



FUSRAP Project
Job 14501

Red 2/98



LTSM012569

128-95-

NO. 12 Rev. No. 0

DATE: _____

FUSRAP TECHNICAL MEMORANDUM

TO: Eric T. Newberry
FROM: Laura M. Artates
DATE: May 11, 1995
SUBJECT: Bliss and Laughlin Steel Characterization Results

Prepared By <i>J.M. Artates</i>	Team Lead Approval <i>Eric T. Newberry</i>	Project Engineer Approval <i>M. S. Key</i>	Project Manager Approval <i>Paul R. [unclear]</i> 5/15/95
------------------------------------	---	---	---

SCOPE

This Technical Memorandum presents the results of the radiological and chemical characterization of the Bliss and Laughlin Steel site. Historically, the facility was the site of uranium metal machining; therefore, the primary radiological constituent of concern is U-238. The site was assigned to FUSRAP based upon a designation survey performed by the Oak Ridge Institute for Science and Education. Using the data reported in the ORISE designation survey (ORISE, 1992) a survey of the floor area and the overheads in the vicinity of the Special Finishing Area was conducted, and a less intensive survey was performed throughout the rest of the building, with emphasis on areas adjacent to the Special Finishing Area, high traffic areas, and likely areas of material transfer such as locker rooms. Six core samples were drilled through the slab in areas where the potential for constituent migration was the greatest. Additional samples were taken from the dust on overhead beams and material on the floor. One composite sample of floor material was collected and analyzed for TCLP Total, which included metals, volatile organics, semi-volatile organics, pesticides, and herbicides.

PROCEDURES

To aid in identification of areas within the building the north-south support column lines were numbered 1 to 23 from west to east and the east-west column lines were labeled A to X from south to north (Figure 1). Each section of the floor is designated by the letter and number of the SW corner

RECORD

LBLS-21.00

column of that section. All sampling locations and areas of significant findings were identified such that the location can be referenced to the SW corner of a section. All fixed point measurements were performed to measure levels of alpha and beta-gamma radiation, although the conditions in the building (i.e. oil-covered floors) were expected to cause significant shielding of alpha radiation.

Three different levels of survey were performed on different areas of the floor. A Level I survey consisting of a 1-meter² five-point survey was conducted in the areas where elevated surface readings were identified (the Special Finishing Area). This survey was to clearly define the areas of elevated surface activity. A Level II survey consisting of a 100% scan using a floor monitor was conducted over a six-meter wide area surrounding all Level I survey areas. This survey was to verify that all elevated areas were bounded. A Level III survey, covering at least 50% of the floors in the remainder of the building, was performed to verify that no other areas of the building floors were radiologically elevated. Surface scan readings were considered to be elevated if they were twice background (Table 1) as used in the Level II and Level III surveys. Additional surveys were performed and samples were collected in the Special Finishing Area to determine the scope for potential remediation planning.

RESULTS

75% of the alpha readings on the floors were at or below background (<Lc), as compared to 31% of the beta-gamma readings, indicating that the majority of the alpha radiation was shielded by the material on the surfaces being scanned or measured. Because of this, both alpha and beta gamma results will be reported in the data tables, but only beta-gamma results will be discussed. The alpha results from the overheads correlated slightly better with the beta/gamma results, indicating that the overhead contamination is probably not being shielded by paint. References to all original data can be found in the Work Instruction (BNI WI-95-073).

Ceiling and Overhead Trusses

The overhead trusses above the Special Finishing Area were scanned to determine if they were above guidelines for beta-gamma contamination (Attachment 3). The survey results are presented in Figure 2 and Table 2.

- At a minimum, 50% of the surfaces of the bottom horizontal chords and the bottom two feet of the vertical members in the trusses were scanned. Twenty-one direct point measurements were recorded. There were no locations above fixed criteria, and only three locations where the direct readings were above transferable criteria (Table 2). Three composite dust samples were also collected and analyzed for radiological parameters: BLS014 from truss 19, BLS015 from truss 20, and BLS016 from truss 18 (Attachment 1). These samples had slightly elevated levels of uranium contamination, with the highest value at 15.6 pCi/g U-238. No samples were above criteria. No chemical characterization samples were collected from the overheads.
- The ceiling and upper sections of the trusses above the Special Finishing Area were surveyed by taking four direct readings on each truss and four readings on the ceiling areas near each truss. Six locations on the upper chords were smeared due to elevated readings. There were

two locations where direct measurements were above fixed criteria, and no locations where transferable measurements were above criteria (Table 2). It was not possible to access the roof vents, or to collect samples from the top portions of the trusses. There were no roof vents directly above the special finishing area.

- Accessible areas of the crane were scanned, and showed no elevated readings.

Floors

Three different levels of survey were performed on different areas of the floor. Much of the floor throughout the building was obstructed by storage racks filled with steel stock or operations equipment, and was not accessible.

Level I Survey

A Level I survey consisting of a 1-meter² five-point survey and a floor monitor scan was conducted in the area where contamination was previously identified in the designation report. Elevated locations identified as part of the floor monitor scan were then defined and measured using hand-held instruments. The areas of Level I survey are indicated in Figure 3 by the smaller square grid. Complete 5-point survey data for the Level I survey is presented in Attachment 4.

- Figure 3 shows the area encompassed by the Level I survey and the locations identified as not accessible (NA), elevated but below criteria (2,000-5,000 dpm/100cm²), above average criteria but below hotspot criteria (5,000 - 15,000 dpm/100cm²), and above hotspot criteria (15,000 dpm/100cm²).
- There were a total of ten locations above hotspot criteria. The direct beta/gamma readings for these locations ranged from approximately 17,000 to 280,000 dpm/100cm² (Table 3) and are indicated in Figure 3 by boxed X symbols.
- Eight locations fell between the average and hotspot criterias (5,000 - 15,000 dpm/100cm²). These locations are indicated in Figure 3 by diamond symbols. The data for these locations is presented in Table 4.
- To aid in remedial design an additional 17 locations were identified as elevated, although none of these locations is above criteria (Table 5). These locations are indicated Figure 3 by open square symbols.

Level II Survey

A Level II survey consisting of a 100% scan of accessible areas using a floor monitor and/or hand held instruments was conducted over a six-meter-wide area around the Level I survey areas. The area included is indicated in Figure 3 by the larger square grid.

- This survey was used to verify that all elevated areas were bounded within the Level I survey area. No direct readings were taken in this survey. No areas at or above twice background were encountered in this survey.

Level III Survey

A Level III survey was conducted throughout the remainder of the building. The accessible floors in all areas outside the Level I and Level II areas were scanned using a floor monitor, based on the data quality objectives for this characterization. Large areas which were not accessible are indicated in Figure 1. The remainder of the floors were estimated to be accessible for survey on an average of 40% of the surface. 30 additional point measurements were taken throughout the building based on field observations (Figure 1).

- All 30 point measurements were well below criteria, showing no evidence of contamination. The results from this survey are presented in Table 6.
- Floor monitor surveys did not indicate the presence of any hotspots or elevated areas.

TCLP Results

One composite sample was collected from the floors in the Special Finishing Area and analyzed for TCLP Total. No RCRA hazardous constituents were identified (Attachment 2).

Trenches

Shallow drainage trenches in the vicinity of the special finishing area were surveyed using hand-held instruments. No trenches were located in areas of elevated surface activity. The accessible sections of trenches surveyed showed no elevated readings, so no samples were collected. The trenches have been added to the as-built drawing (Figures 1 and 3).

Support columns/Equipment/etc.

- Support columns E18 and E20 were surveyed with hand-held meters to 2 meters high to determine if they were above guidelines for beta-gamma surface contamination. Results show no elevated readings (Table 7).
- The equipment in the Special Finishing Area did not show evidence of contamination. Floor surfaces underneath equipment were surveyed as part of the Level I survey. One sample of floor material from under a piece of equipment was taken where radiological analysis results above guidelines were present (Attachment 1: BLS018 and Figure 3:E).

Subsurface Floor Sampling

Six core locations in the Level 1 survey area were selected based on surface features and floor scan results. These locations were in areas where the potential for downward contamination migration was the greatest, either near expansion joints, resurfaced or repaired floor areas, or irregular areas of the floor (Figure 3). Sample results are presented in Attachment 1.

- Core location 1 (Figure 3:H) was partially under one of the pieces of equipment, at an irregular area of the floor. The drilling location was approximately 2.5 ft. E of a location which showed elevated surface readings. The concrete extended deeper than the drill could reach, so no subsurface sample was obtained. The surface of the core showed no elevated readings. A surface sample from the nearby elevated location (Figure 3:E) was collected, and showed U-238 at 1,215 pCi/g (BLS018).
- Core location 2 was taken along the surface of an old equipment stand which had apparently been demolished to the floor surface (Figure 3:I). The first attempt was directly on the broken concrete on an elevated location, but refusal was met at a few inches in depth. A sample of the top of the concrete (BLS007) was below radiological criteria. A second hole approximately 6 inches over reached soil at seven inches deep. A soil sample was collected from the top seven inches of soil (BLS011), that was below radiological criteria.
- Two attempts were made to reach soil at core location 3, which was in a repoured area near the center of the Special Finishing Area (Figure 3:J). A vertical metal bolt was encountered in the first hole, and the second one reached the furthest extent of the drill (approximately 15 inches) without encountering soil. The cores and holes were scanned and showed no elevated direct readings, and no samples were collected.
- Core location 4 was in a repoured area between columns E18 and E20 (Figure 3:K). One core was drilled, and refusal was encountered at approximately 6 inches. The core was removed, revealing gravel and the open end of a section of pipe, indicating that a trench had been filled with debris and then sealed with concrete. The core and hole were scanned and showed no elevated readings, and no samples were collected.
- Core location 5 was adjacent to an expansion joint north of column E20, where elevated readings were measured on the floor (Figure 3:L). A core was removed (approximately 6 inches), and soil samples were collected. The top six inches of soil were sent for analysis (BLS009), and the next six inches were archived. Analysis results showed that the soil was below criteria. A scan of the core and the hole showed no elevated readings.
- Core location 6 was located in the additional level I survey area between columns E16 and E18, in the center of a filled-in trench (Figure 3:M). Approximately four inches of concrete core was removed, revealing old pipe debris, gravel, and black sediment-like material. This material showed elevated readings, and two samples were collected (BLS003 & BLS004). These samples showed 23.5 and 86.7 pCi/g of U-238, respectively. A subsurface soil sample was collected using a hand-auger for analysis (BLS005) which was not above criteria, indicating that the contaminated material is isolated in the debris used to fill in the trench prior to sealing with concrete.

All of the cores which scanned clean were either placed back in the holes or disposed of as clean trash, and all of the boreholes were filled with quick-setting concrete.

Open buried conduit

There is an eight inch deep irregular hole in the floor near Column E-20 in the Special Finishing Area which contains the open end of a buried two inch conduit from which the wires have been cut and removed (Figure 3:C). The hole and the end of the conduit were scanned and a sample of the material around the conduit was collected. The hole and conduit showed no elevated readings, and analysis results of material collected from the hole were below criteria.

Water Valve Access

There is a three-foot deep water valve access shaft with a 10-inch lid near E18; N4, E11 (Figure 3:D). The interior sides and bottom of the shaft surfaces were not elevated. A sample (Attachment 1: BLS008) was taken from the material in the top of the lid, which showed U-238 at 128 pCi/g.

SUMMARY

- Two locations out of 45 surveyed on the overheads above the special finishing area were above 5000 dpm/100 sq cm beta/gamma.
- The surface contamination on the floor in the special finishing area is limited to approximately 19 meters by nine meters of floor, some of it obstructed by machinery.
- No subsurface soil samples showed evidence of contamination. One sample from a core taken through a filled-in trench showed elevated uranium levels. This material contained no long-lived daughters, and appears to be limited to debris deposited in the trench prior to sealing with concrete. The soil collected below this material was not above criteria.
- The remainder of the building was surveyed as extensively as building conditions allowed, and showed no evidence of additional contaminated areas.
- A composite TCLP total sample from the floor in the Special Finishing Area showed no RCRA hazardous constituents.

WASTE

PPE and equipment was surveyed for release to minimize the volume of radiologically contaminated waste generated. Waste water generated from cooling the core drill was used to mix the concrete used to backfill the boreholes, and the remainder will be evaporated and the residues surveyed for radiological contamination.

Figures:

- Figure 1. Map of building with detail showing survey locations and reference grid.
- Figure 2. Overheads above Special Finishing Area with Survey Locations
- Figure 3. Detail of Special Finishing Area with Survey Results and Sampling Locations

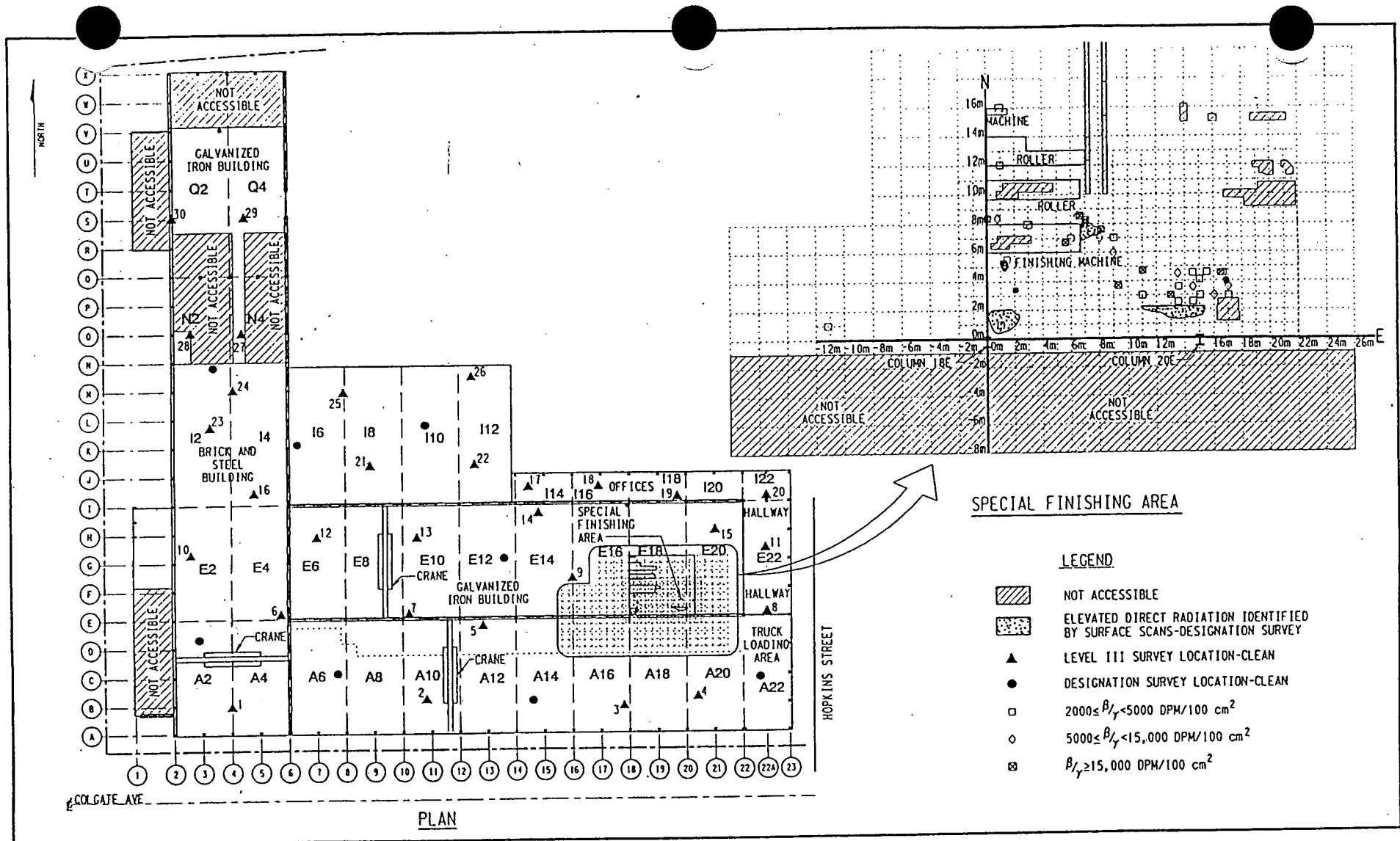
Attachments:

- 1. Bliss and Laughlin Radiological Data
- 2. Bliss and Laughlin Chemical Data
- 3. DOE 5400.5 Figure IV-1, Surface contamination Guidelines
- 4. Bliss and Laughlin Steel 5-point Survey Data

References:

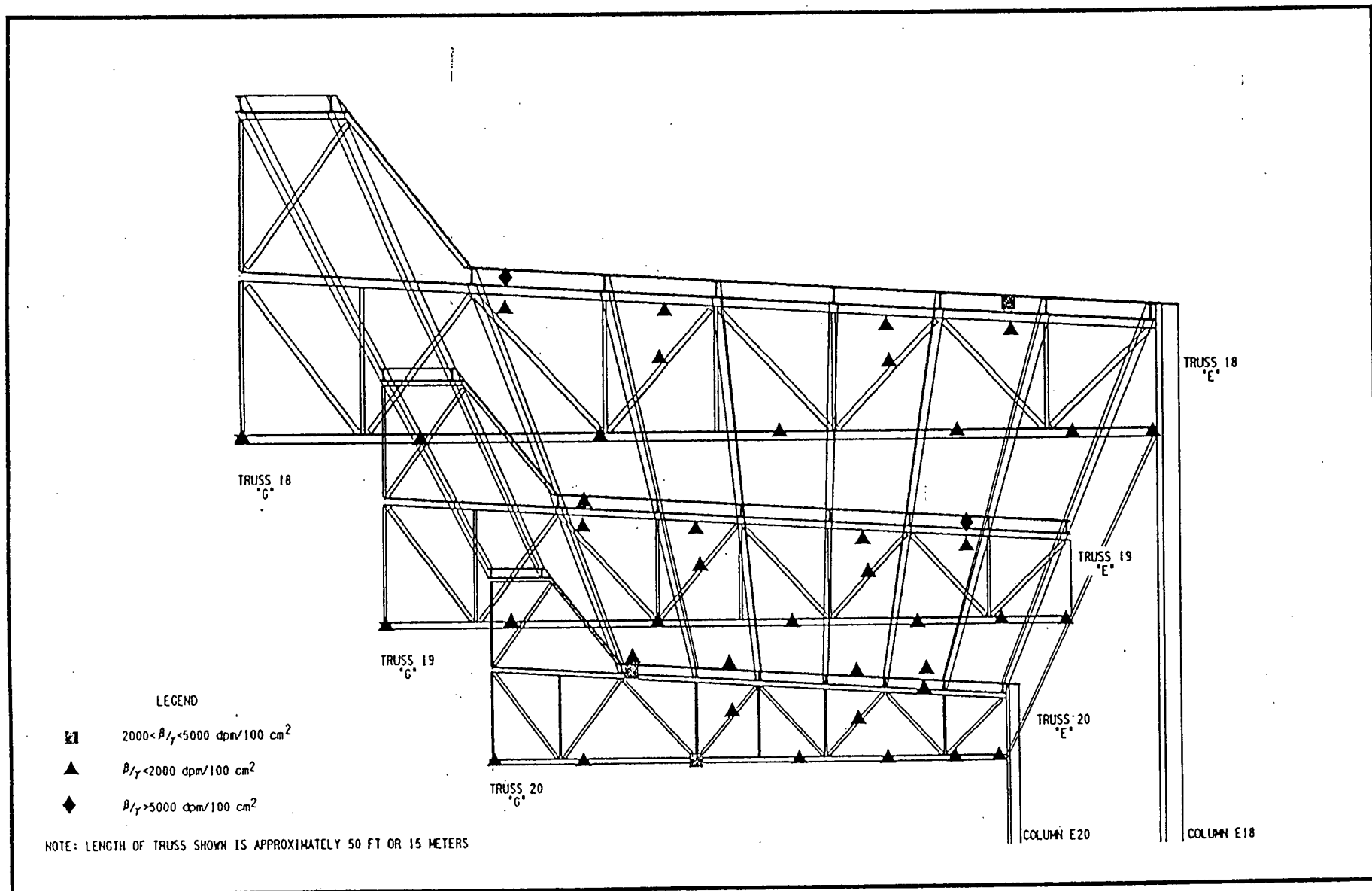
ORISE 1992, Radiological Survey of the Former Bliss and Laughlin Steel Company Facility, Buffalo, New York, ORISE 92/G-6

BNI WI, Bliss and Laughlin Steel Characterization, WI-95-073



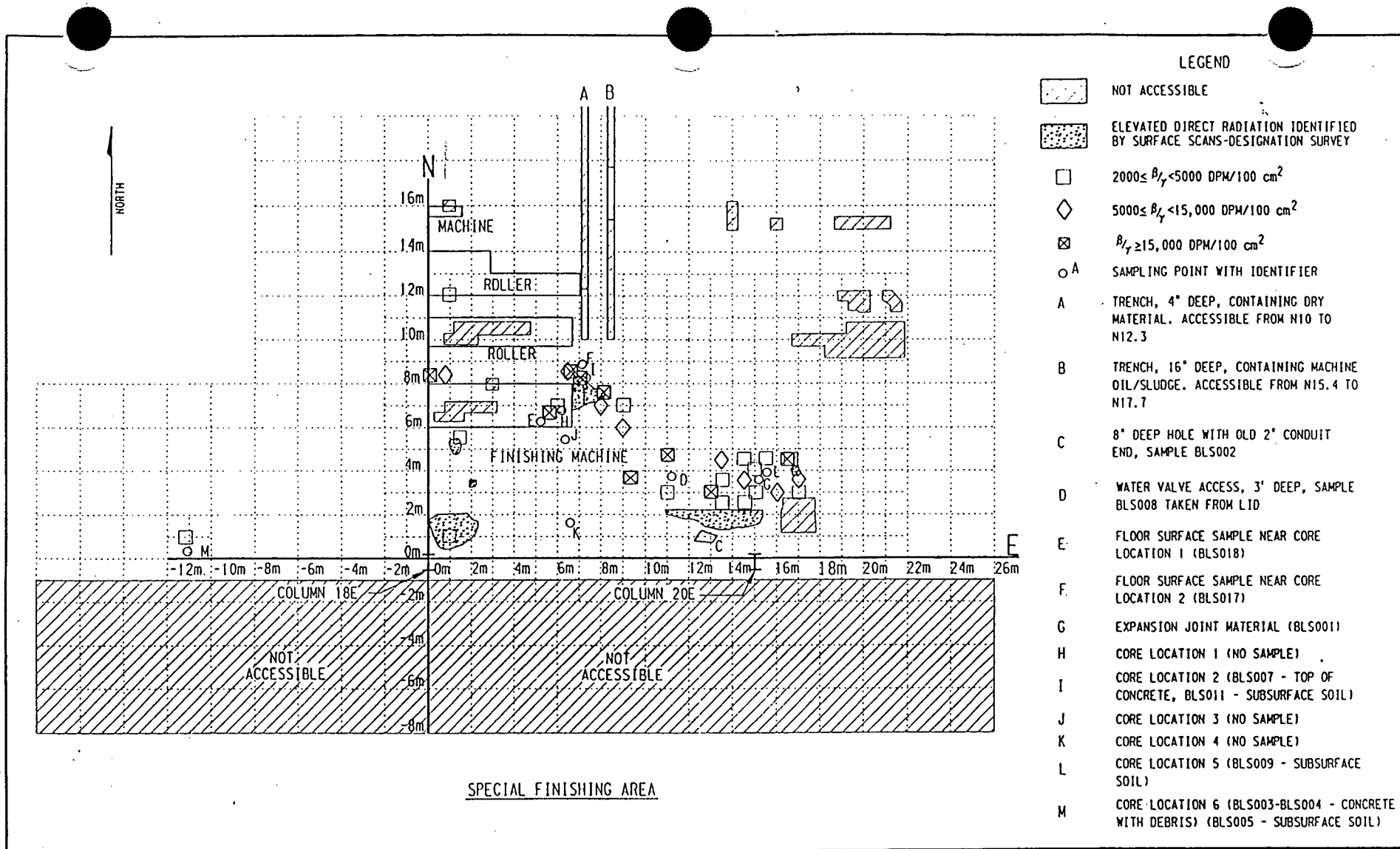
128F 002.DCN

Figure 1
Bliss and Laughlin Steel with Reference Grids and Survey Locations



178F904.DGN

Figure 2
Overheads Above Special Finishing Area
with Survey Locations



1281003.DCN

Figure 3
Detail of Special Finishing Area with
Survey Results and Sampling Locations

Color 11x17

Table 1:
Bliss and Laughlin Steel Characterization
Background Values

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE			
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM	
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV
GRID E-9	15	26	455	466	NA		NA	
GRID E-9	15	26	<Lc 107	426	NA		NA	
GRID E-9	<Lc 6	19	<Lc 187	436	NA		NA	
GRID E-9	.24	32	375	457	NA		NA	
GRID E-9	<Lc 6	19	455	466	NA		NA	
GRID E-9	19	34	551	565	NA		NA	
GRID E-9	19	34	<Lc 32	504	NA		NA	
GRID E-9	<Lc 0	21	421	550	NA		NA	
GRID E-9	<Lc 10	28	<Lc 357	543	NA		NA	
GRID E-9	<Lc 10	28	616	572	NA		NA	

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Table 2:
Bliss and Laughlin Steel Characterization
Survey of Overheads

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE			
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM	
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV
TRUSS 20E-G								
CEILING @ 4M	<Lc	6	19	<Lc	54	420		
CEILING @ 7M	<Lc	-4	5		348	454		
CEILING @ 11M		24	32	<Lc	134	429		
CEILING @ 13M	<Lc	6	19		482	469		
TOP OF TRUSS @ 13M	<Lc	6	19		1874	603	<Lc	0 74
TOP OF ANGLE @ 11M	<Lc	6	19		509	472		
TOP OF ANGLE @ 7M		24	32	<Lc	-107	400		
TOP OF TRUSS @ 4M	<Lc	6	19		2838	680	2	6 <Lc 37 78
TRUSS 19E-G		24	32		518	454		
CEILING @ 4M	<Lc	-4	5	<Lc	294	448		
CEILING @ 7M	<Lc	-4	5	<Lc	0	413		
CEILING @ 11M		24	32	<Lc	214	439		
CEILING @ 13M	<Lc	6	19		375	457		
TOP OF TRUSS @ 13M		24	32		5943	884	2	6* <Lc 49 80
TOP OF ANGLE @ 11M		15	26		562	478		
TOP OF ANGLE @ 7M	<Lc	-4	5		455	466		
TOP OF TRUSS @ 4M		24	32		1365	558	2	6 86 83
TRUSS 18E-G								
CEILING @ 4M	<Lc	-4	5	<Lc	214	439		
CEILING @ 7M	<Lc	6	19	<Lc	294	448		
CEILING @ 11M		15	26	<Lc	-27	410		
CEILING @ 13M	<Lc	6	19	<Lc	54	420		
TOP OF TRUSS @ 13M		42	41		4149	773	11	11 <Lc 41 79
TOP OF ANGLE @ 11M	<Lc	6	19	<Lc	-80	403		
TOP OF ANGLE @ 7M		24	32		616	484		
TOP OF TRUSS @ 4M		52	45		6318	906	5	8 <Lc 0 74
QC		33	36		5702	870	<Lc	0 0 <Lc 25 77
BOTTOM HORIZONTAL TRUSSES								
TRUSS #20 0m	<Lc	-4	5	<Lc	285	428		
TRUSS #20 3m		15	26	<Lc	207	419		
TRUSS #20 6m		15	26		2228	614	NA	
TRUSS #20 9m		15	26	<Lc	259	425		
TRUSS #20 12m		15	26		700	474		
TRUSS #20 15m	<Lc	-4	5		544	457		
TRUSS #20 18m		15	26		466	449		
TRUSS #19 0m		24	32		518	454		
TRUSS #19 3m	<Lc	-4	5	<Lc	259	425		
TRUSS #19 6m		15	26		1036	508	NA	
TRUSS #19 9m		33	36		1062	510	NA	
TRUSS #19 12m		24	32		440	446		
TRUSS #19 15m		24	32	<Lc	26	397		
TRUSS #19 18m	<Lc	6	19	<Lc	285	428		
TRUSS #18 0m	<Lc	6	19		518	454		
TRUSS #18 3m	<Lc	6	19	<Lc	52	400		
TRUSS #18 6m		42	41		596	463		
TRUSS #18 9m		24	32	<Lc	207	419		
TRUSS #18 12m	<Lc	6	19	<Lc	285	428		
TRUSS #18 15m		24	32		363	437		
TRUSS #18 18m		24	32		829	487		

Comments: 0 is the center of the truss ("G"). Measurements are in meters moving south (towards "E").

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Table 3:
Bliss and Laughlin Steel Characterization
Special Finishing Area - Survey locations above 15000 dpm/100 sq cm beta/gamma

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE					
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM			
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV		
N3.0 E13.0	<Lc	-4	20	108045	3303					
N8.0 E7.0	48	66	58554	2670	11	11	<Lc	-21	73	
N3.7 E9.35	15	26	42270	2126	5	8	<Lc	12	76	
N7.6 E8.1	3165	335	135430	3755	224	50	1734	181		
N8.1 E7.2	181	81	280257	5384	72	28	258	98		
N8.5 E6.7	1129	200	29019	1776	17	14	152	89		
N6.7 E5.7	42	41	17213	1393	23	16	184	92		
N8.2 E0.1	98	60	218953	4763	<Lc	0	0	<Lc	33	78
N4.8 E11.0	33	36	55387	2422	<Lc	0	0	<Lc	25	77
N4.5 E16.5	88	57	71985	2752	2	6	<Lc	20	77	

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Table 4:
Bliss and Laughlin Steel Characterization
Special Finishing Area - Survey locations between 5000 and 15000 dpm/100 sq cm beta/gamma

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE						
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM				
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV			
N3.0 E16.0	24	37	6063	871	<Lc	2	6	<Lc	-54	72	
N3.5 E14.5	<Lc	28	50	7362	969	<Lc	-1	0	<Lc	-50	70
N4.5 E13.5	<Lc	9	43	5729	878	<Lc	-1	0	<Lc	4	76
N6.0 E9.0	33	41	14717	1273		5	8	<Lc	-13	76	
N7.0 E8.0	77	74	5595	953		5	8	<Lc	46	80	
N8.5 E6.5	64	62	6130	901		5	8	<Lc	59	81	
N8.3 E0.9	15	26	14777	1300	<Lc	0	0	<Lc	33	78	
N3.4 E17.0	<Lc	6	19	6559	919		2	6	<Lc	-12	73

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Table 5:
Bliss and Laughlin Steel Characterization
Special Finishing Area - Survey locations between 2000 and 5000 dpm/100 sq cm beta/gamma

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE					
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM			
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV		
N1.0 E1.0	24	37	4949	805						
N12.0 E1.0	<Lc	-10	3639	824	<Lc	2	6	<Lc	-33	71
N2.5 E13.5	<Lc	-9	3105	708	<Lc	-1	0	<Lc	17	77
N2.5 E14.5	<Lc	-9	2757	682	<Lc	-1	0	<Lc	-8	74
N3.0 E11.0	24	37	2176	609	<Lc	2	6	<Lc	-8	77
N3.0 E15.0	24	37	4042	746	<Lc	-1	0	<Lc	-8	77
N3.0 E17.0	<Lc	6	4405	770		8	10	<Lc	0	78
N3.5 E13.5	<Lc	9	2329	649	<Lc	-1	0	<Lc	8	76
N4.0 E15.0	<Lc	15	2565	640	<Lc	-1	0	<Lc	-33	74
N4.5 E14.5		55	2597	670	<Lc	-1	0	<Lc	-8	74
N4.5 E15.5	<Lc	-9	3748	753	<Lc	2	6	<Lc	-8	74
N4.5 E16.5	<Lc	9	2168	636	<Lc	2	6	<Lc	-4	75
N5.5 E1.5	<Lc	-28	2088	630	<Lc	-1	0	<Lc	-4	75
N7.0 E6.0	<Lc	10	2721	756		5	8	<Lc	13	76
N7.0 E9.0	<Lc	-29	2905	770	<Lc	2	6	<Lc	-21	73
N7.5 E7.5	<Lc	9	4819	823	<Lc	2	6	<Lc	-33	71
N1.0 E-11.1	15	26	3641	738		2	6	<Lc	37	78

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Table 6:
Bliss and Laughlin Steel Characterization
Level III Survey - 30 Points

NO:	LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE			
		SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV
1	A4; N7.0 E0.0	<Lc -10	47	1101	617	<Lc 2	6	<Lc -21	76
2	A11; N8.9 W1.4	<Lc 0	51	887	596	<Lc 2	6	<Lc -84	69
3	A18; N6.7 W1.5	NA	NA	<Lc 153	519				
4	A20; N9.2 E3.0	<Lc -29	39	642	572				
5	E12; S2.2 E6.2	<Lc -19	43	581	565				
6	E6; N1.2 W2.0	<Lc -39	34	<Lc 275	533				
7	E10; N1.0 E1.6	<Lc -19	43	459	553				
8	I20; S29.7 E20.3	<Lc -29	39	<Lc 336	539				
9	E16; N10.3 E0.0	<Lc -10	47	<Lc 306	536				
10	G2; N1.6 E4.3	<Lc 29	60	<Lc 214	526				
11	I20; S12.5 E20.3	<Lc -29	39	<Lc -31	498				
12	H2; S1.3 E80.0	<Lc -19	43	<Lc 367	543				
13	E10; N21.4 E3.9	<Lc -10	47	734	581				
14	I11; N2.8 W1.5	<Lc -39	34	<Lc 306	536				
15	I21; S7.5 E0.0	<Lc -19	43	<Lc 61	509				
16	J2; S4.6 E21.1	<Lc -39	34	550	562				
17	I14; N4.7 E4.0	<Lc -29	39	<Lc 367	543				
18	I16; N4.0 E8.4	<Lc -19	43	428	549				
19	I20; N0.7 W0.7	<Lc -48	28	<Lc 275	533				
20	I20; N0.7 E20.3	<Lc -48	28	581	565				
21	I9; N10.1 W1.0	<Lc -29	39	<Lc 275	533				
22	I12; N9.7 E4.3	<Lc -10	47	<Lc 245	529				
23	K2; N5.2 E9.8	<Lc -48	28	<Lc 275	533				
24	M6; N0.0 W7.5	<Lc -29	39	<Lc 275	533				
25	M8; S0.9 W0.3	<Lc 0	51	<Lc 367	543				
26	M12; N3.1 E3.4	67	71	550	562				
27	O6; N0.0 W12.4	<Lc -39	34	<Lc 367	543				
28	O2; N0.0 E4.1	<Lc -48	28	<Lc 306	536				
29	S6; N0.0 W11.4	<Lc -10	47	1070	614	<Lc -1	0	<Lc -105	66
30	S2; N4.0 E0.2	<Lc -19	43	581	565				

Comments: NA= AREA TOO WET TO OBTAIN ALPHA MEASUREMENTS
THE ALPHA NUMERIC CHARACTERS REPRESENT THE REFERENCED COLUMN USED TO OBTAIN THE COORDINATES
THE NUMBER REPRESENTS THE LOCATION AS SHOWN ON THE FIGURE.

<Lc indicates less than the critical level of activity which can be said to be above background.

A negative value is the calculated result of a reading which is below the instrument-specific background.

Table 7:
Bliss and Laughlin Steel Characterization
Survey of Columns

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE			
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM	
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV
COLUMN E-18A								
FRONT @ 1M	<Lc 0	21	<Lc 324	539				
BACK @ 1M	38	43	<Lc -195	476				
SIDE @ 1M	<Lc 10	28	<Lc -130	484				
SIDE @ 1M	<Lc 0	21	<Lc -130	484				
COLUMN E-18B								
FRONT @ 1M	19	34	<Lc 97	512				
BACK @ 1M	<Lc 0	21	<Lc -195	476				
SIDE @ 1M	<Lc 0	21	<Lc -389	449				
SIDE @ 1M	19	34	<Lc -195	476				
COLUMN E-18A								
FRONT @ 2M	<Lc -10	8	<Lc -227	471				
BACK @ 2M	<Lc -10	8	<Lc 32	504				
SIDE @ 2M	<Lc -10	8	<Lc -389	449				
SIDE @ 2M	<Lc 0	21	4085	871	8	10	111	85
QC	<Lc 0	21	3145	801	5	8	90	83
COLUMN E-18B								
FRONT @ 2M	<Lc 0	21	<Lc 162	520				
BACK @ 2M	<Lc 0	21	<Lc 0	500				
SIDE @ 2M	<Lc -10	8	<Lc -259	467				
SIDE @ 2M	67	54	<Lc -130	484				
COLUMN E-20A								
FRONT @ 1M	19	34	<Lc -130	484				
BACK @ 1M	<Lc -10	8	<Lc 162	520				
SIDE @ 1M	<Lc -10	8	<Lc -97	488				
SIDE @ 1M	19	34	<Lc 0	500				
COLUMN E-20B								
FRONT @ 1M	19	34	<Lc -130	484				
BACK @ 1M	<Lc -10	8	<Lc -162	480				
SIDE @ 1M	<Lc -10	8	<Lc -486	436				
SIDE @ 1M	<Lc -10	8	<Lc -162	480				
COLUMN E-20A								
FRONT @ 2M	<Lc 0	21	<Lc -32	496				
BACK @ 2M	<Lc -10	8	<Lc 97	512				
SIDE @ 2M	<Lc -10	8	<Lc -227	471	8	10	111	85
SIDE @ 2M	<Lc 0	21	<Lc -65	492				
COLUMN E-20B								
FRONT @ 2M	19	34	<Lc -130	484				
BACK @ 2M	<Lc 0	21	<Lc -454	440				
SIDE @ 2M	<Lc -10	8	<Lc -97	488				
SIDE @ 2M	<Lc 0	21	<Lc -227	471				
QC	<Lc 10	28	<Lc 0	500				

Comments: SMEARS COUNTED 3-13-95. FRONT = NORTH SIDE
COLUMN A= SMALLER COLUMN. COLUMN B= LARGER COLUMN.

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Attachment 1:
Bliss & Laughlin Steel Characterization
Radiological Data

Bliss and Laughlin Radiological Data

Sample Location	Date Collected	Analyte	Result	Error	Units	MDL	BNI Flag
BLS001	3/4/95	AM-241	2	0	PCI/G	2	UJ
BLS001	3/4/95	K-40	0.29	9.9	PCI/G	35.2	UJ
BLS001	3/4/95	RA-226	3.9	0	PCI/G	3.9	UJ
BLS001	3/4/95	RA-228	9.8	0	PCI/G	9.8	UJ
BLS001	3/4/95	TH-228	9.8	0	PCI/G	9.8	UJ
BLS001	3/4/95	TH-232	7.5	0	PCI/G	7.5	UJ
BLS001	3/4/95	U-234	71.1	22.5	PCI/G	0.36	J
BLS001	3/4/95	U-235	4.1	1.7	PCI/G	0.34	J
BLS001	3/4/95	U-238	73.3	23.2	PCI/G	0.28	J
BLS002	3/5/95	AM-241	0.4	0	PCI/G	0.4	UJ
BLS002	3/5/95	K-40	3.9	1.8	PCI/G	5.7	UJ
BLS002	3/5/95	RA-226	1.1	0.22	PCI/G	0.6	
BLS002	3/5/95	RA-228	1.7	0	PCI/G	1.7	UJ
BLS002	3/5/95	TH-228	1.7	0	PCI/G	1.7	UJ
BLS002	3/5/95	TH-232	0.67	0.44	PCI/G	0.9	UJ
BLS002	3/5/95	U-234	5.1	1.4	PCI/G	0.11	U
BLS002	3/5/95	U-235	0.29	0.18	PCI/G	0.12	J
BLS002	3/5/95	U-238	4.8	1.3	PCI/G	0.05	
BLS003	3/5/95	AM-241	0.3	0	PCI/G	0.3	UJ
BLS003	3/5/95	K-40	8.4	1	PCI/G	1.9	J
BLS003	3/5/95	RA-226	0.53	0.1	PCI/G	0.28	
BLS003	3/5/95	RA-228	0.7	0	PCI/G	0.7	UJ
BLS003	3/5/95	TH-228	0.7	0	PCI/G	0.7	UJ
BLS003	3/5/95	TH-232	0.56	0	PCI/G	0.56	UJ
BLS003	3/5/95	U-234	30.8	9.3	PCI/G	0.17	J
BLS003	3/5/95	U-235	1.1	0.5	PCI/G	0.09	J
BLS003	3/5/95	U-238	23.5	6.1	PCI/G	2.6	
BLS004	3/5/95	AM-241	0.76	0	PCI/G	0.76	UJ
BLS004	3/5/95	K-40	12.4	2.2	PCI/G	2.2	J
BLS004	3/5/95	RA-226	0.27	0.1	PCI/G	0.35	UJ
BLS004	3/5/95	RA-228	1.1	0	PCI/G	1.1	UJ
BLS004	3/5/95	TH-228	1.1	0	PCI/G	1.1	UJ
BLS004	3/5/95	TH-232	0.92	0	PCI/G	0.92	UJ
BLS004	3/5/95	U-234	89.9	35.6	PCI/G	0.24	J
BLS004	3/5/95	U-235	6.2	2.9	PCI/G	0.5	J
BLS004	3/5/95	U-238	90.5	35.9	PCI/G	0.47	J
BLS005	3/5/95	AM-241	0.33	0	PCI/G	0.33	UJ
BLS005	3/5/95	K-40	12.1	1.5	PCI/G	2.8	J
BLS005	3/5/95	RA-226	1.3	0.17	PCI/G	0.4	
BLS005	3/5/95	RA-228	1.2	0	PCI/G	1.2	UJ
BLS005	3/5/95	TH-228	1.2	0	PCI/G	1.2	UJ
BLS005	3/5/95	TH-232	0.87	0	PCI/G	0.87	UJ
BLS005	3/5/95	U-234	5	1.5	PCI/G	0.12	U
BLS005	3/5/95	U-235	0.31	0.2	PCI/G	0.12	J
BLS005	3/5/95	U-238	6	1.8	PCI/G	0.13	
BLS007	3/5/95	AM-241	0.49	0	PCI/G	0.49	UJ
BLS007	3/5/95	K-40	18.3	2.8	PCI/G	3.8	J
BLS007	3/5/95	RA-226	0.78	0	PCI/G	0.78	UJ
BLS007	3/5/95	RA-228	1.6	0	PCI/G	1.6	UJ
BLS007	3/5/95	TH-228	1.6	0	PCI/G	1.6	UJ
BLS007	3/5/95	TH-232	1.3	0	PCI/G	1.3	UJ
BLS007	3/5/95	U-234	13.6	3.3	PCI/G	0.07	
BLS007	3/5/95	U-235	0.66	0.25	PCI/G	0.04	J
BLS007	3/5/95	U-238	15.3	3.7	PCI/G	0.03	

Bliss and Laughlin Radiological Data

Sample Location	Date Collected	Analyte	Result	Error	Units	MDL	BNI Flag
BLS008	3/5/95	AM-241	1.8	0	PCI/G	1.8	UJ
BLS008	3/5/95	K-40	2.6	7.6	PCI/G	26.6	UJ
BLS008	3/5/95	RA-226	3.2	0	PCI/G	3.2	UJ
BLS008	3/5/95	RA-228	8.2	0	PCI/G	8.2	UJ
BLS008	3/5/95	TH-228	8.2	0	PCI/G	8.2	UJ
BLS008	3/5/95	TH-232	5.7	0	PCI/G	5.7	UJ
BLS008	3/5/95	U-234	96.6	32.8	PCI/G	0.32	J
BLS008	3/5/95	U-235	5.4	2.3	PCI/G	0.23	J
BLS008	3/5/95	U-238	101.3	34.4	PCI/G	0.18	J
<hr/>							
BLS009	3/4/95	AM-241	0.48	0	PCI/G	0.48	UJ
BLS009	3/4/95	K-40	28	3.1	PCI/G	2.1	J
BLS009	3/4/95	RA-226	1.3	0.22	PCI/G	0.58	
BLS009	3/4/95	RA-228	1.6	0	PCI/G	1.6	UJ
BLS009	3/4/95	TH-228	1.6	0	PCI/G	1.6	UJ
BLS009	3/4/95	TH-232	1.2	0.22	PCI/G	0.79	J
BLS009	3/4/95	U-234	1.6	0.59	PCI/G	0.12	U
BLS009	3/4/95	U-235	0.06	0.09	PCI/G	0.14	UJ
BLS009	3/4/95	U-238	1.4	0.53	PCI/G	0.07	U
<hr/>							
BLS011	3/5/95	AM-241	0.56	0	PCI/G	0.56	UJ
BLS011	3/5/95	K-40	21.8	2.6	PCI/G	2.6	J
BLS011	3/5/95	RA-226	1.8	0.3	PCI/G	0.68	
BLS011	3/5/95	RA-228	1.9	0	PCI/G	1.9	UJ
BLS011	3/5/95	TH-228	1.9	0	PCI/G	1.9	UJ
BLS011	3/5/95	TH-232	1.4	0	PCI/G	1.4	UJ
BLS011	3/5/95	U-234	1.9	0.54	PCI/G	0.07	U
BLS011	3/5/95	U-235	0.07	0.07	PCI/G	0.08	UJ
BLS011	3/5/95	U-238	1.9	0.55	PCI/G	0.04	
<hr/>							
BLS014	2/25/95	AM-241	0.49	0	PCI/G	0.49	UJ
BLS014	2/25/95	K-40	21.1	3.4	PCI/G	4.5	J
BLS014	2/25/95	RA-226	1	0	PCI/G	1	UJ
BLS014	2/25/95	RA-228	2.3	0	PCI/G	2.3	UJ
BLS014	2/25/95	TH-228	2.3	0	PCI/G	2.3	UJ
BLS014	2/25/95	TH-232	1.6	0	PCI/G	1.6	UJ
BLS014	2/25/95	U-234	13	5.5	PCI/G	0.39	J
BLS014	2/25/95	U-235	1.4	0.83	PCI/G	0.3	J
BLS014	2/25/95	U-238	15.6	6.5	PCI/G	0.34	J
<hr/>							
BLS015	2/25/95	AM-241	0.64	0	PCI/G	0.64	UJ
BLS015	2/25/95	K-40	17.8	3.7	PCI/G	7.2	J
BLS015	2/25/95	RA-226	1.2	0	PCI/G	1.2	UJ
BLS015	2/25/95	RA-228	2.7	0	PCI/G	2.7	UJ
BLS015	2/25/95	TH-228	2.7	0	PCI/G	2.7	UJ
BLS015	2/25/95	TH-232	2	0	PCI/G	2	UJ
BLS015	2/25/95	U-234	12.4	5.3	PCI/G	0.27	J
BLS015	2/25/95	U-235	0.69	0.53	PCI/G	0.39	J
BLS015	2/25/95	U-238	11.8	5	PCI/G	0.16	J
<hr/>							
BLS016	2/25/95	AM-241	0.3	0	PCI/G	0.3	UJ
BLS016	2/25/95	K-40	0.85	1.7	PCI/G	5.8	UJ
BLS016	2/25/95	RA-226	0.73	0	PCI/G	0.73	UJ
BLS016	2/25/95	RA-228	1.8	0	PCI/G	1.8	UJ
BLS016	2/25/95	TH-228	1.8	0	PCI/G	1.8	UJ
BLS016	2/25/95	TH-232	1.3	0	PCI/G	1.3	UJ
BLS016	2/25/95	U-234	10.3	4.4	PCI/G	0.26	J
BLS016	2/25/95	U-235	0.47	0.41	PCI/G	0.32	J
BLS016	2/25/95	U-238	11.4	4.9	PCI/G	0.26	J

Bliss and Laughlin Radiological Data

Sample Location	Date Collected	Analyte	Result	Error	Units	MDL	BNI Flag
BLS017	2/26/95	AM-241	37.2	0	PCI/G	37.2	UJ
BLS017	2/26/95	K-40	21.9	36.1	PCI/G	123	UJ
BLS017	2/26/95	RA-226	23	0	PCI/G	23	UJ
BLS017	2/26/95	RA-228	39.2	0	PCI/G	39.2	UJ
BLS017	2/26/95	TH-228	39.2	0	PCI/G	39.2	UJ
BLS017	2/26/95	TH-232	35.1	0	PCI/G	35.1	UJ
BLS017	2/26/95	U-234	24290	6664	PCI/G	64.7	
BLS017	2/26/95	U-235	1026	443.6	PCI/G	136.3	J
BLS017	2/26/95	U-238	23570	6471	PCI/G	64.4	
BLS018	2/26/95	AM-241	2.4	0	PCI/G	2.4	UJ
BLS018	2/26/95	K-40	12.2	2.5	PCI/G	5.8	J
BLS018	2/26/95	RA-226	3.8	0.39	PCI/G	1.2	
BLS018	2/26/95	RA-228	1.8	0	PCI/G	1.8	UJ
BLS018	2/26/95	TH-228	0.75	1.7	PCI/G	1.8	UJ
BLS018	2/26/95	TH-232	3.8	1.6	PCI/G	1.1	J
BLS018	2/26/95	U-234	1220	490.8	PCI/G	91.9	
BLS018	2/26/95	U-235	41.8	84.2	PCI/G	113.3	UJ
BLS018	2/26/95	U-238	1215	488.7	PCI/G	91.5	

Data Qualifier Flags

- J Estimate, qualitatively correct but quantitatively suspect
- R Reject, data are not suitable for any purpose.
- UJ Undetected-estimated.
- U Undetected. The blank's result is equal to the detection limit, or above the detection limit and the results of the sample are less than 5 times the blank's result.

Attachment 2:
Bliss & Laughlin Steel Characterization
Chemical Data

Bliss and Laughlin Chemical Data

Sample Location	Date Collected	Analyte	Result	Units	BNI Flag	Lab Flag	DL	Matrix
BLS013	3/9/95	1,1-Dichloroethene	0.05	mg/l		U	0.05	W
BLS013	3/9/95	Chlorobenzene	0.05	mg/l		U	0.05	W
BLS013	3/9/95	Vinyl Chloride	0.1	mg/l		U	0.1	W
BLS013	3/9/95	Chloroform	0.05	mg/l		U	0.05	W
BLS013	3/9/95	1,2-Dichloroethane	0.05	mg/l		U	0.05	W
BLS013	3/9/95	2-Butanone	0.1	mg/l		U	0.1	W
BLS013	3/9/95	Carbon Tetrachloride	0.05	mg/l		U	0.05	W
BLS013	3/9/95	Trichloroethene	0.05	mg/l		U	0.05	W
BLS013	3/9/95	Benzene	0.05	mg/l		U	0.05	W
BLS013	3/9/95	Tetrachloroethene	0.05	mg/l		U	0.05	W
BLS013	3/10/95	Silver, TCLP Leachate	2.5	ug/l	UJ	U	2.5	W
BLS013	3/10/95	Mercury, TCLP Leachate	0.1	ug/l		U	0.1	W
BLS013	3/10/95	alpha-Chlordane	0.5	ug/l		U	0.5	W
BLS013	3/10/95	Heptachlor	0.5	ug/l		U	0.5	W
BLS013	3/10/95	Selenium, TCLP Leachate	44.4	ug/l		U	44.4	W
BLS013	3/10/95	Lead, TCLP Leachate	20.5	ug/l	UJ	U	20.5	W
BLS013	3/10/95	gamma-Chlordane	0.5	ug/l		U	0.5	W
BLS013	3/10/95	Chromium, TCLP Leachate	17.7	ug/l		=	2.9	W
BLS013	3/10/95	Cadmium, TCLP Leachate	3.5	ug/l		U	3.5	W
BLS013	3/10/95	gamma-BHC (Lindane)	0.5	ug/l		U	0.5	W
BLS013	3/10/95	Arsenic, TCLP Leachate	25.5	ug/l		U	25.5	W
BLS013	3/10/95	1,4-Dichlorobenzene	0.1	mg/l		U	0.1	W
BLS013	3/10/95	2,4,5-T	5	ug/l		U	5	W
BLS013	3/10/95	2,4,5-TP (Silvex)	5	ug/l		U	5	W
BLS013	3/10/95	Barium, TCLP Leachate	866	ug/l	J	=	2.8	W
BLS013	3/10/95	Nitrobenzene	0.1	mg/l		U	0.1	W
BLS013	3/10/95	Pentachlorophenol	0.5	mg/l		U	0.5	W
BLS013	3/10/95	Hexachlorobenzene	0.1	mg/l		U	0.1	W
BLS013	3/10/95	2,4-Dinitrotoluene	0.1	mg/l		U	0.1	W
BLS013	3/10/95	2,4,5-Trichlorophenol	0.5	mg/l		U	0.5	W
BLS013	3/10/95	Heptachlor Epoxide	0.5	ug/l		U	0.5	W
BLS013	3/10/95	Hexachlorobutadiene	0.1	mg/l		U	0.1	W
BLS013	3/10/95	Endrin	1	ug/l		U	1	W
BLS013	3/10/95	Hexachloroethane	0.1	mg/l		U	0.1	W
BLS013	3/10/95	3- and/or 4-Methylphenol	0.1	mg/l		U	0.1	W
BLS013	3/10/95	2-Methylphenol	0.1	mg/l		U	0.1	W
BLS013	3/10/95	Pyridine	0.1	mg/l	UJ	U	0.1	W
BLS013	3/10/95	2,4-D	10	ug/l		U	10	W
BLS013	3/10/95	Toxaphene	10	ug/l		U	10	W
BLS013	3/10/95	Methoxychlor	5	ug/l		U	5	W
BLS013	3/10/95	2,4,6-Trichlorophenol	0.1	mg/l		U	0.1	W

Attachment 3:
DOE 5400.5, Figure IV-1
Surface Contamination Guidelines

Figure IV-1
Surface Contamination Guidelines

<u>Radionuclides</u> ^{2/}	<u>Allowable Total Residual Surface Contamination</u> (dpm/100 cm ²) ^{1/}		
	<u>Average</u> ^{3/·4/}	<u>Maximum</u> ^{4/·5/}	<u>Removable</u> ^{4/·6/}
Transuranics, I-125, I-129, Ra-226, Ac-227, Ra-228, Th-228, Th-230, Pa-231.	RESERVED	RESERVED	RESERVED
Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232.	1,000	3,000	200
U-Natural, U-235, U-238, and associated decay product, alpha emitters.	5,000	15,000	1,000
Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above. ^{7/}	5,000	15,000	1,000

- ^{1/} As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute measured by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.
- ^{2/} Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exists, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.
- ^{3/} Measurements of average contamination should not be averaged over an area of more than 1 m². For objects of less surface area, the average should be derived for each such object.
- ^{4/} The average and maximum dose rates associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/h and 1.0 mrad/h, respectively, at 1 cm.
- ^{5/} The maximum contamination level applies to an area of not more than 100 cm².

Attachment 4: Bliss & Laughlin Steel Characterization

5-point Survey Data Special Finishing Area,

Survey of Elevated Locations in the Special finishing Area Identified by
Floor Monitor Scans,

5-point Survey of Area in Grid E16

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE						
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM				
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV			
N-0.5 E-0.5	29	37	492	484							
N-0.5 E-1.5	29	37	751	510	<Lc	-1	0	<Lc	-4	77	
N-0.5 E0.5	29	37	674	503	<Lc	2	6	<Lc	-21	76	
N-0.5 E1.5	<Lc	-7	7	907	525	<Lc	-1	0	<Lc	-50	72
N-0.5 E10.5	39	41	<Lc	0	431						
N-0.5 E11.5	20	32	<Lc	155	449						
N-0.5 E12.5	<Lc	2	19	466	482						
N-0.5 E13.5	<Lc	11	27	<Lc	233	457					
N-0.5 E14.5	20	32	389	474							
N-0.5 E15.5	48	45	<Lc	285	463						
N-0.5 E16.5	20	32	777	513	<Lc	-1	0	<Lc	8	79	
N-0.5 E17.5	<Lc	11	27	<Lc	78	440					
N-0.5 E18.5	29	37	674	503	<Lc	-1	0	<Lc	-59	71	
N-0.5 E19.5	20	32	<Lc	337	468						
N-0.5 E2.5	39	41	415	476							
N-0.5 E20.5	<Lc	-7	7	<Lc	52	437					
N-0.5 E21.5	<Lc	11	27	<Lc	363	471					
N-0.5 E3.5	29	37	440	479							
N-0.5 E4.5	39	41	<Lc	363	471						
N-0.5 E5.5	<Lc	11	27	751	510	<Lc	2	6	<Lc	-50	72
N-0.5 E6.5	<Lc	11	27	<Lc	104	443					
N-0.5 E7.5	<Lc	2	19	959	530	<Lc	2	6	<Lc	-54	72
N-0.5 E8.5	<Lc	2	19	<Lc	181	451					
N-0.5 E9.5	<Lc	-7	7	<Lc	363	471					
N-1.0 E-1.0	<Lc	11	27	518	487						
N-1.0 E-2.0	<Lc	11	27	700	505	5	8	<Lc	17	80	
N-1.0 E0.0	<Lc	2	19	415	476						
N-1.0 E1.0	20	32	<Lc	52	437						
N-1.0 E10.0	<Lc	2	19	518	487						
N-1.0 E11.0	29	37	<Lc	285	463						
N-1.0 E12.0	20	32	700	505	<Lc	2	6	<Lc	-25	75	
N-1.0 E13.0	<Lc	11	27	415	476						
N-1.0 E14.0	<Lc	2	19	<Lc	207	454					
N-1.0 E15.0	20	32	<Lc	104	443						
N-1.0 E16.0	<Lc	-7	7	<Lc	337	468					
N-1.0 E17.0	<Lc	2	19	440	479						
N-1.0 E18.0	20	32	<Lc	-104	419						
N-1.0 E19.0	<Lc	11	27	<Lc	363	471					
N-1.0 E2.0	<Lc	-7	7	440	479						
N-1.0 E20.0	<Lc	11	27	389	474						
N-1.0 E21.0	<Lc	2	19	389	474						
N-1.0 E22.0	29	37	<Lc	181	451						
N-1.0 E3.0	<Lc	11	27	<Lc	26	434					
N-1.0 E4.0	<Lc	2	19	466	482						
N-1.0 E5.0	<Lc	11	27	<Lc	52	437					
N-1.0 E6.0	<Lc	2	19	518	487						
N-1.0 E7.0	<Lc	-7	7	415	476						
N-1.0 E8.0	<Lc	-7	7	389	474						
N-1.0 E9.0	48	45	<Lc	-52	425						
N-1.5 E-0.5	NA	NA	NA	NA							
N-1.5 E-1.5	NA	NA	NA	NA							
N-1.5 E0.5	NA	NA	NA	NA							
N-1.5 E1.5	NA	NA	NA	NA							
N-1.5 E10.5	NA	NA	NA	NA							

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
 Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE			
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM	
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV
N-1.5 E11.5	NA	NA	NA	NA				
N-1.5 E12.5	NA	NA	NA	NA				
N-1.5 E13.5	NA	NA	NA	NA				
N-1.5 E14.5	NA	NA	NA	NA				
N-1.5 E15.5	NA	NA	NA	NA				
N-1.5 E16.5	NA	NA	NA	NA				
N-1.5 E17.5	NA	NA	NA	NA				
N-1.5 E18.5	NA	NA	NA	NA				
N-1.5 E19.5	NA	NA	NA	NA				
N-1.5 E2.5	NA	NA	NA	NA				
N-1.5 E20.5	NA	NA	NA	NA				
N-1.5 E21.5	NA	NA	NA	NA				
N-1.5 E3.5	NA	NA	NA	NA				
N-1.5 E4.5	NA	NA	NA	NA				
N-1.5 E5.5	NA	NA	NA	NA				
N-1.5 E6.5	NA	NA	NA	NA				
N-1.5 E7.5	NA	NA	NA	NA				
N-1.5 E8.5	NA	NA	NA	NA				
N-1.5 E9.5	NA	NA	NA	NA				
N-2.0 E-1.0	NA	NA	NA	NA				
N-2.0 E-2.0	NA	NA	NA	NA				
N-2.0 E0.0	NA	NA	NA	NA				
N-2.0 E1.0	NA	NA	NA	NA				
N-2.0 E10.0	NA	NA	NA	NA				
N-2.0 E11.0	NA	NA	NA	NA				
N-2.0 E12.0	NA	NA	NA	NA				
N-2.0 E13.0	NA	NA	NA	NA				
N-2.0 E14.0	NA	NA	NA	NA				
N-2.0 E15.0	NA	NA	NA	NA				
N-2.0 E16.0	NA	NA	NA	NA				
N-2.0 E17.0	NA	NA	NA	NA				
N-2.0 E18.0	NA	NA	NA	NA				
N-2.0 E19.0	NA	NA	NA	NA				
N-2.0 E2.0	NA	NA	NA	NA				
N-2.0 E20.0	NA	NA	NA	NA				
N-2.0 E21.0	NA	NA	NA	NA				
N-2.0 E22.0	NA	NA	NA	NA				
N-2.0 E3.0	NA	NA	NA	NA				
N-2.0 E4.0	NA	NA	NA	NA				
N-2.0 E5.0	NA	NA	NA	NA				
N-2.0 E6.0	NA	NA	NA	NA				
N-2.0 E7.0	NA	NA	NA	NA				
N-2.0 E8.0	NA	NA	NA	NA				
N-2.0 E9.0	NA	NA	NA	NA				
N0.0 E-1.0		29	37	415	476			
N0.0 E-2.0	<Lc	11	27	570	492			
N0.0 E0.0	<Lc	-4	20	544	457			
N0.0 E1.0		42	45	803	484	<Lc	2	6
N0.0 E10.0	<Lc	6	27	<Lc	155	413		
N0.0 E11.0	<Lc	-4	20	<Lc	259	425		
N0.0 E12.0	<Lc	6	27	<Lc	259	425		
N0.0 E13.0	<Lc	15	33	492	451			
N0.0 E14.0	<Lc	-4	20	<Lc	155	413		
N0.0 E15.0	<Lc	-13	10	<Lc	104	406		

<Lc indicates less than the critical level of activity which can be said to be above background.
 A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE							
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM					
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV				
N0.0 E16.0		33	41	492	451							
N0.0 E17.0	<Lc	15	33	<Lc	285	428						
N0.0 E18.0		24	37	<Lc	311	431						
N0.0 E19.0	<Lc	15	33		518	454						
N0.0 E2.0	<Lc	15	33		337	434						
N0.0 E20.0	<Lc	6	27	<Lc	155	413						
N0.0 E21.0	<Lc	-4	20	<Lc	259	425						
N0.0 E22.0	<Lc	6	27	<Lc	259	425						
N0.0 E3.0		61	52		440	446						
N0.0 E4.0	<Lc	6	27		518	454						
N0.0 E5.0	<Lc	15	33		466	449						
N0.0 E6.0		24	37		492	451						
N0.0 E7.0		33	41		803	484	<Lc	-1	0	<Lc	46	80
N0.0 E8.0	<Lc	-13	10		492	451						
N0.0 E9.0	<Lc	6	27		440	446						
N0.5 E-0.5		29	37		415	476						
N0.5 E-1.5	<Lc	-7	7		389	474						
N0.5 E0.5	<Lc	-4	20		440	446						
N0.5 E1.5		33	41	<Lc	311	431						
N0.5 E10.5	<Lc	15	33	<Lc	207	419						
N0.5 E11.5	<Lc	15	33		389	440						
N0.5 E12.5		42	45	<Lc	181	416						
N0.5 E13.5	<Lc	-4	20	<Lc	26	397						
N0.5 E14.5		24	37		596	463						
N0.5 E15.5	<Lc	15	33	<Lc	130	409						
N0.5 E16.5	<Lc	6	27		674	471						
N0.5 E17.5		42	45		518	454						
N0.5 E18.5		33	41	<Lc	104	406						
N0.5 E19.5	<Lc	15	33		570	460						
N0.5 E2.5	<Lc	15	33		725	476						
N0.5 E20.5	<Lc	15	33	<Lc	207	419						
N0.5 E21.5	<Lc	15	33		389	440						
N0.5 E3.5	<Lc	-4	20		492	451						
N0.5 E4.5		33	41		570	460						
N0.5 E5.5	<Lc	6	27		544	457						
N0.5 E6.5		33	41	<Lc	259	425						
N0.5 E7.5	<Lc	15	33		1425	545	<Lc	2	6	<Lc	-46	70
N0.5 E8.5		61	52		544	457						
N0.5 E9.5	<Lc	-4	20		907	495		5	8	<Lc	0	75
N1.0 E-1.0	<Lc	2	19	<Lc	233	457						
N1.0 E-2.0	<Lc	11	27		674	503	<Lc	-1	0		71	85
N1.0 E0.0	<Lc	-4	20	<Lc	181	416						
N1.0 E1.0		24	37		4949	805						
N1.0 E10.0		33	41	<Lc	104	406						
N1.0 E11.0		24	37	<Lc	311	431						
N1.0 E12.0		42	45		518	454						
N1.0 E13.0	<Lc	15	33	<Lc	285	428						
N1.0 E14.0	<Lc	6	27		674	471						
N1.0 E15.0		33	41		492	451						
N1.0 E16.0	<Lc	15	33	<Lc	130	409						
N1.0 E17.0	<Lc	-13	10	<Lc	104	406						
N1.0 E18.0		24	37		596	463						
N1.0 E19.0	<Lc	-4	20	<Lc	155	413	<Lc	2	6	<Lc	-21	76
N1.0 E2.0	<Lc	-4	20		1114	515	<Lc	2	6	<Lc	-17	76

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE			
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM	
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV
N1.0 E20.0	<Lc	-4	20	<Lc	26	397		
N1.0 E21.0	<Lc	15	33		492	451		
N1.0 E22		42	45	<Lc	181	416		
N1.0 E3.0	<Lc	15	33		518	454		
N1.0 E4.0	<Lc	-4	20	<Lc	233	422		
N1.0 E5.0	<Lc	15	33		544	457		
N1.0 E6.0	<Lc	-4	20		777	482	<Lc	2 6
N1.0 E7.0		24	37		674	471		
N1.0 E8.0	<Lc	6	27	<Lc	104	406		
N1.0 E9.0	<Lc	15	33	<Lc	233	422		
N1.5 E-0.5	<Lc	-7	7		492	484		
N1.5 E-1.5	<Lc	2	19	<Lc	78	440		
N1.5 E0.5	<Lc	-9	35	<Lc	134	442		
N1.5 E1.5	<Lc	18	47	<Lc	-134	410		
N1.5 E10.5	<Lc	28	50		857	519	<Lc	-1 0
N1.5 E11.5	<Lc	9	43		482	481		
N1.5 E12.5	<Lc	-18	30		1017	535	<Lc	2 6
N1.5 E13.5	<Lc	0	40	<Lc	321	463		
N1.5 E14.5	<Lc	18	47		857	519	<Lc	2 6
N1.5 E15.5	<Lc	-18	30		883	522	<Lc	-1 0
N1.5 E16.5	NA	NA		NA	NA			
N1.5 E17.5	NA	NA		NA	NA			
N1.5 E18.5	<Lc	-18	30		696	503		
N1.5 E19.5	<Lc	0	40		375	469		
N1.5 E2.5	<Lc	-18	30		375	469		
N1.5 E20.5	<Lc	0	40		1365	568	<Lc	-1 0
N1.5 E21.5	<Lc	0	40	<Lc	294	460		
N1.5 E3.5	<Lc	9	43	<Lc	214	451		
N1.5 E4.5	<Lc	-18	30		830	517	<Lc	-1 0
N1.5 E5.5		37	54		642	498		
N1.5 E6.5	<Lc	-18	30		910	525	<Lc	-1 0
N1.5 E7.5	<Lc	0	40	<Lc	294	460		
N1.5 E8.5	<Lc	9	43		589	492		
N1.5 E9.5	<Lc	-9	35		455	478		
N10.0 E-1.0	<Lc	2	19	<Lc	337	468		
N10.0 E-2.0		20	32	<Lc	259	460		
N10.0 E1.0	NA	NA		NA	NA			
N10.0 E10.0	<Lc	19	57		1040	611	<Lc	-1 0
N10.0 E11.0	<Lc	10	54		917	599	<Lc	-1 0
N10.0 E12.0	<Lc	-19	43		520	559		
N10.0 E13.0	<Lc	-48	28		734	581		
N10.0 E14.0	<Lc	-48	28		703	578		
N10.0 E15.0	<Lc	-39	34	<Lc	183	522		
N10.0 E16.0	<Lc	29	60		459	553		
N10.0 E17.0	NA	NA		NA	NA			
N10.0 E18.0	NA	NA		NA	NA			
N10.0 E19.0	NA	NA		NA	NA			
N10.0 E2.0	NA	NA		NA	NA			
N10.0 E20.0	NA	NA		NA	NA			
N10.0 E21.0	NA	NA		NA	NA			
N10.0 E22.0	<Lc	-10	47	<Lc	214	526		
N10.0 E3.0	<Lc	0	51	<Lc	214	526		
N10.0 E4.0	<Lc	-29	39		703	578		
N10.0 E5.0	<Lc	-29	39		428	549		

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE				
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	
N10.0 E6.0	<Lc	0	51	<Lc	-122	487			
N10.0 E7.0	<Lc	-39	34	<Lc	397	546			
N10.0 E8.0	<Lc	10	54	<Lc	61	509			
N10.0 E9.0	<Lc	-48	28	<Lc	306	536			
N10.5 E-0.5	<Lc	11	27		751	510	<Lc	2	6
N10.5 E-1.5	<Lc	11	27	<Lc	259	460			
N10.5 E0.5	<Lc	-9	35	<Lc	294	460			
N10.5 E1.5	NA	NA		NA	NA				
N10.5 E10.5	<Lc	18	47		776	511	<Lc	-1	0
N10.5 E11.5		46	57		723	506		<Lc	25
N10.5 E12.5	<Lc	0	40		482	481			
N10.5 E13.5	<Lc	9	43	<Lc	321	463			
N10.5 E14.5	<Lc	-28	24	<Lc	161	445			
N10.5 E15.5	<Lc	28	50		375	469			
N10.5 E16.5	<Lc	28	50		803	514			
N10.5 E17.5	<Lc	0	40	<Lc	-80	416	<Lc	-1	0
N10.5 E18.5		37	54		616	495	<Lc	-1	0
N10.5 E19.5	NA	NA		NA	NA				
N10.5 E2.5	NA	NA		NA	NA				
N10.5 E20.5	NA	NA		NA	NA				
N10.5 E21.5	NA	NA		NA	NA				
N10.5 E3.5	NA	NA		NA	NA				
N10.5 E4.5	NA	NA		NA	NA				
N10.5 E5.5	<Lc	9	43		535	487			
N10.5 E6.5	<Lc	28	50	<Lc	161	445			
N10.5 E7.5	<Lc	0	40	<Lc	-348	382			
N10.5 E8.5	<Lc	-9	35	<Lc	80	436			
N10.5 E9.5	<Lc	0	40	<Lc	54	433			
N11.0 E-1.0	<Lc	-7	7		415	476			
N11.0 E-2.0		20	32	<Lc	-104	419			
N11.0 E0.0	<Lc	6	27		415	443			
N11.0 E1.0		24	37	<Lc	52	400			
N11.0 E10.0	<Lc	-13	10	<Lc	181	416			
N11.0 E11.0	<Lc	15	33		829	487		5	8
N11.0 E12.0		24	37		725	476		<Lc	38
N11.0 E13.0		24	37	<Lc	285	428			
N11.0 E14.0		24	37	<Lc	311	431			
N11.0 E15.0		24	37		596	463			
N11.0 E16.0		33	41		415	443			
N11.0 E17.0		42	45		751	479			
N11.0 E18.0		52	49		725	476			
N11.0 E19.0	<Lc	-4	20		1062	510	<Lc	-1	0
N11.0 E2.0	<Lc	-4	20	<Lc	-52	387			
N11.0 E20.0	<Lc	-4	20	<Lc	130	409			
N11.0 E21.0	<Lc	6	27	<Lc	104	406			
N11.0 E22.0	<Lc	-4	20	<Lc	78	403			
N11.0 E3.0	<Lc	6	27	<Lc	104	406			
N11.0 E4.0	<Lc	-4	20	<Lc	104	406			
N11.0 E5.0	<Lc	-4	20	<Lc	26	397			
N11.0 E6.0	<Lc	-4	20		725	476			
N11.0 E7.0	<Lc	-13	10		518	454			
N11.0 E8.0	<Lc	6	27		492	451			
N11.0 E9.0	<Lc	6	27		492	451			
N11.5 E-0.5	<Lc	2	19	<Lc	337	468			

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE							
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM					
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV				
N11.5 E-1.5		20	32	<Lc	-52	425						
N11.5 E0.5	<Lc	28	50	<Lc	348	466						
N11.5 E1.5	<Lc	-28	24		883	522	<Lc	-1	0	<Lc	-38	71
N11.5 E10.5	<Lc	-28	24	<Lc	54	433						
N11.5 E11.5	<Lc	18	47		964	530	<Lc	-1	0	<Lc	21	77
N11.5 E12.5	<Lc	9	43		509	484						
N11.5 E13.5	<Lc	-9	35	<Lc	27	429						
N11.5 E14.5	<Lc	-9	35		509	484						
N11.5 E15.5	<Lc	0	40	<Lc	321	463						
N11.5 E16.5	<Lc	-9	35	<Lc	294	460						
N11.5 E17.5	<Lc	0	40		910	525	<Lc	-1	0	<Lc	-29	72
N11.5 E18.5	<Lc	-18	30		509	484						
N11.5 E19.5	NA	NA		NA	NA							
N11.5 E2.5	<Lc	9	43	<Lc	241	454						
N11.5 E20.5	NA	NA		NA	NA							
N11.5 E21.5	NA	NA		NA	NA							
N11.5 E3.5	<Lc	0	40	<Lc	294	460						
N11.5 E4.5	<Lc	-18	30		375	469						
N11.5 E5.5	<Lc	18	47		428	475						
N11.5 E6.5	<Lc	0	40		402	472						
N11.5 E7.5	<Lc	9	43	<Lc	80	436						
N11.5 E9.5	<Lc	0	40	<Lc	321	463						
N12.0 E-1.0		29	37	<Lc	285	463						
N12.0 E-2.0		39	41	<Lc	259	460						
N12.0 E1.0	<Lc	-10	47		3639	824	<Lc	2	6	<Lc	-33	71
N12.0 E10.0	<Lc	0	51	<Lc	397	546						
N12.0 E11.0	<Lc	-10	47		1254	631	<Lc	-1	0	<Lc	-38	71
N12.0 E12.0	<Lc	-10	47		581	565						
N12.0 E13.0	<Lc	-19	43		917	599	<Lc	-1	0	<Lc	-38	71
N12.0 E14.0	<Lc	-39	34		459	553						
N12.0 E15.0	<Lc	-29	39		826	590	<Lc	-1	0	<Lc	-25	72
N12.0 E16.0	<Lc	-10	47		581	565						
N12.0 E17.0	<Lc	-10	47		1284	634	<Lc	-1	0	<Lc	-50	70
N12.0 E18.0	<Lc	-39	34		673	575						
N12.0 E19.0	NA	NA		NA	NA							
N12.0 E2.0	<Lc	-10	47		1712	673	<Lc	-1	0		84	84
N12.0 E20.0	NA	NA		NA	NA							
N12.0 E21.0	NA	NA		NA	NA							
N12.0 E22.0	<Lc	-58	21		459	553						
N12.0 E3.0	<Lc	-19	43		1040	611		5	8	<Lc	-21	73
N12.0 E4.0	<Lc	-19	43		703	578	<Lc	-1	0	<Lc	13	76
N12.0 E5.0	<Lc	-29	39		917	599						
N12.0 E6.0	<Lc	-29	39		1192	626	<Lc	-1	0	<Lc	33	79
N12.0 E7.0	<Lc	-19	43		612	569						
N12.0 E8.0	<Lc	19	57	<Lc	367	543						
N12.0 E9.0	<Lc	10	54		734	581						
N12.5 E0.5		64	62		535	487						
N12.5 E1.5	<Lc	-9	35		776	511	<Lc	-1	0	<Lc	-50	70
N12.5 E10.5		39	41	<Lc	78	440						
N12.5 E11.5		48	45		596	495						
N12.5 E12.5		76	55	<Lc	52	437						
N12.5 E13.5		29	37	<Lc	181	451						
N12.5 E14.5		48	45	<Lc	0	431						
N12.5 E15.5		20	32	<Lc	311	465						

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE							
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM					
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV				
N12.5 E16.5	29	37	570	492								
N12.5 E17.5	<Lc	2	19	725	508	<Lc	2	6	<Lc	-17	76	
N12.5 E18.5	<Lc	2	19	<Lc	-26	428						
N12.5 E19.5	<Lc	-7	7	<Lc	52	437						
N12.5 E2.5	<Lc	-7	7	<Lc	363	471						
N12.5 E20.5		20	32	<Lc	285	463						
N12.5 E21.5	<Lc	2	19	<Lc	207	454						
N12.5 E3.5		29	37		389	474						
N12.5 E4.5	<Lc	2	19	<Lc	285	463						
N12.5 E5.5		39	41		570	492						
N12.5 E6.5		29	37	<Lc	26	434						
N12.5 E7.5	<Lc	11	27	<Lc	104	443						
N12.5 E8.5		20	32	<Lc	-52	425						
N12.5 E9.5		20	32	<Lc	155	449						
N13.0 E1.0	<Lc	-39	34	<Lc	397	546						
N13.0 E10.0	<Lc	-19	43		1559	659	<Lc	2	6	<Lc	-33	71
N13.0 E11.0	<Lc	0	51		1223	629	<Lc	-1	0	<Lc	4	76
N13.0 E12.0	<Lc	-39	34		459	553						
N13.0 E13.0	<Lc	29	60		1009	608	<Lc	-1	0	<Lc	-42	71
N13.0 E14.0	<Lc	10	54		826	590	<Lc	-1	0	<Lc	-4	75
N13.0 E15.0	<Lc	-10	47		948	602	<Lc	2	6	<Lc	-59	69
N13.0 E16.0	<Lc	0	51		581	565						
N13.0 E17.0	<Lc	-19	43		581	565						
N13.0 E18.0	<Lc	-29	39		673	575						
N13.0 E19.0	<Lc	-48	28	<Lc	153	519						
N13.0 E2.0	<Lc	-19	43		642	572						
N13.0 E20.0	<Lc	-19	43		734	581						
N13.0 E21.0	<Lc	-19	43		550	562						
N13.0 E22.0	<Lc	-19	43		734	581						
N13.0 E3.0	<Lc	-39	34	<Lc	-428	448						
N13.0 E4.0	<Lc	-39	34	<Lc	61	509						
N13.0 E5.0	<Lc	10	54	<Lc	336	539						
N13.0 E6.0	<Lc	-19	43	<Lc	336	539						
N13.0 E7.0	<Lc	0	51	<Lc	397	546						
N13.0 E8.0	<Lc	-39	34		459	553						
N13.0 E9.0	<Lc	-10	47		489	556						
N14.0 E0.0		24	37	<Lc	233	422						
N14.0 E1.0		42	45		363	437						
N14.0 E10.0		24	37		700	474						
N14.0 E11.0	<Lc	6	27		570	460						
N14.0 E12.0	<Lc	15	33		466	449						
N14.0 E13.0		24	37		337	434						
N14.0 E14.0	<Lc	15	33		959	500		5	8	<Lc	-13	76
N14.0 E15.0	<Lc	15	33	<Lc	259	425						
N14.0 E16.0	<Lc	-13	10		466	449						
N14.0 E17.0	<Lc	6	27	<Lc	285	428						
N14.0 E18.0	<Lc	6	27	<Lc	207	419						
N14.0 E19.0	<Lc	15	33	<Lc	0	393						
N14.0 E2.0	<Lc	6	27		622	465						
N14.0 E20.0	<Lc	6	27	<Lc	259	425						
N14.0 E21.0	<Lc	-13	10	<Lc	207	419						
N14.0 E22.0		24	37	<Lc	311	431						
N14.0 E3.0	<Lc	15	33	<Lc	259	425						
N14.0 E4.0	<Lc	-4	20		518	454						

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE						
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM				
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV			
N14.0 E5.0	<Lc	-13	10	518	454						
N14.0 E6.0	<Lc	6	27	<Lc	78	403					
N14.0 E7.0	<Lc	-13	10	570	460						
N14.0 E8.0	<Lc	-13	10	<Lc	130	409					
N14.0 E9.0	<Lc	-4	20	<Lc	-26	390					
N15.0 E1.0	<Lc	-48	28	520	559						
N15.0 E10.0	<Lc	29	60	764	584	<Lc	-1	0	<Lc	-38	71
N15.0 E11.0	<Lc	-39	34	887	596	<Lc	-1	0	<Lc	-21	73
N15.0 E12.0	<Lc	-19	43	917	599	<Lc	-1	0	<Lc	-50	70
N15.0 E13.0	<Lc	-19	43	<Lc	397	546					
N15.0 E14.0	NA	NA	NA	NA	NA						
N15.0 E15.0	<Lc	-48	28	<Lc	306	536					
N15.0 E16.0	<Lc	-19	43	<Lc	275	533					
N15.0 E17.0	<Lc	-10	47	550	562						
N15.0 E18.0	<Lc	-10	47	<Lc	275	533					
N15.0 E19.0	NA	NA	NA	NA	NA						
N15.0 E2.0	<Lc	0	51	642	572						
N15.0 E20.0	NA	NA	NA	NA	NA						
N15.0 E21.0	NA	NA	NA	NA	NA						
N15.0 E22.0	<Lc	-10	47	550	562						
N15.0 E3.0	<Lc	-19	43	1468	651	<Lc	2	6	<Lc	-17	73
N15.0 E4.0	<Lc	-10	47	948	602	<Lc	-1	0	<Lc	-4	75
N15.0 E5.0	<Lc	-10	47	<Lc	183	522					
N15.0 E6.0	<Lc	29	60	<Lc	397	546					
N15.0 E7.0	<Lc	-19	43	1009	608	5	8	<Lc	-33	71	
N15.0 E8.0	<Lc	-10	47	703	578						
N15.0 E9.0	<Lc	19	57	917	599	<Lc	2	6	<Lc	42	80
N16.0 E1.0	NA	NA	NA	NA	NA						
N16.0 E10.0	<Lc	0	51	1162	623	<Lc	2	6	<Lc	-8	74
N16.0 E11.0	67	71	1009	608	5	8	<Lc	4	76		
N16.0 E12.0	<Lc	10	54	1070	614	<Lc	-1	0	<Lc	21	77
N16.0 E13.0	<Lc	10	54	887	596	<Lc	-1	0	<Lc	0	75
N16.0 E14.0	NA	NA	NA	NA	NA						
N16.0 E15.0	NA	NA	NA	NA	NA						
N16.0 E16.0	<Lc	-19	43	673	575						
N16.0 E17.0	<Lc	10	54	<Lc	367	543					
N16.0 E18.0	<Lc	-39	34	<Lc	92	512					
N16.0 E19.0	<Lc	-19	43	<Lc	367	543					
N16.0 E2.0	<Lc	-39	34	703	578						
N16.0 E20.0	<Lc	-10	47	<Lc	245	529					
N16.0 E21.0	<Lc	10	54	520	559						
N16.0 E22.0	<Lc	-19	43	<Lc	397	546					
N16.0 E3.0	<Lc	19	57	<Lc	306	536					
N16.0 E4.0	<Lc	-10	47	428	549						
N16.0 E5.0	<Lc	-10	47	489	556						
N16.0 E6.0	<Lc	0	51	428	549						
N16.0 E7.0	<Lc	-19	43	<Lc	275	533					
N16.0 E8.0	<Lc	-39	34	489	556						
N16.0 E9.0	<Lc	-10	47	1223	629	<Lc	-1	0	<Lc	-17	73
N2.0 E-1.0	48	45	<Lc	363	471						
N2.0 E-2.0	<Lc	2	19	622	498	<Lc	-1	0	<Lc	-42	73
N2.0 E0.0	24	37	<Lc	259	425						
N2.0 E1.0	<Lc	-4	20	363	437						
N2.0 E10.0	<Lc	6	27	389	440						

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE						
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM				
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV			
N2.0 E11.0	52	49	1218	525	<Lc	-1	0	<Lc	-38	74	
N2.0 E12.0	24	37	622	465							
N2.0 E13.0	<Lc	6	27	1347	537	<Lc	-1	0	<Lc	-13	76
N2.0 E14.0	<Lc	6	27	596	463						
N2.0 E15.0	61	52	389	440							
N2.0 E16.0	NA	NA	NA	NA							
N2.0 E17.0	NA	NA	NA	NA							
N2.0 E18.0	24	37	1114	515	<Lc	-1	0	<Lc	-38	74	
N2.0 E19.0	<Lc	-4	20	725	476						
N2.0 E2.0	24	37	<Lc	181	416						
N2.0 E20.0	<Lc	-4	20	466	449						
N2.0 E21.0	<Lc	-13	10	570	460						
N2.0 E22.0	<Lc	-4	20	<Lc	78	403					
N2.0 E3.0	<Lc	-4	20	<Lc	181	416					
N2.0 E4.0	<Lc	15	33	674	471						
N2.0 E5.0	<Lc	-4	20	415	443						
N2.0 E6.0	33	41	389	440							
N2.0 E7.0	24	37	466	449							
N2.0 E8.0	<Lc	-13	10	363	437						
N2.0 E9.0	<Lc	-13	10	<Lc	26	397					
N2.5 E-0.5	<Lc	-7	7	674	503	<Lc	-1	0	<Lc	-42	73
N2.5 E-1.5	<Lc	11	27	<Lc	233	457					
N2.5 E0.5	<Lc	-18	30	750	509	<Lc	2	6	<Lc	-17	73
N2.5 E1.5	<Lc	9	43	482	481						
N2.5 E10.5	<Lc	-18	30	1419	572	<Lc	-1	0	<Lc	-63	68
N2.5 E11.5	<Lc	-9	35	883	522	<Lc	2	6	<Lc	4	76
N2.5 E12.5	<Lc	-9	35	883	522	<Lc	-1	0	<Lc	4	76
N2.5 E13.5	<Lc	-9	35	3105	708	<Lc	-1	0	<Lc	17	77
N2.5 E14.5	<Lc	-9	35	2757	682	<Lc	-1	0	<Lc	-8	74
N2.5 E15.5	<Lc	28	50	1419	572	<Lc	-1	0	<Lc	-13	74
N2.5 E16.5	NA	NA	NA	NA							
N2.5 E17.5	NA	NA	NA	NA							
N2.5 E18.5	<Lc	-9	35	723	506	<Lc	-1	0	<Lc	-42	71
N2.5 E19.5	<Lc	9	43	<Lc	321	463					
N2.5 E2.5	<Lc	18	47	<Lc	-134	410					
N2.5 E20.5	<Lc	-9	35	<Lc	321	463					
N2.5 E21.5	<Lc	9	43	<Lc	321	463					
N2.5 E3.5	<Lc	0	40	1151	548	<Lc	2	6	<Lc	-33	71
N2.5 E4.5	<Lc	-18	30	1553	584	<Lc	2	6	<Lc	-33	71
N2.5 E5.5	<Lc	-9	35	562	489						
N2.5 E6.5	<Lc	0	40	455	478						
N2.5 E7.5	<Lc	-18	30	803	514	<Lc	-1	0	<Lc	-29	72
N2.5 E8.5	<Lc	9	43	482	481						
N2.5 E9.5	<Lc	-28	24	803	514						
N3.0 E-1.0	<Lc	11	27	518	487						
N3.0 E-2.0	20	32	<Lc	155	449						
N3.0 E0.0	<Lc	6	27	<Lc	104	406					
N3.0 E1.0	24	37	440	446							
N3.0 E10.0	<Lc	-4	20	959	500	<Lc	-1	0	<Lc	-21	76
N3.0 E11.0	24	37	2176	609	<Lc	2	6	<Lc	-8	77	
N3.0 E12.0	<Lc	15	33	829	487	<Lc	2	6	<Lc	-13	76
N3.0 E13.0	<Lc	-4	20	108045	3303						
N3.0 E14.0	33	41	1399	542	<Lc	2	6	<Lc	-25	75	
N3.0 E15.0	24	37	4042	746	<Lc	-1	0	<Lc	-8	77	

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE						
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM				
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV			
N3.0 E16.0		24	37	6063	871	<Lc	2	6	<Lc	-54	72
N3.0 E17.0	<Lc	6	27	4405	770		8	10	<Lc	0	78
N3.0 E18.0	<Lc	15	33	648	468						
N3.0 E19.0	<Lc	-4	20	725	476						
N3.0 E2.0	<Lc	15	33	622	465						
N3.0 E20.0	<Lc	6	27	<Lc	155	413					
N3.0 E21.0	<Lc	6	27	<Lc	207	419					
N3.0 E22.0		125	71	337	434						
N3.0 E3.0		70	55	803	484						
N3.0 E4.0	<Lc	15	33	622	465		5	8	<Lc	-4	77
N3.0 E5.0	<Lc	-4	20	674	471						
N3.0 E6.0	<Lc	15	33	725	476						
N3.0 E7.0		33	41	751	479						
N3.0 E8.0	<Lc	6	27	466	449						
N3.0 E9.0	<Lc	15	33	518	454						
N3.5 E-0.5	<Lc	11	27	<Lc	-207	406					
N3.5 E-1.5		20	32	<Lc	285	463					
N3.5 E0.5	<Lc	-9	35	375	469						
N3.5 E1.5	<Lc	-9	35	375	469						
N3.5 E10.5	<Lc	0	40	1526	582	<Lc	-1	0	<Lc	-25	72
N3.5 E11.5	<Lc	-9	35	<Lc	348	466					
N3.5 E12.5	<Lc	9	43	375	469						
N3.5 E13.5	<Lc	9	43	2329	649	<Lc	-1	0	<Lc	8	76
N3.5 E14.5	<Lc	28	50	7362	969	<Lc	-1	0	<Lc	-50	70
N3.5 E15.5	<Lc	-28	24	535	487						
N3.5 E17.5	<Lc	18	47	1258	558						
N3.5 E18.5	<Lc	-28	24	<Lc	268	457					
N3.5 E19.5	<Lc	-9	35	<Lc	294	460					
N3.5 E2.5		64	62	696	503						
N3.5 E20.5	<Lc	-28	24	509	484						
N3.5 E21.5	<Lc	0	40	482	481						
N3.5 E3.5	<Lc	9	43	1071	540	<Lc	2	6	<Lc	-21	73
N3.5 E4.5	<Lc	0	40	1660	594						
N3.5 E5.5	<Lc	18	47	375	469		8	10	<Lc	-42	71
N3.5 E6.5	<Lc	-18	30	616	495						
N3.5 E7.5	<Lc	-9	35	535	487						
N3.5 E8.5		74	65	616	495						
N3.5 E9.5		74	65	937	527	<Lc	2	6	<Lc	46	80
N4.0 E-1.0	<Lc	2	19	<Lc	207	454					
N4.0 E-2.0	<Lc	-7	7	518	487						
N4.0 E0.0	<Lc	-4	20	415	443						
N4.0 E1.0		42	45	492	451						
N4.0 E10.0		24	37	1036	508	<Lc	-1	0	<Lc	-21	76
N4.0 E11.0	<Lc	15	33	1036	508	<Lc	-1	0	<Lc	-33	74
N4.0 E12.0	<Lc	15	33	648	468						
N4.0 E13.0		24	37	959	500	<Lc	2	6	<Lc	33	81
N4.0 E14.0	<Lc	6	27	674	471						
N4.0 E15.0	<Lc	15	33	2565	640	<Lc	-1	0	<Lc	-33	74
N4.0 E16.0	<Lc	6	27	777	482	<Lc	-1	0	<Lc	-38	74
N4.0 E17.0	<Lc	-4	20	700	474						
N4.0 E18.0	<Lc	6	27	544	457						
N4.0 E19.0	<Lc	-4	20	1062	510	<Lc	-1	0	<Lc	-67	71
N4.0 E2.0	<Lc	6	27	933	498	<Lc	-1	0	<Lc	-17	76
N4.0 E20.0	<Lc	6	27	518	454						

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT						TRANSFERABLE					
	ALPHA/100 SQ CM			BETA-GAMMA/100 SQ CM			ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM			
	SMPL DPM	STD DEV		SMPL DPM	STD DEV		SMPL DPM	STD DEV	SMPL DPM	STD DEV		
N4.0 E21.0	<Lc	-4	20	570	460							
N4.0 E22.0	<Lc	15	33	440	446							
N4.0 E3.0		24	37	415	443							
N4.0 E4.0	<Lc	-4	20	337	434	<Lc	-1	0	<Lc	4	78	
N4.0 E5.0		42	45	<Lc	311	431						
N4.0 E6.0		52	49	751	479							
N4.0 E7.0		24	37	<Lc	285	428						
N4.0 E8.0	<Lc	6	27	492	451							
N4.0 E9.0	<Lc	15	33	363	437							
N4.5 E-0.5	<Lc	-7	7	959	530	<Lc	-1	0	<Lc	-42	73	
N4.5 E-1.5		20	32	466	482							
N4.5 E0.5	<Lc	0	40	535	487							
N4.5 E1.5	<Lc	-28	24	402	472							
N4.5 E10.5		46	57	883	522	<Lc	2	6	<Lc	21	77	
N4.5 E11.5		55	59	1365	568	<Lc	-1	0	<Lc	-8	74	
N4.5 E12.5		46	57	<Lc	0	426						
N4.5 E13.5	<Lc	9	43	5729	878	<Lc	-1	0	<Lc	4	76	
N4.5 E14.5		55	59	2597	670	<Lc	-1	0	<Lc	-8	74	
N4.5 E15.5	<Lc	-9	35	3748	753	<Lc	2	6	<Lc	-8	74	
N4.5 E16.5	<Lc	9	43	2168	636	<Lc	2	6	<Lc	-4	75	
N4.5 E17.5	<Lc	28	50	1044	538	<Lc	-1	0	<Lc	-46	70	
N4.5 E18.5	<Lc	28	50	455	478							
N4.5 E19.5	<Lc	9	43	<Lc	348	466						
N4.5 E2.5	<Lc	28	50	<Lc	214	451						
N4.5 E20.5	<Lc	9	43	402	472							
N4.5 E21.5	<Lc	-18	30	<Lc	187	448						
N4.5 E3.5		37	54	669	501							
N4.5 E4.5	<Lc	28	50	589	492							
N4.5 E5.5	<Lc	9	43	776	511	8	10	<Lc	-38	71		
N4.5 E6.5	<Lc	9	43	<Lc	348	466						
N4.5 E7.5	<Lc	-9	35	<Lc	214	451						
N4.5 E8.5		46	57	1151	548	<Lc	2	6	<Lc	-21	73	
N4.5 E9.5		46	57	1231	555	8	10	<Lc	46	80		
N5.0 E-1.0		20	32	<Lc	155	449						
N5.0 E-2.0	<Lc	11	27	<Lc	285	463						
N5.0 E0.0	<Lc	15	33	544	457							
N5.0 E1.0		33	41	<Lc	285	428						
N5.0 E10.0	<Lc	6	27	363	437							
N5.0 E11.0	<Lc	-4	20	648	468							
N5.0 E12.0		61	52	674	471							
N5.0 E13.0	<Lc	15	33	1658	566	<Lc	-1	0	<Lc	-63	71	
N5.0 E14.0		61	52	725	476							
N5.0 E15.0	<Lc	-4	20	700	474							
N5.0 E16.0	<Lc	-13	10	751	479							
N5.0 E17.0	<Lc	-13	10	544	457							
N5.0 E18.0		33	41	<Lc	285	428	<Lc	-1	0	<Lc	-67	71
N5.0 E19.0	<Lc	-4	20	1114	515	5	8	<Lc	50	83		
N5.0 E2.0		33	41	<Lc	233	422						
N5.0 E20.0	<Lc	-4	20	<Lc	104	406						
N5.0 E21.0	<Lc	-13	10	337	434							
N5.0 E22.0		24	37	363	437							
N5.0 E3.0	<Lc	15	33	415	443							
N5.0 E4.0		24	37	622	465							
N5.0 E5.0		33	41	596	463							

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE						
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM				
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV			
N5.0 E6.0		33	41	725	476						
N5.0 E7.0	<Lc	-4	20	1866	583	<Lc	2	6	<Lc	0	78
N5.0 E8.0	<Lc	-4	20	518	454						
N5.0 E9.0	<Lc	-4	20	<Lc	207	419					
N5.5 E-0.5	<Lc	11	27	1036	537	<Lc	-1	0	<Lc	-88	68
N5.5 E-1.5	<Lc	11	27	<Lc	155	449					
N5.5 E0.5	<Lc	-18	30	883	522	<Lc	2	6	<Lc	-59	69
N5.5 E1.5	<Lc	-28	24	2088	630	<Lc	-1	0	<Lc	-4	75
N5.5 E10.5	<Lc	-9	35	<Lc	294	460					
N5.5 E11.5	<Lc	28	50	937	527	<Lc	-1	0	<Lc	-13	74
N5.5 E12.5	<Lc	28	50	1151	548	<Lc	-1	0	<Lc	4	76
N5.5 E13.5	<Lc	28	50	<Lc	-27	423					
N5.5 E14.5	<Lc	18	47	<Lc	-80	416					
N5.5 E15.5	<Lc	9	43	455	478						
N5.5 E16.5	<Lc	0	40	<Lc	27	429					
N5.5 E17.5	<Lc	-9	35	<Lc	241	454					
N5.5 E18.5	<Lc	-9	35	723	506	<Lc	-1	0	<Lc	21	77
N5.5 E19.5	<Lc	0	40	<Lc	268	457					
N5.5 E2.5	<Lc	18	47	<Lc	268	457					
N5.5 E20.5	<Lc	-9	35	375	469						
N5.5 E21.5	<Lc	-9	35	642	498						
N5.5 E3.5	<Lc	-9	35	455	478						
N5.5 E4.5	<Lc	-9	35	642	498						
N5.5 E5.5		37	54	1606	589	<Lc	-1	0	<Lc	4	76
N5.5 E6.5		37	54	1231	555		5	8	<Lc	-13	74
N5.5 E7.5		37	54	562	489						
N5.5 E8.5	<Lc	18	47	402	472						
N5.5 E9.5	<Lc	28	50	803	514	<Lc	2	6	<Lc	-46	70
N6.0 E-1.0	<Lc	2	19	674	503	<Lc	-1	0	<Lc	-8	77
N6.0 E-2.0		57	48	<Lc	363	471					
N6.0 E0.0	<Lc	6	27	570	460						
N6.0 E1.0	<Lc	6	27	907	495	<Lc	2	6	<Lc	-59	71
N6.0 E10.0		33	41	<Lc	0	393					
N6.0 E11.0	<Lc	-4	20	389	440						
N6.0 E12.0	<Lc	-4	20	725	476						
N6.0 E13.0	<Lc	-4	20	492	451						
N6.0 E14.0	<Lc	-4	20	855	490	<Lc	2	6	<Lc	-13	76
N6.0 E15.0	<Lc	-4	20	622	465						
N6.0 E16.0	<Lc	-13	10	622	465						
N6.0 E17.0	<Lc	6	27	985	503	<Lc	-1	0	<Lc	-63	71
N6.0 E18.0	<Lc	-4	20	544	457						
N6.0 E19.0	<Lc	6	27	518	454						
N6.0 E2.0	<Lc	-4	20	<Lc	285	428					
N6.0 E20.0	<Lc	15	33	570	460						
N6.0 E21.0	<Lc	6	27	570	460						
N6.0 E22.0		33	41	777	482	<Lc	-1	0	<Lc	-25	75
N6.0 E3.0	<Lc	-13	10	<Lc	104	406					
N6.0 E4.0		24	37	596	463						
N6.0 E5.0	<Lc	6	27	570	460						
N6.0 E6.0		33	41	829	487	<Lc	-1	0	<Lc	-84	69
N6.0 E7.0	<Lc	15	33	725	476						
N6.0 E8.0		24	37	751	479						
N6.0 E9.0		33	41	14717	1273		5	8	<Lc	-13	76
N6.5 E-0.5		20	32	622	498	<Lc	-1	0	<Lc	-21	76

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE						
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM				
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV			
N6.5 E-1.5	<Lc	2	19	751	510	<Lc	-1	0	<Lc	-8	77
N6.5 E0.5	NA	NA		NA	NA						
N6.5 E1.5	NA	NA		NA	NA						
N6.5 E10.5	<Lc	0	51	1040	611	<Lc	-1	0	<Lc	-38	71
N6.5 E11.5	<Lc	19	57	887	596	<Lc	-1	0	<Lc	-17	73
N6.5 E12.5	<Lc	-39	34	978	605	<Lc	2	6	<Lc	17	77
N6.5 E13.5	<Lc	-19	43	<Lc	397	546					
N6.5 E14.5	<Lc	-58	21	612	569						
N6.5 E15.5	<Lc	-10	47	<Lc	336	539					
N6.5 E16.5	<Lc	-29	39	<Lc	92	512					
N6.5 E17.5	<Lc	19	57	826	590	<Lc	2	6	<Lc	-33	71
N6.5 E18.5	<Lc	-29	39	581	565						
N6.5 E19.5	<Lc	-10	47	<Lc	397	546					
N6.5 E2.5	<Lc	10	54	734	581						
N6.5 E20.5	<Lc	-19	43	<Lc	336	539					
N6.5 E21.5	<Lc	-39	34	<Lc	275	533					
N6.5 E3.5	<Lc	-48	28	612	569						
N6.5 E4.5	<Lc	0	51	<Lc	306	536					
N6.5 E5.5	<Lc	29	60	703	578						
N6.5 E6.5	<Lc	-19	43	1987	696	<Lc	2	6	<Lc	25	78
N6.5 E7.5	<Lc	-19	43	<Lc	245	529					
N6.5 E8.5	<Lc	10	54	612	569						
N6.5 E9.5	<Lc	19	57	1254	631	<Lc	2	6	<Lc	-21	73
N7.0 E-1.0	<Lc	2	19	<Lc	78	440					
N7.0 E-2.0		76	55	<Lc	78	440					
N7.0 E1.0	NA	NA		NA	NA						
N7.0 E10.0	<Lc	-19	43	<Lc	306	536					
N7.0 E11.0	<Lc	-10	47	<Lc	214	526					
N7.0 E12.0	<Lc	-19	43	520	559						
N7.0 E13.0	<Lc	-48	28	489	556						
N7.0 E14.0	<Lc	0	51	795	587	<Lc	-1	0	<Lc	-8	74
N7.0 E15.0	<Lc	10	54	550	562						
N7.0 E16.0	<Lc	-48	28	<Lc	122	516					
N7.0 E17.0	<Lc	-10	47	703	578						
N7.0 E18.0	<Lc	-10	47	550	562						
N7.0 E19.0	<Lc	-29	39	459	553						
N7.0 E2.0	NA	NA		NA	NA						
N7.0 E20.0	<Lc	-19	43	<Lc	367	543					
N7.0 E21.0	<Lc	10	54	<Lc	397	546					
N7.0 E22.0	<Lc	-48	28	1009	608	<Lc	-1	0	<Lc	-21	73
N7.0 E3.0	NA	NA		NA	NA						
N7.0 E4.0	<Lc	-39	34	428	549						
N7.0 E5.0		48	66	612	569						
N7.0 E6.0	<Lc	10	54	2721	756	5	8	<Lc	13	76	
N7.0 E7.0	<Lc	0	51	948	602	5	8	<Lc	42	80	
N7.0 E8.0		77	74	5595	953	5	8	<Lc	46	80	
N7.0 E9.0	<Lc	-29	39	2905	770	<Lc	2	6	<Lc	-21	73
N7.5 E-0.5		57	48	751	510	<Lc	-1	0	<Lc	-50	72
N7.5 E-1.5		48	45	<Lc	285	463					
N7.5 E0.5	<Lc	28	50	<Lc	241	454					
N7.5 E1.5	<Lc	-9	35	723	506	8	10	<Lc	-88	65	
N7.5 E10.5	<Lc	-28	24	<Lc	0	426					
N7.5 E11.5	<Lc	9	43	642	498						
N7.5 E12.5	<Lc	9	43	455	478						

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE							
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM					
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV				
N7.5 E13.5	<Lc	-18	30	<Lc	187	448						
N7.5 E14.5	<Lc	-9	35		1017	535	<Lc	2	6	<Lc	0	75
N7.5 E15.5	<Lc	-18	30		696	503						
N7.5 E16.5	<Lc	0	40		509	484						
N7.5 E17.5	<Lc	9	43		616	495						
N7.5 E18.5	<Lc	-9	35	<Lc	161	445						
N7.5 E19.5	<Lc	-28	24		455	478						
N7.5 E2.5	<Lc	-18	30		616	495						
N7.5 E20.5	<Lc	9	43	<Lc	241	454						
N7.5 E21.5	<Lc	0	40		482	481						
N7.5 E3.5	<Lc	-9	35		803	514	<Lc	2	6	<Lc	0	75
N7.5 E4.5		55	59		1419	572						
N7.5 E5.5		55	59		669	501						
N7.5 E6.5		258	103		857	519	<Lc	-1	0	<Lc	-4	75
N7.5 E7.5	<Lc	9	43		4819	823	<Lc	2	6	<Lc	-33	71
N7.5 E8.5	<Lc	-18	30		1767	603						
N7.5 E9.5	<Lc	0	40		1365	568	<Lc	2	6	<Lc	-71	67
N8.0 E-1.0	<Lc	11	27		1088	542	<Lc	2	6	<Lc	-33	74
N8.0 E-2.0		39	41	<Lc	0	431						
N8.0 E1.0	<Lc	-39	34	<Lc	153	519						
N8.0 E10.0	<Lc	-48	28		642	572						
N8.0 E11.0	<Lc	-19	43		948	602	<Lc	-1	0	<Lc	25	78
N8.0 E12.0	<Lc	19	57		1376	643	<Lc	-1	0	<Lc	-38	71
N8.0 E13.0	<Lc	10	54		917	599	<Lc	-1	0	<Lc	-4	75
N8.0 E14.0	<Lc	-48	28		581	565						
N8.0 E15.0	<Lc	-19	43	<Lc	367	543						
N8.0 E16.0	<Lc	-10	47		459	553						
N8.0 E17.0	<Lc	29	60		642	572						
N8.0 E18.0	<Lc	0	51	<Lc	275	533						
N8.0 E19.0	<Lc	-39	34		734	581						
N8.0 E2.0	<Lc	-29	39	<Lc	122	516						
N8.0 E20.0	<Lc	-39	34		550	562						
N8.0 E21.0	<Lc	0	51		550	562						
N8.0 E22.0	<Lc	-58	21	<Lc	397	546						
N8.0 E3.0	NA	NA		NA	NA							
N8.0 E4.0	<Lc	19	57	<Lc	336	539						
N8.0 E5.0	<Lc	-19	43		734	581						
N8.0 E6.0	<Lc	-10	47		1590	662	<Lc	2	6	<Lc	17	77
N8.0 E7.0		48	66		58554	2670		11	11	<Lc	-21	73
N8.0 E8.0	<Lc	19	57		1101	617	<Lc	2	6	<Lc	0	75
N8.0 E9.0	<Lc	-10	47		489	556						
N8.5 E-0.5	<Lc	2	19		674	503		5	8	<Lc	-63	71
N8.5 E-1.5		39	41		466	482						
N8.5 E0.5	<Lc	9	43	<Lc	294	460						
N8.5 E1.5	<Lc	-18	30		642	498						
N8.5 E10.5	<Lc	9	43		402	472						
N8.5 E11.5	<Lc	-9	35		857	519	<Lc	2	6	<Lc	-8	74
N8.5 E12.5	<Lc	0	40		803	514	<Lc	2	6	<Lc	-13	74
N8.5 E13.5	<Lc	-18	30		723	506		5	8	<Lc	4	76
N8.5 E14.5	<Lc	-18	30		455	478						
N8.5 E15.5	<Lc	0	40	<Lc	214	451						
N8.5 E16.5	<Lc	0	40		402	472						
N8.5 E17.5	<Lc	9	43		750	509	<Lc	2	6	<Lc	-17	73
N8.5 E18.5	<Lc	0	40		883	522	<Lc	-1	0	<Lc	17	77

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE							
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM					
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV				
N8.5 E19.5	<Lc	-18	30	<Lc	-294	389						
N8.5 E2.5	<Lc	18	47	<Lc	294	460						
N8.5 E20.5	<Lc	-28	24	<Lc	161	445						
N8.5 E21.5	<Lc	9	43	<Lc	214	451						
N8.5 E3.5	<Lc	9	43		375	469						
N8.5 E4.5	<Lc	18	47	<Lc	134	442						
N8.5 E5.5	<Lc	-18	30	<Lc	187	448						
N8.5 E6.5		64	62		6130	901	5	8	<Lc	59	81	
N8.5 E7.5	<Lc	9	43		509	484						
N8.5 E8.5	<Lc	18	47	<Lc	294	460						
N8.5 E9.5	<Lc	18	47		616	495						
N9.0 E-1.0	<Lc	11	27	<Lc	259	460						
N9.0 E-2.0		20	32	<Lc	130	446						
N9.0 E0.0	<Lc	-13	10		725	476						
N9.0 E1.0	<Lc	15	33		829	487	<Lc	-1	0	<Lc	-17	76
N9.0 E10.0		24	37	<Lc	181	416						
N9.0 E11.0	<Lc	6	27		751	479						
N9.0 E12.0	<Lc	15	33		855	490	<Lc	2	6	<Lc	-67	71
N9.0 E13.0		42	45		337	434						
N9.0 E14.0	<Lc	-4	20		648	468						
N9.0 E15.0		24	37		363	437						
N9.0 E16.0	<Lc	-4	20	<Lc	-52	387						
N9.0 E17.0	<Lc	-13	10		518	454						
N9.0 E18.0	<Lc	-4	20	<Lc	311	431						
N9.0 E19.0	<Lc	6	27	<Lc	285	428						
N9.0 E2.0	<Lc	6	27		985	503	<Lc	2	6	<Lc	-59	71
N9.0 E20.0	<Lc	-4	20	<Lc	78	403						
N9.0 E21.0	<Lc	6	27	<Lc	104	406						
N9.0 E22.0	<Lc	-4	20	<Lc	311	431						
N9.0 E3.0		33	41	<Lc	155	413						
N9.0 E4.0	<Lc	6	27		415	443						
N9.0 E5.0		24	37		570	460						
N9.0 E6.0		33	41	<Lc	207	419						
N9.0 E7.0	<Lc	-4	20	<Lc	181	416						
N9.0 E8.0	<Lc	-4	20		440	446						
N9.0 E9.0		33	41		518	454						
N9.5 E-0.5	<Lc	2	19	<Lc	78	440						
N9.5 E-1.5		20	32	<Lc	233	457						
N9.5 E0.5	<Lc	28	50	<Lc	107	439						
N9.5 E1.5	<Lc	-18	30	<Lc	27	429						
N9.5 E10.5		37	54		1419	572	<Lc	2	6	<Lc	4	76
N9.5 E11.5	<Lc	9	43		428	475						
N9.5 E12.5	<Lc	0	40	<Lc	241	454						
N9.5 E13.5		46	57		562	489						
N9.5 E14.5	<Lc	9	43	<Lc	294	460						
N9.5 E15.5	<Lc	-18	30	<Lc	54	433						
N9.5 E16.5	<Lc	0	40		402	472	5	8	<Lc	-25	72	
N9.5 E17.5	<Lc	-9	35		1151	548						
N9.5 E18.5		NA	NA		NA	NA						
N9.5 E19.5		NA	NA		NA	NA						
N9.5 E2.5	<Lc	9	43	<Lc	107	439						
N9.5 E20.5		NA	NA		NA	NA						
N9.5 E21.5		NA	NA		NA	NA						
N9.5 E3.5	<Lc	9	43		1098	543	<Lc	-1	0	<Lc	38	79

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
 Special Finishing Area - 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE			
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM	
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV
N9.5 E4.5	<Lc	-9	35	<Lc	187	448		
N9.5 E5.5	<Lc	0	40	<Lc	161	445		
N9.5 E6.5	<Lc	-9	35	<Lc	241	454		
N9.5 E7.5	<Lc	18	47	<Lc	187	448		
N9.5 E8.5	<Lc	-28	24	<Lc	214	451		
N9.5 E9.5	<Lc	0	40	<Lc	54	433		

<Lc indicates less than the critical level of activity which can be said to be above background.
 A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss and Laughlin Steel Characterization
 Survey of Elevated Locations in the Special Finishing Area Identified by Floor Monitor Scans

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE					
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM			
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV		
N 3.7 E 9.35	15	26	42270	2126	5	8	<Lc	12	76	
N 7.6 E 8.1	3165	335	135430	3755	224	50	1734	181		
N 8.1 E 7.2	181	81	280257	5384	72	28	258	98		
N 8.5 E 6.7	1129	200	29019	1776	17	14	152	89		
N 6.7 E 5.7	42	41	17213	1393	23	16	184	92		
N 8.2 E 0.1	98	60	218953	4763	<Lc	0	<Lc	33	78	
N 8.3 E 0.9	15	26	14777	1300	<Lc	0	<Lc	33	78	
N 4.8 E 11	33	36	55387	2422	<Lc	0	<Lc	25	77	
N 4.5 E 16.5	88	57	71985	2752	2	6	<Lc	20	77	
N 3.4 E 17	<Lc	6	19	6559	919	2	6	<Lc	-12	73

<Lc indicates less than the critical level of activity which can be said to be above background.
 A negative value is the calculated result of a reading which is below the instrument-specific background.

Bliss Laughlin Steel Characterization
Area in Grid E16, 5-point Survey

LOCATION/ITEM COORDINATES	DIRECT				TRANSFERABLE			
	ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM		ALPHA/100 SQ CM		BETA-GAMMA/100 SQ CM	
	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV	SMPL DPM	STD DEV
N 0 E 3	15	26	562	478				
N 1 E 3	24	32	589	481				
N 2 E 3	42	41	562	478				
N 0.5 E 3.5	24	32	669	489				
N 1.5 E 3.5	42	41	<Lc 187	436				
N 0 E 4	24	32	1526	572	5	8	<Lc 25	77
N 1 E 4	15	26	3641	738	2	6	<Lc 37	78
N 2 E 4	<Lc 6	19	402	460				
N 0.5 E 4.5	<Lc 6	19	642	487				
N 1.5 E 4.5	15	26	<Lc 321	451				
N 0 E 5	52	45	990	522	<Lc 0	0	<Lc 33	78
N 1 E 5	42	41	589	481				
N 2 E 5	24	32	1205	543	<Lc 0	0	<Lc 12	76
QC	33	36	937	517	<Lc 0	0	<Lc 0	74

<Lc indicates less than the critical level of activity which can be said to be above background.
A negative value is the calculated result of a reading which is below the instrument-specific background.

MAY 95 9:29

CCN: 129946

**FUSRAP COMMUNICATIONS DISTRIBUTION
DOE/ORO FORMER SITES RESTORATION DIVISION (EW-93)**

FSRD COMM TYPE 31B1B

SAIC SENSITIVE

DATE PROCESSED BY PDCC.

COMM REF _____

ADMIN RCD _____

SUBJECT BLS: TEL MEMO - Bliss and Laughlin Steel Char. Results

FROM Artates TO Newberry COMM DATE 5/16/95

ADDR CODE 1 CLOSING CCN _____ WBS 128

SUBJECT CODE 7315 AFFECTED DOCUMENT _____

RESPONSE TRACKING INFORMATION

ACTION DESCRIPTION: <u>N/A</u>	
PRIMARY:	PRIMARY:
OWED TO: _____	OWED BY: _____ (ORG) _____
(ORG) _____ TARGET DATE <u>1/1</u>	CLOSING CCN _____ COMPL DATE <u>1/1</u> CLOSING REF _____
SECONDARY:	SECONDARY:
OWED TO: _____	OWED BY: _____ (ORG) _____
(ORG) _____ TARGET DATE <u>1/1</u>	CLOSING CCN _____ COMPL DATE <u>1/1</u> CLOSING REF _____

MESSAGE:

*RAY PILON
USACE*

WIA W/O			WIA W/O					
DIRECTOR, FSRD:	L. Price	FSRD	PROGRAM MANAGER:	J. Waddell	SAIC	PROGRAM MANAGER:	R. Harbert	BPM
DER. DIRECTOR, FSRD:	W. Seay	FSRD	DEPUTY PROGRAM MGR:	T. Patterson	SAIC	DEPUTY PROGRAM MGR:	W. Futrell	BPM
	J. Hart	FSRD	MGMT. SYSTEMS:	K. Renfro	SAIC		W. Wagner	BPM
	D. Adler	FSRD	SECRETARY:	S. Heptinstall	SAIC		M. Redmon	BPM
	B. Atkin	FSRD	ORISE:		ORISE		G. Palau	BPM
	S. Cange	FSRD	ORNL:		ORNL		P. Huber	BPM
	J. Darby	FSRD					S. Priest	BPM
	E. Green	FSRD	<i>K. Ironside</i>	<i>SAK</i>	<i>1</i>	COMMUNITY RELATIONS		BCR
	G. Hartman	FSRD	<i>M. Bukhari</i>		<i>1</i>	CONSTRUCTION		BFC
	J. Japp	FSRD	<i>E. McNamee</i>		<i>1</i>	ENGINEERING & TECHNOLOGY		BET
	R. Kirk	FSRD	<i>C. Richardson (US)</i>		<i>1</i>	ENGINEERING		BET
	J. Kopotic	FSRD	<i>from Artates</i>		<i>1</i>	ENVIR TECH/DATA		BET
	L. Marz	FSRD	<i>to E. Newberry</i>		<i>1</i>	GEOTECH		BET
	M. Noe	FSRD				ENVIRON SAFETY & HEALTH		BEH
	S. Oldham	FSRD				SAFETY & HEALTH		BEH
	S. Williams	FSRD				ENVIR COMPLIANCE		BEH
PRGM ANALYST:	K. Houser	FSRD				WASTE MGMT & TREATMENT		BEH
SECRETARY:	M. Seiber/M. Dyke/ T. Patterson	FSRD				PROCUREMENT		BPO
						PROJECT ADMINISTRATION		BPA
FSRD CHRON FILE		<i>1</i>	TMA/EBERLINE		BET	PROJECT AUTOMATION		BAU
FSRD NOTEBOOKS			SITES: 158 NFSS			PROJECT CONTROLS		BPC
READING FILE			TONAWANDA INFO CTR.			TECHNICAL REPORTS		BTR
DOE/P&CD:	French	DCO	137 WISS			QUALITY ASSURANCE		BQA
DOE/HQ:	J. Wagoner	DHQ	138 MISS/INFO CTR			ADMIN RCD/INFO REPOSITORY		
ANL:	A. Geisler	ANL	139 COLONIE (CISS)					
	G. Maraman	ANL	140 / 153 LATTY AVE/SLAPS			PDCC READ FILE TO/FROM DOE		
	D. Dunning	ANL				PDCC: SENSITIVE/CHRON FILE		<i>1</i>