



ENVIRONMENTAL STRATEGIES CORPORATION

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March 7, 1997

Scott M. Menrath, P.E.
Environmental Engineer II
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7252

A rectangular stamp from the New York State Department of Environmental Conservation (NYSDEC). The stamp contains the text "NYSDEC" in a bold, sans-serif font, with some faint, illegible markings above it.

MAR 11 1997

A rectangular stamp from the New York State Department of Environmental Conservation (NYSDEC). The stamp contains the text "DIV. OF HAZARDOUS COMPLIANCE & LAND MGT. DIVISION OF SOLID & HAZARDOUS MATERIAL" in a bold, sans-serif font, arranged in four lines.

Re: Interim Corrective Measures - Lucas Avenue Plant and Bar Finishing & Storage
EPA I.D. No. NYD030215529
AL Tech Specialty Steel Corporation, Dunkirk, New York Facility

Dear Mr. Menrath:

Environmental Strategies Corporation (ESC) is conducting a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) at the AL Tech Specialty Steel Corporation (AL Tech) facility in Dunkirk, New York, in accordance with a New York State Department of Environmental Conservation (NYSDEC) approved work plan. To date, the RFI has included an inspection of sumps and pits, advancing soil borings, installing monitoring wells, and collection of environmental media samples (soils, surface water, sediment, and groundwater) for laboratory analysis. During implementation of the groundwater sampling program, hexavalent chromium was detected at elevated levels in several site wells. The findings were presented to representatives of NYSDEC in a meeting on December 11, 1996. Subsequently, AL Tech developed and submitted a proposed interim corrective measure (ICM) scope of work to NYSDEC (ESC, December 30, 1996). NYSDEC provided comments on the proposed scope of work (NYSDEC, January 22, 1997). This ICM submittal reflects modifications made pursuant to NYSDEC comments and data generated during the intervening period.

Groundwater samples were collected from each of the newly installed RFI monitoring wells and from select existing facility wells during the week of November 18, 1996. The water samples collected from three of the site wells (LAW-5, LAW-6, and MW-3) were yellow to brown in appearance, suggesting the potential impact. Laboratory analytical results indicated that the hexavalent chromium concentrations for these samples exceed the New York State Ground Water Standards (NYSGWS) for Class GA waters of 0.05 milligrams per liter (mg/l), or 50 micrograms per liter (ug/l).

Wells LAW-5 and LAW-6 are located immediately north of the former Lucas Avenue Plant (LAP) West Pickle House (Figure 1). The hexavalent chromium concentrations reported for samples collected from these wells were 5.24 and 36.1 mg/l. Well MW-3 is located immediately

north of the Bar Finishing & Storage (BFS) Pickle House (Figure 1). A hexavalent chromium concentration of 7.54 mg/l was reported for the groundwater sample collected from this well. It should be noted that analytical results for groundwater samples collected during this same sampling event from Wells RFI-7 and RFI-17 (located approximately 65 and 145 feet west of MW-3) and all other site wells indicated that hexavalent chromium was not present at the detection limit of 0.01 mg/l.

A summary of the unvalidated analytical results for hexavalent chromium, Target Analyte List (TAL) Inorganics, and miscellaneous parameters for groundwater samples collected from Wells MW-3, RFI-7, RFI-17, LAW-5, and LAW-6 is provided in Table 1. As shown in this table, NYSGWS Class GA standards were exceeded in total and/or dissolved sample aliquots from the listed wells for the identified parameters, as follows:

<u>Well No.</u>	<u>Location</u>	<u>Standard(s) Exceeded</u>
MW-3	BFS	total and hexavalent chromium, iron, manganese, and sodium, chloride, nitrate, and sulfate
RFI-7	BFS	iron, manganese, and sodium, nitrate and sulfate
RFI-17	BFS	iron, manganese, and sodium, ammonia, chloride, and sulfate
LAW-5	LAP	total and hexavalent chromium, and sodium, chloride, nitrate, and sulfate
LAW-6	LAP	arsenic, total and hexavalent chromium, iron, manganese, sodium, and cyanide, ammonia, fluoride, nitrate, and sulfate

Based on an evaluation of these data and the locations of the wells from which the samples were collected, the only significant short-term concerns are related to the presence of hexavalent chromium in the two identified areas: north of the BFS and former LAP West pickle houses.

AL Tech is proposing to conduct ICMs in the area of the former LAP West Pickle House and in the area of the BFS Pickle House. A summary of current conditions in each of these is presented below; the proposed scopes of the ICMs, applicable to each area, follow.

Identified Conditions

LAP West

The LAW-series monitoring wells are located near the northern property line of the facility, between the buildings which house the former LAP West pickling operations area and Lucas Avenue (Figure 2). The soil strata in the area consists of 2 to 3 feet of fill, 8 to 11 feet of clay, and weathered shale bedrock. The wells are set near the interface of the unconsolidated materials and the weathered bedrock surface. The water levels recorded for Wells LAW-5 and LAW-6 (in November and December 1996) are approximately 9 and 5 feet below ground surface; the ground surface in this area is nearly level. The reason for this difference is not known.

On December 3, 1996, AL Tech discovered that a manhole (MH-1) located north of the former LAP West Pickle House and closest to the idled Kolene area, contained a yellow liquid (Figure 2). The liquid had a field pH of greater than 12.5 and a hexavalent chromium concentration (estimated using calorimetric methods) of 200 mg/l. The total depth of the manhole was 4 feet and the depth of the standing liquid was 3 feet.

The most likely source of the hexavalent chromium present in Wells LAW-5 and LAW-6 is the former Kolene operation in the former pickle house (operations in this area were idled in May 1989) and migration via groundwater. This situation may be aggravated by possible leaks in the water lines in this area and possible leakage through the roof of the LAP facility onto the Kolene process area.

BFS Pickle House

The BFS Pickle House is currently the only active pickling operation at the Dunkirk facility. This pickle house is located near the center of the facility, more than 700 feet from the nearest property line. The strata in the vicinity of BFS Pickle House consist of approximately 2 feet of fill, 6 feet of clay, and weathered shale bedrock. Well MW-3 was installed in the 1980s to monitor groundwater conditions at the approximate interface of the unconsolidated deposits and weathered bedrock. During the RFI two additional wells were similarly constructed in this area, RFI-7 and RFI-17.

In 1995 the BFS Pickle House was shut down for routine maintenance. During this shutdown, AL Tech personnel were able to enter the concrete containment pit beneath the pickling operations (Figure 3) and inspect its condition. In a limited area, the surface of the concrete had reportedly deteriorated and groundwater was flowing into the pit through a crack in its side, approximately 1.5 feet above the floor of the pit.

During that shutdown, the floor of the containment pit was repaired and a concrete dike was constructed to prevent liquids (dripping) from entering into the area of the pit that supports the Kolene tank. The diked area contains a sump and pump to collect liquids; accumulated liquid is pumped to the pickle house spent acid pit and subsequently to the facility's wastewater treatment

plant (WWTP) for proper treatment and discharge. The detection of the hexavalent chromium in only one of three wells in this area indicates that the source is fairly isolated.

Interim Corrective Measures

AL Tech is proposing to institute a phased ICM for LAP West area and potentially a single-phased ICM for the BFS area. The proposed activities for each area are described in the following sections.

LAP West

The ICM for former LAP West Pickle House area will be conducted in two phases. The initial phase (Phase I) will be used to (1) define the potential for the off-site presence of hexavalent chromium, (2) determine if there are ongoing sources of water that may be aggravating the situation, and (3) define the potential migration pathways for releases from the area, if any.

Phase I will include six separate activities:

- installation of three temporary groundwater monitoring wells,
- installation of one piezometer isolated in the competent bedrock,
- evaluation of the condition of a nearby capped water supply line,
- analysis of water samples for free chlorine residuals,
- excavation of test pits near MH-1 and along the sewer line, and
- compilation of the collected data.

Phase II will be defined on the basis of the data gathered during Phase I. A description of Phase I scope of work and the alternatives to be considered in Phase II are presented below.

Phase I - The on-site extent and potential off-site presence of hexavalent chromium will be determined by installing three temporary monitoring wells (TW-1, TW-2, and TW-3) along the northern property boundary and Lucas Avenue (Figure 2). Wells TW-1 and TW-2 will be sited downgradient of the existing monitoring wells (LAW-5 and LAW-6). Well TW-3 will be installed immediately west of Manhole MH-1. The temporary monitoring wells will be constructed following the same procedures used for the RFI monitoring wells and will monitor the same approximate zone monitored by LAW-5 and LAW-6.

A temporary piezometer (TPZ-1) will be installed adjacent to TW-1. The screened interval for TPZ-1 will be installed in competent bedrock and will be isolated from the overlying unconsolidated materials and weathered bedrock. This piezometer will be used to evaluate the potential vertical hydraulic gradient in this area and to evaluate the difference in the water levels observed in Wells LAW-5 and LAW-6.

Groundwater samples will be collected from each of the temporary and permanent monitoring wells and TPZ-1 and submitted for analysis of hexavalent chromium, pH, specific conductance, fluoride, chloride, nitrate as nitrogen (N), sulfate, facility-related metals,¹ and (as requested by NYSDEC) barium, lead, and total chromium, in accordance with the protocols in the NYSDEC-approved RFI work plan.

AL Tech will compile groundwater elevation data for each of the wells and piezometer completed in this area. These data will be used to determine the most likely groundwater flow pathway. An analysis of the potential for groundwater migration will also be made using these elevations and the trend of the hexavalent chromium concentrations in the groundwater samples.

During the Phase I investigation, AL Tech will also attempt to identify potential local groundwater usage (within 0.25-mile), specifically at locations which are determined to be downgradient of the facility.²

AL Tech will evaluate the potential for flow from a nearby capped water line, field test groundwater samples collected from Monitoring Wells LAW-5 and LAW-6, Temporary Wells TW-1 through TW-3, and Piezometer TPZ-1 for free chlorine residuals, and protect the Kolene process area from water leaking through the roof, to determine if there are existing sources of water that may be aggravating current conditions in this area. If free chlorine residuals are present in the groundwater samples, the presence of a break in the potable water line in the vicinity of the idled Kolene operations is likely. Conversely, if no free chlorine residuals are present and no breaks in the lines are discovered, a source of potable water inducing migration of the metals in this area is unlikely. AL Tech will either attempt to repair the roof of LAP West and seal the ventilator openings or construct temporary covers over the Kolene process area to minimize the potential for leaking water from coming into contact with any residual material in this area.

The depth to the invert of the sewer line in the vicinity of the LAW-series monitoring wells was measured and inspected on December 3, 1996. The depths were measured in four manholes located along Lucas Avenue (MH-1 through MH-4) and one (MH-5) located at the intersection of Lucas Avenue and Roosevelt Avenue (Figure 2). Manholes MH-1 through MH-4 are part of the former facility sewer system; MH-5 is part of the active city sewer system.

Manhole MH-1 is located closest to the idled Kolene operation area. The lines discharging from this manhole are reportedly blanked off. The manhole is approximately four feet deep; at the time of the inspection, the pit contained approximately three feet of yellow liquid. The liquid was pumped to facility's WWTP for proper treatment and discharge. Reportedly, within approximately one week of pumping down the pit, the liquid level returned to an approximate depth of three feet. During the week of March 10, 1997, AL Tech anticipates that a temporary

¹ The facility-related metals include: aluminum, beryllium, cobalt, copper, iron, magnesium, manganese, molybdenum, nickel, vanadium, and zinc.

² It should be noted that there is no residence on the Frazita property referred to in NYSDEC's correspondence of January 22, 1997.

sump will be installed in MH-1. The collected water from this manhole will be pumped to the facility's WWTP.

The depths of Manholes MH-2 through MH-4, located on the south side of Lucas Avenue (between the former LAP West Pickle House and Roosevelt Avenue) were approximately 5.5 feet, 6 feet, and 8 feet. At the time of the inspection, all three of these manholes were dry. Manhole MH-5, located at the intersection of Lucas Avenue and Roosevelt Avenue, is 16 feet deep.

One test pit will be excavated around MH-1 to determine the source of the water in the pit and/or if the water in the pit has leaked to the surrounding subsurface (Figure 2). An excavation will also be completed between MH-1 and the next downgradient manhole, MH-2, to determine if water is migrating along the sewer line or through sewer line backfill. If water is encountered in these excavations, samples will be collected and submitted for analysis of hexavalent chromium.

All of the collected data will be compiled into the Phase I summary letter. The critical data will be summarized as follows:

- new groundwater monitoring wells - are hexavalent chromium concentrations lower near property line (yes or no)
- is the nearby capped water supply line is leaking (yes or no)
- are free chlorine residuals are present in monitoring well samples (yes or no)
- are the depths of nearby sewer lines above the groundwater elevation (yes)
- is there evidence of migration along the sewer line or backfill (yes or no)

The summary letter will also include:

- a description of the methods used to evaluate potential leaks from the water supply line
- plan maps and cross-sections of the area which identify the relative locations and elevations of existing lines, manholes, facility buildings, equipment, and pits, etc., subsurface geology, well construction details, and groundwater elevations
- a schedule for implementation of the Phase II activities

Based on the Phase I findings, an interim measures design program may be submitted for the groundwater collection, or other recovery system that may be necessary. The design program will include appropriate design plans and specifications, operation and maintenance procedures, quality control measures, a groundwater monitoring program, and project schedule.

Phase II - The Phase II scope of work will be dependent on the findings of Phase I, as follows:

- groundwater data
 - if the chromium concentrations are lower near the property line and the sewer line is not a preferential migration pathway, AL Tech is proposing to install a groundwater collection trench along Lucas Avenue between the existing sidewalk and Lucas Avenue
 - if the chromium concentrations are higher near property line and the sewer line is not a preferential migration pathway, AL Tech is proposing to install monitoring wells along the north side of Lucas Avenue; the wells will be constructed and sampled in accordance with the same protocols as will be used for the new wells south of Lucas Avenue
 - data from the wells potentially completed north of Lucas Avenue will be used to determine if a collection trench in this area would be more effective in containing the problem than a trench completed in closer proximity to the idled pickle house
- nearby capped water line - if the nearby water line is leaking, the line will be capped
- free chlorine residuals - if there are free chlorine residuals in the water samples and the nearby water line is not leaking, an alternate source of potable water leakage will be researched, identified, and interrupted
- sewer lines - if there is the potential for preferential flow along the sewer line, samples of the soil along the sewer line and samples of the flow in MH-5 will be collected and analyzed for hexavalent chromium

To the extent practicable, other identified potential migration pathways will be evaluated during the Phase I or Phase II ICM or as part of the on-going RFI. Due to the poor structural condition of the LAP West building, it is not presently feasible to perform additional investigation of as yet unidentified potential migration pathways associated with the buildings or associated structures.

BFS

The apparent isolated nature of hexavalent chromium in the proximity of the BFS Pickle House and the previous repairs within the pickle house promote immediate implementation of an ICM.

AL Tech proposes to install a groundwater recovery well (RW-1) located immediately adjacent to Well MW-3 (Figure 3). The well material will be constructed of 4-inch diameter polyvinyl chloride; a 10-foot screened interval will be set at an elevation similar to MW-3 (Figure 4). The facility's compressed air system will be used to operate an air diaphragm pump for groundwater

recovery. Recovered water will be conveyed to the BFS Pickle House sump and subsequently to the facility's WWTP for proper treatment and subsequent discharge.

Samples of recovered water will be collected on a monthly basis and submitted for analysis of hexavalent chromium. The system will operate until the concentration of hexavalent chromium at this location reaches 0.05 mg/l, or a corrective measures study defines an alternate clean-up standard or an alternate corrective measure.

In order to evaluate the potential extent of groundwater affected by hexavalent chromium, to further evaluate the potential direction of groundwater flow in this area, and to potentially provide additional groundwater recovery points, AL Tech proposes to install two 4-inch diameter wells hydraulically downgradient of MW-3 (Figure 3). These wells will be constructed to intercept groundwater flowing in the weathered shale strata immediately below the clay, similar to RW-1 and MW-3. The wells will initially be used to collect water levels and collect groundwater samples for analysis of hexavalent chromium.

Because the BFS Pickle House is active and owing to a number of process and other lines in this area, it is not practical to evaluate all other potential migration pathways, except as opportunities arise.

Similar to LAP West, AL Tech will compile the data and information generated in this area for submittal in a summary letter to NYSDEC. Depending on the results, AL Tech may elect to do additional investigation, complete these wells as recovery locations, or implement a program of water-level monitoring and/or monitoring water quality. AL Tech will propose an appropriate program for this area within the summary letter report for review and approval by NYSDEC.

Project Schedule

The anticipated schedule for implementation of the LAP West and BFS Pickle House ICMs are presented in Figure 5.

Should you have any questions or comments regarding the schedule or other issues addressed in this submittal, please do not hesitate to contact us.

Sincerely yours,



Martha E. Fleming, P.G.
Project Director



John Black
Vice President, Engineering

JB:MEF:plc

Enclosures

cc: D.Flynn (Phillips, Lytle, Hitchcock, Blaine & Huber)
M. Guziec (AL Tech)
D. Zurakowski (AL Tech)
R. Basso (USEPA)
F. Shattuck (NYSDEC)

Table 1

Unvalidated Groundwater Analytical Data
 Phase I RCRA Facility Investigation
 AL Tech Specialty Steel Corporation
 Dunkirk, New York Facility

ESC Sample ID:	AL.T-GW-MW3-1196	AL.T-GW-RFH07-1196	AL.T-GW-RFH17-1196	AL.T-GW-LAW5-1196	AL.T-GW-LAW6-1196	NYSGWS Class GA
Antech Project No.:	96-5567	96-5567	96-5567	96-5586	96-5586	Groundwater
Sample Location:	MW-3	RFH-7	RFH-17	LAW-5	LAW-6	Standards
Sample Date:	11/20/96	11/20/96	11/20/96	11/21/96	11/21/96	

Parameters

Miscellaneous Parameters (a)

Total Organic Carbon (mg/l)	na (b)	na	na	na	na	na
Alkalinity (Total) (mg/l bicarbonate)	192	196	111	233	3360	na
Ammonia (mg/l)	0.1 U (c)	1.8	2	1.2	2.5	2 (d)
Chemical Oxygen Demand (mg/l)	na	na	na	na	na	na
Chloride (mg/l)	250	220	410	300	140	250
Fluoride (mg/l)	0.63	0.56	0.57	0.19	6.3	1.5
Nitrate (mg/l)	83	61	2.4	14	30	10 (e)
Total Phenols (mg/l)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001
Specific Conductance at 25°C (µmhos/cm)	3250	4130	2440	3160	9700	na
Sulfate (mg/l)	660	1500	360	2300	1100	250
Total Suspended Solids (mg/l)	na	na	na	na	na	na
pH (standard units)	7.27	7.03	7.26	6.98	8.98	na

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Table 1 (continued)

Unvalidated Groundwater Analytical Data
Phase I RCRA Facility Investigation
AL Tech Specialty Steel Corporation
Dunkirk, New York Facility

ESC Sample ID:	ALT-GW-MW3-1196	ALT-GW-RFI07-1196	ALT-GW-RFI17-1196	ALT-GW-LAW5-1196	ALT-GW-LAW6-1196	NYSGWS Class GA Groundwater Standards
Antech Project No.:	96-5567	96-5567	96-5567	96-5586	96-5586	
Sample Location:	MW-3	RFI-7	RFI-17	LAW-5	LAW-6	
Sample Date:	11/20/96	11/20/96	11/20/96	11/21/96	11/21/96	
Parameters						
Target Analyte List						
Inorganics (mg/l) (f)						
Aluminum (Dissolved)	0.10 U	na	0.10 U	na	0.18	na
Aluminum (Total)	2.5	0.10 U	0.38	0.06 U	0.55	na
Antimony (Dissolved)	0.0060 U	na	0.0060 U	na	0.0060 U	na
Antimony (Total)	0.0060 U	0.0060 U	0.0060 U	0.0093	0.0060 U	na
Arsenic (Dissolved)	0.0010 U	na	0.0010 U	na	0.17	0.025
Arsenic (Total)	0.0010 U	0.0010 U	0.0010 U	0.0018 U	0.17	0.025
Barium (Dissolved)	0.023	na	0.074	na	0.021	1
Barium (Total)	0.043	0.043	0.081	0.014	0.020 U	1
Beryllium (Dissolved)	0.0040	na	0.0030	na	0.0020 U	na
Beryllium (Total)	0.0040	0.0090	0.0030	0.0021	0.0020	na
Cadmium (Dissolved)	0.0050 U	na	0.0050 U	na	0.0050	0.01
Cadmium (Total)	0.0050 U	0.0050 U	0.0050 U	0.0022 U	0.0080	0.01
Calcium (Dissolved)	180	na	150	na	13	na
Calcium (Total)	180	420	150	280	13	na
Chromium (Dissolved)	6.2	na	0.010 U	na	42	0.05
Chromium (Total)	6.4	0.019	0.010 U	4.8	42	0.05
Hexavalent Chromium (Total)	7.54	0.01 U	0.01 U	5.24	36.1	0.05
Cobalt (Dissolved)	0.010 U	na	0.010 U	na	0.023	na
Cobalt (Total)	0.010 U	0.011	0.010 U	0.0056 U	0.026	na
Copper (Dissolved)	0.011	na	0.016	na	0.11	0.2
Copper (Total)	0.025	0.039	0.028	0.0047 U	0.11	0.2
Iron (Dissolved)	0.030 U	na	0.066	na	0.13	0.3 (g)
Iron (Total)	5.3	0.39	1.1	0.18	1.0	0.3 (g)
Lead (Dissolved)	0.0010 U	na	0.0010 U	na	0.0010 U	0.025
Lead (Total)	0.0040	0.0010 U	0.0010 U	0.0026	0.0010 U	0.025
Magnesium (Dissolved)	51	na	47	na	76	na
Magnesium (Total)	48	130	40	91	75	na
Manganese (Dissolved)	0.073	na	0.22	na	0.010 U	0.3 (g)
Manganese (Total)	0.24	2.3	0.22	0.13	0.010	0.3 (g)
Mercury (Dissolved)	0.00020 U	na	0.00020 U	na	0.00020 U	0.002
Mercury (Total)	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.002
Molybdenum (Dissolved)	0.41	na	0.36	na	6.0	na
Molybdenum (Total)	0.40	1.3	0.41	0.32	5.9	na
Nickel (Dissolved)	0.040 U	na	0.040 U	na	0.052	na
Nickel (Total)	0.040 U	0.075	0.040 U	0.075	0.059	na
Potassium (Dissolved)	3.2	na	24	na	14	na
Potassium (Total)	3.7	25	20	4.5	14	na
Selenium (Dissolved)	0.0010 U	na	0.0010 U	na	0.029	0.01
Selenium (Total)	0.0010 U	0.0010 U	0.0010 U	0.0027 U	0.029	0.01
Silver (Dissolved)	0.010 U	na	0.010 U	na	0.015	0.05
Silver (Total)	0.010 U	0.010 U	0.010 U	0.0083 U	0.021	0.05
Sodium (Dissolved)	430	na	90	na	2200	20
Sodium (Total)	400	290	86	410	2300	20
Thallium (Dissolved)	0.0040 U	na	0.0040 U	na	0.0090	na
Thallium (Total)	0.0040 U	0.0040 U	0.0040 U	0.0039	0.010	na
Vanadium (Dissolved)	0.050 U	na	0.050 U	na	0.22	na
Vanadium (Total)	0.050 U	0.050 U	0.050 U	0.0054 U	0.21	na
Zinc (Dissolved)	0.0080	na	0.0080	na	0.015	0.3
Zinc (Total)	0.026	0.023	0.011	0.0041	0.042	0.3
Cyanide (Free)	0.005 U	0.005 U	0.005 U	0.005 U	0.16	na
Cyanide (Total)	0.008	0.005 U	0.029	0.014	0.14	0.1

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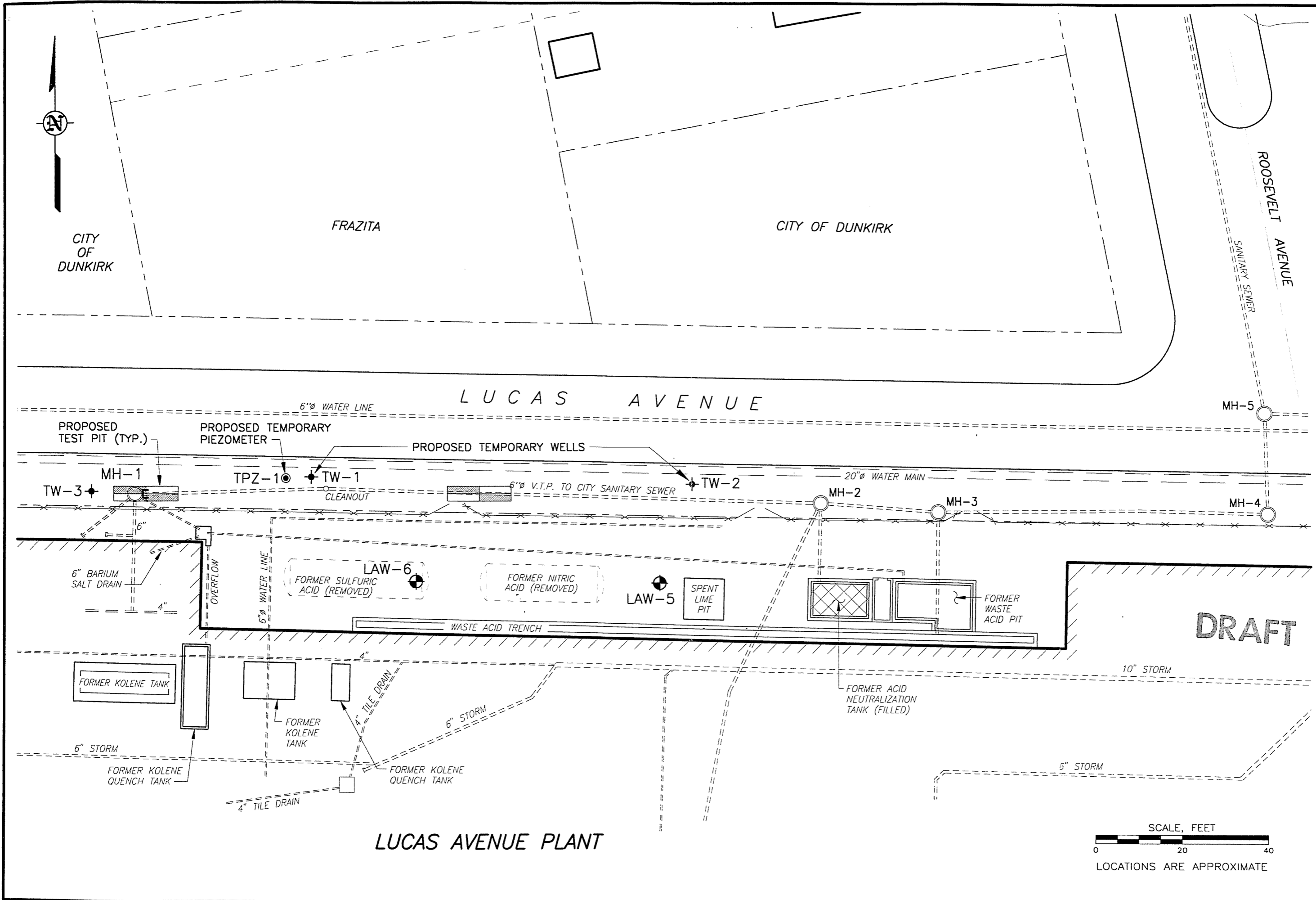
Table 1

Unvalidated Groundwater Analytical Data
Phase I RCRA Facility Investigation
AL Tech Specialty Steel Corporation
Dunkirk, New York Facility

- a/ "mg/l" = milligrams per liter.
- "25°C" = 25 degrees Celsius.
- "µmhos/cm" = microhoms per centimeter.
- b/ "na" = not applicable.
- c/ "U" = constituent not detected at the method detection limit noted.
- d/ Standard applicable to ammonia and ammonium as nitrogen (N).
- e/ Standard applicable to nitrate and nitrite as nitrogen (N).
- f/ Dissolved sample aliquots were typically only collected if the turbidity of the groundwater was greater than 50 nephelometric units.
- g/ The standard for iron is 0.3 µg/l and the standard for manganese is 0.3 µg/l.
The standard for iron and manganese is 0.5 µg/l.

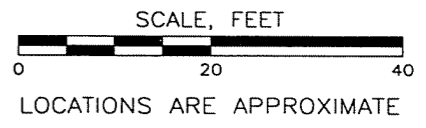
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LUCAS AVENUE PLANT

DRAFT



Drawn By: *RAZ* 120496
 Checked:
 Approved:
 Drawing Number: 483803-B1

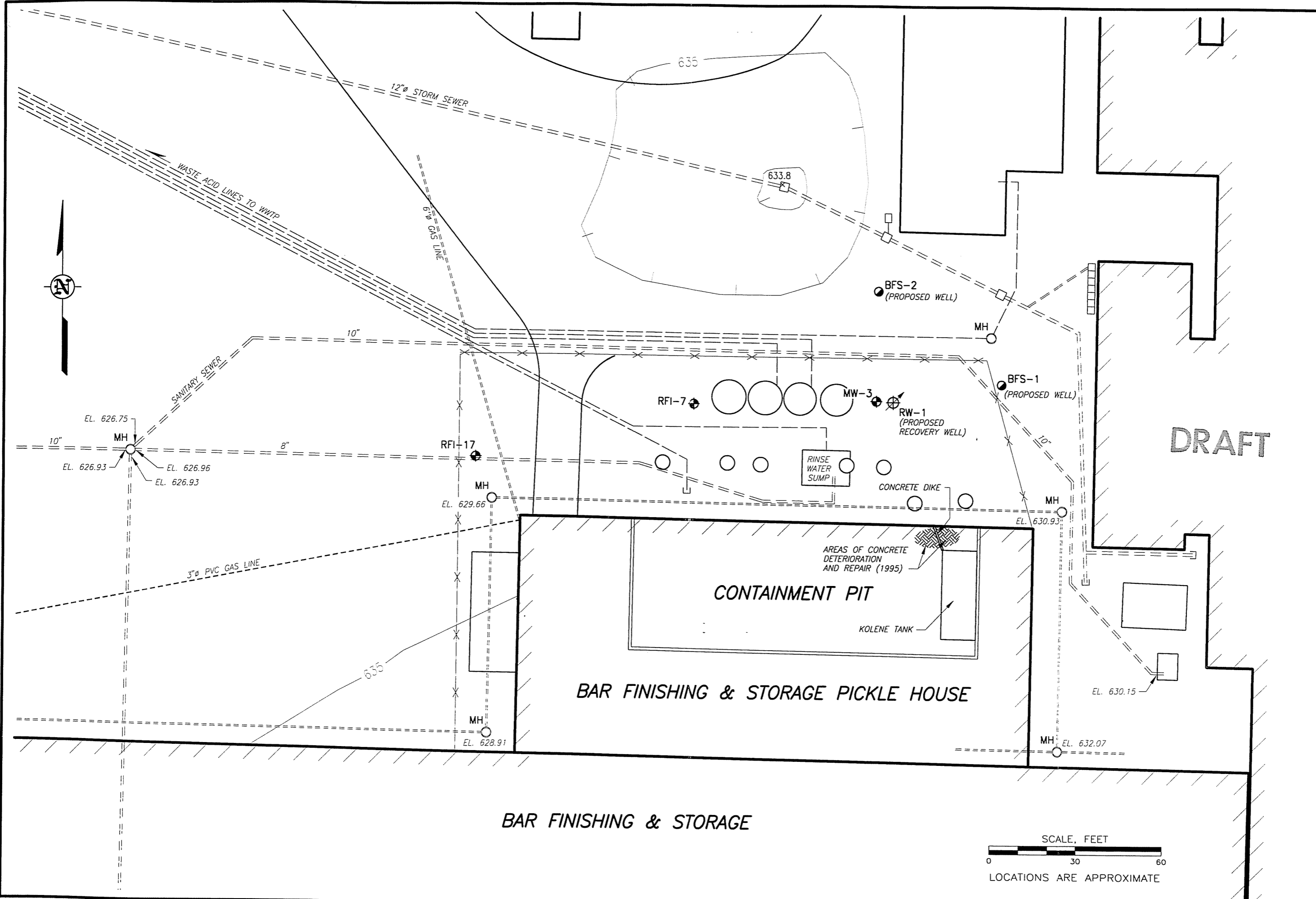
AL TECH SPECIALTY STEEL CORPORATION
 DUNKIRK, NEW YORK
 ICM WORK PLAN

Figure 2
 PROPOSED LOCATIONS
 LAP WEST

ENVIRONMENTAL STRATEGIES CORPORATION
 Four Penn Center West, Suite 315
 Pittsburgh, Pennsylvania 15276
 (412) 787-5100



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DRAFT

Drawn By: *RAZ* 120496
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 Approved:
 Drawing Number: 483803-B2

AL TECH SPECIALTY STEEL CORPORATION
 DUNKIRK, NEW YORK
 ICM WORK PLAN

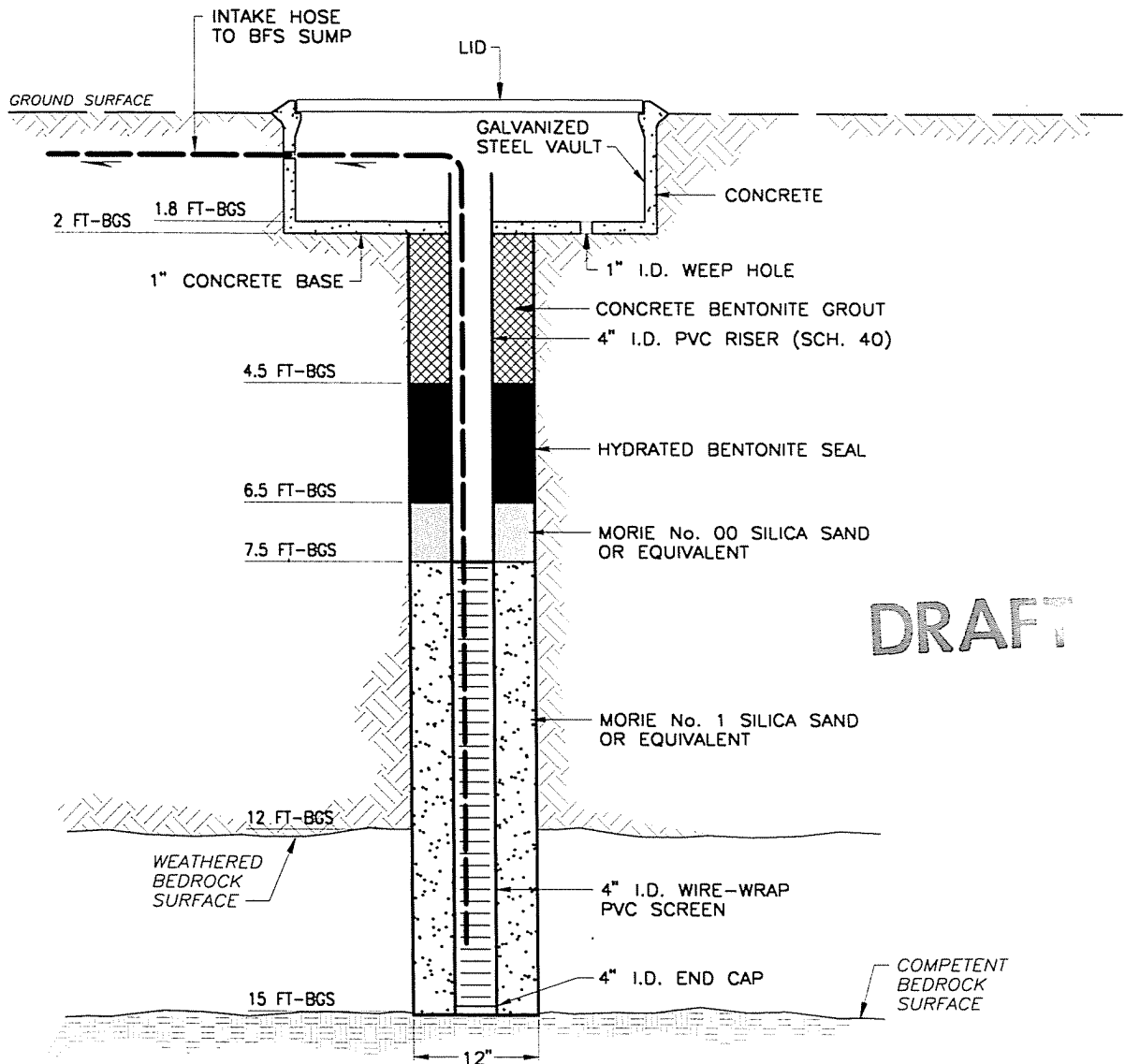
Figure 3
 PROPOSED RECOVERY WELL
 LOCATIONS - BFS PICKLE HOUSE

ENVIRONMENTAL STRATEGIES CORPORATION
 Four Penn Center West, Suite 315
 Pittsburgh, Pennsylvania 15276
 (412) 787-5100

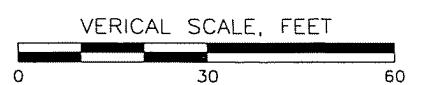


Drawing Number: 483803-A2

Checked: Approved:
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DRAFT



HORIZONTAL SCALE IS EXAGGERATED

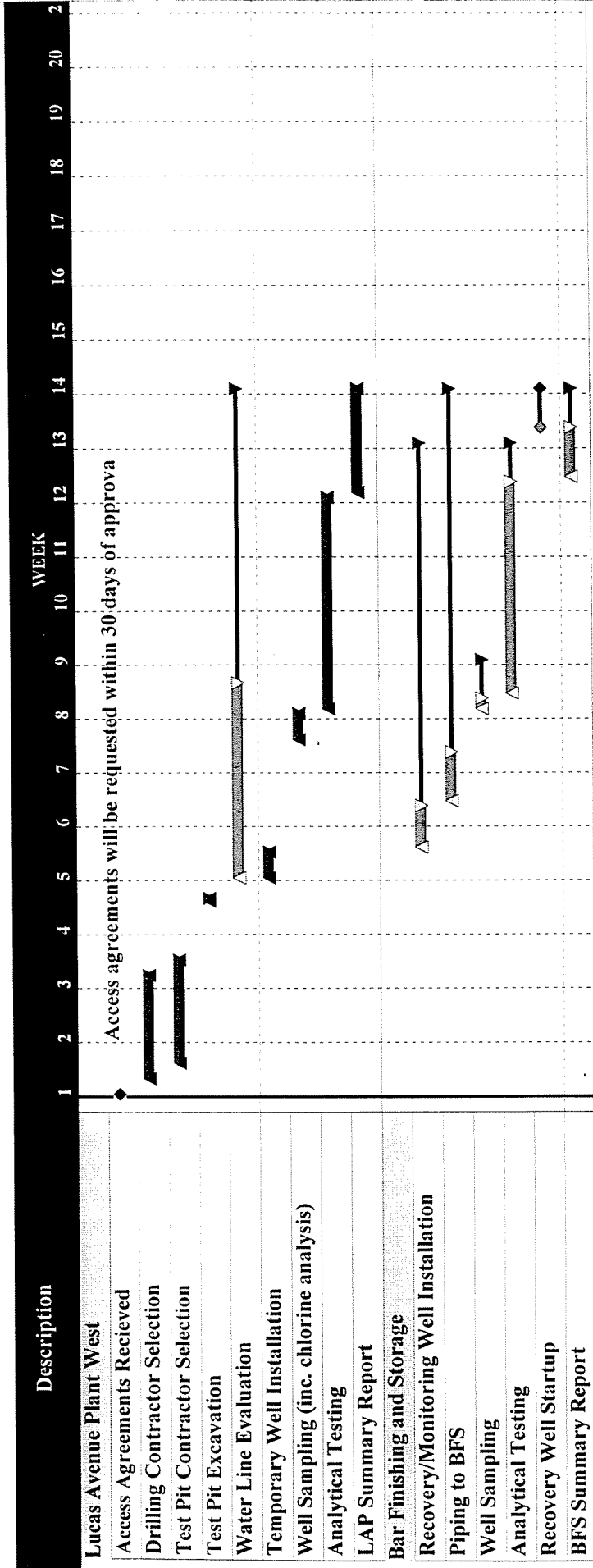
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ENVIRONMENTAL STRATEGIES CORPORATION
 ESC
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Figure 4
 GENERALIZED RECOVERY WELL DIAGRAM

AL TECH SPECIALTY STEEL CORPORATION
 DUNKIRK, NEW YORK
 ICM WORK PLAN

Figure 5
Schedule
ICM Work Plan
AL Tech Specialty Steel Corporation
Dunkirk, New York



△ Early start point

▽ Early finish point

▬ Early bar

▬ Late finish point

▬ Total float bar

▬ Progress bar

▬ Critical bar

— Summary bar

▲ Progress point

▲ Critical point

▲ Summary point

◆ Start milestone point

◆ Finish milestone point

DRAFT

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ESC