

NRC FORM 303
(4-2004)

U.S. NUCLEAR REGULATORY COMMISSION

REQUEST FOR ANALYSIS AND
CHAIN OF CUSTODY

LABORATORY -- ORISE

LABORATORY USE ONLY

CONTROL NUMBER

HEM-2015-01

SAMPLE LOCATION (LICENSEE)

Hematite Survey Units: LSA 10-11; LSA 10-13; and LSA 10-14

LICENSE NO.

SNM-00033

DOCKET NO.

070-00036

SAMPLE SUBMITTED

# TOTAL	TYPE	VOLUME	WEIGHT
5	Sediment	1000 ml ea.	
29	Soil		@ 1 - 2 kg ea.

DATE SAMPLES SUBMITTED

04/24/2015

PRIORITY

☐ ROUTINE☒ URGENT

SAMPLE COLLECTION INTERVAL

	MONTH	DAY	YEAR	TIME
START	04	21	2015	9:30 AM
STOP	04	23	2015	12:05 PM

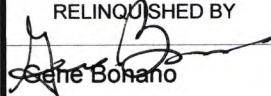
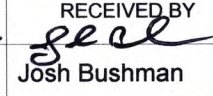
INSPECTOR RESPONSIBLE

Gene Bonano

TELEPHONE NUMBER

630-829-9826

ANALYSIS TO BE PERFORMED	LIST DESIRED LLD (Optional)	OTHER TYPE OF ANALYSIS (Specify)	LIST DESIRED LLD (Optional)
<input type="checkbox"/> GROSS ALPHA (GA)		<input checked="" type="checkbox"/> Tc-99	
<input type="checkbox"/> GROSS BETA (GB)		<input checked="" type="checkbox"/> Ra-226 with 21 day ingrowth	
<input checked="" type="checkbox"/> GAMMA SPEC (GS)		<input checked="" type="checkbox"/> Th-232	
<input type="checkbox"/> TRITIUM (H3)		<input checked="" type="checkbox"/> U-238, U-234, U-235	
<input type="checkbox"/> CARBON-14 (C14)		<input type="checkbox"/>	
<input type="checkbox"/> IODINE-125 (I125)		<input type="checkbox"/>	

RELINQUISHED BY	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
 Gene Bonano	 Josh Bushman	04/24/2015	9:15 AM	Hematite will facilitate shipment to ORAU

FEE RECOVERABLE

☐

NO

☒

YES

IF YES TAC
NUMBER

07000036/2015002

REMARKS

Isotopic analysis for U-238, U-234, and U-235; also analyze for: Tc-99; Ra-226 with a 21 day ingrowth; and Th-232
Report out U-235 enrichment...

Licensee analyses Tc-99 by ICP-MS (Inductively Coupled Plasma Mass Spectrometry)

Please contact the inspector to discuss further the counting/analysis objectives.

Hold on to samples until released by NRC...

Note! All samples shipped in 3 separate cooler containers...

NOTE: SAMPLES WILL BE DISCARDED AFTER ANALYSIS UNLESS REASONS ARE NOTED IN REMARKS ABOVE.

NRC FORM 303 (4-2004)		U.S. NUCLEAR REGULATORY COMMISSION		LABORATORY USE ONLY	
SAMPLE RECORD -- (Continued) LABORATORY -- ORISE				CONTROL NUMBER HEM-2015-01	
SAMPLE NUMBER	SAMPLE NAME AND DESCRIPTION	COLLECTION DATE/TIME	REMARKS, PRESERVATIVE ANALYSIS REQUESTED, ETC.		
HEM-15-1-01	Joachim Creek Lat.: 38.20728, Long.: -9047022	04/21/2015 9:30 AM	Sediment, 4K cpm on contact...		
HEM-15-1-02	Joachim Creek <i>Lat.: 38.20615 Long.: -9047253</i>	04/21/2015 10:00 AM	Sediment, 3.8K cpm on contact...		
HEM-15-1-03	Joachim Creek <i>midway between site creek injection point and #2</i>	04/21/2015 10:20 AM	Sediment, 4K cpm on contact...		
HEM-15-1-04	Joachim Creek <i>HDP site creek injection</i>	04/21/2015 10:30 AM	Sediment, 3.9K cpm on contact...		
HEM-15-1-05	Joachim Creek <i>110 yds upstream of HDP site creek injection point</i>	04/21/2015 10:45 AM	Sediment, 3.6K cpm on contact...		
HEM-15-1-06	LSA 10-11	04/22/2015 10:05 AM	Soil, 4.9K cpm on contact...		
HEM-15-1-07	LSA 10-11	04/22/2015 10:25 AM	Soil, 5K cpm on contact...		
HEM-15-1-08	LSA 10-11	04/22/2015 10:38 AM	Soil, 4.6K cpm on contact...		
HEM-15-1-09	LSA 10-11	04/22/2015 10:50 AM	Soil, 4.9K cpm on contact...		
HEM-15-1-10	LSA 10-11	04/22/2015 10:57 AM	Soil, 4.8K cpm on contact...		
HEM-15-1-11	LSA 10-11	04/22/2015 11:05 AM	Soil, 4.5K cpm on contact...		
HEM-15-1-12	LSA 10-11	04/22/2015 11:17 AM	Soil, 4.5K cpm on contact...		
HEM-15-1-13	LSA 10-11	04/22/2015 11:28 AM	Soil, 4.8K cpm on contact...		
HEM-15-1-14	LSA 10-11	04/22/2015 11:40 AM	Soil, 4.7K cpm on contact...		
HEM-15-1-14B	LSA 10-11	04/22/2015 11:51 AM	Soil, 4.9K cpm on contact...		
HEM-15-1-15	LSA 10-11, Split: L10-11-18-B-R-B-00	04/22/2015 12:02 PM	Soil, 4.9K cpm on contact...		
HEM-15-1-16	LSA 10-11, Split: L10-11-19-B-R-B-00	04/22/2015 12:20 PM	Soil, 4.7K cpm on contact...		
HEM-15-1-16B	LSA 10-11	04/22/2015 12:27 PM	Soil, 4.7K cpm on contact...		
HEM-15-1-17	ANG, north open field	04/22/2015 3:35 PM	Soil, 4.6K cpm on contact...		
HEM-15-1-18	ANG, north open field	04/22/2015 3:41 PM	Soil, 4.8K cpm on contact...		
HEM-15-1-19	LSA 10-13	04/23/2015 9:32 AM	Soil, 5.5K cpm on contact...		
HEM-15-1-20	LSA 10-13	04/23/2015 10:00 AM	Soil, 4.7K cpm on contact...		
HEM-15-1-21	LSA 10-13	04/23/2015 10:08 AM	Soil, 4.7K cpm on contact...		
HEM-15-1-22	LSA 10-13	04/23/2015 10:21 AM	Soil, 4.8K cpm on contact...		
HEM-15-1-23	LSA 10-13	04/23/2015 10:35 AM	Soil, 5.6K cpm on contact...		
HEM-15-1-24	LSA 10-13	04/23/2015 10:50 AM	Soil, 5.7K cpm on contact...		
HEM-15-1-25	LSA 10-13	04/23/2015 11:02 AM	Soil, 5.8K cpm on contact...		

[illegible]



Sediment Sample Locations from Joachim Creek, 1 through 5

NRC SAMPLE IDS: HEM-15-1-01
HEM-15-1-02
HEM-15-1-03
HEM-15-1-04
HEM-15-1-05

Note: Sample ID numbers correlate
with sample locations shown on
map, respectively...

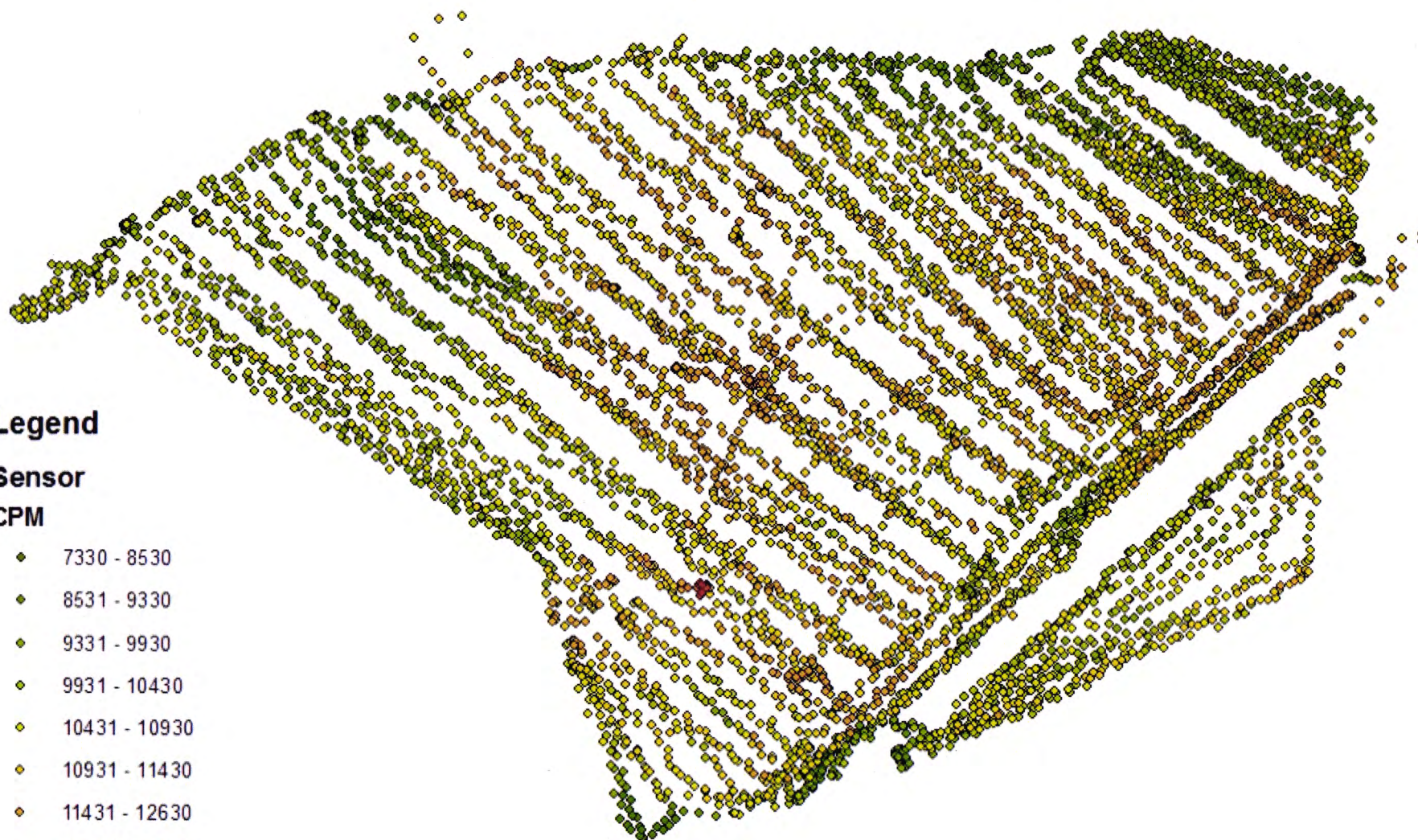


HDP Unit 10-11 Confirmatory Surveys April 2015

Legend

Sensor CPM

- 7330 - 8530
- 8531 - 9330
- 9331 - 9930
- 9931 - 10430
- 10431 - 10930
- 10931 - 11430
- 11431 - 12630
- 12631 - 14430
- 14431 - 16730
- 16731 - 18730



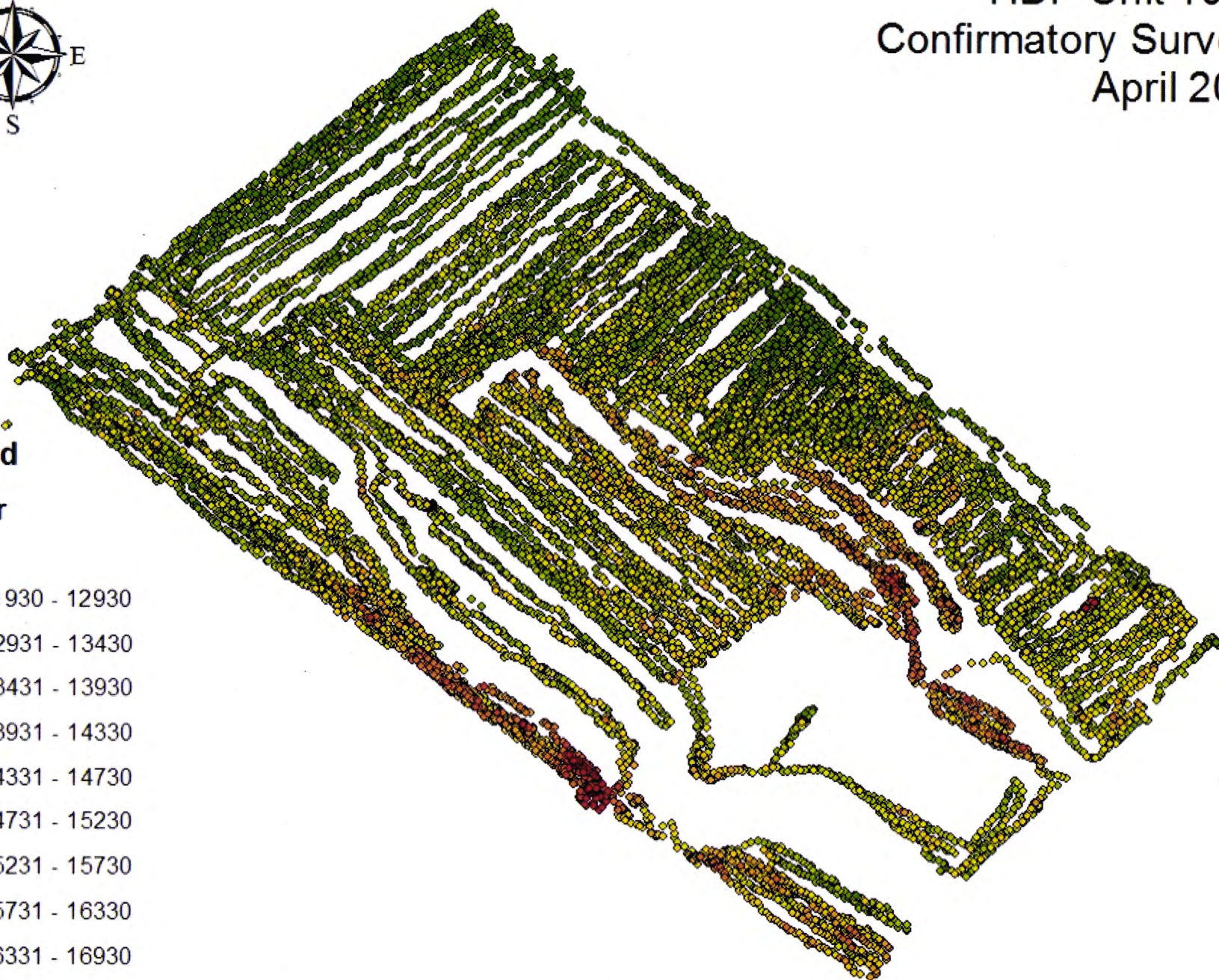


HDP Unit 10-13
Confirmatory Surveys
April 2015

Legend

**Sensor
CPM**

- 11930 - 12930
- 12931 - 13430
- 13431 - 13930
- 13931 - 14330
- 14331 - 14730
- 14731 - 15230
- 15231 - 15730
- 15731 - 16330
- 16331 - 16930
- 16931 - 17830



LSA 10-14 Gamma Walkover Survey

LSA 10-13

LSA 10-05

LSA 10-14
1756 m² Planar Area

Legend

CPM

- 6075.000000 - 10200.000000
- 10200.000001 - 11000.000000
- 11000.000001 - 11800.000000
- 11800.000001 - 12600.000000
- 12600.000001 - 13400.000000
- 13400.000001 - 14200.000000
- 14200.000001 - 20000.000000

0 10 20 40 60 80

Feet

