MEMORANDUM

100-02

WGII/PMC/SEA
Los Alamos Team

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Los Alamos NM 87544
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TO: File

FROM: Keith Tucker

DATE: August 10, 2001

SUBJ: Sampling Activities at PRS 3-054(c)

This memo, and attachments, will serve as a record of the sampling activities that were conducted at PRS 3-054(c) on August 2, 2001. PRS 3-054(c) is the former location of cooling tower TA-3-156 (now removed). All that remains is the concrete pad of the former pump house. The tower and associated drainage systems were located on the northwest corner of building 287. This outfall enters the storm drainage system near TA-3-105. The outfall was designated NPDES no. EPA03A023. The potential contaminant associated with the cooling towers is chromates, which reportedly were used as a biocide and scale inhibitor in cooling water. It is important to note that all facility personnel associated with the maintenance and operation of cooling tower 3-156 have confirmed that chromates were not used in the cooling tower water, and that the effluent was discharged directly into the storm sewer.

Please refer to the attachments for a description of the sampling strategy as well as all pertinent sampling information; i.e. sample locations, sample id#'s, etc.

Signed,

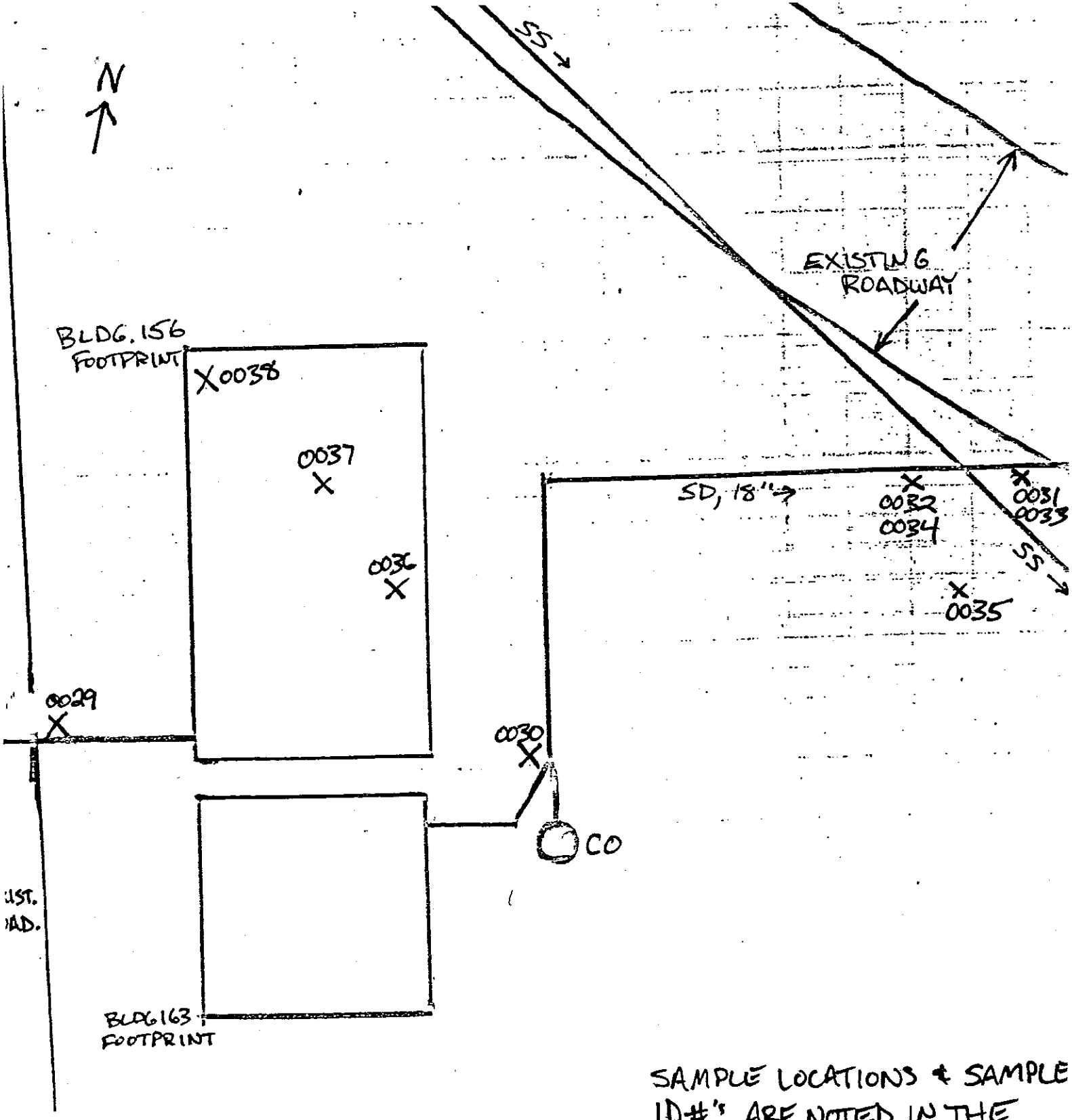
Keith Tucker
Science & Engineering Associates, Inc.
(505)662-1329

Washington

PMC Environmental

Science & Engineering Associates, Inc.

31017



SAMPLE LOCATIONS & SAMPLE ID#'S ARE NOTED IN THE FOLLOWING MANNER;

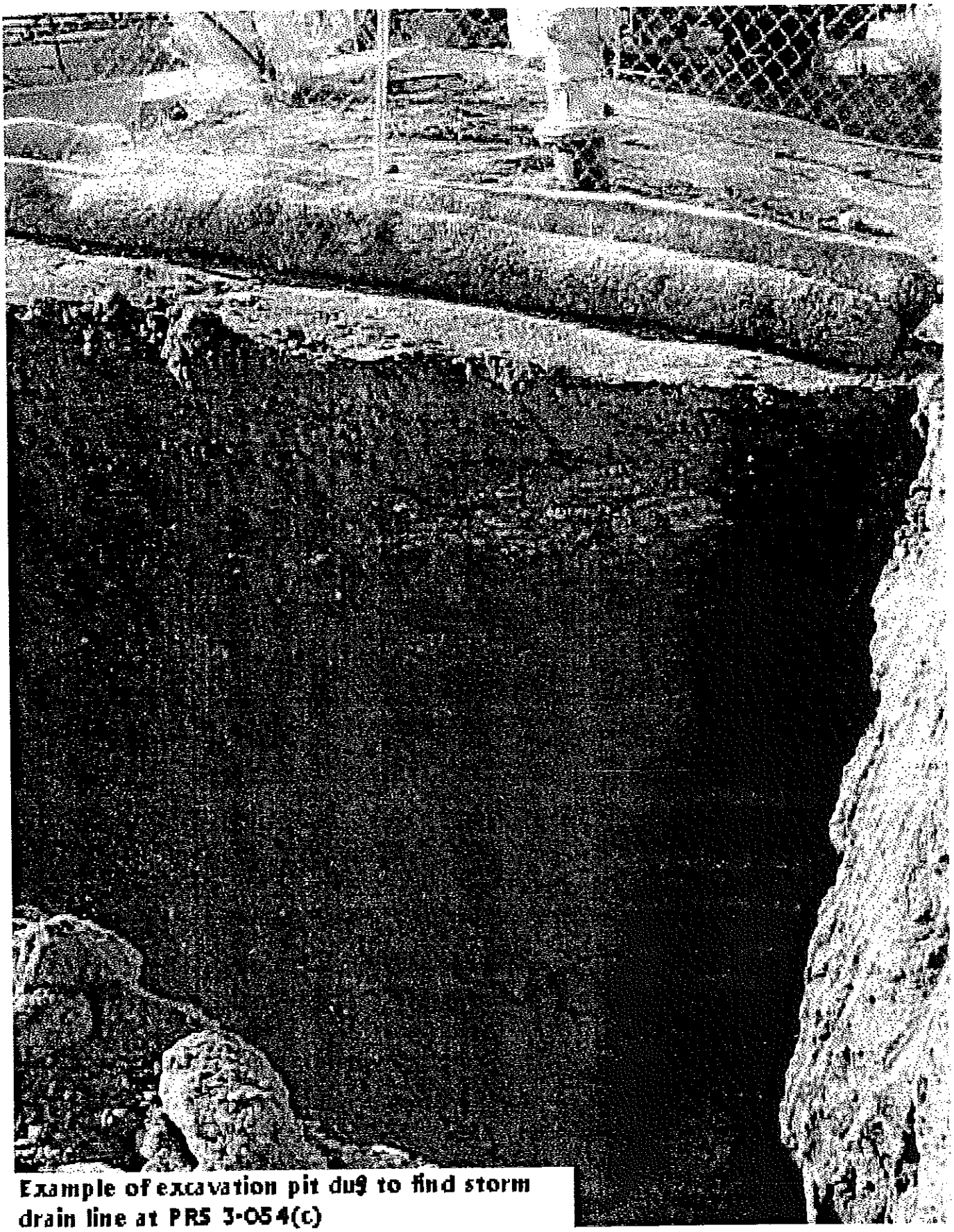
EXAMPLE; X0001

PRS 3-054(c) SAMPLE LOCATIONS

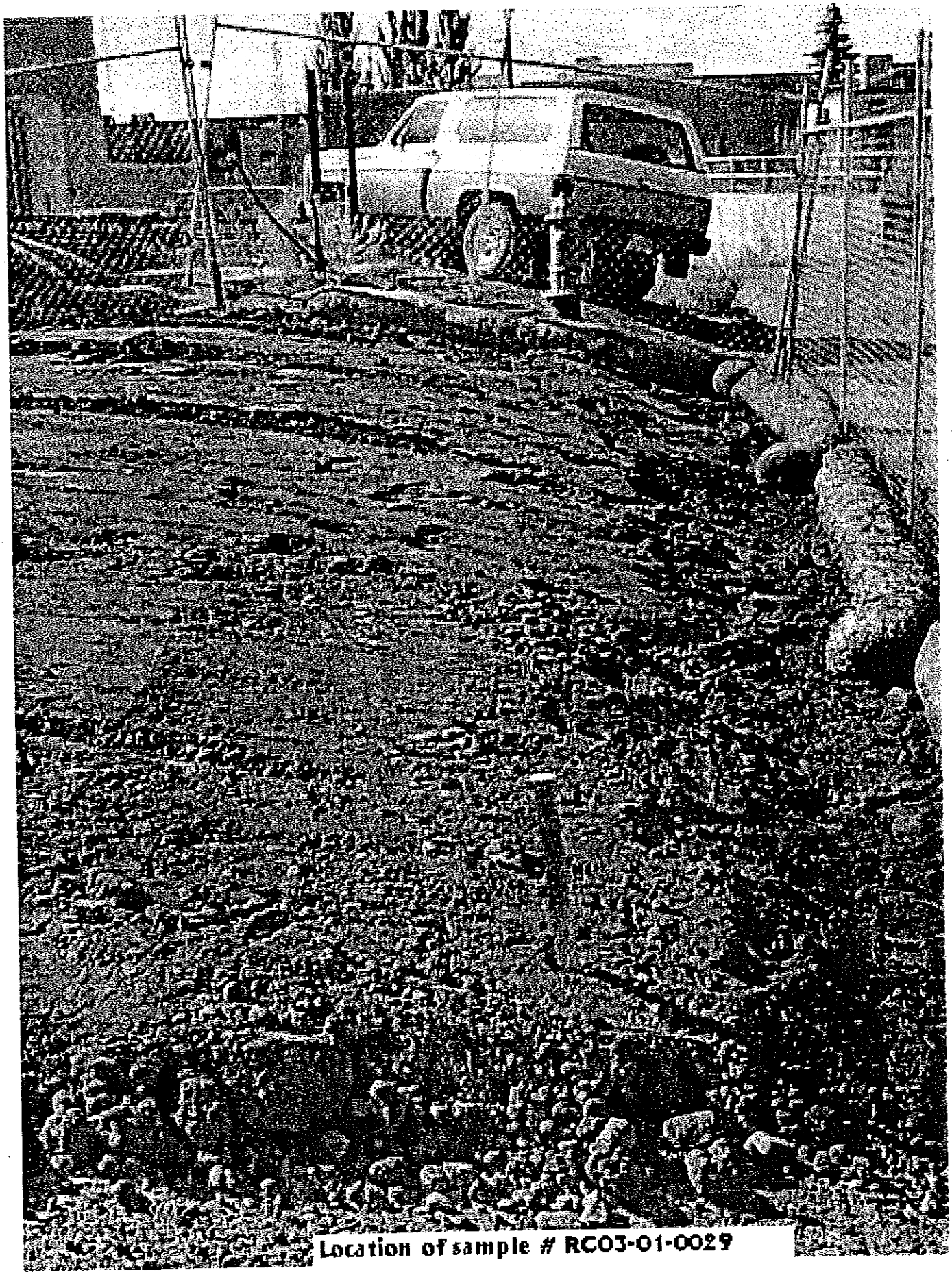
SAMPLE STRATEGY FOR PRS 3-054(c)

1. Excavate down to the drain lines that run west from the bldg. 156 footprint (3" line) to the existing roadway, and east from the bldg. 163 footprint (18" line) to the existing roadway
2. Cut off drain lines and pull them out of the excavation trench
3. Wrap drain lines with 6mil plastic liner and stage them onsite
4. Sample directly underneath the drain lines in approximately 3 different locations
   - 2 of 3 samples will include TALMetals, HexCr, and TCLPMetals
   - 1 sample will be a full suite, including TALMetals, HexCr, TCLPMetals, VOA, SVOA, and Radvan
5. Excavate 2ft below the original sample locations
   - Sample for TALMetals and HexCr
6. Pull approximately 2 samples from the pile generated by excavation of the drain lines
   - Sample for TALMetals, HexCr, and TCLPMetals
7. Excavate fill material at the footprint of bldg. 156 to the fill/soil interface
8. Pull samples at the fill/soil interface at bldg. 156 in approximately 3 different locations
   - Sample for TALMetals, HexCr, and TCLPMetals

Sampling Site	**TAL Metals**	**HexCr**	**TCLP**	**VOA**	**SVOA**	**Radvan**
Drain line	3 locations	3 locations	3 locations	1 location	1 location	1 location
2ft below drain line	3 locations	3 locations				
Excavated soil	2 locations	2 locations	2 locations			
Bldg. 156 footprint	3 locations	3 locations	3 locations			

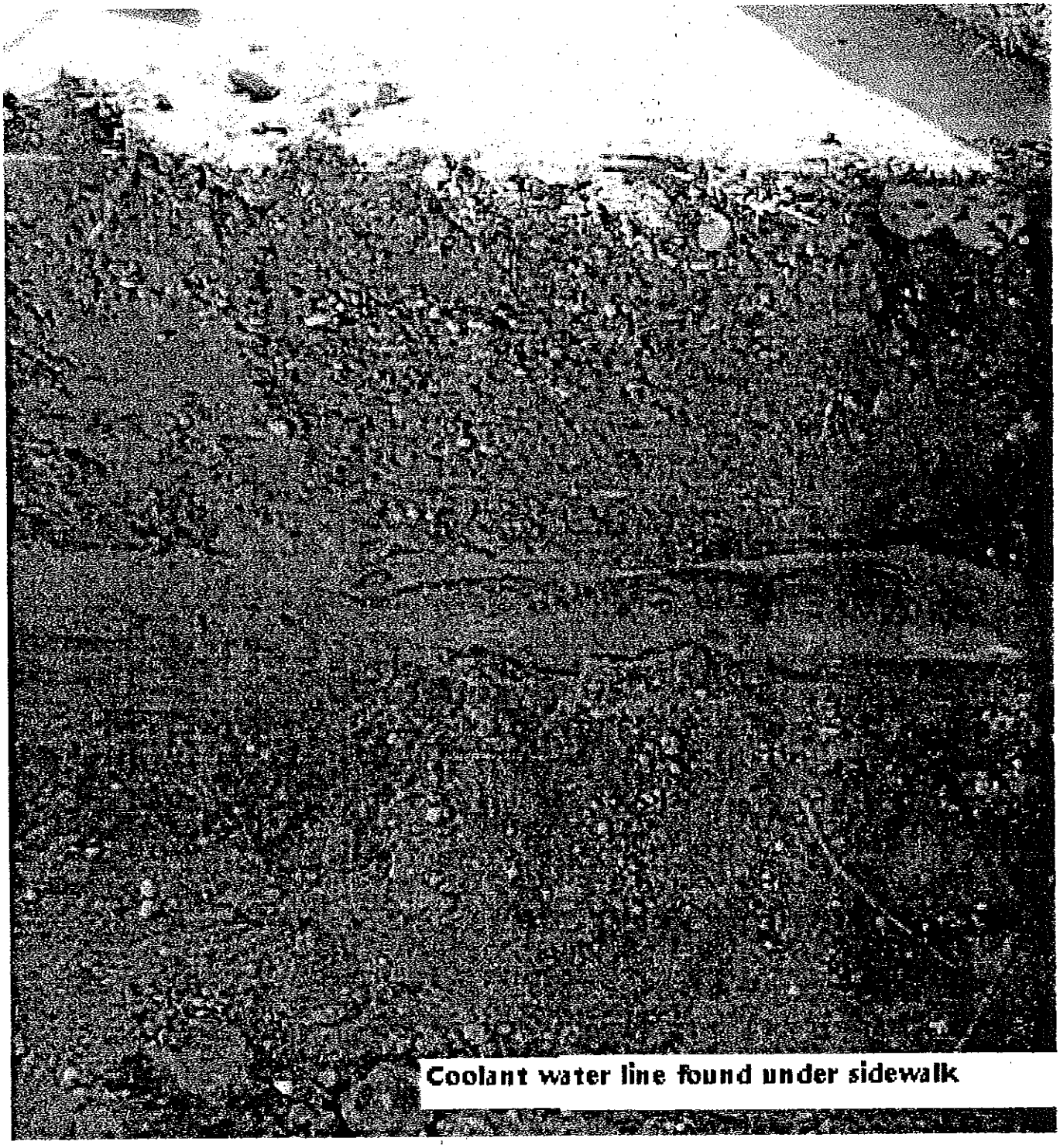


Example of excavation pit dug to find storm drain line at PRS 3-054(c)

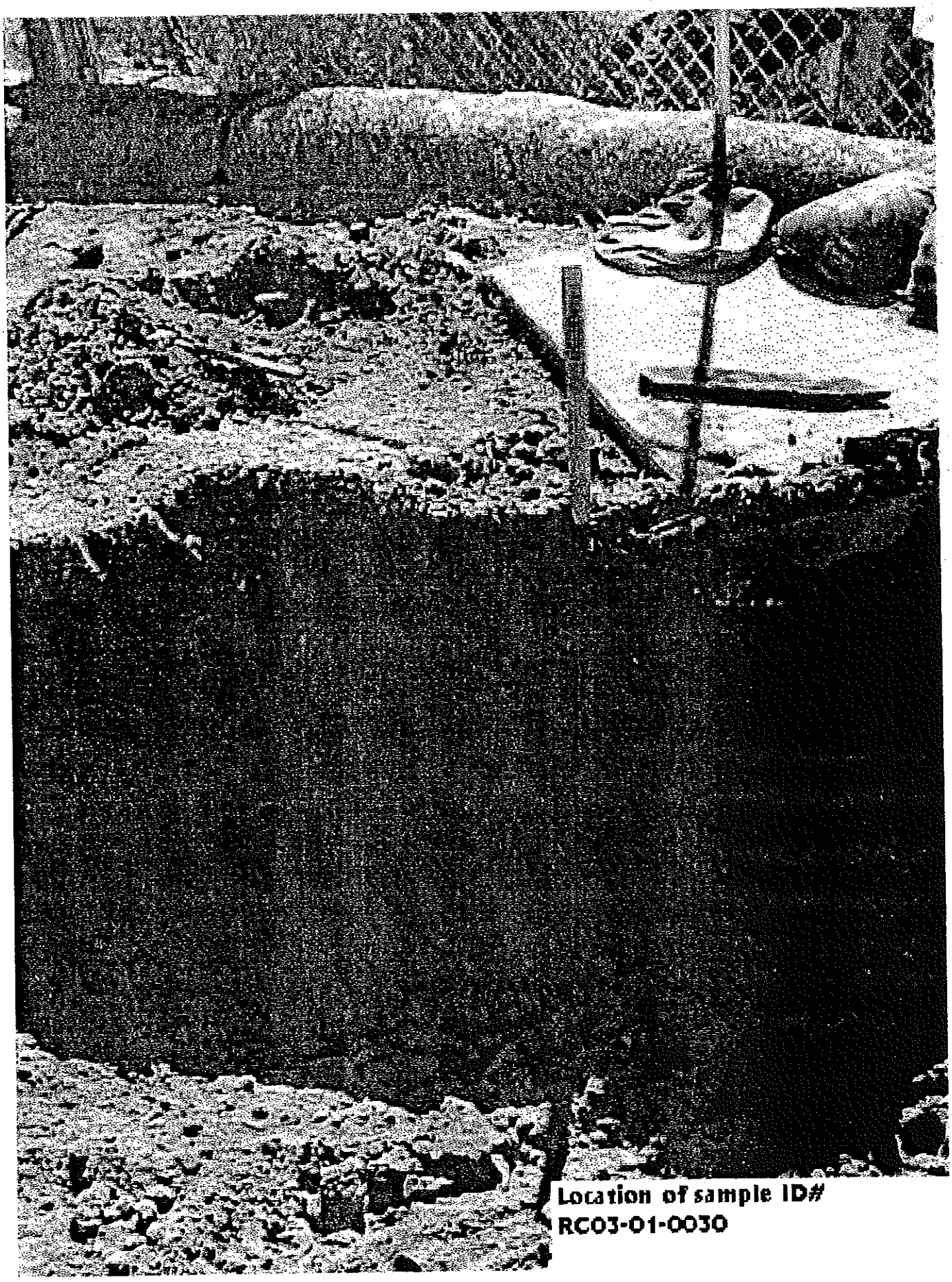


Location of sample # RC03-01-0029

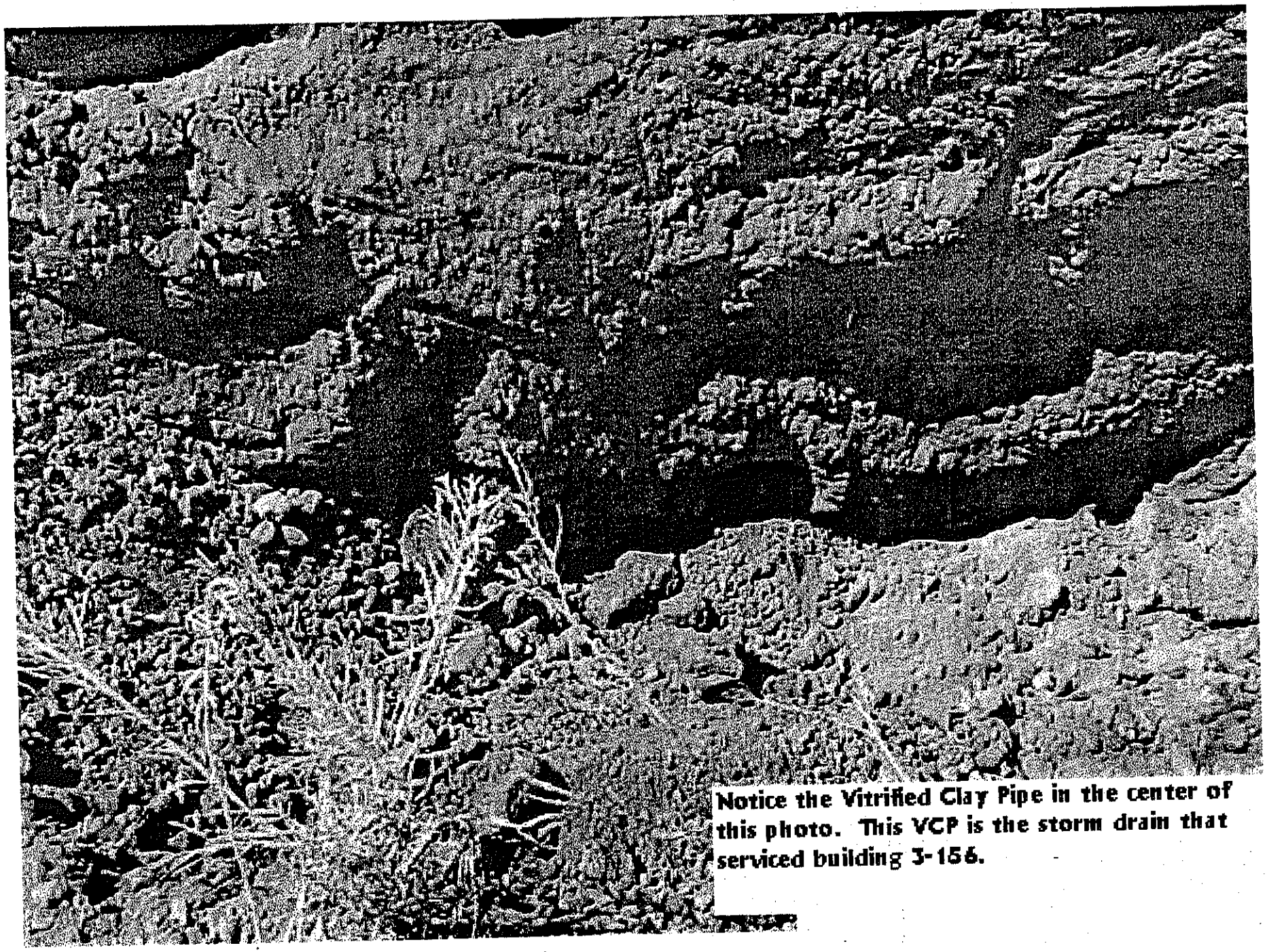
Pulling TALMetals, TCLPMetals, and HexCr samples from the excavation bucket.



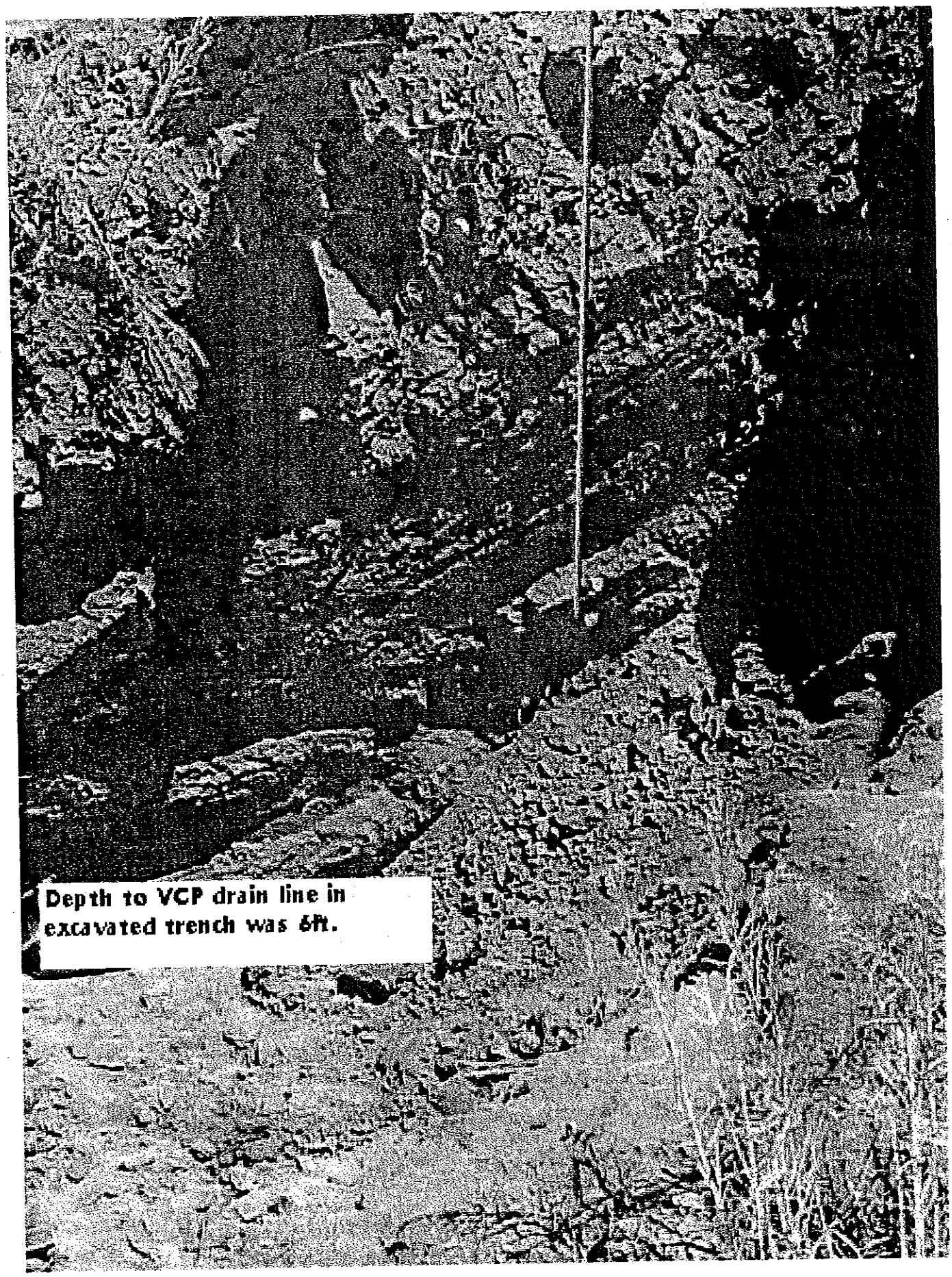
Coolant water line found under sidewalk



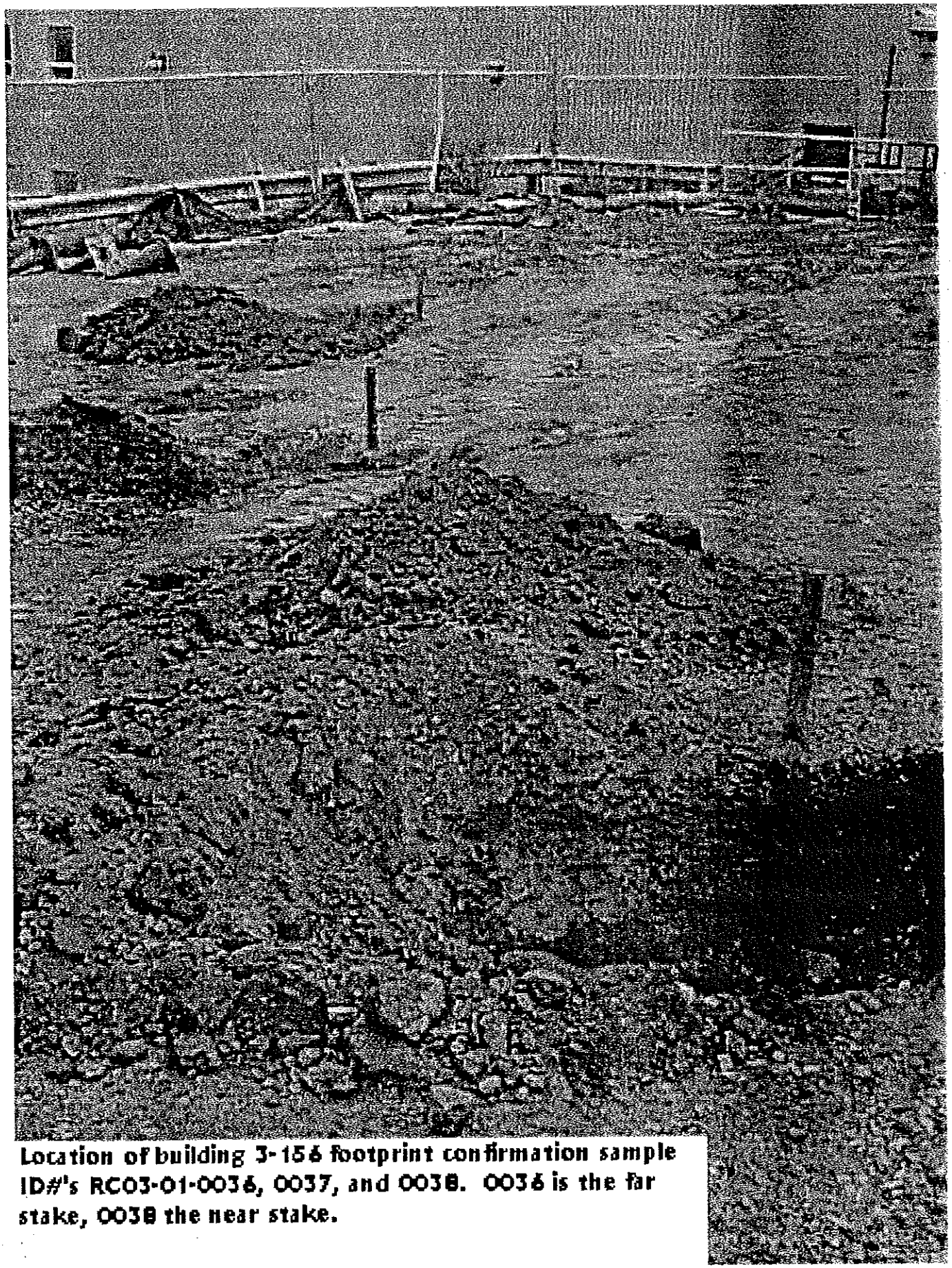
Location of sample ID#
RC03-01-0030



Notice the Vitrified Clay Pipe in the center of this photo. This VCP is the storm drain that serviced building 3-156.


Depth to VCP drain line in
excavated trench was 6ft.

Location of drain line samples RC01-0031 & 0032, 2ft below drain line samples RC03-01-0033 and 0034, & excavated soil sample RC03-01-0035(far stake). 0031 & 0033 are the right stake. 0032 and 0034 are the near stake.



Location of building 3-156 footprint confirmation sample ID#'s RC03-01-0036, 0037, and 0038. 0036 is the far stake, 0038 the near stake.

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0029

Date 8/2/01 Time 0915 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

QC Type None Name (Print) ~~Roy Buhm~~ KEITH TUCKER

Composite: ○ Yes ◉ No Signature

Composite Type: None

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14470	NA	6.0	6.50	FT	0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0078
02	METTAL	125 ml Polyethylene	Ice	1114-01-0078

Weather 80°, LOW HUMIDITY

Sample Description WEST DRAIN LINE CONFIRMATION SAMPLE

Field Screening fo

Loc ID	Depth	Screening Method	Result□	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments:

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0030

Date 8/2/01 Time 1025 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

QC Type None

Composite: ○ Yes ◉ No Name (Print) ~~Roy Bohn~~ KEITH TUCKER

Composite Type: None Signature

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14471	NA	3.0	3.50	FT	0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Contalner	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0078
02	METTAL	125 ml Polyethylene	Ice	1114-01-0078

Weather 80°, LOW HUMIDITY

Sample Description EXCAVATED SOIL SAMPLE TAKEN AT SOUTHERN DRAIN LINE, NEXT TO SIDEWALK.

Field Screening fo

Loc ID	Depth	Screening Method	Result□	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments:

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0031

Date 8/2/01 Time 1135 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

QC Type None

Composite: ○ Yes ◉ No Name (Print) ~~Roy Bohn~~

Composite Type: None Signature KEITH TUCKER

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14472	NA	6.0	6.50	FT	0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0079
02	METTAL	125 ml Polyethylene	Ice	1114-01-0079

Weather 80°, LOW HUMIDITY

Sample Description DRAIN LINE SOIL SAMPLE

Field Screening fo

Loc ID	Depth	Screening Method	Result□	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments:

FOUND 6 TO 8" DRAIN LINE EAST OF BLDNG 156, NEXT TO ASPHAL DRIVE. DRAIN LINE IS VITRIFIED CLAY, WITH A WATER LINE APPROX. 2" UP THE I.D. DOES NOT SEEM TO BE ANY SEDIMENT IN THE LINE. NO EVIDENCE OF CHROMATES (NO STAINING, RESIDU ETC. THAT IS INDICATIVE OF CHROMIUM).

A FIELD DECISION WAS MADE TO LEAVE THE LINE IN PLAC

IF THE ENTIRE LINE WERE EXCAVATED, THE VITRIFIED CLAY WOULD COME UP IN FIST-SIZED PIECES. IT WOULD BE NEARLY IMPOSSIBLE TO SEGREGATE THE CLAY LINE PIECES FROM THE EXCAVATED SOIL. WHEN THE EXCAVATION PIT WAS BACKFILLED, DRAIN LINE PIECES WOULD BE RANDOMLY DISTRIBUTED THROUGHO THE FILL. IN THIS SCENARIO, DRAIN LINE PIECES ~~COULD~~ WOULD B VERY NEAR THE SURFACE.

AS IT IS, THE DRAIN LINE IS 6FT BGS. THE MOST EFFECTIVE SOLUTION WOULD BE TO LEAVE THE DRAIN LINE IN PLACE.

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0032

Date 8/2/01 Time 1140 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

QC Type None

Composite: ○ Yes ◉ No Name (Print) Roy Bohn

Composite Type: None Signature _____

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14473	NA	5.0	5.50	FT	0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Contalner	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0079
02	METTAL	125 ml Polyethylene	Ice	1114-01-0079

Weather 80°, LOW HUMIDITY.

Sample Description DRAIN LINE SOIL SAMPLE.

Field Screening fo

Loc ID	Depth	Screening Method	Result□	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments:

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0033

Date 8/2/01 Time 1150 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

/QC Type None

Composite: ○ Yes ◉ No Name (Print) ~~Roy Bohn~~ KEITH TUCKER

Composite Type: None Signature

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14474	NA	8.0	8.50	FT	0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0080
02	METTAL	125 ml Polyethylene	Ice	1114-01-0080

Weather 80°, LOW HUMIDITY

Sample Description 2 FT BELOW SAMPLE # RC03-01-0031

Field Screening fo

Loc ID	Depth	Screening Method	Result□	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments:

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0034

Date 8/2/01 Time 1155 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

QC Type None

Composite: ○ Yes ◉ No Name (Print) ~~Roy Bohn~~ KEITH TUCKER

Composite Type: None Signature

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14475	NA	7.0	7.50	FT	0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0080
02	METTAL	125 ml Polyethylene	Ice	1114-01-0080

Weather 80°, LOW HUMIDITY

Sample Description 2 FT BELOW SAMPLE # RC03-01-0052

Field Screening fo

Loc ID	Depth	Screening Method	Result	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments:

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0035

Date 8/2/01 Time 1159 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

QC Type None

Composite: ○ Yes ◉ No Name (Print) ~~Roy Behn~~ KEITH TUCKER

Composite Type: None Signature

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14476	NA	NA 0	NA 0		0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0081
02	METTAL	125 ml Polyethylene	Ice	1114-01-0081

Weather 80°, PARTIALLY CLOUDY, LOW HUMIDITY

Sample Description EXCAVATED SOIL SAMPLE TAKEN ON HILLSLOPE BTWN FENCE LINE & EXISTING ROADWAY

Field Screening fo

Loc ID	Depth	Screening Method	Result	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments: grab sample of excavated material to drain line. Suspected to be fill.

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0036

Date 8/2/01 Time 1230 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

QC Type None

Composite: ○ Yes ◉ No Name (Print) ~~Roy Bohm~~ KEITH TUCKER

Composite Type: None Signature

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14477	NA	2.0	2.50	FT	0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0081
02	METTAL	125 ml Polyethylene	Ice	1114-01-0081

Weather 80°, CLOUDY

Sample Description BLDG 156 FOOTPRINT CONFIRMATION SAMPLE

Field Screening fo

Loc ID	Depth	Screening Method	Result	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments:

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0037

Date 8/2/01 Time 1235 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

QC Type None

Composite: ○ Yes ◉ No Name (Print) ~~Roy Bohn~~ KEITH TUCKER

Composite Type: None Signature

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14478	NA	2.0	2.50	FT	0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0082
02	METTAL	125 ml Polyethylene	Ice	1114-01-0082

Weather 80°, CLOUDY

Sample Description BLDG 156 FOOTPRINT CONFIRMATION SAMPLE

Field Screening fo

Loc ID	Depth	Screening Method	Result	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments:

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID RC03-01-0038

Date 8/2/01 Time 1240 Sample Type Soil

Technical Area 03 Operable Unit 1114 Sample Location PRS 03-054(c)

QC Type None

Composite: ○ Yes ◉ No Name (Print) ~~Roy Bohn~~ KEITH TUCKER

Composite Type: None Signature

Grabs:

	Location ID	Stake ID	Start Depth	End Depth	Unitss	Vol	Units	Comments
1	03-14479	NA	2.00	2.50	FT	0		Media code:

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	HEXCR	125 ml Polyethylene	Ice	1114-01-0082
02	METTAL	125 ml Polyethylene	Ice	1114-01-0082

Weather 80°, CLOUDY

Sample Description BLDG 156 FOOTPRINT CONFIRMATION SAMPLE

Field Screening fo

Loc ID	Depth	Screening Method	Result□	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants):

Comments:

Los Alamos National Laboratory Environmental Restoration (Los Alamos, NM 87545)

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Technical Area	03	Send Lab Report to	Roy Bohn	Field Unit Leader	Dave McInroy
Operable Unit	1114		M992		(505)667-0819
Date	8/2/01	LANL Destination	SMO	Turnaround	30 days
OU Contact	Roy Bohn	LANL Contact	Joylene Valdez	Lab Report Required	
Contact Phone No	(505) 665-5138	LANL Mail Stop		Charge Code	MR0R0001E000

Relinquished by: Roy Bohn/ERT Tech (Signature): Affiliation: ERT	Date: 8/2/01	Relinquished by: (Signature): Affiliation:	Date:	Relinquished by: (Signature): Affiliation:	Date:
Received by: (Signature): Affiliation:	Time: 1555	Received by: (Signature): Affiliation:	Time:	Received by: (Signature): Affiliation:	Time:

POSSIBLE HAZARD IDENTIFICATION: (please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances):
Radiological___ Highly Toxic___
Flammable___ Skin Irritant___ Non-Hazard___ Other___

SCREENING METHOD: None

SAMPLE DISPOSAL: Disposal by Lab

Comments:

Field Unique Sample #/ID	Cont ID	Date & Time Collected	Sample Container Volume/Material	Matrix	Preservat	ANALYSIS REQUESTED: (SMO Order Codes)	REMARKS (Conditions of receipt, etc.)
RC03-01-0029	02	8/2/01 0915	125 ml Polyethylene	Soil	Ice	METTAL	
RC03-01-0029	01	8/2/01 0915	125 ml Polyethylene	Soil	Ice	HEXCR	
RC03-01-0030	02	8/2/01 1025	125 ml Polyethylene	Soil	Ice	METTAL	
RC03-01-0030	01	8/2/01 1025	125 ml Polyethylene	Soil	Ice	HEXCR	

Original - LANL Destination Yellow - RPF Pink - FTL Copy

Los Alamos National Laboratory Environmental Restoration (Los Alamos, NM 87545)

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Technical Area	03	Send Lab Report to	Roy Bohn M992	Field Unit Leader	Dave McInroy (505)667-0819
Operable Unit	1114				
Date	8/2/01	LANL Destination	SMO	Turnaround	30 days
OU Contact	Roy Bohn	LANL Contact	Joylene Valdez	Lab Report Required	
Contact Phone No	(505) 665-5138	LANL Mail Stop		Charge Code	MR0R0001E000

Relinquished by: (Signature): Roy Bohn Keith Walker Affiliation: EER	Date: 8/2/01	Relinquished by: (Signature): Affiliation:	Date:	Relinquished by: (Signature): Affiliation:	Date:
Received by: (Signature): Affiliation:	Time: 1535	Received by: (Signature): Affiliation:	Time:	Received by: (Signature): Affiliation:	Time:

POSSIBLE HAZARD IDENTIFICATION: (please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances):
Radiological___ Highly Toxic___
Flammable___ Skin Irritant___ Non-Hazard___ Other___

SCREENING METHOD: None

SAMPLE DISPOSAL: Disposal by Lab

Comments:

Field Unique Sample #/ID	Cont ID	Date & Time Collected	Sample Container Volume/Material	Matrix	Preservat	ANALYSIS REQUESTED: (SMO Order Codes)	REMARKS (Conditions of receipt, etc.)
RC03-01-0032	01	8/2/01 1140	125 ml Polyethylene	Soil	Ice	HEXCR	
RC03-01-0032	02	8/2/01 1140	125 ml Polyethylene	Soil	Ice	METTAL	
RC03-01-0031	01	8/2/01 1135	125 ml Polyethylene	Soil	Ice	HEXCR	
RC03-01-0031	02	8/2/01 1135	125 ml Polyethylene	Soil	Ice	METTAL	

Los Alamos National Laboratory Environmental Restoration (Los Alamos, NM 87545)

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Technical Area	03	Send Lab Report to	Roy Bohn	Field Unit Leader	Dave McInroy
Operable Unit	1114		M992		(505)667-0819
Date	8/2/01	LANL Destination	SMO	Turnaround	30 days
OU Contact	Roy Bohn	LANL Contact	Joylene Valdez	Lab Report Required	
Contact Phone No	(505) 665-5138	LANL Mail Stop		Charge Code	MR0R0001E000

Relinquished by: (Signature): Roy Bohn KEITH EUCKER Affiliation: EESH	Date: 8/2/01	Relinquished by: (Signature): Affiliation:	Date:	Relinquished by: (Signature): Affiliation:	Date:
Received by: (Signature): Affiliation:	Time: 1155	Received by: (Signature): Affiliation:	Time:	Received by: (Signature): Affiliation:	Time:

POSSIBLE HAZARD IDENTIFICATION: (please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances):
Radiological___ Highly Toxic___
Flammable___ Skin Irritant___ Non-Hazard___ Other___

SCREENING METHOD: None

SAMPLE DISPOSAL: Disposal by Lab

Comments:

Field Unique Sample #/ID	Cont ID	Date & Time Collected	Sample Container Volume/Material	Matrix	Preservat	ANALYSIS REQUESTED: (SMO Order Codes)	REMARKS (Conditions of receipt, etc.)
RC03-01-0034	02	8/2/01 1155	125 ml Polyethylene	Soil	Ice	METTAL	
RC03-01-0033	01	8/2/01 1150	125 ml Polyethylene	Soil	Ice	HEXCR	
RC03-01-0033	02	8/2/01 1150	125 ml Polyethylene	Soil	Ice	METTAL	
RC03-01-0034	01	8/2/01 1155	125 ml Polyethylene	Soil	Ice	HEXCR	

Original - LANL Destination

Yellow - RPF

Pink - FTL Copy

Los Alamos National Laboratory Environmental Restoration (Los Alamos, NM 87545)

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Technical Area	03	Send Lab Report to	Roy Bohn M992	Field Unit Leader	Dave McInroy (505)667-0819
Operable Unit	1114				
Date 8/2/01		LANL Destination	SMO	Turnaround	30 days
OU Contact	Roy Bohn	LANL Contact	Joylene Valdez	Lab Report Required	
Contact Phone No	(505) 665-5138	LANL Mail Stop		Charge Code	MR0R0001E000

Relinquished by: (Signature): Roy Bohn KEITH TUCKER Affiliation: EER	Date: 8-2-01	Relinquished by: (Signature): Affiliation:	Date:	Relinquished by: (Signature): Affiliation:	Date:
Received by: (Signature): Affiliation:	Time: 1555	Received by: (Signature): Affiliation:	Time:	Received by: (Signature): Affiliation:	Time:

POSSIBLE HAZARD IDENTIFICATION: (please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances):
Radiological___ Highly Toxic___
Flammable___ Skin Irritant___ Non-Hazard___ Other___

SCREENING METHOD: None

SAMPLE DISPOSAL: Disposal by Lab

Comments:

Field Unique Sample #/ID	Cont ID	Date & Time Collected	Sample Container Volume/Material	Matrix	Preservat	ANALYSIS REQUESTED: (SMO Order Codes)	REMARKS (Conditions of receipt, etc.)
RC03-01-0035	02	8/2/01 1159	125 ml Polyethylene	Soil	Ice	METTAL	
RC03-01-0035	01	8/2/01 1159	125 ml Polyethylene	Soil	Ice	HEXCR	
RC03-01-0036	02	8/2/01 1230	125 ml Polyethylene	Soil	Ice	METTAL	
RC03-01-0036	01	8/2/01 1230	125 ml Polyethylene	Soil	Ice	HEXCR	

Original - LANL Destination

Yellow - RPF

Pink - FTL Copy

Los Alamos National Laboratory Environmental Restoration (Los Alamos, NM 87545)

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

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OU Contact	Roy Bohn	LANL Contact	Joylene Valdez	Lab Report Required	
Contact Phone No	(505) 665-5138	LANL Mail Stop		Charge Code	MR0R0001E000

Relinquished by: (Signature): Affiliation: ~~Roy Bohn~~ KERTH TUCKER ESH-20	Date: 8.2.01	Relinquished by: (Signature): Affiliation:	Date:	Relinquished by: (Signature): Affiliation:	Date:
Received by: (Signature): Affiliation:	Time: 15:55	Received by: (Signature): Affiliation:	Time:	Received by: (Signature): Affiliation:	Time:

POSSIBLE HAZARD IDENTIFICATION: (please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances):
Radiological___ Highly Toxic___
Flammable___ Skin Irritant___ Non-Hazard___ Other___

SCREENING METHOD: None

SAMPLE DISPOSAL: Disposal by Lab

Comments:

Field Unique Sample #/ID	Cont ID	Date & Time Collected	Sample Container Volume/Material	Matrix	Preservat	ANALYSIS REQUESTED: (SMO Order Codes)	REMARKS (Conditions of receipt, etc.)
RC03-01-0037	02	8/2/01 1235	125 ml Polyethylene	Soil	Ice	METTAL	
RC03-01-0037	01	8/2/01 1235	125 ml Polyethylene	Soil	Ice	HEXCR	
RC03-01-0038	02	8/2/01 1240	125 ml Polyethylene	Soil	Ice	METTAL	
RC03-01-0038	01	8/2/01 1240	125 ml Polyethylene	Soil	Ice	HEXCR	

Original - LANL Destination

Yellow - RPF

Pink - FTL Copy

General Engineering La ories, Inc.
2040 Savage Road
Charleston, South Carolina 29407
P.O. Box 30712
Charleston, South Carolina 29417
(843) 556-8171

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client Name/Facility Name: WASHINGTON GROUP INTL INC.
Collected by/Company: KEITH TUCKER / SEA INC.

SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB	# OF CONTAINERS	TCLP MTL	SVOA	VOA	Remarks
RC03-01-0029	8/2/01	0915		✓			1	✓			
RC03-01-0030	8/2/01	1025		✓			1	✓			
RC03-01-0031-03	8/2/01	1135		✓					✓		
RC03-01-0031-04	8/2/01	1135		✓				✓			
RC03-01-0031-05	8/2/01	1135		✓						✓	
RC03-01-0032	8/2/01	1140		✓				✓			
RC03-01-0035	8/2/01	1159		✓				✓			
RC03-01-0036	8/2/01	1230		✓				✓			
RC03-01-0037	8/2/01	1235		✓				✓			
RC03-01-0038	8/2/01	1240		✓				✓			

SAMPLE ANALYSIS REQUIRED (x) - use remarks area to specify specific compounds or methods

Use F or P in the boxes to indicate whether sample was filtered and/or preserved

Relinquished by:	Date:	Time:	Received by:	Relinquished by:	Date:	Time:	Received by:
[signature]	8/2/01	1500					
Relinquished by:	**Date:**	**Time:**	**Received by lab by:**	**Date:**	**Time:**	**Remarks:**	

White = sample collector Yellow = file Pink = with report

PRS	REQUEST_NUM	SAMPLE_ID	LOCATION_ID	BEGIN_DEPTH	END_DEPTH	DEPTH_UNITS	MEDIA_CODE	RFI_CLASS	ANALYTICAL_SUITE	ANALYTE_NAME	STD_SAMPLE_VALUE	STD_REPORTING_UNITS	FU4_QUAL	RFI_REASON_CODE
03-054(c)	9516R	RC03-01-0032	03-14473	5	5.5	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.44	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0035	03-14476	0	0	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.44	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0034	03-14475	7	7.5	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.44	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0038	03-14479	2	2.5	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.47	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0033	03-14474	8	8.5	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.44	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0037	03-14478	2	2.5	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.43	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0031	03-14472	6	6.5	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.44	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0036	03-14477	2	2.5	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.46	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0030	03-14471	3	3.5	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.41	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0029	03-14470	6	6.5	FT	ALLH	INORGANIC	HEXCR	Chromium, Hexavalent	0.47	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0031	03-14472	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	4920	MG/KG		
03-054(c)	9516R	RC03-01-0036	03-14477	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	3510	MG/KG		
03-054(c)	9516R	RC03-01-0033	03-14474	8	8.5	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	3680	MG/KG		
03-054(c)	9516R	RC03-01-0035	03-14476	0	0	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	7720	MG/KG		
03-054(c)	9516R	RC03-01-0030	03-14471	3	3.5	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	1360	MG/KG		
03-054(c)	9516R	RC03-01-0037	03-14478	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	7160	MG/KG		
03-054(c)	9516R	RC03-01-0034	03-14475	7	7.5	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	5860	MG/KG		
03-054(c)	9516R	RC03-01-0029	03-14470	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	8750	MG/KG		
03-054(c)	9516R	RC03-01-0038	03-14479	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	8330	MG/KG		
03-054(c)	9516R	RC03-01-0032	03-14473	5	5.5	FT	ALLH	INORGANIC	TAL_METALS	Aluminum	7560	MG/KG		
03-054(c)	9516R	RC03-01-0036	03-14477	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Antimony	[redacted]	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0037	03-14478	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Antimony	0.65	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0035	03-14476	0	0	FT	ALLH	INORGANIC	TAL_METALS	Antimony	0.67	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0029	03-14470	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Antimony	0.62	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0033	03-14474	8	8.5	FT	ALLH	INORGANIC	TAL_METALS	Antimony	0.64	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0032	03-14473	5	5.5	FT	ALLH	INORGANIC	TAL_METALS	Antimony	0.67	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0031	03-14472	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Antimony	0.66	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0030	03-14471	3	3.5	FT	ALLH	INORGANIC	TAL_METALS	Antimony	0.8	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0034	03-14475	7	7.5	FT	ALLH	INORGANIC	TAL_METALS	Antimony	0.67	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0038	03-14479	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Antimony	0.62	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0037	03-14478	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	3	MG/KG		
03-054(c)	9516R	RC03-01-0029	03-14470	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	2.2	MG/KG		
03-054(c)	9516R	RC03-01-0033	03-14474	8	8.5	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	0.92	MG/KG	U	I5
03-054(c)	9516R	RC03-01-0038	03-14479	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	2.3	MG/KG		
03-054(c)	9516R	RC03-01-0036	03-14477	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	1.5	MG/KG		
03-054(c)	9516R	RC03-01-0031	03-14472	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	1.9	MG/KG		
03-054(c)	9516R	RC03-01-0030	03-14471	3	3.5	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	2	MG/KG		
03-054(c)	9516R	RC03-01-0035	03-14476	0	0	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	2.2	MG/KG		
03-054(c)	9516R	RC03-01-0032	03-14473	5	5.5	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	3.6	MG/KG		
03-054(c)	9516R	RC03-01-0034	03-14475	7	7.5	FT	ALLH	INORGANIC	TAL_METALS	Arsenic	2	MG/KG		
03-054(c)	9516R	RC03-01-0035	03-14476	0	0	FT	ALLH	INORGANIC	TAL_METALS	Barium	80.1	MG/KG		
03-054(c)	9516R	RC03-01-0031	03-14472	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Barium	43.4	MG/KG		
03-054(c)	9516R	RC03-01-0034	03-14475	7	7.5	FT	ALLH	INORGANIC	TAL_METALS	Barium	40.6	MG/KG		
03-054(c)	9516R	RC03-01-0038	03-14479	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Barium	93.6	MG/KG		
03-054(c)	9516R	RC03-01-0036	03-14477	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Barium	37.9	MG/KG		
03-054(c)	9516R	RC03-01-0033	03-14474	8	8.5	FT	ALLH	INORGANIC	TAL_METALS	Barium	25.4	MG/KG		
03-054(c)	9516R	RC03-01-0032	03-14473	5	5.5	FT	ALLH	INORGANIC	TAL_METALS	Barium	87.9	MG/KG		
03-054(c)	9516R	RC03-01-0029	03-14470	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Barium	104	MG/KG		
03-054(c)	9516R	RC03-01-0037	03-14478	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Barium	110	MG/KG		
03-054(c)	9516R	RC03-01-0030	03-14471	3	3.5	FT	ALLH	INORGANIC	TAL_METALS	Barium	35.8	MG/KG		
03-054(c)	9516R	RC03-01-0029	03-14470	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.83	MG/KG		
03-054(c)	9516R	RC03-01-0034	03-14475	7	7.5	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.54	MG/KG	J	I1
03-054(c)	9516R	RC03-01-0033	03-14474	8	8.5	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.38	MG/KG	J	I1
03-054(c)	9516R	RC03-01-0037	03-14478	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.7	MG/KG		
03-054(c)	9516R	RC03-01-0036	03-14477	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.56	MG/KG	J	I1
03-054(c)	9516R	RC03-01-0032	03-14473	5	5.5	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.8	MG/KG		
03-054(c)	9516R	RC03-01-0031	03-14472	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.51	MG/KG	J	I1
03-054(c)	9516R	RC03-01-0038	03-14479	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.75	MG/KG		
03-054(c)	9516R	RC03-01-0035	03-14476	0	0	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.72	MG/KG		
03-054(c)	9516R	RC03-01-0030	03-14471	3	3.5	FT	ALLH	INORGANIC	TAL_METALS	Beryllium	0.14	MG/KG	J	I1
03-054(c)	9516R	RC03-01-0034	03-14475	7	7.5	FT	ALLH	INORGANIC	TAL_METALS	Cadmium	0.069	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0037	03-14478	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Cadmium	0.1	MG/KG	J	I1
03-054(c)	9516R	RC03-01-0029	03-14470	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Cadmium	0.1	MG/KG	J	I1
03-054(c)	9516R	RC03-01-0031	03-14472	6	6.5	FT	ALLH	INORGANIC	TAL_METALS	Cadmium	0.069	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0038	03-14479	2	2.5	FT	ALLH	INORGANIC	TAL_METALS	Cadmium	0.18	MG/KG	J	I1
03-054(c)	9516R	RC03-01-0033	03-14474	8	8.5	FT	ALLH	INORGANIC	TAL_METALS	Cadmium	0.068	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0030	03-14471	3	3.5	FT	ALLH	INORGANIC	TAL_METALS	Cadmium	0.064	MG/KG	U	U_LAB
03-054(c)	9516R	RC03-01-0035	03-14476	0	0	FT	ALLH	INORGANIC	TAL_METALS	Cadmium	0.088	MG/KG	J	I1

03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Cadmium	0.072	MG/KG	U	U_LAB
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Cadmium	0.084	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Calcium	2280	MG/KG		
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Calcium	2670	MG/KG		
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Calcium	1450	MG/KG		
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Calcium	1070	MG/KG		
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Calcium	1970	MG/KG		
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Calcium	10200	MG/KG		
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Calcium	1040	MG/KG		
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Calcium	3230	MG/KG		
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Calcium	1440	MG/KG		
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Calcium	2250	MG/KG		
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	5.4	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	4.3	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	5.7	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	6.4	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	2.6	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	2.5	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	3.5	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	4.1	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	6.2	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Chromium, Total	5.5	MG/KG	J	I10
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Cobalt	3.3	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Cobalt	1.1	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Cobalt	1.9	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Cobalt	1.5	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Cobalt	1.8	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Cobalt	3.1	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Cobalt	2.7	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Cobalt	1.2	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Cobalt	3	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Cobalt	3.3	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Copper	2.3	MG/KG		
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Copper	6.3	MG/KG		
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Copper	2.8	MG/KG		
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Copper	5.5	MG/KG		
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Copper	5.8	MG/KG		
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Copper	2.7	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Copper	4.9	MG/KG		
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Copper	5.7	MG/KG		
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Copper	5.7	MG/KG		
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Copper	2.9	MG/KG		
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Iron	5680	MG/KG		
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Iron	5550	MG/KG		
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Iron	9530	MG/KG		
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Iron	8850	MG/KG		
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Iron	8270	MG/KG		
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Iron	8120	MG/KG		
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Iron	4800	MG/KG		
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Iron	7840	MG/KG		
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Iron	7220	MG/KG		
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Iron	7760	MG/KG		
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Lead	2.6	MG/KG		
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Lead	2.8	MG/KG		
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Lead	8.3	MG/KG		
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Lead	6.3	MG/KG		
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Lead	10.9	MG/KG		
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Lead	5.9	MG/KG		
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Lead	147	MG/KG		
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Lead	10.9	MG/KG		
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Lead	6.6	MG/KG		
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Lead	11.7	MG/KG		
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Magnesium	1600	MG/KG		
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Magnesium	1520	MG/KG		
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Magnesium	743	MG/KG		
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Magnesium	1720	MG/KG		
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Magnesium	1360	MG/KG		
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Magnesium	598	MG/KG		
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Magnesium	1330	MG/KG		

03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Magnesium	880	MG/KG			
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Magnesium	1150	MG/KG			
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Magnesium	738	MG/KG			
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Manganese	136	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Manganese	138	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Manganese	129	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Manganese	207	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Manganese	85.4	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Manganese	101	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Manganese	210	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Manganese	278	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Manganese	187	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Manganese	193	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.018	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.02	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.018	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.018	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.017	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.019	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.056	MG/KG			
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.018	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.018	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Mercury	0.018	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Nickel	4.9	MG/KG	U	I4	
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Nickel	1.7	MG/KG	U	I5	
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Nickel	5.5	MG/KG	U	I4	
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Nickel	6.1	MG/KG	U	I4	
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Nickel	6.4	MG/KG	U	I4	
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Nickel	6.9	MG/KG	U	I4	
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Nickel	4.6	MG/KG	U	I4	
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Nickel	7.6	MG/KG	U	I4	
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Nickel	4.5	MG/KG	U	I4	
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Nickel	5.9	MG/KG	U	I4	
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Potassium	1030	MG/KG			
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Potassium	1210	MG/KG			
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Potassium	1200	MG/KG			
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Potassium	1120	MG/KG			
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Potassium	617	MG/KG			
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Potassium	554	MG/KG			
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Potassium	355	MG/KG	J	I1	
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Potassium	738	MG/KG			
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Potassium	1160	MG/KG			
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Potassium	1180	MG/KG			
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.22	MG/KG	UJ	I3e	
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.22	MG/KG	UJ	I3e	
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.41	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.23	MG/KG	UJ	I3e	
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.23	MG/KG	J-	I3a	
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.2	MG/KG	UJ	I3e	
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.23	MG/KG	UJ	I3e	
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.22	MG/KG	UJ	I3e	
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.22	MG/KG	UJ	I3e	
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Selenium	0.22	MG/KG	UJ	I3e	
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Silver	0.5	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Silver	0.53	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Silver	0.49	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Silver	0.46	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Silver	0.49	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Silver	0.5	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Silver	0.5	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Silver	0.52	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Silver	0.5	MG/KG	U	U_LAB	
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Silver	0.55	MG/KG	J	I1	
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Sodium	246	MG/KG	J	I1	
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Sodium	563	MG/KG	J	I1	
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Sodium	214	MG/KG	J	I1	
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Sodium	87.9	MG/KG	J	I1	
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Sodium	58.6	MG/KG	J	I1	
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Sodium	118	MG/KG	J	I1	

03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Sodium	167	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Sodium	265	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Sodium	131	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Sodium	505	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.14	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.14	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.1	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.33	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.064	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.059	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.13	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.13	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.11	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Thallium	0.081	MG/KG	U	I5
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Vanadium	7.6	MG/KG		
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Vanadium	13.4	MG/KG		
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Vanadium	4.1	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Vanadium	3.6	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Vanadium	11.8	MG/KG		
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Vanadium	9.3	MG/KG		
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Vanadium	13.8	MG/KG	J	I1
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Vanadium	11.7	MG/KG		
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Vanadium	13	MG/KG		
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Vanadium	11.8	MG/KG		
03-054(c) 9516R	RC03-01-0038 03-14479	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Zinc	48.1	MG/KG		
03-054(c) 9516R	RC03-01-0036 03-14477	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Zinc	37.6	MG/KG		
03-054(c) 9516R	RC03-01-0029 03-14470	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Zinc	29.3	MG/KG		
03-054(c) 9516R	RC03-01-0033 03-14474	8	8.5	FT	ALLH	INORGANIC TAL_METALS	Zinc	19.3	MG/KG	U	I4
03-054(c) 9516R	RC03-01-0035 03-14476	0	0	FT	ALLH	INORGANIC TAL_METALS	Zinc	28.5	MG/KG		
03-054(c) 9516R	RC03-01-0037 03-14478	2	2.5	FT	ALLH	INORGANIC TAL_METALS	Zinc	31.3	MG/KG	J-	I3a
03-054(c) 9516R	RC03-01-0031 03-14472	6	6.5	FT	ALLH	INORGANIC TAL_METALS	Zinc	25.5	MG/KG		
03-054(c) 9516R	RC03-01-0030 03-14471	3	3.5	FT	ALLH	INORGANIC TAL_METALS	Zinc	16.6	MG/KG	U	I4
03-054(c) 9516R	RC03-01-0032 03-14473	5	5.5	FT	ALLH	INORGANIC TAL_METALS	Zinc	[redacted]	MG/KG		
03-054(c) 9516R	RC03-01-0034 03-14475	7	7.5	FT	ALLH	INORGANIC TAL_METALS	Zinc	29.4	MG/KG		