg	19	0	0%					
TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	mg/kg	2	1	50%	57.55	23.9709199	40.6	57.55	74.5
TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	mg/kg	2	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
VOC	Acetone	mg/kg	19	1	5%	0.091782632	0.37734333	0.00209	0.00547	1.65
VOC	Benzene	mg/kg	19	0	0%					
VOC	Bromobenzene	mg/kg	19	0	0%					
VOC	Bromochloromethane	mg/kg	19	0	0%					
VOC	Bromodichloromethane	mg/kg	19	0	0%					
VOC	Bromoform	mg/kg	19	0	0%					
VOC	Bromomethane	mg/kg	19	0	0%					
VOC	Butanone[2-]	mg/kg	19	0	0%					
VOC	Butylbenzene[n-]	mg/kg	19	0	0%					
VOC	Butylbenzene[sec-]	mg/kg	19	0	0%					
VOC	Butylbenzene[tert-]	mg/kg	19	0	0%					
VOC	Carbon Disulfide	mg/kg	19	0	0%					
VOC	Carbon Tetrachloride	mg/kg	19	0	0%					
VOC	Chlorobenzene	mg/kg	19	0	0%					
VOC	Chlorodibromomethane	mg/kg	19	0	0%					
VOC	Chloroethane	mg/kg	19	0	0%					
VOC	Chloroform	mg/kg	19	0	0%					
VOC	Chloromethane	mg/kg	19	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
VOC	Chlorotoluene[2-]	mg/kg	19	0	0%					
VOC	Chlorotoluene[4-]	mg/kg	19	0	0%					
VOC	Dibromo-3-Chloropropane[1,2-]	mg/kg	19	0	0%					
VOC	Dibromoethane[1,2-]	mg/kg	19	0	0%					
VOC	Dibromomethane	mg/kg	19	0	0%					
VOC	Dichlorobenzene[1,2-]	mg/kg	19	0	0%					
VOC	Dichlorobenzene[1,3-]	mg/kg	19	0	0%					
VOC	Dichlorobenzene[1,4-]	mg/kg	19	0	0%					
VOC	Dichlorodifluoromethane	mg/kg	19	0	0%					
VOC	Dichloroethane[1,1-]	mg/kg	19	0	0%					
VOC	Dichloroethane[1,2-]	mg/kg	19	0	0%					
VOC	Dichloroethene[1,1-]	mg/kg	19	0	0%					
VOC	Dichloroethene[cis-1,2-]	mg/kg	19	0	0%					
VOC	Dichloroethene[trans-1,2-]	mg/kg	19	0	0%					
VOC	Dichloropropane[1,2-]	mg/kg	19	0	0%					
VOC	Dichloropropane[1,3-]	mg/kg	19	0	0%					
VOC	Dichloropropane[2,2-]	mg/kg	19	0	0%					
VOC	Dichloropropene[1,1-]	mg/kg	19	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
VOC	Dichloropropene[cis-1,3-]	mg/kg	19	0	0%					
VOC	Dichloropropene[trans-1,3-]	mg/kg	19	0	0%					
VOC	Ethylbenzene	mg/kg	19	0	0%					
VOC	Hexanone[2-]	mg/kg	19	0	0%					
VOC	Iodomethane	mg/kg	19	0	0%					
VOC	Isopropylbenzene	mg/kg	19	0	0%					
VOC	Isopropyltoluene[4-]	mg/kg	19	0	0%					
VOC	Methyl-2-pentanone[4-]	mg/kg	19	0	0%					
VOC	Methylene Chloride	mg/kg	19	1	5%	0.00628	0.00502257	0.00286	0.00545	0.0268
VOC	Propylbenzene[1-]	mg/kg	19	0	0%					
VOC	Styrene	mg/kg	19	0	0%					
VOC	Tetrachloroethane[1,1,1,2-]	mg/kg	19	0	0%					
VOC	Tetrachloroethane[1,1,2,2-]	mg/kg	19	0	0%					
VOC	Tetrachloroethene	mg/kg	19	0	0%					
VOC	Toluene	mg/kg	19	0	0%					
VOC	Trichloro-1,2,2-trifluoroethane[1,1,2-]	mg/kg	19	0	0%					
VOC	Trichloroethane[1,1,1-]	mg/kg	19	0	0%					
VOC	Trichloroethane[1,1,2-]	mg/kg	19	0	0%					

Analytical_Suite	Analyte	Units	N	Detects	Detection Rate	Mean	Std Dev	Min	Median	Max
VOC	Trichloroethene	mg/kg	19	0	0%					
VOC	Trichlorofluoromethane	mg/kg	19	0	0%					
VOC	Trichloropropane[1,2,3-]	mg/kg	19	0	0%					
VOC	Trimethylbenzene[1,2,4-]	mg/kg	19	0	0%					
VOC	Trimethylbenzene[1,3,5-]	mg/kg	19	0	0%					
VOC	Vinyl Chloride	mg/kg	19	0	0%					
VOC	Xylene[1,2-]	mg/kg	19	0	0%					
VOC	Xylene[1,3-]+Xylene[1,4-]	mg/kg	19	0	0%					

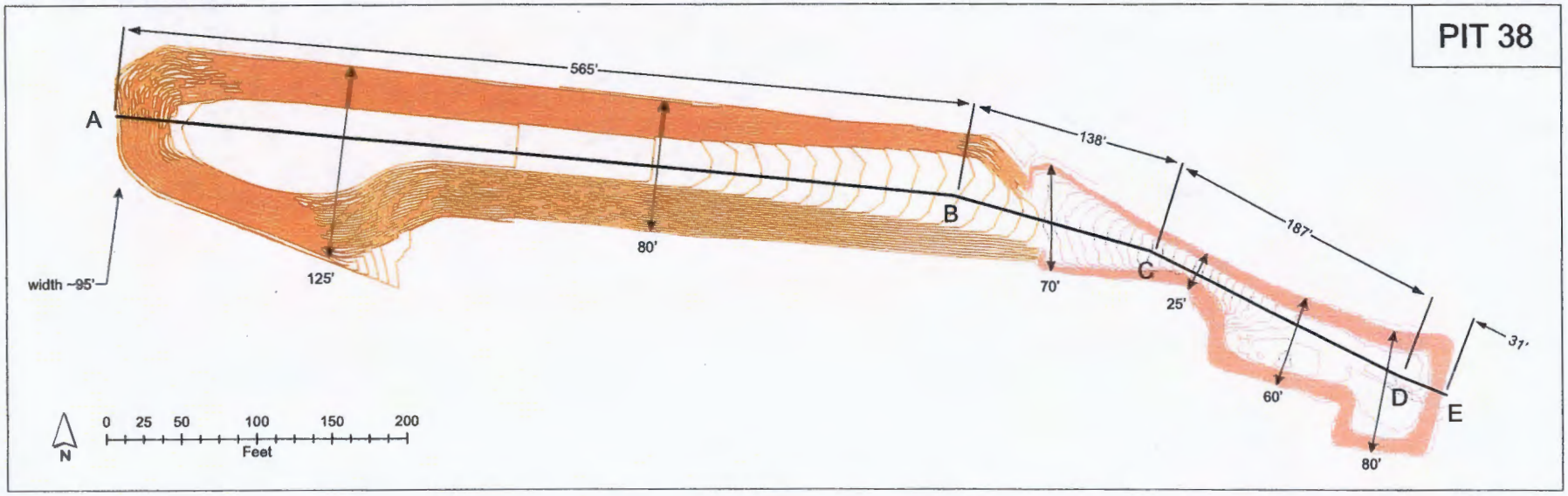
ENCLOSURE 3

Plan and Profile Views of Pit 38

ENV-RCRA-12-0189

LAUR-12-23557

Date: AUG 1 3 2012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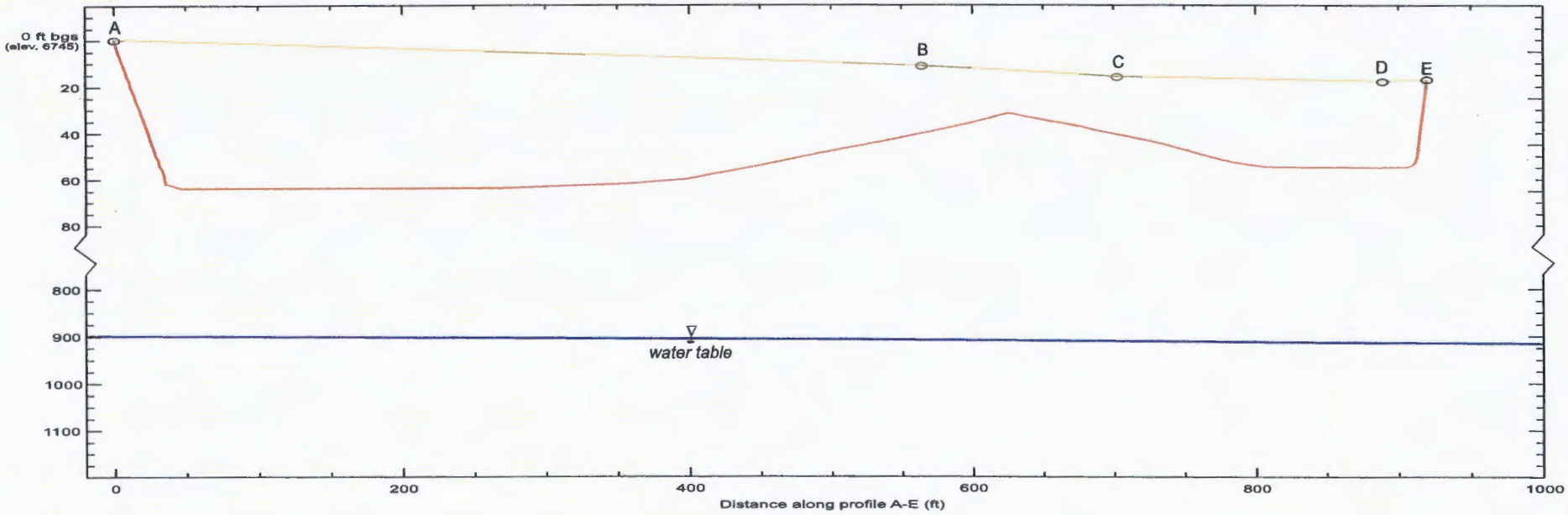
Feet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900
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A
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C
D
E
water table
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200
400
600
800
1000
Distance along profile A-E (ft)