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# Volume 5, Appendices - Part 1
# Field Investigation Report

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# APPENDIX A

## SELECTED PHOTOGRAPHS THAT DOCUMENT PHASE I, TASK 4 FIELD ACTIVITIES

## APPENDIX A - SELECTED PHOTOGRAPHS THAT DOCUMENT PHASE 1, TASK 4, FIELD ACTIVITIES

Photographs included in this Appendix:

| | |
|---|---|
| Photo 1. | Site office trailers located at the Twin Lakes Campground |
| Photo 2. | Installation of the gravel pad prior to drilling activities at well cluster location CW-7 |
| Photo 3. | Cable tool drilling activities at well cluster CW-2 |
| Photo 4. | Cable tool drilling at CW8-110 |
| Photo 5. | Cable tool drilling at CW8-85 and HSA drilling at CW8-55 |
| Photo 6. | Ambient air monitoring (borehole measurement) at CW2-90 |
| Photo 7. | Welding mild steel casing at well CW2-90 |
| Photo 8. | Cable tool drilling using 10" drive casing at CW1-121 |
| Photo 9. | Retrieval of split spoon sample during drilling at CW7-55 |
| Photo 10. | Mixing grout for CW6-77 |
| Photo 11. | Removal of mild steel drive casing with hydraulic jacks at CW8-110 |
| Photo 12. | Ground water sampling at CW4-60 |
| Photo 13. | Beginning of HSA drilling at CW7-55 |
| Photo 14. | Portable deionized water system used to generate water for decontamination activities |
| Photo 15. | Measuring water turbidity using a nephelometer |
| Photo 16. | Containerization of purge water during ground-water sampling activities |

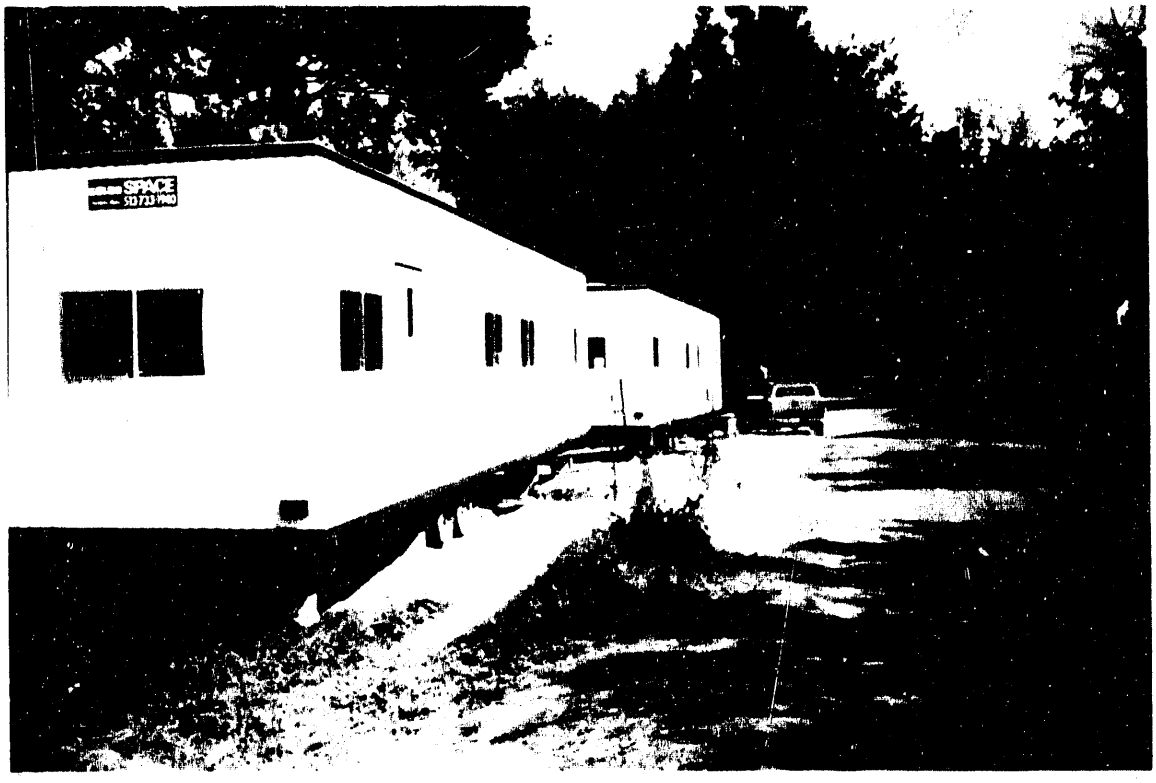



Photo 1. Site office trailers located at the Twin Lakes Campground.

Photo 2. Installation of the gravel pad prior to drilling activities at well cluster location CW7.

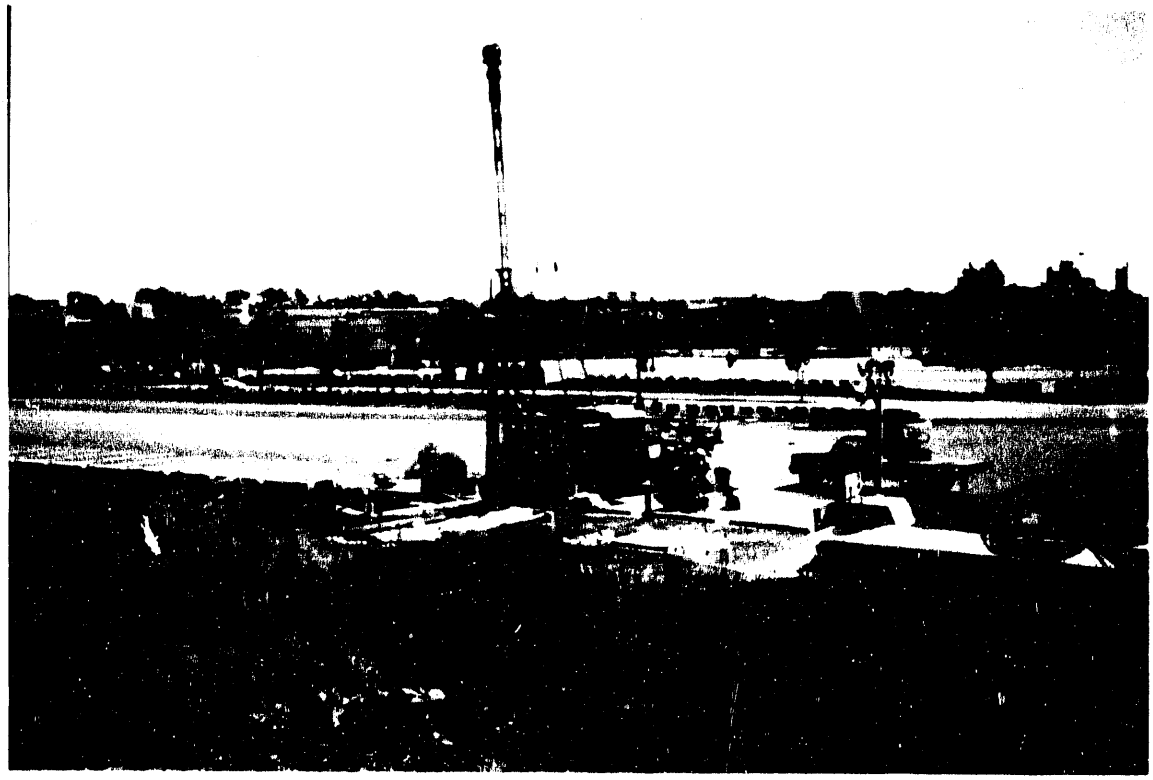


Photo 3. Cable tool drilling activities at well cluster CW2.

Photo 4. Cable tool drilling at CW8-110.

Photo 5. Cable tool drilling at CW8-85 and HSA drilling at CW8-55.

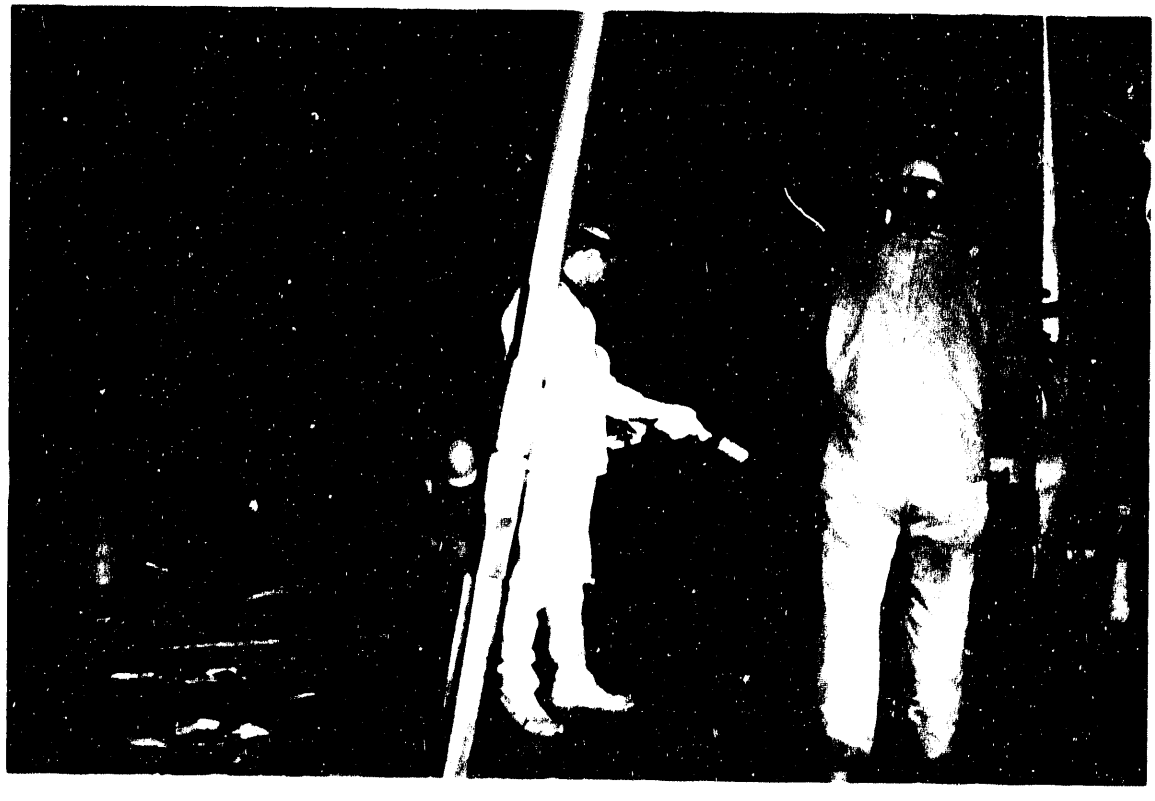


Photo 6. Ambient air monitoring (borehole measurement) at CW2-90.

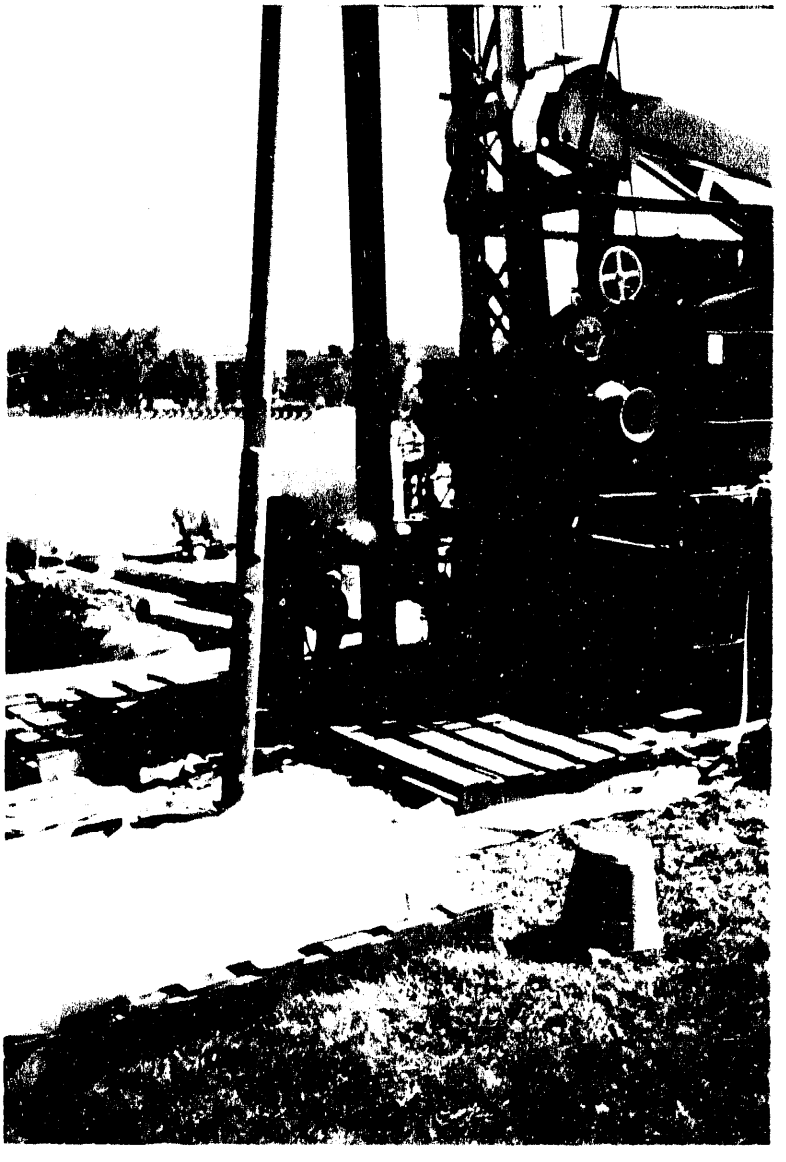


Photo 7. Welding mild steel casing at well CW2-90.

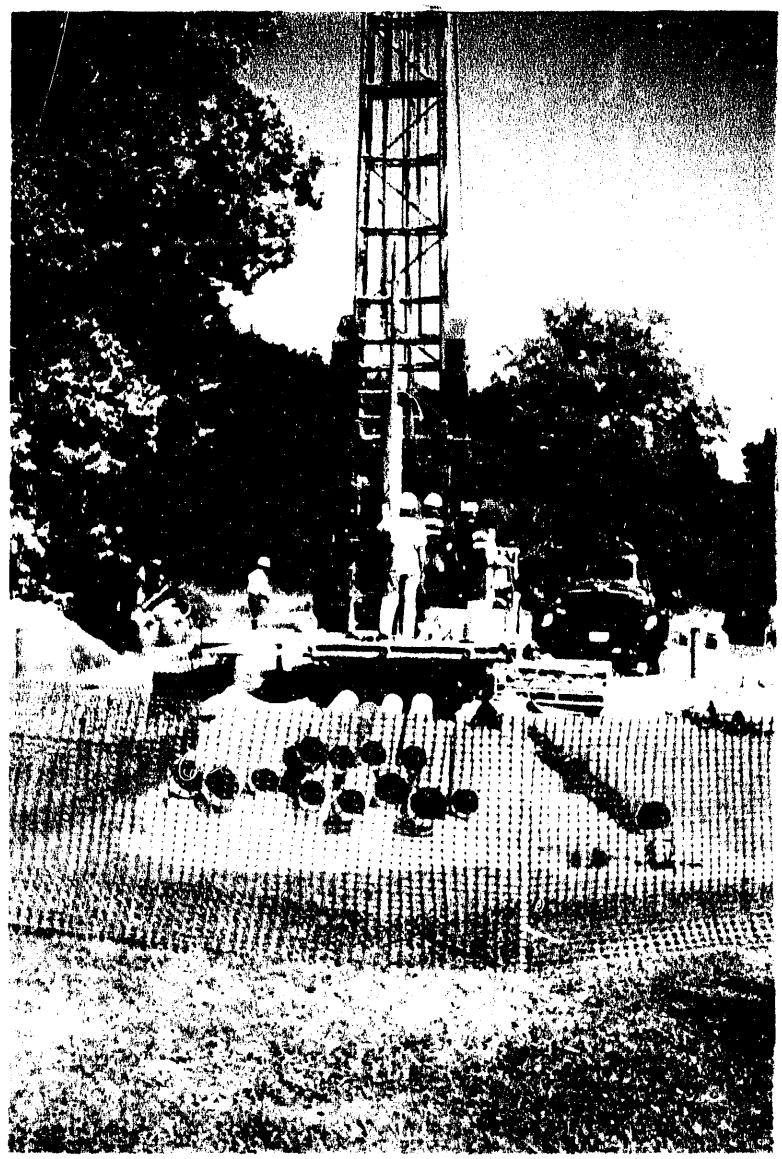


Photo 8. Cable tool drilling using 10" drive casing at CW1-121.

Photo 9. Retrieval of split spoon sample during drilling at CW7-55.

Photo 10. Mixing grout for CW6-77.

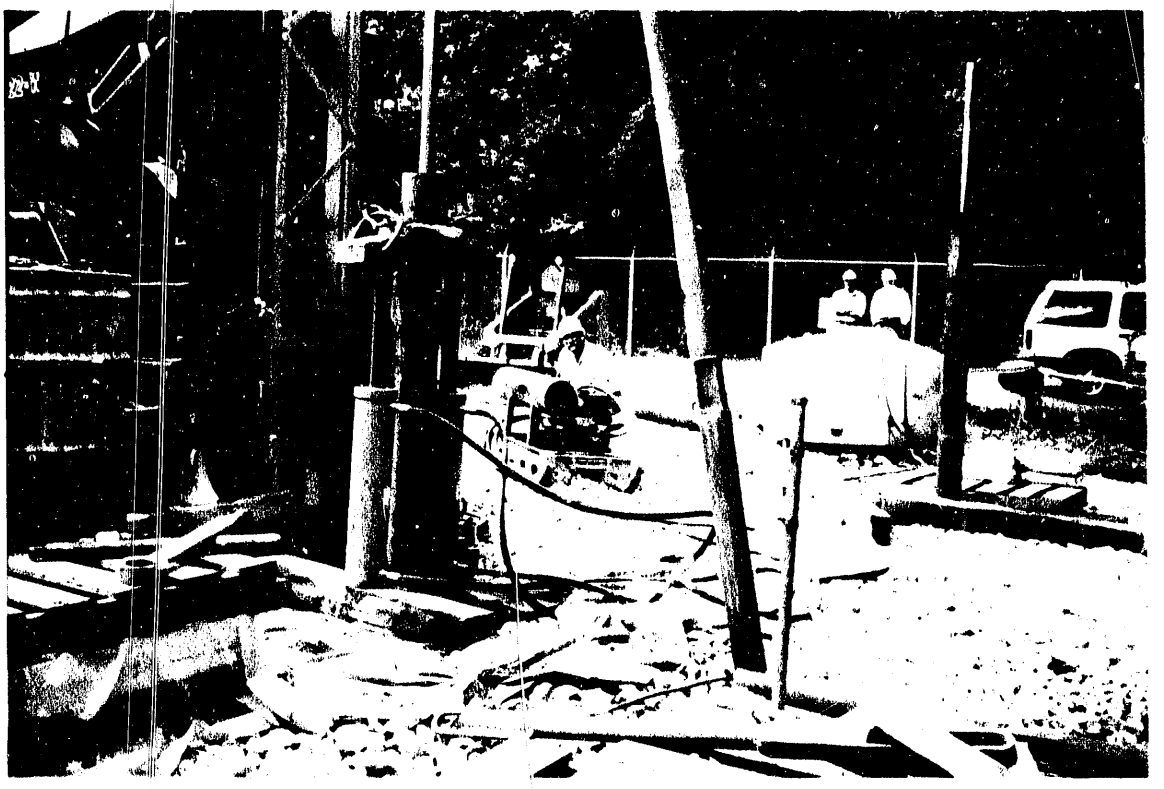


Photo 11. Removal of mild steel drive casing with hydraulic jacks at CW8-110.

Photo 12. Ground water sampling at CW4-60.

Photo 13. Beginning of HSA drilling at CW7-55.

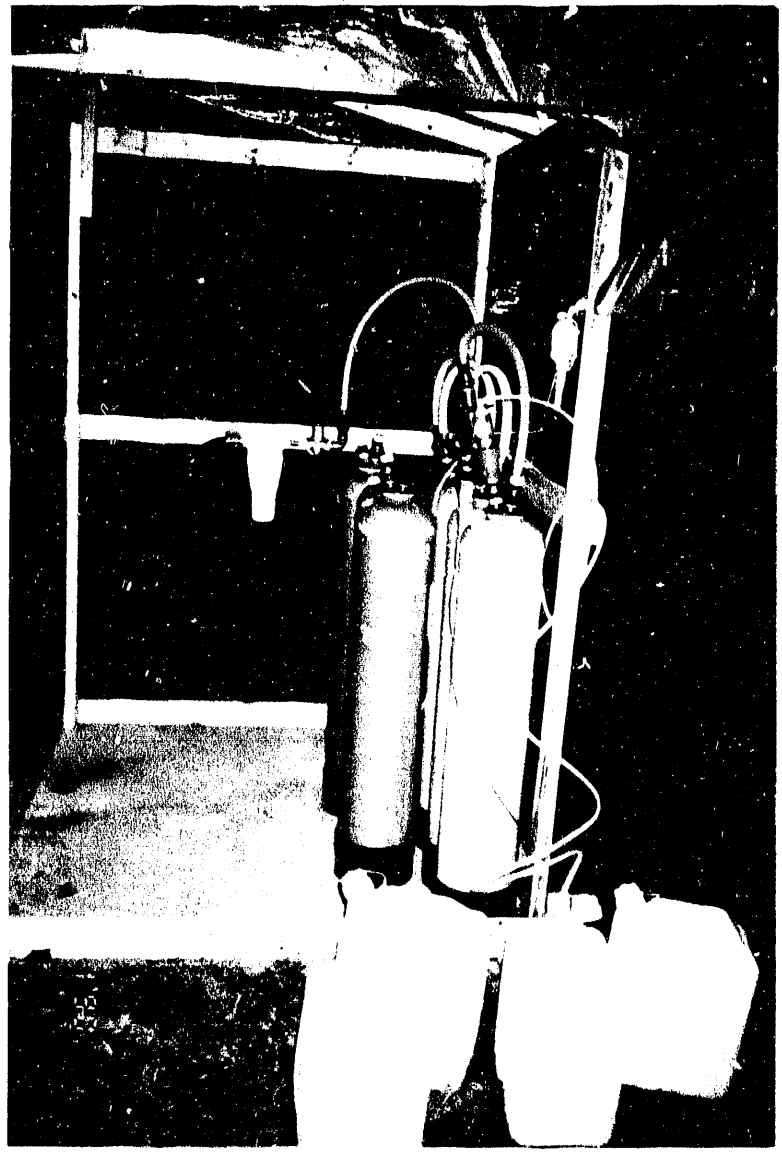


Photo 14. Portable deionized water system used to generate water for decontamination activities.

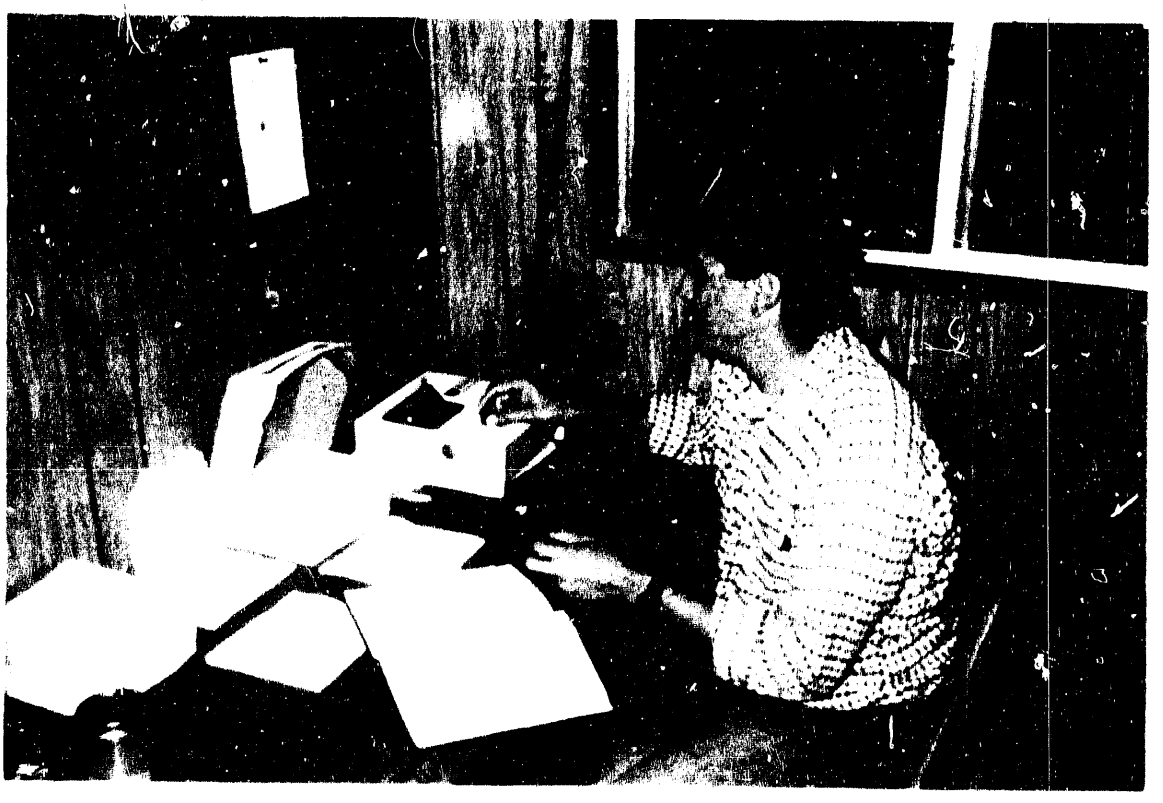


Photo 15. Measuring water turbidity using a nephelometer.

Photo 16. Containerization of purge water during ground water sampling activities.

# APPENDIX B

# SOIL BORING LOGS

# APPENDIX B - SOIL BORING LOGS

Soil Boring Logs included in this Appendix:

CW1-27
CW1-35
CW1-121
CW2-35
CW2-44
CW2-90
CW3-27
CW3-35
CW3-77
CW4-60
CW4-85
CW5-55
CW5-85
CW6-X (Abandoned)
CW6-77
CW7-55
CW7-100
CW7-148
CW8-17
CW8-55
CW8-85
CW8-110
CW8-150

| BORING LOG | BORING/WELL NO.: CW1-27 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW1 |
| Project No.: 19984 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-9-90 ( 18:55 P m) | Drlg Ended 9-10-90 ( 2:00 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER | | |
| Logged by: SPESSHARDT / HESSON | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ TOVA (ppm) | Recovery (in) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 786.90 | |
| | | | | | | REFER TO BORING CW1-35 FOR LITHOLOGIC DESCRIPTION FROM 0 to 24 FEET | | | | | ADDED 70 GAL. WATER DURING DRILLING | |
| 5 | | | | 0 | | | | | | | | 5 |
| 10 | | | | 0 | | | | | | | | 10 |
| 15 | | | | 0 | | | | | | | | 15 |
| 20 | | | | 0 | | | | | | | | 20 |
| 25 | | | | 0 | 8 | SAND WITH GRAVEL AND SILT, RED-BROWN | SP | | | | SPLIT-SPOON 24-26.5 Ft | 25 |
| 30 | | | | 0 | | BOH AT 30 Ft. SAND HEAVE TO 27 Ft. | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW1-35 | Page 1 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW1 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-8-90 (12:17 Pm) | Drlg Ended 9-8-90 (18:45 Pm) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: Spesshardt / Hesson | E-Log (Y/N) From ____ to ____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) | Recovery (in.) | Lithologic Description | ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | 9 | SAND AND SILT WITH GRAVEL, RED BROWN | SC | 4 5 10 15 | | | | 787.18 |
| 5 | | | | 0 | 13 | SAND AND GRAVEL WITH SOME SILT, LIGHT BROWN | SP | 18 21 30 45 | | | | 5 |
| 10 | | | | 0 | 13 | SAND AND GRAVEL, LIGHT TAN | SP | 18 40 42 40 | | | | 10 |
| | | | | 0 | 14 | SAND AND GRAVEL, BROWN, DAMP | SP | 12 10 13 31 | | | | 15 |
| 20 | | | | 0 | 14 | SAND WITH SOME GRAVEL, DAMP WOR AT 22 Ft. | SP | 4 27 30 | | | | 20 |
| 25 | | | | 0 | 14 | SAND AND GRAVEL, BROWN, WET | SP | 4 14 29 | | | ADDED 15 GAL WATER | 25 |
| 30 | | | | 0 | 13 | SAND, BROWN BEGIN ALTERNATING CLAY LAYERS AT 32 Ft. | SP | 14 50/5" | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring ____
O = Other ____
Notes: ____
Field G/C (Make/Mod.) ____
G/C Oper.: ____

| BORING LOG | BORING/WELL NO.: CW1-35 | Page 2 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW1 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-8-90 ( 12:17 P m) | Drlg Ended 9-8-90 ( 18:45 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER | | |
| Logged by: SPESSHARDT / HESSON | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | Hdsp (1N) | Recovery | Lithologic Description | USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | 12 | CLAY WITH SOME FINE SAND, GRAY | CL | 9 19 38 | | | | | |
| | | | | | 19 | SAND, GRAY | SP | 3 4 16 | | | | | |
| 40 | | | | | | CLAY, STIFF, GRAY | CL | 8 17 29 | | | | | 40 |
| | | | | 0 | | CLAY, STIFF, GRAY | CL | 11 29 33 | | | | | |
| 45 | | | | | | BOH AT 49 Ft. | | | | | | | 45 |
| 50 | | | | | | | | | | | | | 50 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CWI-121 | Page 1 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CWI |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MIDEASTERN GEOTECH | Driller: |
| Drlg Started: 9-22-90 ( 8:00 A m) | Drlg Ended 9-26-90 ( 9:00 P m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A.GAULT/R MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ hdsp (ppm) | Recovery ( | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | 787.18 |
| | | | | | | REFER TO THE LOG FOR CWI-35 FOR A COMPLETE LITHOLOGIC DESCRIPTION 0 to 44 Ft. | | | | | | | |
| 5 | | | | 0 | | | | | | | | | 5 |
| 10 | | | | 0 | | | | | | | | | 10 |
| 15 | | | | 0 | | | | | | | | | 15 |
| 20 | | | | 0 | | | | | | | | | 20 |
| 25 | | | | 0 | | | | | | | | | 25 |
| 30 | | | | 0 | | | | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW1-121 | Page 2 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW1 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-22-90 ( 8:00 A m) | Drlg Ended 9-26-90 ( 9:00 P m) | Borehole dia(s): 10" 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT / R MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery ( ) | Lithologic Description | ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SAME AS ABOVE | | | | | | | |
| 40 | | | | 0 | | | | | | | | 40 |
| 45 | | | | 0 | SILTY CLAY WITH GRAVEL, DARK BROWN | CL | | | | | | 45 |
| 50 | | | | 0 | GRAVEL WITH SAND AND CLAY, BROWN | GP | | | | | | 50 |
| | | | | | CLAY AND GRAVEL, BROWN | GP | | | | | | |
| 55 | | | | 0 | CLAY WITH GRAVEL, GRAY | CL | | | | | | 55 |
| 60 | | | | 0 | GRAVELS WELL GRADED | GW | | | | | | 60 |
| 65 | | | | 0 | CLAY WITH GRAVEL, GRAY | CL | | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW1-121 | Page 3 of 5 |
|---|---|---|
| Installation: WPAFB | Site: CW1 | |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-22-90 ( 8:00 Am) | Drlg Ended 9-26-90 ( 9:00 Pm) | Borehole dia(s): 10", 8" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT / R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Recovery (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CLAY WITH GRAVEL, BROWN | CL | | | | | | |
| 75 | | | | 0 | | | | | | | | 75 |
| 80 | | | | 0 | | | | | | | | 80 |
| 85 | | | | 0 | | | | | | | | 85 |
| 90 | | | | 0 | | | | | | | | 90 |
| 95 | | | | 0 | CLAY WITH GRAVEL, TAN-BROWN | CL | | | | | | 95 |
| 100 | | | | 0 | | | | | | | | 100 |
| | | | | 0 | | | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW1-121 | Page 4 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW1 |
| Project No.: 199814 | Client/Project: BATTELLE-ENVO /WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-22-90 ( 8:00 Am) | Drlg Ended 9-26-90 ( 9:00 Pm) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT/R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | Recovery (%) | Hdsp | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAME AS ABOVE | CL | | | | | | |
| 110 | | | | 0 | | | | | | | | | 110 |
| | | | | | | SAND WITH SOME SILTY CLAY, BROWN POORLY GRADED | SP | | | | | | |
| 115 | | | | 0 | | | | | | | | | 115 |
| | | | | | | SAND AND GRAVEL, BROWN, WELL GRADED | SW | | | | | | |
| 120 | | | | 0 | | | | | | | | | 120 |
| 125 | | | | 0 | | SILTY CLAY WITH SOME GRAVEL, BROWN | CL | | | | | | 125 |
| 130 | | | | 0 | | CLAY AND SILT, GRAY | CL | | | | | | 130 |
| 135 | | | | 0 | | | | | | | | | 135 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW1-121 | Page 5 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW1 |
| Project No.: 199814 | Client/Project: BATTELLE-ENVO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-22-90 ( 8:00 A m) | Drlg Ended 9-26-90 ( 9:00 P m) | Borehole dia(s): |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT/R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (%) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CLAY AND SILT, GRAY, PIECES OF WOOD FRAGMENTS, LIGNIFIED. | CL | | | | | | |
| 145 | | | | 0 | | FINE SAND AND SILT, BROWN | SP | | | | | | |
| 150 | | | | | | BOH AT 150 Ft. | | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW2-35 | Page 1 of 2 |
|---|---|---|
| Installation: WPAFB. | | Site: CW2 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN / WPAFB | Driller: |
| Drlg Started: 9-10-90 ( 7:27 Am) | Drlg Ended 9-10-90 ( 5:20 Pm) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGERS, 4.25-INCH ID | | |
| Logged by: TAPPA / SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Hdsp (ppm) | Recovery (IN) | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | 13 | CLAY WITH SOME SILT AND SAND, RED BROWN | CL | 4 3 3 4 | | | | 791.70 | |
| 5 | | | | 0 | 6 | SAND AND GRAVEL, LIGHT GRAY | SP | 43 50/5 | | | | | 5 |
| 10 | | | | 0 | 11 | SAME AS ABOVE | SP | 31 37 28 | | | | | 10 |
| 15 | | | | 0 | 12 | SAME AS ABOVE | SP | 17 30 31 | | | | | 15 |
| 20 | | | | 0 | 24 | SAME AS ABOVE, DAMP WOR AT 23.0 Ft | SP | | | | | | 20 |
| 25 | | | | 0 | 12 | SAME AS ABOVE | SP | | | | | | 25 |
| 30 | | | | 0 | 16 | SAND WITH GRAVEL, GRAVEL WELL GRADED SAND HEAVE | SW | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW2-35 | Page 2 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW2 |
| Project No.: 19981A | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-10-90 ( 7:27 A m) | Drlg Ended 9-10-90 ( 5:20 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: TAPPA/SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | PID (ppm) / Recovery (IN) | Hdsp | Lithologic Description | ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | 24 | SAND, LIGHT BROWN, POORLY SORTED SAMPLE IS HEAVING SAND | | 23 50/5" | | | | | |
| 40 | | | | 0 | 12 | SAME AS ABOVE | | 24 50/5 | | | | 5 Ft OF HEAVE 55 GAL OF WATER ADDED | 40 |
| 45 | | | | 0 | 12 | SAME AS ABOVE | | 38 50/4 | | | | 50 GAL OF WATER ADDED | 45 |
| 50 | | | | | | BOH AT 50 Ft. | | | | | | | 50 |
| 55 | | | | | | | | | | | | | 55 |
| 60 | | | | | | | | | | | | | 60 |
| 65 | | | | | | | | | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW2-44 | Page 1 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW2 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: ITCORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 9:00 P m) | Drlg Ended 9-12-90 ( 1:00 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: TAPPA / SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (%) | Tidsp ( ) | Lithologic Description | ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | 791.49 |
| | | | | | | SEE BORING LOG FOR CW2-35 FOR LITHOLOGIC DESCRIPTION FROM 0 to 35 FEET. | | | | | | | |
| 5 | | | | 0 | | | | | | | | | 5 |
| 10 | | | | 0 | | | | | | | | | 10 |
| | | | | 0 | | | | | | | | | 15 |
| 20 | | | | 0 | | | | | | | | | 20 |
| 25 | | | | 0 | | | | | | | | | 25 |
| 30 | | | | 1 | | | | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW2-44 | Page 2 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW2 |
| Project No.: 19984 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 9:00 P m) | Drlg Ended 9-12-90 ( 1:00 A m) | Borehole dia(s): 7 |
| Drlg Method/Rig Type: HOLLOW STEM AUGER | | |
| Logged by: TAPPA / SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU ~~Hdsp~~ (ppm) | Recovery (IN.) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | 14 | SAND WITH SOME GRAVEL AND CLAY BROWN | SP | 11 20 28 30 | | | | | |
| 40 | | | | 0 | 11 | SAND AND GRAVEL WITH SOME CLAY, BROWN | SP | 20 29 17 25 | | | | | 40 |
| 45 | | | | 0 | 16 | CLAY WITH SOME GRAVEL AND SAND, GRAY | CL | 21 34 35 37 | | | | | 45 |
| | | | | | 15 | CLAY WITH LITTLE SAND, GRAY | CL | 15 21 32 37 | | | | | |
| 50 | | | | | | BOH AT 50 Ft. | | | | | | | 50 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW2-9D | Page 1 of 5 |
|---|---|---|
| Installation: WPAFB | Site: CW2 | |
| Project No.: 199819 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTRN GEOTECH | Driller: |
| Drlg Started: 9-20-90 ( 9:30 Am) | Drlg Ended 9-23-90 ( 4:15 Pm) | Borehole dia(s): 12", 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Hosp (ppm) / Recovery (IN) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | | CLAY, GRAVELY, SANDY, ORANGE-BROWN | CL | | | | | 791.58 |
| 5 | | | | 0 | | GRAVEL WITH SAND AND CLAY, ORANGE-BROWN | GP | | | | | 5 |
| 10 | | | | 0 | | GRAVEL WITH SAND AND CLAY, LT. BROWN. | GP | | | | | 10 |
| 15 | | | | 0 | | GRAVEL WITH SAND AND CLAY, LT. BROWN. LESS CLAY THAN ABOVE. | GP | | | | | 15 |
| 20 | | | | 0 | | GRAVEL WITH SAND, CLAY AND COBBLES, LT BROWN, COBBLES ≤4" DIA. | GP | | | | | 20 |
| 25 | | | | 0 | | GRAVEL WITH SAND, CLAY AND COBBLES, LT. BROWN, COBBLES ≤6" DIA. | GP | | | | | 25 |
| 30 | | | | 0 | | COARSE SAND AND SILT, FEW COBBLES ≤1" DIAMETER | SM | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW2-90 | Page 2 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW2 |
| Project No.: 199814 | Client/Project: BATTELLE-ENO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-20-90 ( 9:30 AM) | Drlg Ended 9-23-90 ( 4:15 PM) | Borehole dia(s): 12, 10", 7" |
| Drlg Method/Rig Type: CABLE TOOL | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (in) | Lithologic Description | ASTM / USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | | | | 0 | SAME AS ABOVE | SM | | | | | |
| 40 | | | | 0 | | | | | | | 40 |
| 45 | | | | | GRAVEL WITH SAND AND SILT, AND COBBLES. BROWN. COBBLES ≤ 2" DIA. | GP | | | | | 45 |
| 50 | | | | | SILTY CLAY WITH SAND AND GRAVEL GRAY. | CL | | | | 10" CASING TO 48.5 Ft<br>8" CASING TO 50.5 Ft. | 50 |
| 55 | | | | 0 | GRAVEL WITH SAND AND CLAY, LT. BROWN | GP | | | | SPLIT-SPOON 52-54 Ft. | 55 |
| 60 | | | | 0 | CLAY AND SILT WITH SOME SAND AND GRAVEL. CLAY-GRAY, GRAVEL BROWN | CL | | | | SPLIT-SPOON 59-60.5 Ft | 60 |
| 65 | | | | | | | | | | SPLIT-SPOON 64-65.5 Ft. | 65 |
| | | | | 0 | | | | | | SPLIT-SPOON 69-70 Ft. | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW2-90 | Page 3 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW2 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID-EASTERN GEOTECH | Driller: |
| Drlg Started: 9-20-90 ( 9:30 Am) | Drlg Ended 9-23-90 ( 4:15 Pm) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (IN) / hdsp | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | SAME AS ABOVE | | | | | SPOON 70-71 Ft | |
| | | | | | | | | | | SPOON 71-72 Ft | |
| | | | | 0 | | | | | | SPOON 72-73 Ft. | |
| 75 | | | | | | CL | | | | | 75 |
| | | | | | | | | | | SPLIT-SPOON 76-77 Ft | |
| 80 | | | | 0 | | | | | | | 80 |
| | | | | | GRAVEL WITH SAND, GRAY | GP | | | | | |
| 85 | | | | | | | | | | | 85 |
| | | | | | CLAY AND SILT WITH SOME SAND AND GRAVEL, CLAY-GRAY, GRAVEL-BROWN | CL | | | | | |
| 90 | | | | | | | | | | | 90 |
| 95 | | | | | | | | | | | 95 |
| 100 | | | | 0 | | | | | | | 100 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW2-90 | Page 4 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW2 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP. | Drlg Contractor MID-EASTERN GEOTECH | Driller: |
| Drlg Started: 9-20-90 ( 9:30 Am) | Drlg Ended 9-23-90 ( 4:15 Pm) | Borehole dia(s): 10"/7" |
| Drlg Method/Rig Type: | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNO Recovery (IN) Hdsp (ppm) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | | | | | | SAME AS ABOVE | CL | | | | | | |
| 110 | | | | 0 | | | | | | | | | 110 |
| 115 | | | | | | | | | | | | | 115 |
| | | | | | | SAND WITH GRAVEL, GRAY | SP | | | | | | |
| | | | | 0 | | CLAY AND SILT WITH SOME SAND AND GRAVEL, CLAY-GRAY, GRAVEL-BROWN | CL | | | | | | |
| 120 | | | | | | | | | | | | | 120 |
| | | | | 0 | | | | | | | | | |
| 125 | | | | | | | | | | | | | 125 |
| | | | | 0 | | | | | | | | | |
| 130 | | | | | | | | | | | | | 130 |
| | | | | 0 | | | | | | | | | |
| 135 | | | | | | | | | | | | | 135 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW2-90 | Page 5 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW2 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID-EASTERN GEOTECH | Driller: |
| Drlg Started: 9-20-90 ( 9 :30 A m) | Drlg Ended 9-23-90 ( 4 :15 P m) | Borehole dia(s): 10"/7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON/M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~PID~~ hdsp (ppm) / Recovery (IN) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140 | | | | | | | | | | | | |
| | | | | | SAME AS ABOVE | CL | | | | | | |
| 145 | | | | | | | | | | | | 145 |
| | | | | O | | | | | | | SPLIT-SPOON 148 TO 150 Ft. | |
| 150 | | | | | BOH AT 150 Ft. | | | | | | | 150 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW3-27 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW3 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO /WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-10-90 ( 7:00 Pm) | Drlg Ended 9-10-90 ( 8:45 Pm) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: K. TAPPA | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (IN) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 10 | SILT AND CLAY, DARK BROWN, DRY | ML | 1 6 18 | | | | | 788.83 |
| 5 | | | | 0 | 10 | CLAY, DARK BROWN, DRY | CL | 3 3 6 | | | | | 5 |
| 10 | | | | 0 | N/A | SAME AS ABOVE | CL | N/A | | | | | 10 |
| | | | | 0 | N/A | SAME AS ABOVE | CL | NA | | | | | 15 |
| | | | | | | CUTTINGS, SAND AND GRAVEL | | | | | | | |
| | | | | 0 | 6 | GRAVEL WITH SOME SAND, BROWN WOR AT 18.5 Ft. | GP | 5 9 16 | | | | | 20 |
| | | | | 0 | 9 | SAND WITH SOME GRAVEL, BROWN WELL GRADED HEAVING SAND | SW | 3 4 13 | | | | | 25 |
| 30 | | | | 0 | | TOTAL DEPTH 30 Ft. | | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW3-35 | Page 1 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW3 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 9:18 Am) | Drlg Ended 9-11-90 ( 2:00 Pm) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ hdsp (ppm) | ~~Recovery (IN)~~ | Lithologic Description | ~~USCS~~ ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | 788.88 |
| | | | | | | SEE BORING LOG FOR CW3-27 FOR LITHOLOGIC DESCRIPTION FROM 0 to 30 FEET. | | | | | | | |
| 5 | | | | 0 | | | | | | | | | 5 |
| 10 | | | | 0 | | | | | | | | | 10 |
| 15 | | | | 0 | | | | | | | | | 15 |
| 20 | | | | 0 | | | | | | | | | 20 |
| 25 | | | | 0 | | | | | | | | | 25 |
| 30 | | | | 0 | 16 | SAND WITH SOME GRAVEL, GRAY | SP | 4 8 14 | | | | | 30 |
| | | | | 0 | 24 | SAND, GRAY POORLY SORTED | SP | 7 36 50/3" | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW3-35 | Page 2 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW3-35 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 9:18 A m) | Drlg Ended 9-11-90 ( 2:00 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (hdsp) (ppm) | Recovery (in) | Lithologic Description | ASTM USCS | Blows/6 inch | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | 6 | CLAY WITH SOME SAND AND GRAVEL | CL | 20 30 26 | | | | | |
| 40 | | | | 0 | 12 | CLAY WITH SHALE, GRAY GREEN | CL | 14,14 18,25 | | | | | 40 |
| | | | | | | CLAY WITH SOME GRAVEL, | CL | 19 20 20 19 | | | | | |
| 45 | | | | | | BOH AT 44 Ft. | | | | | | | 45 |
| 50 | | | | | | | | | | | | | 50 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW3-77 | Page 1 of 4 |
|---|---|---|
| Installation: WPAFB | | Site: CW3 |
| Project No.: 199814 | Client/Project: BATTELLE-ENVO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-18-90 ( 6:38 P m) | Drlg Ended 9-24-90 ( 2:20 P m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: K.TAPPA / SPESSHARDT | E-Log (●/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Hdsp (ppm) | Recovery (IN) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SEE BORING LOG FOR CW3-36 FOR LITHOLOGIC DESCRIPTION FROM 0 to 36 Ft. | | | | | 789.14 | |
| | | | | | | | | | | | Added 25gal WATER | |
| 5 | | | | | | | | | | | Added 30gal WATER | 5 |
| | | | | | | | | | | | ADDED 20GAL WATER | |
| 10 | | | | | | | | | | | | 10 |
| | | | | | | | | | | | ADDED 20GAL WATER | |
| 15 | | | | | | | | | | | HNU 2.0ppm Dreager Tube 2ppm Chloroform AT 19 Ft | 15 |
| | | | | 2 | | | | | | | | |
| 20 | | | | | | | | | | | | 20 |
| 25 | | | | | | | | | | | ADDED 30 GAL WATER | 25 |
| 30 | | | | 0 | | | | | | | ADDED 35 GAL WATER | 30 |
| | | | | | | CLAY WITH GRAVEL, BROWN | CL | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW3-77 | Page 2 of 4 |
|---|---|---|
| Installation: WPAFB | | Site: CW3 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-18-90 ( 6:38 P m) | Drlg Ended 9-24-90 ( 2:20 P m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: K TAPPA / SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D / D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU hdsp (ppm) / Recovery (IN) | | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | VERY COARSE SAND POORLY SORTED | SP | | | | | |
| | | | | 0 | | CLAY WITH SOME SAND AND GRAVEL, BROWN AND GRAY | CL | | | | SPLIT-SPOON 37-39 Ft | |
| 40 | | | | 0 | | SAME AS ABOVE | CL | | | | | 40 |
| | | | | 0 | | SAND AND GRAVEL WITH SOME CLAY, GRAY POORLY SORTED | SC | | | | SPLIT-SPOON 42-44 Ft | |
| 45 | | | | | | CLAY WITH GRAVEL AND SAND, GRAY AND BROWN | CL | | | | | 45 |
| 50 | | | | | | CLAY WITH SOME SAND AND GRAVEL, BROWN AND GRAY | CL | | | | SPLIT-SPOON 50-52 Ft. | 50 |
| 55 | | | | 0 | | SAME AS ABOVE | CL | | | | Chloroform 3ppm at 57 Ft. | 55 |
| 60 | | | | 0 | | CLAY WITH SOME SAND AND GRAVEL, GREEN | CL | | | | SPLIT-SPOON 60-62 Ft. | 60 |
| | | | | | | | | | | | | |
| 65 | | | | | | SAND WITH SOME GRAVEL AND CLAY BROWN | SP | | | | ADDED 24 GAL WATER | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW3-77 | Page 3 of 4 |
|---|---|---|
| Installation: WPAFB | | Site: CW3 |
| Project No.: 199819 | Client/Project: BATTELLE-CMD / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-18-90 ( 6:38 P m) | Drlg Ended 9-24-90 ( 2:20 P m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: L TAPPA / SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Hdsp (ppm) / Recovery (IN) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | | SAME AS ABOVE | | | | | | |
| 75 | | | | | | CLAY W/ SAND AND GRAVEL, LIGHT BROWN | | | | | SPLIT-SPOON | 75 |
| | | | | | | CLAY W/ SOME SAND, GRAY | | | | | SPLIT-SPOON | |
| | | | | | | SAME AS ABOVE | | | | | ADDED 30 GAL. WATER | |
| 80 | | | | | | | | | | | | 80 |
| 85 | | | | | | | | | | | | 85 |
| 90 | | | | | | | | | | | | 90 |
| 95 | | | | | | | | | | | | 95 |
| | | | | | | SHALE, WITH SOME CLAY, GRAY-GREEN | | | | | | |
| 100 | | | | | | | | | | | | 100 |
| | | | | | | SHALE, WITH SOME CLAY, GRAY-GREEN | | | | | SPLIT-SPOON | |
| | | | | | | SAME AS ABOVE | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW3-77 | Page 4 of 4 |
|---|---|---|
| Installation: WPAFB | | Site: CW3 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-18-90 ( 6:38 P m) | Drlg Ended 9-29-90 ( 2:20 P m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: K. TAPPA / SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | Recovery / ndsp | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SAME AS ABOVE | | | | | | | |
| | | | | | SHALE WITH SOME CLAY, GRAY-GREEN | | | | | | SPLIT-SPOON 106-108 Ft | |
| | | | | | BOH AT 106 FT. | | | | | | | |
| 110 | | | | | | | | | | | | 110 |
| 115 | | | | | | | | | | | | 115 |
| | | | | | | | | | | | | 120 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW4-60 | Page 1 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW4 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-12-90 ( 7:20 P m) | Drlg Ended 9-12-90 ( 11:45 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: K. TARPA / SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Hdsp (ppm) | Recovery (IN) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SEE BORING LOG CW4-85 FOR LITHOLOGIC DESCRIPTION FROM 0 TO 50 FEET | | | | | | | 789.35 |
| 5 | | | | 0 | | | | | | | | | 5 |
| 10 | | | | 0 | | | | | | | | | 10 |
| 15 | | | | 0 | | | | | | | | | 15 |
| 20 | | | | 0 | | | | | | | | | 20 |
| 25 | | | | 0 | | | | | | | | | 25 |
| 30 | | | | 0 | | | | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW4-60 | Page 2 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW4 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-12-90 (7:20 Pm) | Drlg Ended 9-12-90 (11:45 Pm) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: TAPPA/SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU hdsp (ppm) / Recovery (in) | | Lithologic Description | ASTM #365 | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | | SEE BORING LOG CW4-85 FOR LITHOLOGIC DESCRIPTION FROM 35 TO 50 FEET | | | | | | | |
| 40 | | | | | | | | | | | | | 40 |
| | | | | 0 | | | | | | | | | |
| 45 | | | | | | | | | | | | | 45 |
| | | | | 0 | | | | | | | | | |
| 50 | | | | 0 | 18 | GRAVEL AND SAND, LIGHT BROWN | | 6,10 21 26 | | | | | 50 |
| 55 | | | | 0 | 5 | GRAVEL AND SAND WITH CLAY, | | 22 50/1" | | | | | 55 |
| 60 | | | | | | BOH AT 60 FT. | | | | | | | 60 |
| 65 | | | | | | | | | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW4-85 | Page 1 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW4 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-7 90 ( 2:30 P m) | Drlg Ended 9-8-90 ( 12:20 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU Recovery (IN) (hdsp) (ppm) | | Lithologic Description | ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | GRAVEL AND SAND WITH SOME SILTY CLAY, BROWN | GM | | | | | | |
| 5 | | | | | | | | | | | | | 5 |
| 10 | | | | 0 | | GRAVEL AND SAND WITH SOME SILT AND CLAY, LIGHT BROWN GRAVEL ≤ 2" DIA. POORLY SORTED | GP | | | | | | 10 |
| 15 | | | | 0 | | | | | | | | | 15 |
| 20 | | | | | | GRAVEL AND SAND, LIGHT BROWN GRAVEL ≤ 2" DIA. POORLY SORTED | GP | | | | | | 20 |
| 25 | | | | 0 | | SAND WITH GRAVEL, LIGHT BROWN GRAVEL ≤ 2" DIA. | SP | | | | | | 25 |
| 30 | | | | | | GRAVEL AND SAND, LIGHT BROWN GRAVEL ≤ 2" DIA. POORLY SORTED | GP | | | | | | 30 |
| | | | | 0 | | | | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW4-85 | Page 2 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW4 |
| Project No.: | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: ( : m) | Drlg Ended ( : m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON/M. HEBERT | E-Log (Y/N) From ____ to ____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery (IN) | Hdsp (ppm) | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAME AS ABOVE | GP | | | | | | |
| 40 | | | | 0 | | SAND WITH SOME GRAVEL, LIGHT BROWN, GRAVEL ≤1" WELL SORTED | SW | | | | | | 40 |
| 45 | | | | | | GRAVEL WITH SAND, LIGHT BROWN POORLY SORTED | GP | | | | | SPLIT-SPOON 45-47 Ft | 45 |
| | | | | | | SAND WITH GRAVEL, LIGHT BROWN POORLY SORTED | SP | | | | | SPLIT-SPOON 47-49 Ft. | |
| 50 | | | | 0 | | GRAVEL AND SAND, BROWN WELL SORTED. | GW | | | | | | 50 |
| | | | | 0 | | | | | | | | | |
| 55 | | | | 0 | 8.6 | | | | | | | | 55 |
| 60 | | | | 0 | | | | | | | | | 60 |
| | | | | | | GRAVEL AND SAND, BROWN POORLY SORTED | GP | | | | | | |
| 65 | | | | | | | | | | | | | 65 |
| | | | | 0 | | | | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring ____
O = Other ____
Notes: ____

Field G/C (Make/Mod.) ____
G/C Oper.: ____

| BORING LOG | BORING/WELL NO.: CW4-85 | Page 3 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW4 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: ( : m) | Drlg Ended ( : m) | Borehole dia(s): 7-INCH |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From ____ to ____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (%) | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | SAME AS ABOVE | | | | | | | |
| 75 | | | | 0 | | GP | | | | | | 75 |
| 80 | | | | 0 | GRAVEL AND SAND WITH COBBLES BROWN, COBBLES ≤ 3" | GP | | | | | | 80 |
| 85 | | | | 0 | CLAY AND WEATHERED SHALE BEDROCK, GREENISH GRAY | CL | | | | | | 85 |
| 90 | | | | 0 | SHALE, GREEN-GRAY, SOFT FOSSILIFEROUS | | | | | | SPOON 90-91 Ft. | 90 |
| 95 | | | | | | | | | | | | 95 |
| 100 | | | | | | | | | | | | 100 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring ____
O = Other ____
Notes: ____
Field G/C (Make/Mod.) ____
G/C Oper.: ____

| BORING LOG | BORING/WELL NO.: CW5-55 | Page 1 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW5 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-16-90 ( 8:00 Pm) | Drlg Ended 9-17-90 ( 7:30 Pm) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A.GAULT/R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery | Hdsp (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SILTY CLAY WITH SAND AND GRAVEL, DARK BROWN | CL | | | | | 791.17 | |
| 5 | | | | | | | | | | | | | 5 |
| 10 | | | | | | SAND WITH SILT AND CLAY, DARK BROWN | SC | | | | | | 10 |
| 15 | | | | | 0 | | | | | | | | 15 |
| 20 | | | | | | | | | | | | | 20 |
| 25 | | | | | 0 | | | | | | | | 25 |
| 30 | | | | | 0 | GRAVEL AND SAND, LIGHT BROWN | SP | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW5-55 | Page 2 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW5 |
| Project No.: 199814 | Client/Project: BATTELLE-ENO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-16-90 ( 8:00 P m) | Drlg Ended 9-17-90 ( 7:30 P m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE TOOL | | |
| Logged by: A. GAULT / R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~Recovery~~ hdsp (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | GRAVEL AND SAND WITH SILT AND CLAY, POORLY SORTED | GP | | | | | | |
| 40 | | | | 0 | | | | | | | | 40 |
| 45 | | | | 0 | | | | | | | | 45 |
| 50 | | | | | | | | | | | | 50 |
| 55 | | | | 0 | SAND, WELL GRADED | SW | | | | | | 55 |
| 60 | | | | | SAND AND GRAVEL WITH SILTY CLAY | GP | | | | | | 60 |
| 65 | | | | 0 | GRAVEL AND SAND WITH LARGE COBBLES | GP | | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW5-55 | Page 3 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW5 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-16-90 ( 8:00 P m) | Drlg Ended 9-17-90 ( 7:30 P m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT / R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU Hdsp (ppm) | Recovery ( | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAME AS ABOVE | GP | | | | | | |
| 75 | | | | 0 | | | | | | | | | 75 |
| 80 | | | | | | | | | | | | | 80 |
| 85 | | | | | | CLAY, GRAY | CL | | | | | | 85 |
| 90 | | | | | | | | | | | | | 90 |
| 95 | | | | | | | | | | | | | 95 |
| 100 | | | | | | | | | | | | | 100 |
| | | | | 0 | | BOH AT 104 Ft. | | | | | | | |
| | | | | | | GRAY SHALE BEDROCK | | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW5-85 | Page 1 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW5 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-15-90 (0:00 A m) | Drlg Ended 9-16-90 (0:00 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A.GAULT / R.MILNER | E-Log (●/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Recovery (IN) Hdsp (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SILTY-CLAY WITH SAND AND GRAVEL, DARK BROWN | CL | | | | | 790.77 |
| 5 | | | | 0 | | | | | | | 5 |
| 10 | | | | | | | | | | | 10 |
| 15 | | | | | SAND WITH SILT AND CLAY, BROWN POORLY SORTED | SP | | | | | 15 |
| 20 | | | | 0 | | | | | | | 20 |
| 25 | | | | 0 | SAND WITH GRAVEL AND COBBLES COBBLES POORLY SORTED | SP | | | | | 25 |
| 30 | | | | | | | | | | | 30 |
| | | | | 0 | | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW5-85 | Page 2 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW5 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-15-90 ( 0:00 A m) | Drlg Ended 9-16-90 ( 0:00 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT / R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (%) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | GRAVEL AND SAND WITH SILT AND CLAY. POORLY SORTED | GP | | | | | | |
| 40 | | | | | | | | | | | | 40 |
| 45 | | | | 0 | | | | | | | | 45 |
| 50 | | | | 0 | | | | | | | | 50 |
| 55 | | | | | SAND, WELL GRADED | SW | | | | | | 55 |
| 60 | | | | | GRAVEL AND SAND | GM | | | | | | 60 |
| 65 | | | | 0 | GRAVEL AND SAND WITH SILTY CLAY | GC | | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW5-85 | Page 3 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW5 |
| Project No.: 199814 | Client/Project: BATTELLE-ENO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-15-90 ( 0:00 A m) | Drlg Ended 9-16-90 ( 0:00 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT / R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery (ppm) | | Lithologic Description | ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAME AS ABOVE | GC | | | | | | |
| 75 | | | | 0 | | | | | | | | | 75 |
| 80 | | | | | | | | | | | | | 80 |
| 85 | | | | 0 | | CLAY, DARK GRAY | CL | | | | | SPLIT SPOON 85-85.5 Ft. | 85 |
| | | | | | | BOH AT 85.5 Ft. | | | | | | | |
| 90 | | | | | | | | | | | | | 90 |
| 95 | | | | | | | | | | | | | 95 |
| 100 | | | | | | | | | | | | | 100 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW6-X Abandoned | Page 1 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW6 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-10-90 ( 12:15 P m) | Drlg Ended 9-11-90 ( 6:55 A m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE TOOL | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Hdsp (ppm) | Recovery (IN) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | SILT AND CLAY WITH SAND, DARK GRAY | ML | | | | | | 790. |
| 5 | | | | 0 | | GRAVEL WITH SILT AND COBBLES, DARK BROWN. COBBLES ≤ 2.5" DIA. | GM | | | | | | 5 |
| 10 | | | | 0 | | GRAVEL AND SAND, BROWN POORLY SORTED | GP | | | | | | 10 |
| 15 | | | | 0 | | GRAVEL AND SAND WITH COBBLES, BROWN. POORLY SORTED COBBLES 2.5 to 6" DIA. | GP | | | | | | 15 |
| 20 | | | | | | | | | | | | | 20 |
| 25 | | | | | | | | | | | | | 25 |
| 30 | | | | | | | | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW6-X ABANDONED | Page 2 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW6 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-10-90 (12:15 P m) | Drlg Ended 9-11-90 (6 55 A m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J.WINTON/M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU hdsp (ppm) / Recovery (IN) | | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | | SAME AS ABOVE | GP | | | | | | |
| 40 | | | | | | | | | | | | | 40 |
| 45 | | | | 0 | | | | | | | | | 45 |
| 50 | | | | 0 | | SILT CLAY W/ SAND AND GRAVEL, LT. BROWN | CL | | | | | | 50 |
| | | | | | | GRAVEL WITH SAND, BROWN. POORLY SORTED | GP | | | | | | |
| 55 | | | | 0 | | GRAVEL WITH SAND, BROWN. WELL SORTED | GW | | | | | | 55 |
| 60 | | | | | | SAND WITH GRAVEL, LIGHT BROWN WELL SORTED | SW | | | | | | 60 |
| | | | | | | GRAVEL AND SAND WITH COBBLES LIGHT BROWN COBBLES >2 to ≤ 6" DIA. | GP | | | | | | |
| 65 | | | | 0 | | GRAVEL WITH SAND, LIGHT BROWN WELL SORTED | GW | | | | | | 65 |
| | | | | | | GRAVEL AND SAND WITH COBBLES LIGHT BROWN, COBBLES ≤ 6" DIA POORLY SORTED | GP | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW6-X | Page 3 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW6 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-10-90 ( 12:15 Pm) | Drlg Ended 9-11-90 ( 6:55 Am) | Borehole dia(s): 10" 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON/M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU hdsp (ppm) / Recovery (IN) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | | SAME AS ABOVE | GP | | | | | |
| 75 | | | | | | GRAVEL AND SAND, LIGHT BROWN WELL SORTED | GW | | | | | 75 |
| 80 | | | | | | | | | | | | 80 |
| | | | | | | SAND AND SILTY CLAY, BROWN | SL | | | | 10" CASING 83.5 Ft | |
| 85 | | | | | | SILTY CLAY WITH SOME SAND AND GRAVEL, GRAY. | CL | | | | SPLIT SPOON 83 to 84 Ft. | 85 |
| 90 | | | | | | | | | | | | 90 |
| 95 | | | | | | | | | | | | 95 |
| 100 | | | | 0 | | | | | | | | 100 |
| | | | | | | WEATHERED SHALE, GRAY, SOFT BOH AT 104 Ft. | | | | | SPOON 103.5-104 Ft. | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW6-77 ABANDONED | Page 1 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW6 |
| Project No.: 199814 | Client/Project: BATTELLE-ENVO/WPAFB | |
| Contractor: | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-10-90 (12:15 Pm) | Drlg Ended 9-11-90 (6:55 Am) | Borehole dia(s): |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (IN) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SANDY CLAY AND GRAVEL, DARK BROWN TO BLACK. POORLY SORTED | SP | | | | | | 790.67 |
| 5 | | | | 0 | | GRAVEL AND SAND WITH SOME SILT AND CLAY, GRAY, POORLY SORTED | GP | | | | | | 5 |
| 10 | | | | | | | | | | | | | 10 |
| 15 | | | | 0 | | GRAVEL AND SAND, WITH SOME SILT AND CLAY, LIGHT BROWN, POORLY SORTED | GP | | | | | | 15 |
| 20 | | | | 0 | | SAND WITH GRAVEL, LIGHT BROWN POORLY SORTED | SP | | | | | | 20 |
| 25 | | | | 0 | | GRAVEL AND SAND, LIGHT BROWN, POORLY SORTED | GP | | | | | | 25 |
| 30 | | | | 0 | | GRAVEL AND SAND, LIGHT BROWN, WELL SORTED | GW | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW6-77 ABANDONED | Page 2 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW6 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9/10/90 ( : m) | Drlg Ended 9/11/90 ( : m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J.WINTON/M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (IN) | | Lithologic Description | ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | | SAND WITH GRAVEL, LIGHT BROWN WELL SORTED | SW | | | | | | |
| | | | | | | GRAVEL WITH SAND, LIGHT BROWN, POORLY SORTED | GP | | | | | | |
| 40 | | | | 0 | | NO CUTTINGS, CASING PUSHED LARGE STONE. | | | | | | | 40 |
| 45 | | | | | | GRAVEL, LIGHT BROWN, POORLY SORTED | GP | | | | | | 45 |
| 50 | | | | 0 | | NO CUTTINGS, CASING PUSHED LARGE STONE. | | | | | | | 50 |
| 55 | | | | | | | | | | | | | 55 |
| 60 | | | | 0 | | SAND WITH SOME GRAVEL, LIGHT BROWN WELL SORTED | SW | | | | | | 60 |
| 65 | | | | | | NO CUTTINGS, CASING PUSHED LARGE STONE | | | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW6-77 ABANDONED | Page 3 of 3 |
|---|---|---|
| Installation: WPAFB | Site: CW6 | |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-10-90 ( 12:15 Pm) | Drlg Ended 9-11-90 ( 6:55 A m) | Borehole dia(s): 7-INCH |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Hdsp (ppm) | Recovery | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAND WITH GRAVEL, LIGHT BROWN, WELL SORTED | SW | | | | | |
| | | | | 0 | | SAND WITH SOME COBBLES, BROWN, COBBLES ≤ 4" DIA. | SW | | | | | |
| 75 | | | | | | SAND WITH SILT, BROWN, WELL SORTED | SW | | | | | 75 |
| 80 | | | | | | | | | | | | 80 |
| 85 | | | | 0 | | SAND WITH SILT AND COBBLES, BROWN WELL SORTED | SW | | | | | 85 |
| 90 | | | | | | SAND WITH SILT AND CLAY, GRAY | SC | | | | | 90 |
| | | | | 0 | | SILTY CLAY WITH GRAVEL AND SAND GRAY | CL | | | | SPOON 93-94 Ft | |
| 95 | | | | | | | | | | | | 95 |
| | | | | | | | | | | | SPOON 97.5-98.5 Ft | |
| 100 | | | | | | BOH AT 98.5 Ft | | | | | | 100 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW6-77 | Page 1 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW6 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MIDEASTERN GEOTECH | Driller: |
| Drlg Started: 9-12-90 ( 3:00 Pm) | Drlg Ended 9-13-90 ( 11:42 Am) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (%) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | SAND WITH GRAVEL AND CLAY, BROWN TO BLACK, POORLY SORTED | SP | | | | | | 790.67 |
| 5 | | | | 0 | GRAVEL WITH SAND AND CLAY, DARK GRAY, POORLY SORTED | GP | | | | | | 5 |
| 10 | | | | 0 | GRAVEL AND SAND, LIGHT BROWN AND GRAY, WELL SORTED | GW | | | | | | 10 |
| 15 | | | | 0 | SAND WITH GRAVEL, LIGHT BROWN, WELL SORTED | SW | | | | | | 15 |
| 20 | | | | | | | | | | | | 20 |
| 25 | | | | | | | | | | | | 25 |
| 30 | | | | | | | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.. _____

| BORING LOG | BORING/WELL NO.: CW6-77 | Page 2 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW6 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID-EASTERN GEOTECH | Driller: |
| Drlg Started: ( : m) | Drlg Ended ( : m) | Borehole dia(s): |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: J. WINTON/M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Recovery (hdsp (ppm) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | | | | | | SAME AS ABOVE | SW | | | | | | |
| 40 | | | | 0 | | SAND WITH SOME GRAVEL AND COBBLES, LIGHT BROWN, COBBLES ≤ 3" DIA. | SM | | | | | | 40 |
| 45 | | | | | | | | | | | | | 45 |
| 50 | | | | | | | | | | | | | 50 |
| 55 | | | | 0 | | GRAVEL WITH SAND AND COBBLES, BROWN, COBBLES ≤ 3" DIA | GM | | | | | | 55 |
| 60 | | | | 0 | | SAND WITH SOME COBBLES, BROWN POORLY SORTED | SP | | | | | | 60 |
| 65 | | | | 0 | | SAND WITH SOME SILT, BROWN | SM | | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW6-77 | Page 3 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW6 |
| Project No.: 199819 | Client/Project: BATTELLE-ENVO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MIDEASTERN GEOTECH | Driller: |
| Drlg Started: ( : m) | Drlg Ended ( : m) | Borehole dia(s): |
| Drlg Method/Rig Type: | | |
| Logged by: J. Winton / M. HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNu (ppm) / Recovery (%) | | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | | SAND, BROWN, | SW | | | | | | |
| 75 | | | | 0 | | SAND WITH SOME SILT AND CLAY | SC | | | | | | 75 |
| 80 | | | | | | GRAVEL WITH LARGE COBBLES, BROWN | GP | | | | | | 80 |
| | | | | 0 | | CLAY WITH SOME GRAVEL, GRAY | CL | | | | | SPOON 83-84 Ft. | |
| 85 | | | | | | | | | | | | | 85 |
| 90 | | | | | | BOH AT 90 Ft | | | | | | SPOON 90-91 Ft | 90 |
| 95 | | | | | | | | | | | | | 95 |
| 100 | | | | | | | | | | | | | 100 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-55 | Page 1 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-14-90 ( 1:15 Am) | Drlg Ended 9-14-90 ( 9:55 Am) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: S. SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU Recovery (IN) Hdsp (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SEE BORING LOG CW7-148 FOR A COMPLETE LITHOLOGIC DESCRIPTION | | | | | | | 789.69 |
| 5 | | | | 0 | | | | | | | | 5 |
| 10 | | | | 0 | | | | | | | | 10 |
| 15 | | | | 0 | | | | | | | | 15 |
| 20 | | | | | | | | | | | | 20 |
| 25 | | | | | | | | | | | | 25 |
| 30 | | | | 0 | | | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-55 | Page 2 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-14-90 ( 1:15 Am) | Drlg Ended 9-14-90 ( 9:55 Am) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: S. SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (IN) | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | SEE BORING LOG CW7-148 FOR A COMPLETE LITHOLOGIC DESCRIPTION | | | | | | | |
| 40 | | | | | | | | | | | | 40 |
| 45 | | | | 0 | | | | | | | | 45 |
| 50 | | | | 12 | SAND WITH SOME GRAVEL, GRAY | | 10 17 23 33 | | | | | 50 |
| 55 | | | | | BOH AT 55 Ft. | | | | | | | 55 |
| 60 | | | | | | | | | | | | 60 |
| 65 | | | | | | | | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-100 | Page 1 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 2:10 P m) | Drlg Ended 9-14-90 ( 10:39 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT / R. MILNER | E-Log (●/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | Recovery (IN) | Hdsp (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAND WITH SILTY CLAY, LIGHT BROWN | SP | | | | | 789.61 |
| 5 | | | | | 0 | | | | | | | 5 |
| 10 | | | | | 0 | | | | | | | 10 |
| 15 | | | | | 0 | | | | | | | 15 |
| 20 | | | | | 0 | GRAVEL WITH COBBLES, BROWN, COBBLES 3 to 4 Ft | GP | | | | | 20 |
| 25 | | | | | 0 | | | | | | | 25 |
| 30 | | | | | 0 | | | | | | | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-100 | Page 2 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 2:10 Pm) | Drlg Ended 9-14-90 ( 10:39 Am) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT / R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (IN) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | SAME AS ABOVE | GP | | | | | |
| 40 | | | | 0 | SAND AND GRAVEL, LIGHT BROWN AND GRAY. | GP | | | | | 40 |
| 45 | | | | 0 | | | | | | | 45 |
| 50 | | | | 0 | GRAVEL AND SAND, BROWN. WELL SORTED | GW | | | | | 50 |
| 55 | | | | 0 | | | | | | | 55 |
| 60 | | | | 0 | | | | | | | 60 |
| 65 | | | | | SAND AND GRAVEL, GRAY WELL SORTED | SW | | | | Slight. Organic Odor | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-100 | Page 3 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 2:10 Pm) | Drlg Ended 9-14-90 ( 10:39 Am) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: A. GAULT / R. MILNER | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (hdsp) / Recovery (IN) (ppm) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAME AS ABOVE | SW | | | | | | |
| 75 | | | | 0 | | | | | | | | | 75 |
| 80 | | | | | | GRAVEL AND SAND | GP | | | | | | 80 |
| 85 | | | | | | | | | | | | | 85 |
| 90 | | | | 0 | | SAND AND GRAVEL, WELL SORTED | SW | | | | | | 90 |
| 95 | | | | | | | | | | | | | 95 |
| 100 | | | | 0 | | BOH AT 100 Ft. | | | | | | | 100 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-148 | Page 1 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-26-90 (8:30 PM) | Drlg Ended 9-29-90 (2:45 PM) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: K. TAPPA / HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU hdsp (ppm) / Recovery (IN) | | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | GRAVEL AND SAND WITH SOME SILTY CLAY, BROWN, POORLY SORTED | GP | | | | 790.01 ADDED A TOTAL OF 245 GAL WATER | |
| 5 | | | | | | SAND WITH CLAY, DARK BROWN, WELL SORTED | SW | | | | | 5 |
| | | | | | | SAND WITH SOME GRAVEL, BROWN MODERATELY SORTED | SM | | | | REMOVED A TOTAL OF 295 GAL WATER | |
| 10 | | | | | | GRAVEL AND SAND, DARK BROWN MODERATELY SORTED | GM | | | | | 10 |
| | | | | 0 | | | | | | | | 15 |
| 20 | | | | 0 | | SAND WITH SILT, BROWN, MODERATELY SORTED | SM | | | | | 20 |
| | | | | 0 | | | | | | | | |
| 25 | | | | | | GRAVEL AND SAND, BROWN, POORLY SORTED | GP | | | | | 25 |
| 30 | | | | 0 | | | | | | | | 30 |
| | | | | 0 | | | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-148 | Page 2 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 19984 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MIDEASTERN GEOTECH | Driller: |
| Drlg Started: 9-26-90 ( 8:30 Pm) | Drlg Ended 9-29-90 ( 2:45 Pm) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA/HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU Recovery (hdsp) (ppm) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | | SAND WITH SOME GRAVEL, BROWN MODERATELY SORTED | SM | | | | | | |
| 40 | | | | | | | | | | | | | 40 |
| | | | | | | GRAVEL WITH SAND AND COBBLES, BROWN, POORLY SORTED | GP | | | | | | |
| 45 | | | | | | | | | | | | | 45 |
| 50 | | | | | | | | | | | | | 50 |
| 55 | | | | 0 | | | | | | | | | 55 |
| 60 | | | | | | | | | | | | | 60 |
| 65 | | | | | | | | | | | | | 65 |
| | | | | 0 | | | | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-148 | Page 3 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-26-90 ( 8:30 Pm) | Drlg Ended 9-29-90 ( 2:45 Pm) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA / HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | Recovery (ndsp) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SAME AS ABOVE | GP | | | | | | |
| 75 | | | 0 | | SAND WITH SOME GRAVEL, BROWN MODERATELY-SORTED | SM | | | | | | 75 |
| 80 | | | 0 | | GRAVEL WITH SAND AND COBBLES, POORLY SORTED | GP | | | | | | 80 |
| 85 | | | | | | | | | | | | 85 |
| 90 | | | | | | | | | | | | 90 |
| 95 | | | 0 | | | | | | | | | 95 |
| 100 | | | | | | | | | | | | 100 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes:

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-148 | Page 4 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-26-90 ( 8:30 P m) | Drlg Ended 9-29-90 ( 2:45 P m) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA / HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery (Hdsp) (ppm) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAND WITH CLAY, GRAY | SC | | | | | | |
| 110 | | | | 0 | | SAND AND GRAVEL, LIGHT GRAY POORLY SORTED | SP | | | | | | 110 |
| 115 | | | | 0 | | | | | | | | | 115 |
| 120 | | | | 0 | | | | | | | | | 120 |
| 125 | | | | | | SAND WITH CLAY, LIGHT BROWN WELL SORTED | SW | | | | | | 125 |
| 130 | | | | | | | | | | | | | 130 |
| 135 | | | | | | | | | | | | | 135 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW7-148 | Page 5 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 19981A | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: ITCORP | Drlg Contractor MIDEASTERN GEOTECH | Driller: |
| Drlg Started: 9-26-90 ( 8:30 Pm) | Drlg Ended 9-29-90 ( 2:45 Pm) | Borehole dia(s): 10", 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA / HEBERT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery | Fidsp (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAME AS ABOVE | SW | | | | | | |
| 145 | | | | 0 | | SAND WITH CLAY AND GRAVEL, BROWN MODERATELY SORTED | SC | | | | | SPLIT-SPOON 145-146.5Ft. | 145 |
| 150 | | | | | | BOH AT 150 Ft. | | | | | | | 150 |
| 155 | | | | | | | | | | | | | 155 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-17 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-13-90 ( 8 :00 A m) | Drlg Ended 9-13-90 ( 9 :30 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER | | |
| Logged by: SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (IN) | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 786.17 |
| | | | | | SEE BORING LOG CW8-150 FOR A COMPLETE LITHOLOGIC DESCRIPTION | | | | | | | |
| 5 | | | | | | | | | | | | 5 |
| 10 | | | | | | | | | | | | 10 |
| 15 | | | | 0 | | | | | | | | 15 |
| | | | | | BOH AT 17 Ft. | | | | | | | |
| 20 | | | | | | | | | | | | 20 |
| 25 | | | | | | | | | | | | 25 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-55 | Page 1 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-18-90 ( 10:15 A m) | Drlg Ended 9-18-90 ( 7:48 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER | | |
| Logged by: L. HESSON | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery (TN) (hdsp) (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 785.54 |
| | | | | | SEE BORING LOG CW8-150 FOR A COMPLETE LITHOLOGIC DESCRIPTION | | | | | | |
| 5 | | | | | | | | | | | 5 |
| 10 | | | | 0 | | | | | | | 10 |
| 15 | | | | 0 | | | | | | | 15 |
| 20 | | | | | | | | | | | 20 |
| 25 | | | | | | | | | | | 25 |
| 30 | | | | | | | | | | Chloroform 3ppm in borehole at 30 Ft | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-55 | Page 2 of 2 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-18-90 ( 10:15 A m) | Drlg Ended 9-14-90 ( 7:48 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: HOLLOW STEM AUGER 4.25-INCH ID | | |
| Logged by: L. HESSON | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery (hdsp) (ppm) | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1.5 | SEE BORING LOG CW8-150 FOR A COMPLETE LITHOLOGIC DESCRIPTION | | | | | TOTAL VOC's in borehole 1.5 ppm @ 35 Ft. | |
| 40 | | | | 1.0 | | | | | | | 40 |
| 45 | | | | 1.5 | | | | | | VOC's 1.5 ppm IN Borehole @ 45 Ft. | 45 |
| 50 | | | | 0 | | | | | | | 50 |
| 55 | | | | | BOH AT 55 Ft. | | | | | | 55 |
| 60 | | | | | | | | | | | 60 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-85 | Page 1 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-15-90 ( 11:00 A m) | Drlg Ended 9-17-90 ( 3:00 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA/SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~FID~~ Hdsp (ppm) | ~~Recovery (IN)~~ | Lithologic Description | ~~USCS~~ ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SEE BORING LOG FOR CW8-150 FOR LITHOLOGIC DESCRIPTION | | | | | | 785.54 |
| 5 | | | | | | | | | | | | 5 |
| 10 | | | | | | | | | | | | 10 |
| 15 | | | | | | | | | | | | 15 |
| 20 | | | | | | | | | | | | 20 |
| 25 | | | | | | | | | | | | 25 |
| 30 | | | | | | | | | | | ADDED 5 GALS WATER | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-85 | Page 2 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: ITCORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-15-90 ( 11:00 Am) | Drlg Ended 9-17-90 ( 3:00 Am) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA / SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~PID~~ HNU (ppm) | ~~Recovery (IN)~~ hdsp (ppm) | Lithologic Description | ~~BCS~~ ASTM | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SEE BORING LOG FOR CW8-150 FOR LITHOLOGIC DESCRIPTION | | | | | | |
| 40 | | | | 0 | | | | | | | | 40 |
| 45 | | | | | | | | | | | ADDED 10 GAL. WATER | 45 |
| 50 | | | | 2 | | | | | | | Dreager Tube 2 ppm Chloroform BOREHOLE | 50 |
| 55 | | | | | | | | | | | Dreager TUBE 2 ppm Chloroform BOREHOLE | 55 |
| 60 | | | | | | | | | | | | 60 |
| 65 | | | | | | | | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-85 | Page 3 of 3 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-15-90 ( 11:00 A m) | Drlg Ended 9-17-90 ( 3:00 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA/SPESSHARDT | E-Log (Y/N) From _____ to _____ | Protection Level: D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Hdsp (ppm) / Recovery (IN) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SEE BORING LOG FOR CW8-150 FOR LITHOLOGIC DESCRIPTION | | | | | | |
| 75 | | | | | | | | | | | | 75 |
| | | | | | | SAND AND GRAVEL, GRAY POORLY SORTED | SP | | | | | |
| 80 | | | | 0 | | | | | | | SPLIT-SPOON | 80 |
| | | | | | | | | | | | Draeger TUBE 2 PPM CHLOROFORM | |
| 85 | | | | | | BOH AT 85 Ft. | | | | | ADDED 27 GAL WATER | 85 |
| 90 | | | | | | | | | | | | 90 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-110 | Page 1 of 4 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 1:17 P m) | Drlg Ended 9-13-90 ( 11:30 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: Hesson / VIERA | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery (IN) hdsp (ppm) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | GRAVEL AND SILTY CLAY WITH SAND, GRAY | GC | | | | | ADDED 4 GAL WATER | 785.06 |
| 5 | | | | 0 | | | | | | | | | 5 |
| 10 | | | | | | | | | | | | | 10 |
| | | | | 22 | | | | | | | | | |
| 15 | | | | | | | | | | | | | 15 |
| | | | | | | SANDS WITH SOME SILT AND CLAY, BROWN | SM | | | | | | |
| 20 | | | | | | | | | | | | | 20 |
| 25 | | | | 0 | | | | | | | | 28 Ft 8ppm borehole | 25 |
| 30 | | | | 0 | | | | | | | | 0ppm Cuttings | 30 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-110 | Page 2 of 4 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 1:17 P m) | Drlg Ended 9-13-90 ( 11:30 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: HESSON / VIERA | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery | Hdsp (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAME AS ABOVE | SM | | | | | |
| 40 | | | | | | | | | | | | 40 |
| | | | | | | | | | | | REMOVED 15 GAL. WATER | |
| 45 | | | | | | | | | | | | 45 |
| | | | | | | | | | | | ADDED 10 GAL. WATER | |
| | | | | 0 | | | | | | | | |
| 50 | | | | | | | | | | | | 50 |
| | | | | | | | | | | | REMOVED 15 GAL WATER | |
| 55 | | | | | | | | | | | | 55 |
| 60 | | | | | | | | | | | | 60 |
| 65 | | | | 0 | | SAND WITH GRAVEL AND CLAY GRAY. POORLY SORTED | SP | | | | | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-110 | Page 3 of 4 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO /WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 1:17 Pm) | Drlg Ended 9-13-90 ( 11:30 Pm) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: HESSON / VIERA | E-Log (Y/N) From _____ to _____ | Protection Level: |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery (hdsp) (ppm) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | | SAME AS ABOVE | SP | | | | | | |
| 75 | | | | | | | | | | | | | 75 |
| | | | | 0 | | GRAVEL AND SAND WITH SOME CLAY, POORLY SORTED | GP | | | | | | |
| 80 | | | | | | | | | | | | | 80 |
| | | | | | | SAND WITH GRAVEL AND CLAY, GRAY MODERATELY SORTED | SM | | | | | | |
| | | | | 0 | | SAND WITH GRAVEL AND CLAY, GRAY POORLY SORTED | SP | | | | | | |
| 85 | | | | | | | | | | | | | 85 |
| | | | | | | SAND WITH GRAVEL AND CLAY, GRAY MODERATELY SORTED | SM | | | | | | |
| 90 | | | | | | | | | | | | | 90 |
| | | | | 0 | | SAND WITH GRAVEL AND CLAY, GRAY WELL-SORTED | SW | | | | | | |
| 95 | | | | | | | | | | | | | 95 |
| | | | | | | SAND WITH GRAVEL AND CLAY, GRAY, POORLY SORTED | SP | | | | | | |
| | | | | 0 | | | | | | | | | |
| 100 | | | | | | | | | | | | | 100 |
| | | | | 0 | | | | | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-110 | Page 4 of 4 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-11-90 ( 1:17 P m) | Drlg Ended 9-14-90 ( 11:30 P m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: HESSON / VIERA | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNO~~ Hdsp (ppm) / Recovery ( ) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & | Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SAME AS ABOVE | SP | | | | | | |
| | | | | 0 | | | | | | | | |
| 110 | | | | | | | | | | | | 110 |
| | | | | | BOH AT 110 Ft. | | | | | | | |
| 115 | | | | | | | | | | | | 115 |
| 120 | | | | | | | | | | | | 120 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-150 | Page 1 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199819 | Client/Project: BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-7-90 (3:00 Pm) | Drlg Ended 9-10-90 (10:30 Am) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA/VIERA | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | ~~HNU~~ Recovery (IN) | Fidsp (ppm) | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 785.05 |
| | | | | 0 | | GRAVEL AND SILTY CLAY WITH SAND, BROWN | GC | | | | ADDED 15 GAL WATER | |
| 5 | | | | | | | | | | | | 5 |
| 10 | | | | 2 | | SAND, BROWN, WELL GRADED | SW | | | | Added 3 gal WATER | 10 |
| 15 | | | | | | | | | | | | 15 |
| 20 | | | | | | SAND WITH SILT, BROWN to LIGHT BROWN. | SM | | | | ADDED 4 GAL. WATER | 20 |
| | | | | | | | | | | | ADDED 6-7 GAL WATER | |
| 25 | | | | | | GRAVEL WITH SAND AND COBBLES, LIGHT BROWN, COBBLES ≤ 5" DIA. | GP | | | | | 25 |
| 30 | | | | | | CLAY WITH SAND AND GRAVEL, LIGHT BROWN | CL | | | | DISPOSED OF 1 BBL WATER | 30 |
| | | | | | | | | | | | ADDED 12 GAL WATER | |
| | | | | 0 | | GRAVEL AND SAND, GRAY, POORLY SORTED | GP | | | | | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-150 | Page 2 of 5 |
|---|---|---|
| Installation: WPAFB | Site: CW8 | |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MIDEASTERN GEOTECH | Driller: |
| Drlg Started: 9-7-90 ( 3:00 Pm) | Drlg Ended 9-10-90 (10:30 Am) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA / VIERA | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU (ppm) / Recovery (IN) | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | SAME AS ABOVE | GP | | | | ADDED 12 GAL WATER | |
| 40 | | | | 0 | GRAVEL AND SAND WITH SOME CLAY, GRAY | GC | | | | DISPOSED OF 1 BBL WATER; ADDED 14 GAL WATER | 40 |
| 45 | | | | 0 | GRAVEL AND SAND WITH SOME CLAY AND COBBLES, GRAY | GC | | | | DISPOSED OF 1 BBL WATER | 45 |
| 50 | | | | 0 | SAND WITH SOME CLAY, GRAY | SC | | | | | 50 |
| 55 | | | | 0 | SAME AS ABOVE | SC | | | | | 55 |
| 60 | | | | 0 | SAND, GRAY-BROWN, COARSE TO FINE GRAINED, POORLY SORTED | SP | | | | DISPOSED 2 GAL WATER | 60 |
| 65 | | | | 0 | SAND WITH SOME CLAY, GRAY-BROWN | SC | | | | DISPOSED 3 GAL WATER | 65 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-150 | Page 3 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-7-90 ( 3:00 P m) | Drlg Ended 9-10-90 ( 10:30 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA / VIERA | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery | HDSP (ppm) | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAME AS ABOVE | SC | | | | 3 GALS OF WATER REMOVED | |
| 75 | | | | 28 | | SAND WITH SOME CLAY, GRAY-BROWN POORLY SORTED | SP | | | | 15 GAL WATER ADDED | 75 |
| | | | | | | GRAVEL WITH SOME SAND AND CLAY, GRAY | GC | | | | 4 GAL WATER REMOVED | |
| 80 | | | | | | SAND WITH SOME GRAVEL, GRAY POORLY SORTED | SP | | | | 5 GAL WATER REMOVED | 80 |
| 85 | | | | 7 | | SANDS, GRAY, POORLY SORTED | SP | | | | 5 GAL. OF WATER REMOVED | 85 |
| 90 | | | | 2.4 | | | | | | | HNU HDSP. 2.5 GAL OF WATER REMOVED | 90 |
| 95 | | | | | | SANDS WITH SOME CLAY, GRAY, WELL SORTED | SW | | | | | 95 |
| 100 | | | | 0 | | SANDS WITH SOME CLAY, GRAY, POORLY SORTED | SP | | | | 2 GAL OF WATER REMOVED 45 GAL WATER ADDED 12 GAL OF WATER ADDED | 100 |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-150 | Page 4 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-7-90 ( 3:00 P m) | Drlg Ended 9-10-90 ( 10:30 A m) | Borehole dia(s): 7" |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA / VIERA | E-Log (Y/N) From _____ to _____ | Protection Level: D / D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU Recovery (ppm) | Lithologic Description | ASTM USCS | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SAME AS ABOVE | SP | | | | 4 GAL WATER REMOVED | |
| 110 | | | | | | | | | | 2.5 GAL WATER REMOVED | 110 |
| 115 | | | | | | | | | | 2.5 GAL WATER REMOVED | 115 |
| | | | | | | | | | | 2.5 GAL WATER REMOVED | |
| 120 | | | | 10 | | | | | | 8 GAL WATER REMOVED | 120 |
| | | | | | SANDS WITH LITTLE CLAY, GRAY WELL SORTED | SW | | | | 3 GAL WATER REMOVED | |
| 125 | | | | 0 | SANDS WITH SOME CLAY, GRAY | SM | | | | 3 GAL WATER REMOVED | 125 |
| 130 | | | | 0 | SANDS WITH SOME CLAY, GRAY POORLY SORTED | SP | | | | 15 GAL WATER ADDED 2 GAL WATER REMOVED | 130 |
| 135 | | | | 0 | GRAVEL AND SAND WITH SOME CLAY, GRAY. POORLY | GP | | | | SPLIT-SPOON 135-136.5 ft 20 GAL WATER | 135 |
| | | | | | SANDS WITH SOME GRAVEL AND CLAY, GRAY. POORLY SORTED | SP | | | | ADDED 6 GAL REMOVED | |

U = Thin wall tube
S = Split spoon (tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

Field G/C (Make/Mod.) _____
G/C Oper.: _____

| BORING LOG | BORING/WELL NO.: CW8-150 | Page 5 of 5 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE-EMO / WPAFB | |
| Contractor: ITCORP | Drlg Contractor MID EASTERN GEOTECH | Driller: |
| Drlg Started: 9-7-90 ( 3:00 Pm) | Drlg Ended 9-10-90 ( 10:30 Am) | Borehole dia(s): |
| Drlg Method/Rig Type: CABLE-TOOL | | |
| Logged by: TAPPA / VIERA | E-Log (Y/N) From _____ to _____ | Protection Level: D/D+ |

| Depth (ft) | Sample | Sample No. | Lab Anal. (Y/N) | HNU / Recovery (ppm) | | Lithologic Description | ASTM ~~USCS~~ | Blows/6 inch. | Graphic Log | Well data | Water depth & Remarks | Elev. (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SAME AS ABOVE | | | | | | |
| 145 | | | | 0 | | GRAVEL AND SAND WITH SOME CLAY, GRAY | GC | | | | DISPOSED OF 30 GAL WATER<br>SPLIT-SPOON 145-146.5Ft<br>ADDED 30 GAL WATER. | 145 |
| 150 | | | | | | | | | | | | 150 |
| 155 | | | | | | | | | | | | 155 |

| | | |
|---|---|---|
| U = Thin wall tube | R = Rock coring _____ | Field G/C (Make/Mod.) _____ |
| S = Split spoon (tube) | O = Other _____ | G/C Oper.: _____ |
| C = Cuttings | Notes: _____ | |

# APPENDIX C

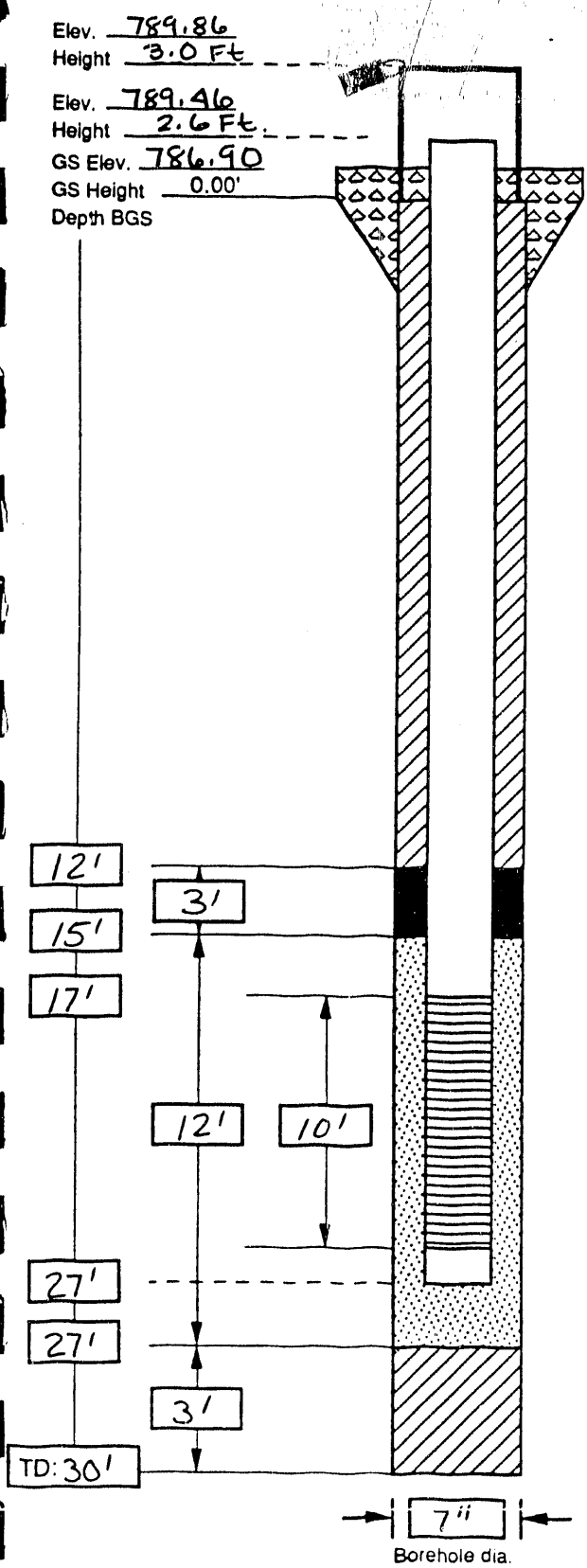
# WELL CONSTRUCTION LOGS

## APPENDIX C - WELL CONSTRUCTION LOGS

Well Construction logs included in this Appendix:

CW1-27
CW1-35
CW1-121
CW2-35
CW2-44
CW2-90
CW3-27
CW3-35
CW3-77
CW4-60
CW4-85
CW5-55
CW5-85
CW6-77
CW7-55
CW7-100
CW7-148
CW8-17
CW8-55
CW8-85
CW8-110
CW8-150

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CWI-27 | Installation: WPAFB | Site: CWI |
| Project No.: 199814 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: ITCORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-9-90 ( 6:55 Pm) | Comp. End: 9-10-90 ( 2:00 Am) | |
| Built By: S. SPESSHARDT / L. HESSON | Well Coord: 655533.28795 N 1548178.51765 E | |




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.0 Ft Weep Hole (Y/N)

**GUARD POSTS** (Y/N)
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 20 Ft.

**GROUT**
Composition & Proportions 6 SX'S PORTLAND 1A 40 GAL WATER 1/2 SX BENTONITE
Interval BGS SURFACE TO 12 Ft
Tremied (Y/N)

**CENTRALIZERS** (Y/N)
Depth NONE

**SEAL**
Type BENTONITE PELLETS
Source
Setup/Hydration Time 0.5 HR. Vol. Fluid Added 2.5 GAL
Tremied (Y/N)

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 5 1/2 SX'S SAND 50# Ea.
Source
Gr. Size Dist.
Tremied (N)

**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 17 to 27 Ft.

**SUMP** (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

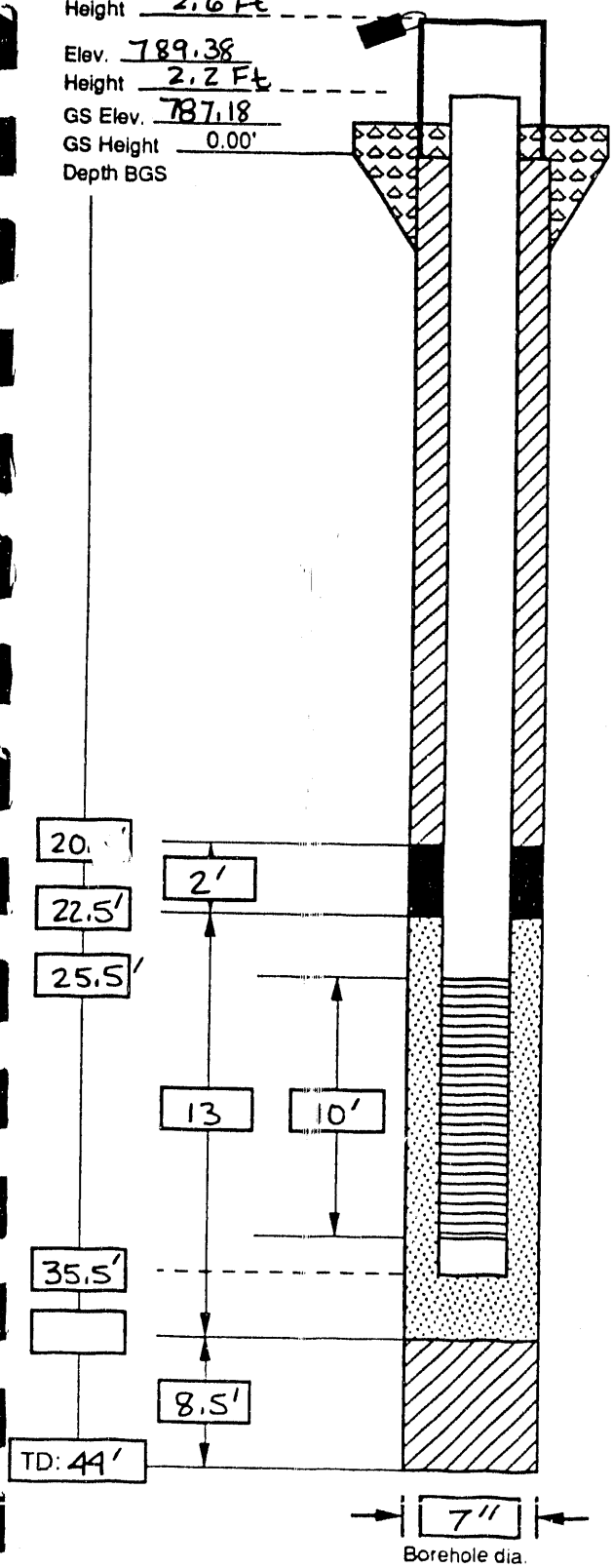
**BACKFILL PLUG**
Material NATURAL HEAVING SAND
Setup/Hydration Time
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CWI-35 | Installation: WPAFB | Site: CWI |
| Project No.: 199814 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP. | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-9-90 (12:22 Pm) | Comp. End: 9-9-90 (6:31 Pm) | |
| Built By: S. SPESSHARDT / L. HESSON | Well Coord: 655539.28354 N 1548189.57384 | |

Elev. 789.79
Height 2.6 Ft

Elev. 789.38
Height 2.2 Ft

GS Elev. 787.18
GS Height 0.00'
Depth BGS




PROTECTIVE CSG
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.4 Ft. Weep Hole (Y/N)

GUARD POSTS (Y/N)
No. 3 Type STEEL

SURFACE PAD
Composition & Size CONCRETE 4'x4'x6"

RISER PIPE
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 28 Ft.

GROUT
Composition & Proportions 9 SX'S PORTLAND IA, 69 GAL WATER, 3/4 SX BENTONITE
Interval BGS
Tremied (Y/N)

CENTRALIZERS (Y/N)
Depth NONE

SEAL
Type BENTONITE PELLETS
Source
Setup/Hydration Time 0.5 HR Vol. Fluid Added 2.5 GAL
Tremied (Y/N)

FILTER PACK
Type COARSE WASHED QUARTZ
Amount Used 5 3/4 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied (Y/N)

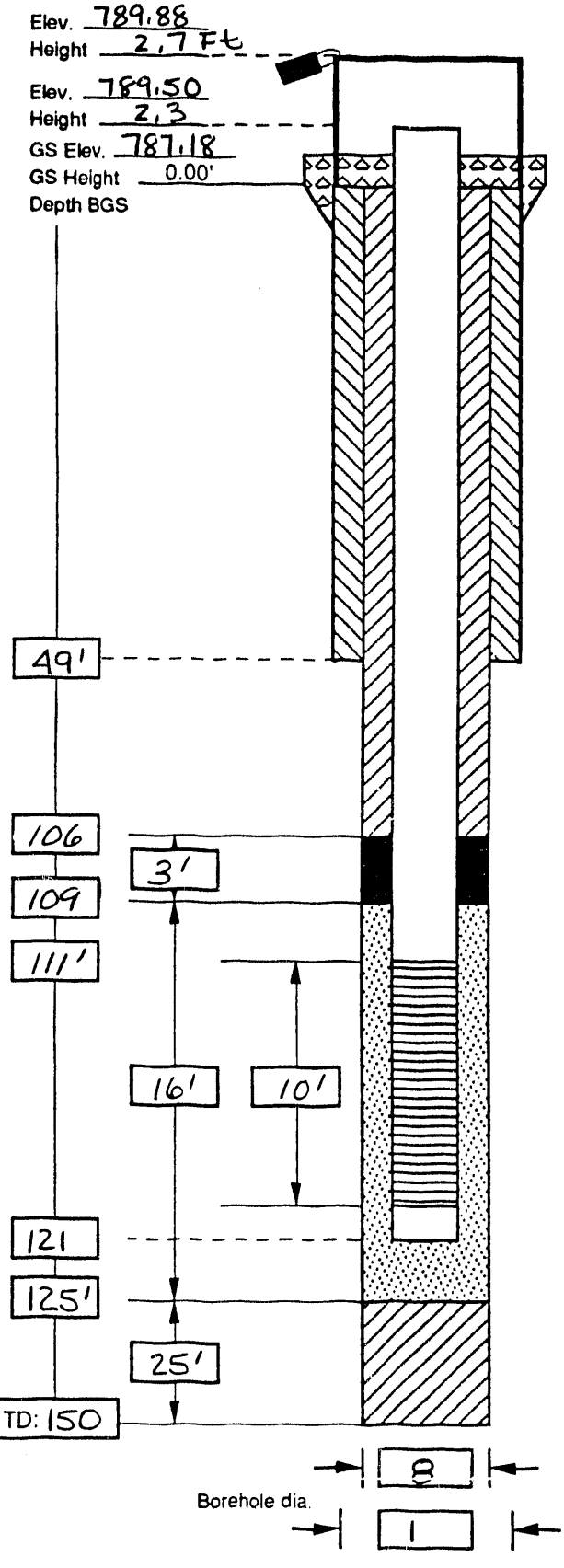
SCREEN
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 25.5 to 35.5 Ft.

SUMP (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

BACKFILL PLUG
Material BENTONITE PELLETS
Setup/Hydration Time 0.5 HR
Tremied (Y/N)

# MONITORING WELL CONSTRUCTION LOG - Double Cased

| | | |
|---|---|---|
| Well No.: CW1-121 | Installation: WPAFB | Site: CW1 |
| Project No.: 199814 | Client/Project BATTELLE-EMO / WPAFB | |
| Contractor: ITCORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-24-90 ( 6:00 P m) | Comp. End: 9-26-90 ( 9:00 P m) | |
| Built By: A. GAULT / R MILNER | Well Coord: 655522.61759 N, 1548158.38094 E | |




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.3 Ft Weep Hole (Y/[redacted])

**GUARD POSTS** (Y/[redacted])
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x 6"

**SURFACE CSG**
Type STEEL
Diameter 8-INCH ID Total Length 49'

**GROUT**: Setup/Hydration Time 24 HRS.
Composition & Proportions 30SX'S PORTLAND 1A 200GAL WATER, 1/4 SX BENTONITE
Interval BGS SURFACE TO 97 Ft.
Tremied (Y/[redacted])

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 113.7 Ft.

**GROUT**
Composition & Proportions 3 SX'S PORTLAND 1A, 20GAL WATER, 1/4 SX BENTONITE PER BATCH
Interval BGS SURFACE TO 106 Ft.
Tremied (Y/[redacted])

**CENTRALIZERS** (Y/[redacted])
Depth 40 Ft, 70 Ft, 100 Ft

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 1 HR Vol. Fluid Added
Tremied (Y/[redacted])

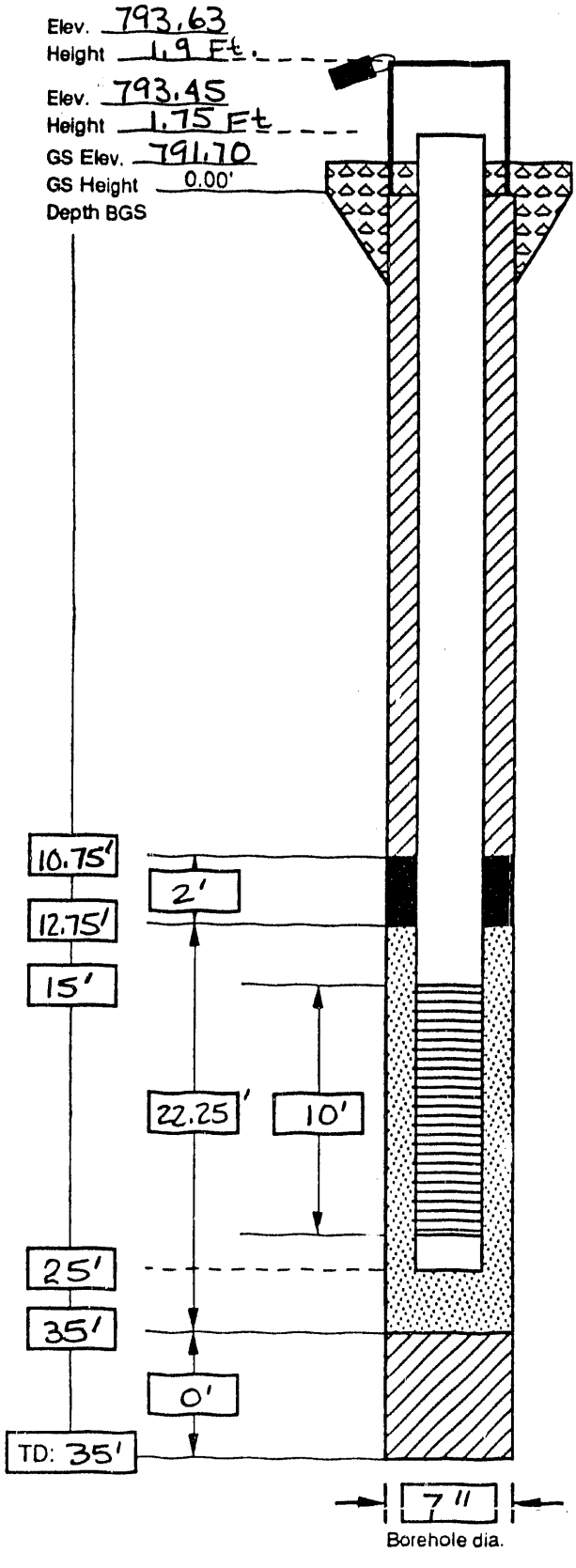
**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 7 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied ([redacted]/N)

**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE

**SUMP** ([redacted]/N)
Interval BGS NONE Length
Bottom Cap (Y/[redacted])

**BACKFILL PLUG**
Material GROUT MIX
Setup/Hydration Time 24 HRS
Tremied (Y/[redacted])

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW2-35 | Installation: WPAFB | Site: CW2 |
| Project No.: 199814 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-10-90 ( 2:30 Pm) | Comp. End: 9-10-90 ( 5:30 Pm) | |
| Built By: K. TAPPA | Well Coord: 656365, 97174 N 1549567, 12411 E | |




PROTECTIVE CSG
Material/Type STEEL LOCKING
Diameter 6-INCH DIAMETER
Depth BGS 4.1 Ft Weep Hole (Y/[redacted])

GUARD POSTS (Y/[redacted])
No. 4 Type STEEL

SURFACE PAD
Composition & Size CONCRETE 4'x4'x6"

RISER PIPE
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 16.75 Ft.

GROUT
Composition & Proportions 5 SX'S PORTLAND IA, 49 GAL WATER, 1/2 BAG BENTONITE
Interval BGS SURFACE TO 10.75 Ft.
Tremied (Y/[redacted])

CENTRALIZERS ([redacted]/N)
Depth NONE

SEAL
Type BENTONITE PELLETS
Source
Setup/Hydration Time 0.5 HR Vol. Fluid Added 5 GAL
Tremied ([redacted]/N)

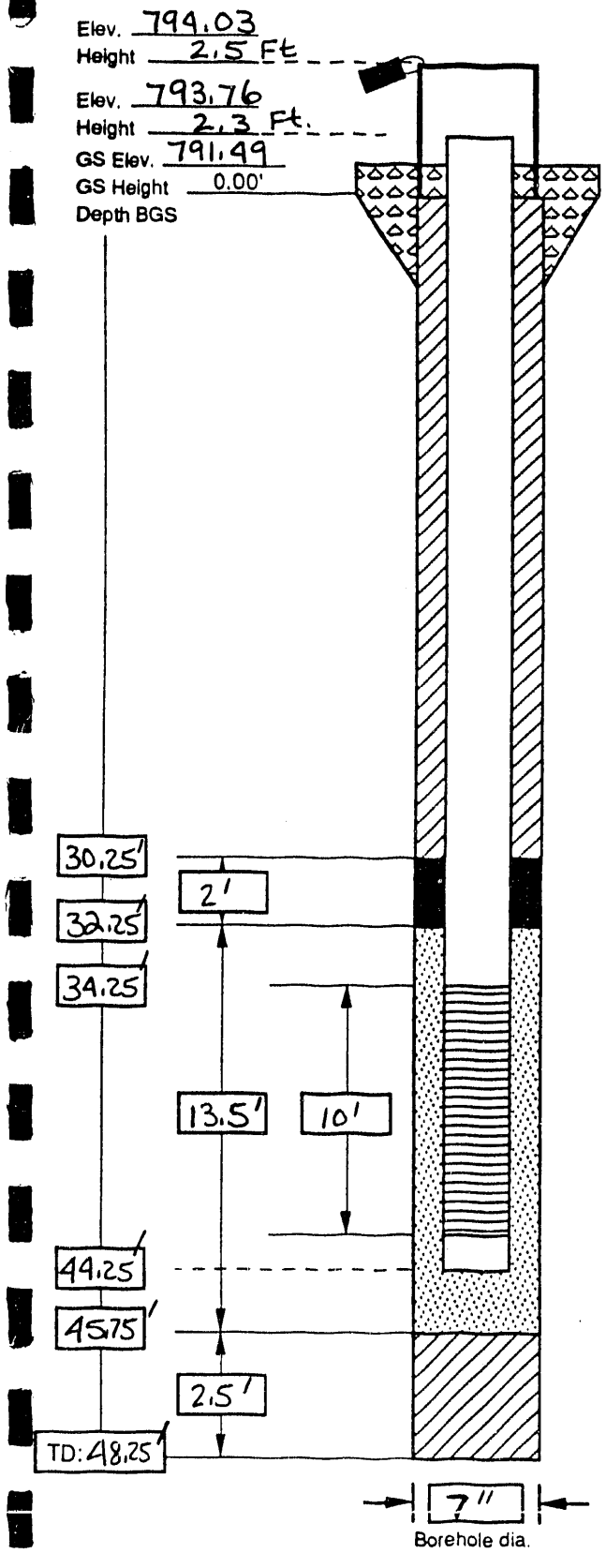
FILTER PACK
Type COARSE WASHED QUARTZ
Amount Used 3.5 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied ([redacted]/N)

SCREEN
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 15 to 35 Ft.

SUMP (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/[redacted])

BACKFILL PLUG
Material NONE
Setup/Hydration Time
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW2-44 | Installation: WPAFB | Site: CW2 |
| Project No.: 199814 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP. | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-12-90 ( 3:13 A m) | Comp. End: 9-12-90 ( 1:00 P m) | |
| Built By: S. SPESSHARDT / K. TAPPA | Well Coord: 656373.81900 N 1549582.16766 E | |




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.5 Ft Weep Hole (Y/[redacted])

**GUARD POSTS** (Y/[redacted])
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 36.5 Ft

**GROUT**
Composition & Proportions 15 SX'S PORTLAND 1A, 100 GAL WATER, 2 SX'S BENTONITE
Interval BGS SURFACE TO 30.25 Ft.
Tremied (Y/[redacted])

**CENTRALIZERS** ([redacted]/N)
Depth NONE

**SEAL**
Type BENTONITE PELLETS
Source
Setup/Hydration Time 0.5 HR Vol. Fluid Added 3 GAL
Tremied (Y/N)

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 3.75 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied ([redacted]/N)

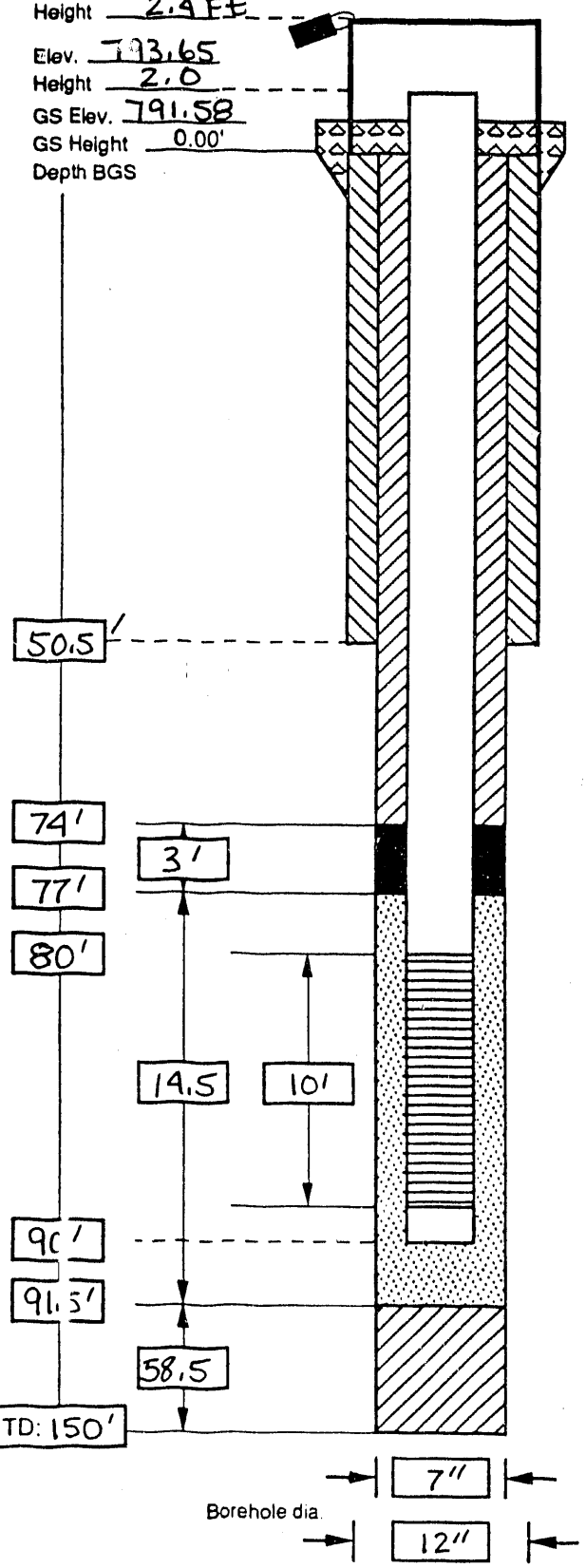
**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 34.25 to 44.25 Ft

**SUMP** ([redacted]/N)
Interval BGS NONE Length
Bottom Cap (Y/[redacted])

**BACKFILL PLUG**
Material BENTONITE PELLETS
Setup/Hydration Time 1 HR
Tremied ([redacted]/N)

| MONITORING WELL CONSTRUCTION LOG - Double Cased | | |
|---|---|---|
| Well No.: CW2-90 | Installation: WPAFB | Site: CW2 |
| Project No.: 199814 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: ITCORP. | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-23-90 (7:00 Pm) | Comp. End: 9-25-90 (11:00 Am) | |
| Built By: J. WINTON / M. HEBERT | Well Coord: 656382.86084 N, 1549596.04839 E | |

Elev. 793.94
Height 2.4 Ft
Elev. 793.65
Height 2.0
GS Elev. 791.58
GS Height 0.00'
Depth BGS




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.6 Ft Weep Hole (Y/[redacted])

**GUARD POSTS** (Y/[redacted])
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**SURFACE CSG**
Type STEEL
Diameter 8-INCH ID Total Length 50.5 Ft.
GROUT: Setup/Hydration Time 16 HRS
Composition & Proportions 1 SX PORTLAND IA, 7 GAL WATER, 3-5 LB. BENTONITE
Interval BGS SURFACE TO 48.5 Ft
Tremied (Y/[redacted])

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 82 Ft.

**GROUT**
Composition & Proportions 1 SX PORTLAND IA, 7 GAL WATER, 3-5 lb BENTONITE
Interval BGS SURFACE TO 74 Ft.
Tremied (Y/[redacted])

**CENTRALIZERS** (Y/[redacted])
Depth 16 Ft, 46 Ft, 76 Ft

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 50 MIN Vol. Fluid Added
Tremied (Y/[redacted])

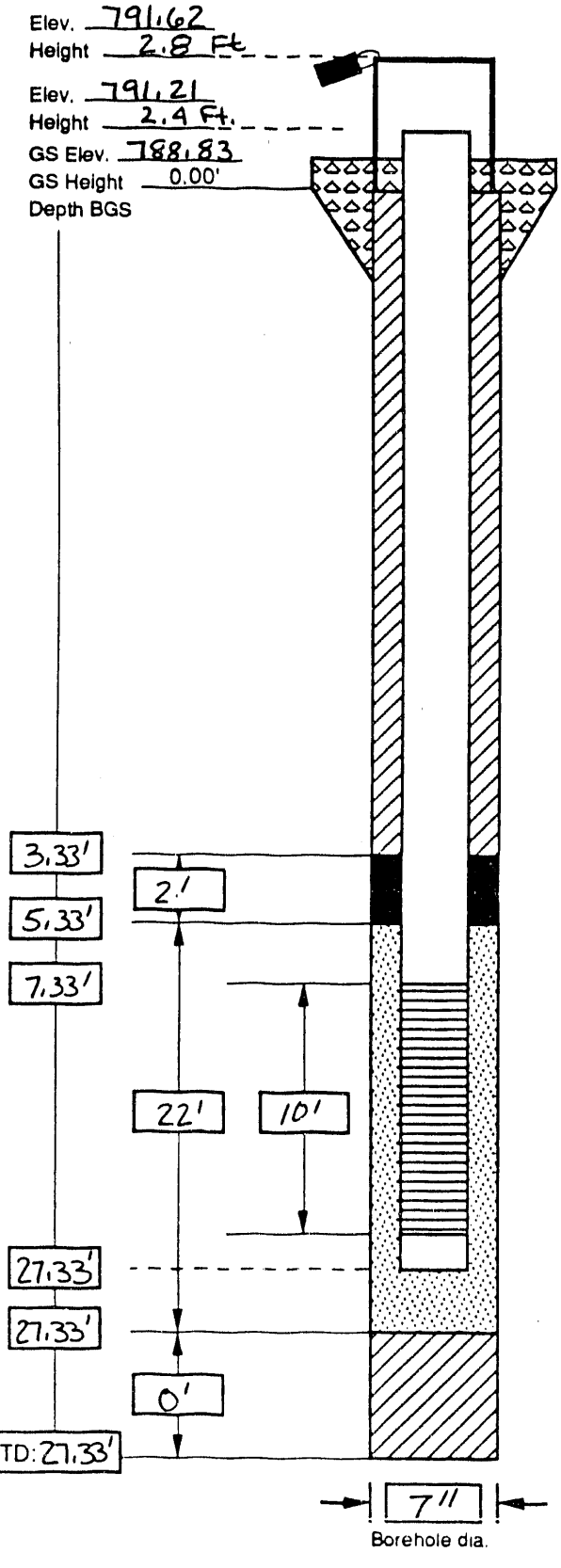
**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 10 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied ([redacted]/N)

**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE

**SUMP** ([redacted]/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

**BACKFILL PLUG**
Material GROUT
Setup/Hydration Time 22 HRS
Tremied (Y/[redacted])

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW3-27 | Installation: WPAFB | Site: CW3 |
| Project No.: 199814 | Client/Project BATTELLE-EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-10-90 (10:11 P m) | Comp. End: 9-11-90 (6:15 A m) | |
| Built By: K. TAPPA / S. SPESSHARDT | Well Coord: 656889.27565 N 1550744.04304 E | |




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.2 Ft Weep Hole (Y/N)

**GUARD POSTS** (Y/N)
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 9.75 Ft.

**GROUT**
Composition & Proportions 1 SX PORTLAND 1A, 7 GAL WATER, 5# BENTONITE
Interval BGS SURFACE TO 3.33 Ft.
Tremied (Y/N)

**CENTRALIZERS** (Y/N)
Depth NONE

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 10 MIN Vol. Fluid Added
Tremied (Y/N)

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 11 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied (N)

**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS

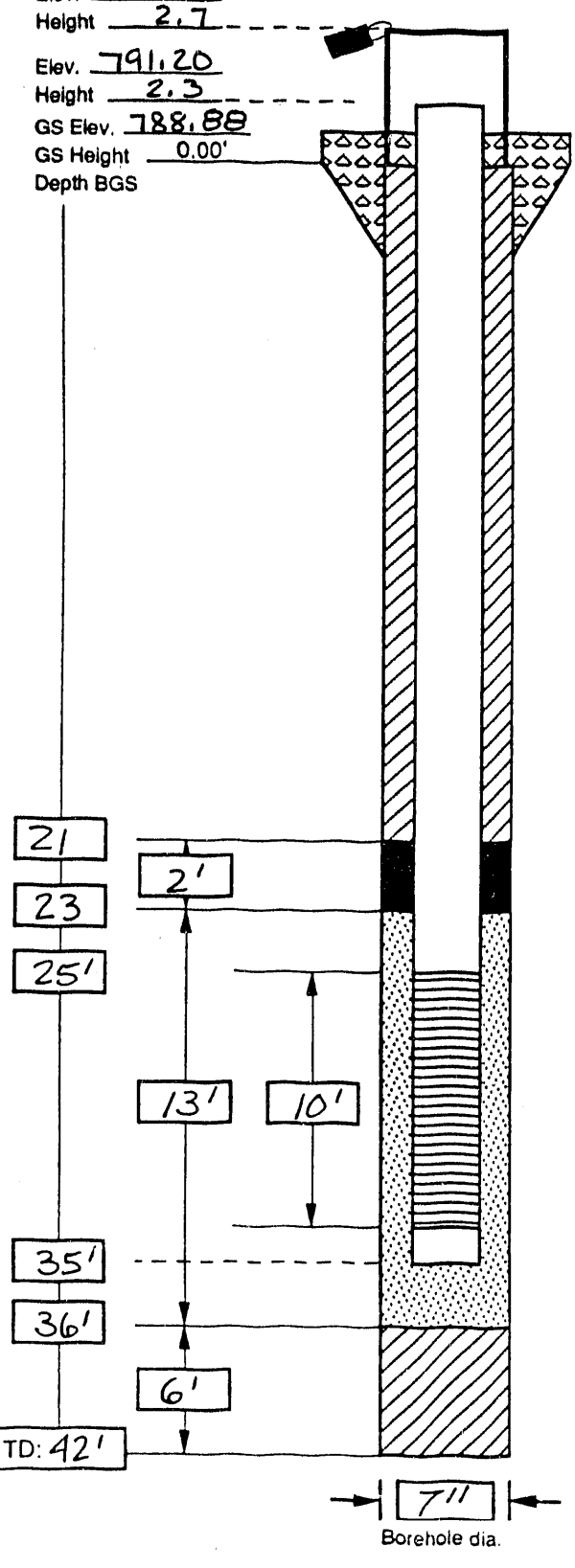
**SUMP** (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

**BACKFILL PLUG**
Material NONE
Setup/Hydration Time
Tremied (Y/N)

# MONITORING WELL CONSTRUCTION LOG - Standard

| | | |
|---|---|---|
| Well No.: CW3-35 | Installation: WPAFB | Site: CW3 |
| Project No.: 199814 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-11-90 ( 2:12 Pm) | Comp. End: 9-11-90 ( 6:14 Pm) | |
| Built By: K. TAPPA | Well Coord: 656896.00759 N 1550758.46118 E | |

Elev. 791.58
Height 2.7
Elev. 791.20
Height 2.3
GS Elev. 788.88
GS Height 0.00'
Depth BGS




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.3 Ft Weep Hole (Y/N)

**GUARD POSTS** (Y/N)
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 27.3 Ft.

**GROUT**
Composition & Proportions 15 SX'S PORTLAND 1A 110GAL WATER, 1SX BENTONITE
Interval BGS SURFACE TO 21 Ft.
Tremied (Y/N)

**CENTRALIZERS** (Y/N)
Depth NONE

**SEAL**
Type BENTONITE PELLETS
Source
Setup/Hydration Time 0.5HR Vol. Fluid Added 4-GAL
Tremied (Y/N)

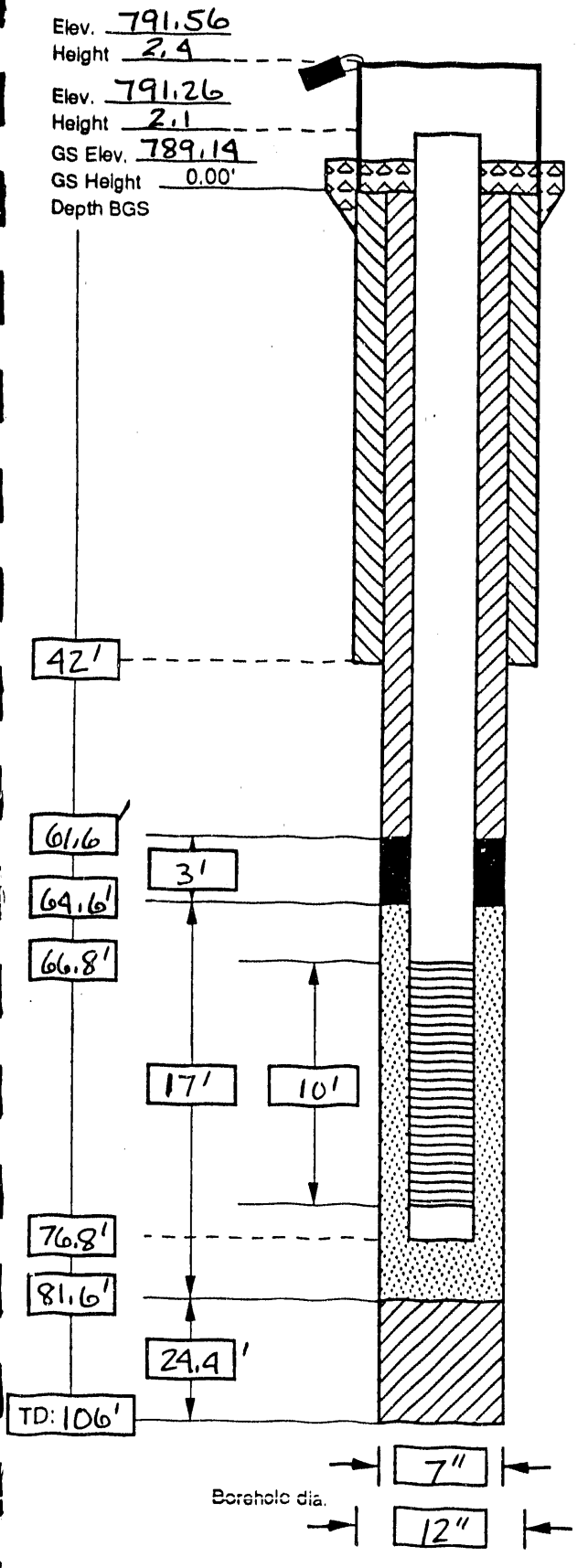
**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 3 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied (Y/N)

**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 25 to 35 Ft

**SUMP** (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

**BACKFILL PLUG**
Material BENTONITE PELLETS
Setup/Hydration Time 0.5HR
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Double Cased | | |
|---|---|---|
| Well No.: CW3-77 | Installation: WPAFB | Site: CW3 |
| Project No.: 199814 | Client/Project BATTELLE-EMO /WPAFB | |
| Contractor: ITCORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-23-90 ( 1 :45 Pm) | Comp. End: 9-24-90 ( 2 :25 Pm) | |
| Built By: K. TAPPA / S. SPESSHARDT | Well Coord: 656905.11052 N 1560780.87322 E | |




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.6 Ft. Weep Hole (Y/N)

**GUARD POSTS** (Y/N)
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**SURFACE CSG**
Type STEEL
Diameter 8-INCH ID Total Length 42 Ft.
GROUT: Setup/Hydration Time 17.5 HRS.
Composition & Proportions 18 SX'S PORTLAND 1A 125 GAL WATER, 1 SX BENTONITE
Interval BGS SURFACE TO 42 Ft.
Tremied (Y/N)

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 69 Ft

**GROUT**
Composition & Proportions 18 SX'S PORTLAND 1A, 135 GAL WATER, 1 SX BENTONITE.
Interval BGS SURFACE TO 61.6 Ft
Tremied (Y/N)

**CENTRALIZERS** (Y/N)
Depth 25 Ft, 60 Ft

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 1 HR Vol. Fluid Added
Tremied (Y/N)

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 6 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied (Y/N)

**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE

**SUMP** (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

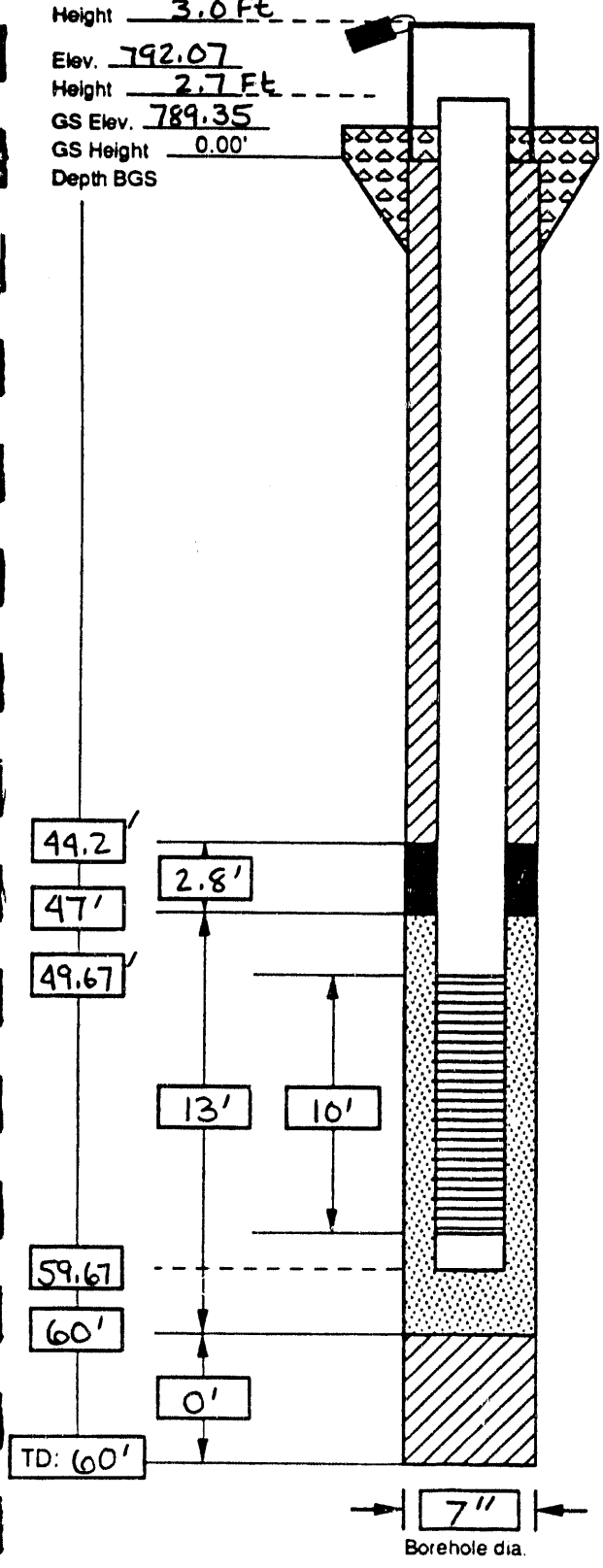
**BACKFILL PLUG**
Material GROUT MIX
Setup/Hydration Time 3 HRS.
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW4-60 | Installation: WPAFB | Site: CW4 |
| Project No.: 19981A | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-12-90 ( 11:45 Pm) | Comp. End: 9-13-90 ( 5:06 Am) | |
| Built By: S SPESSHARDT / K TAPPA | Well Coord: 659875.49924 N 1554831.59062 E | |

Elev. 792.37
Height 3.0 Ft

Elev. 792.07
Height 2.7 Ft

GS Elev. 789.35
GS Height 0.00'
Depth BGS




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.0 Ft. Weep Hole (Y/[redacted])

**GUARD POSTS** (Y/[redacted])
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 52.5 Ft

**GROUT**
Composition & Proportions 9 SX'S PORTLAND 1A, 69 GAL WATER, 1/2 SX BENTONITE
Interval BGS SURFACE TO 44.2 Ft.
Tremied (Y/[redacted])

**CENTRALIZERS** ([redacted]/N)
Depth NONE

**SEAL**
Type BENTONITE PELLETS
Source
Setup/Hydration Time 0.5 HR. Vol. Fluid Added 2.5 GAL
Tremied (Y/N)

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 3.25 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied ([redacted]/N)

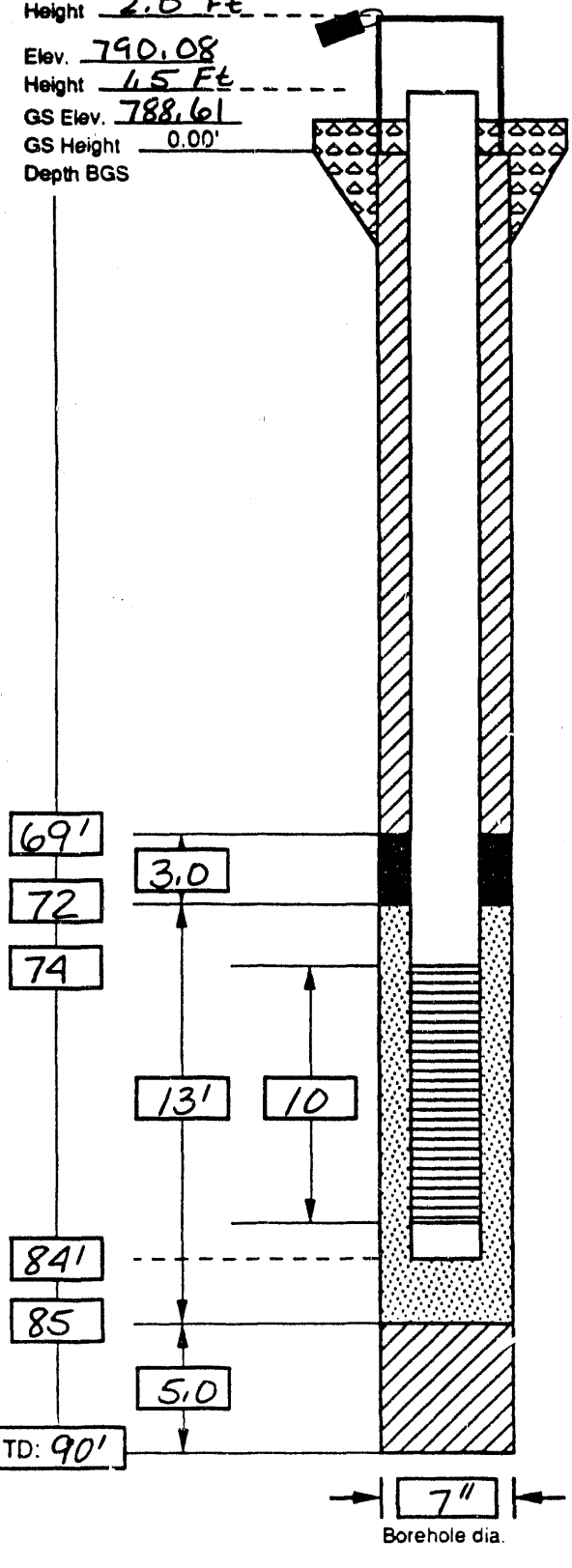
**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 49.67 to 59.67 Ft

**SUMP** ([redacted]/N)
Interval BGS NONE Length
Bottom Cap (Y/[redacted])

**BACKFILL PLUG**
Material NONE
Setup/Hydration Time
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW4-85 | Installation: WPAFB | Site: CW4 |
| Project No.: 199814 | Client/Project BATTELLE EMO/ WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MIDEASTERN GEOTECH | |
| Comp. Start: 9-9-90 (8:55 Pm) | Comp. End: 9-10-90 (6:10 Am) | |
| Built By: J. WINTON / M. HEBERT | Well Coord: 659891.95580 N 1554819.52922 E | |

Elev. 790.62
Height 2.0 Ft
Elev. 790.08
Height 1.5 Ft
GS Elev. 788.61
GS Height 0.00'
Depth BGS




PROTECTIVE CSG
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 4.0 Ft Weep Hole (Y/[redacted])

GUARD POSTS (Y[redacted])
No. 3 Type STEEL

SURFACE PAD
Composition & Size CONCRETE 4'x4'x6"

RISER PIPE
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 75.5 Ft

GROUT
Composition & Proportions 1 SX PORTLAND 1A, 7.5 GAL WATER, 5# BENTONITE
Interval BGS SURFACE TO 69 Ft.
Tremied (Y[redacted])

CENTRALIZERS (Y[redacted])
Depth 35 Ft, 50 Ft.

SEAL
Type BENTONITE SLURRY
Source
Setup/Hydration Time 0.5 HR Vol. Fluid Added
Tremied (Y[redacted])

FILTER PACK
Type COARSE WASHED QUARTZ
Amount Used 3 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied ([redacted]N)

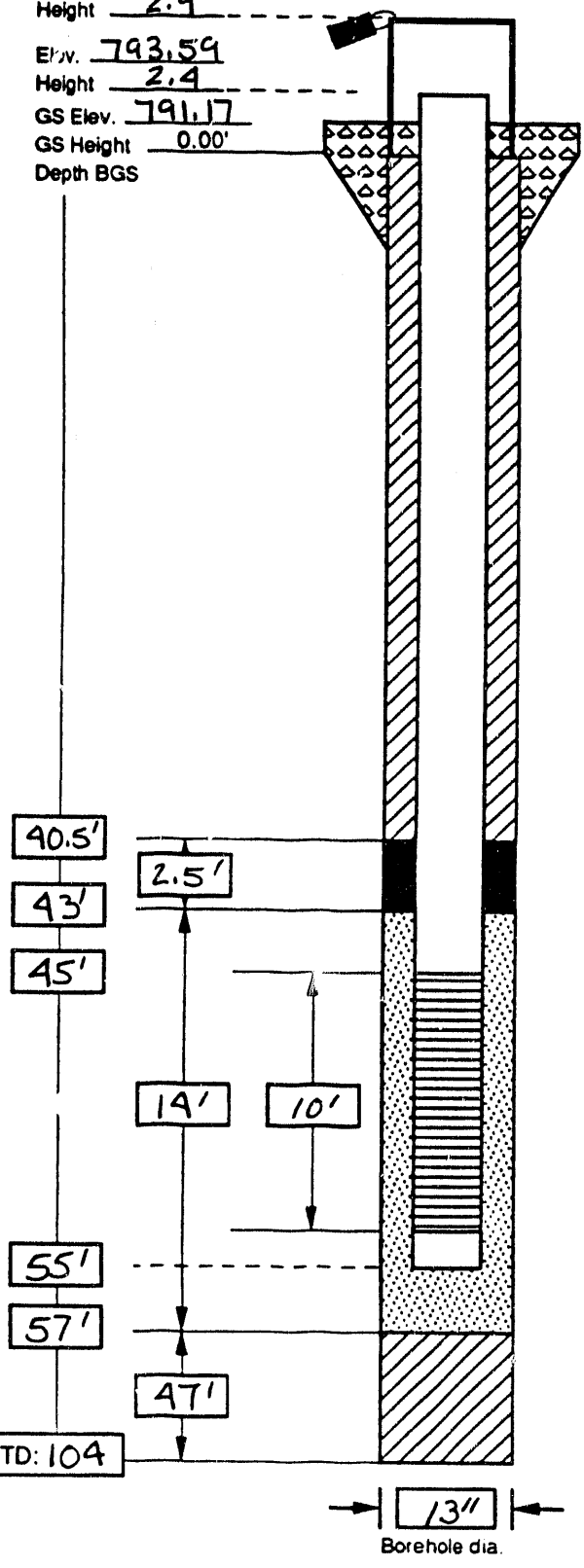
SCREEN
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 74 to 84 Ft.

SUMP ([redacted]N)
Interval BGS NONE Length
Bottom Cap (Y/[redacted])

BACKFILL PLUG
Material BENTONITE PELLETS
Setup/Hydration Time 15 min.
Tremied ([redacted]N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW5-55 | Installation: WPAFB | Site: CW5 |
| Project No.: 199814 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID-EASTERN GEOTECH | |
| Comp. Start: ( : m) | Comp. End: ( : m) | |
| Built By: A. GAULT / R. MILNER | Well Coord: 660303.89117 N 1554816.06909 E | |

Elev. 794.10
Height 2.9
Elev. 793.59
Height 2.4
GS Elev. 791.17
GS Height 0.00'
Depth BGS




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.6 Ft Weep Hole (Y/N)

**GUARD POSTS** (Y/N)
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (Flush Threaded)
Diameter 2-INCH ID
Total Length (TOC to TOS) 47.5 Ft

**GROUT**
Composition & Proportions 30 SXS PORTLAND IA (94#) 150 GAL WATER, 1 SX BENTONITE
Interval BGS SURFACE TO 40.5 Ft.
Tremied (Y/N)

**CENTRALIZERS** (Y/N)
Depth 40, 15 Ft

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 1 HR Vol. Fluid Added ~2 GAL
Tremied (Y/N)

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 20 SXS 50# EA.
Source
Gr. Size Dist.
Tremied (Y/N)

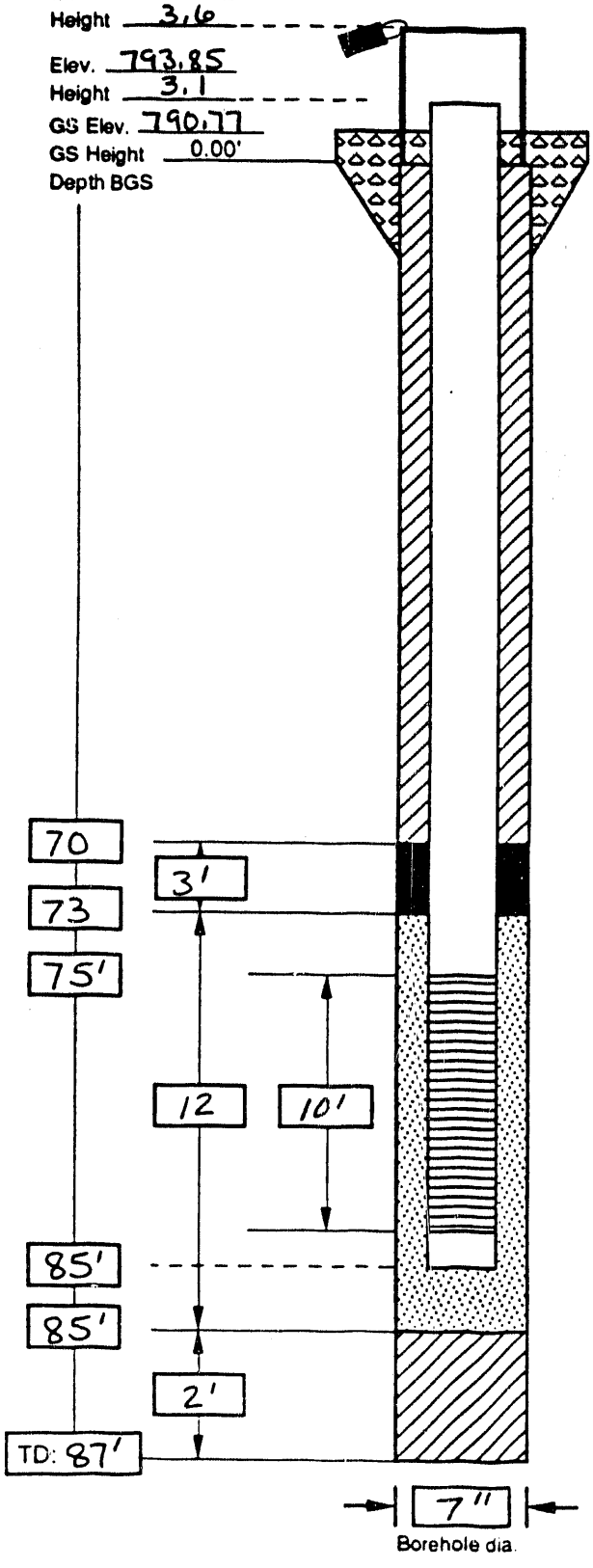
**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 45Ft to 55Ft

**SUMP** (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

**BACKFILL PLUG**
Material BENTONITE SLURRY AND NATURAL FILL
Setup/Hydration Time 12 hrs.
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW5-85 | Installation: WPAFB | Site: CW5 |
| Project No.: 199819 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: ITCORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-15-90 (12:38 Am) | Comp. End: 9-15-90 (4:25 Pm) | |
| Built By: A. GAULT / R. MILNER | Well Coord: 660331.09466 N 1554805.96780 E | |

Elev. 794.35
Height 3.6
Elev. 793.85
Height 3.1
GS Elev. 790.77
GS Height 0.00'
Depth BGS




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 2.9 Ft Weep Hole (Y/N)

**GUARD POSTS** (Y/N)
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 78 Ft.

**GROUT**
Composition & Proportions 60 SX'S PORTLAND TYPA IA 75 GAL WATER, 1/2 SX BENTONITE
Interval BGS SURFACE TO 70 Ft.
Tremied (Y/N)

**CENTRALIZERS** (Y/N)
Depth 40 Ft, 70 Ft

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 1 HR Vol. Fluid Added
Tremied (Y/N)

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 4 SX'S 50#EA.
Source
Gr. Size Dist.
Tremied (Y/N)

**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 75 TO 85 Ft.

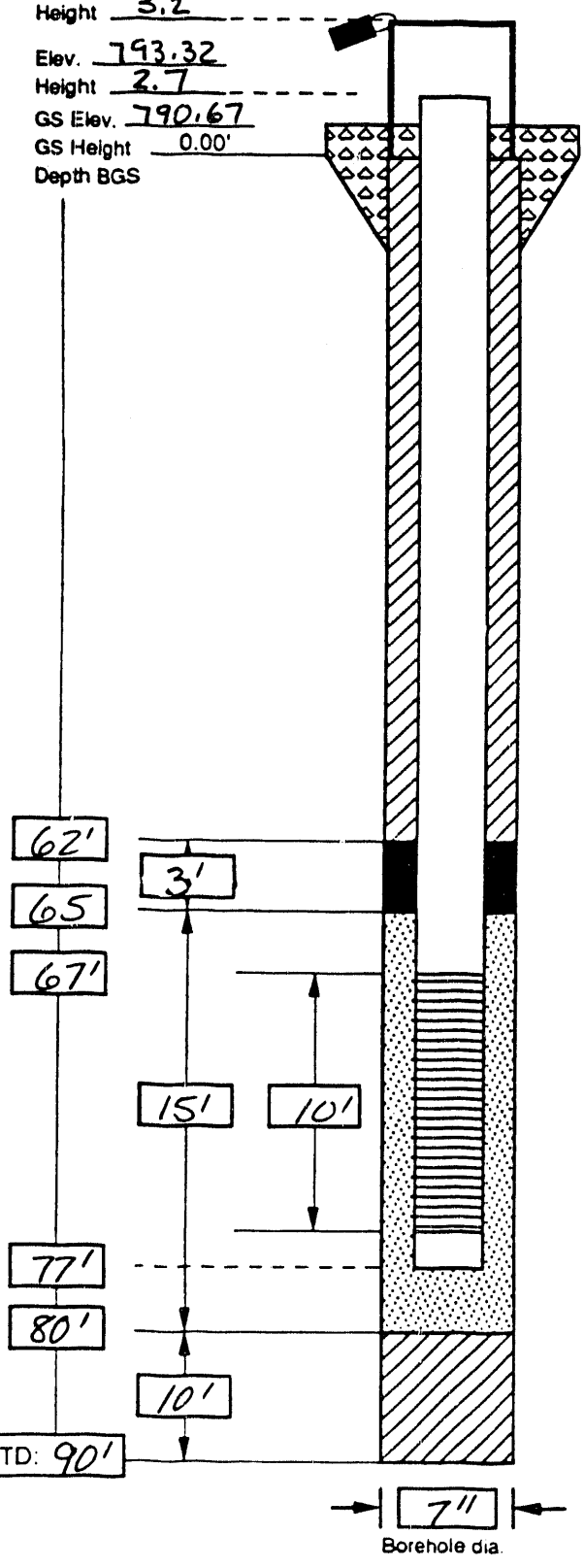
**SUMP** (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

**BACKFILL PLUG**
Material BENTONITE SLURRY
Setup/Hydration Time 1 HR
Tremied (Y/N)

# MONITORING WELL CONSTRUCTION LOG - Standard

| | | |
|---|---|---|
| Well No.: CW6-77 | Installation: WPAFB | Site: CW6 |
| Project No.: 199814 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: | |
| Comp. Start: 9-12-90 ( 3:00 P m) | Comp. End: 9-15-90 ( 6:00 P m) | |
| Built By: J. WINTON / M. HEBERT | Well Coord: 660560.55981 N 1554784.76447 E | |

Elev. 793.96
Height 3.2
Elev. 793.32
Height 2.7
GS Elev. 790.67
GS Height 0.00'
Depth BGS




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 2.8 Ft Weep Hole (Y/[redacted])

**GUARD POSTS** (Y/[redacted])
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x 6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 70 Ft

**GROUT**
Composition & Proportions 1 SX PORTLAND 1A, 7 GAL WATER, 1/2 SX BENTONITE
Interval BGS
Tremied (Y/[redacted])

**CENTRALIZERS** (Y/[redacted])
Depth 37 Ft, 67 Ft

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 1 HR Vol. Fluid Added
Tremied (Y/[redacted])

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 7.5 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied ([redacted]/N)

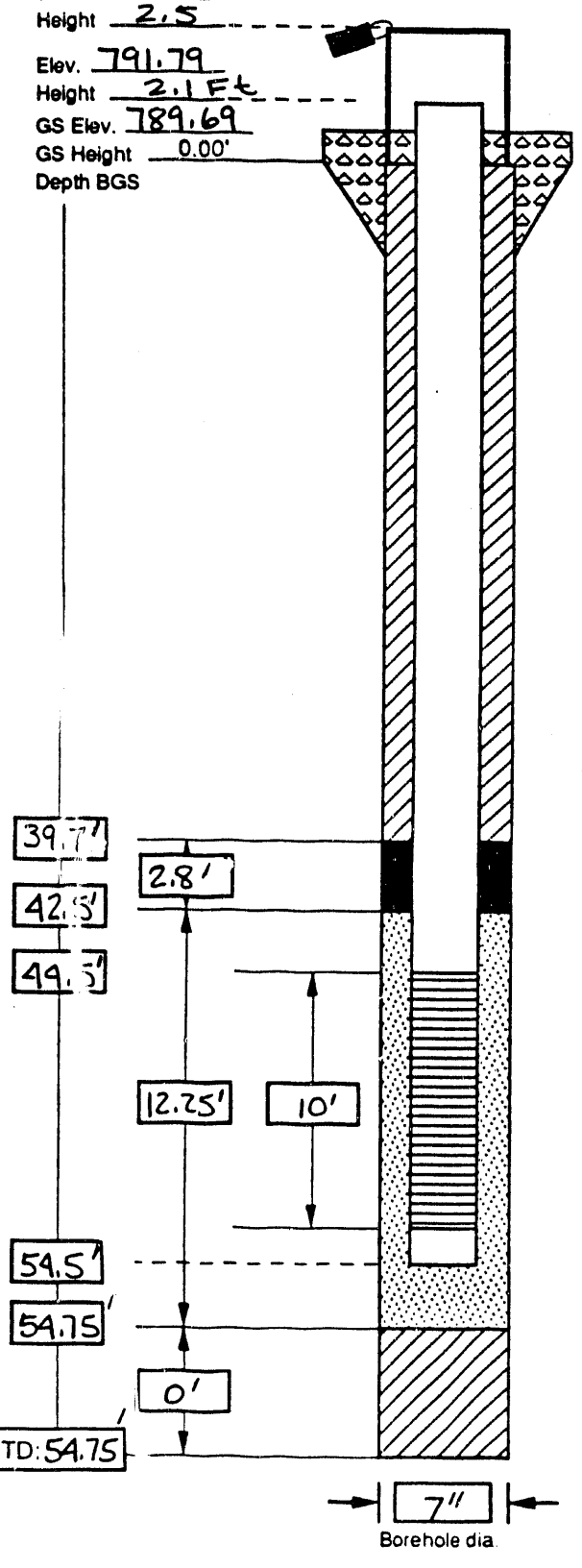
**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 67 to 77 Ft

**SUMP** ([redacted]N)
Interval BGS NONE Length
Bottom Cap (Y/[redacted])

**BACKFILL PLUG**
Material BENTONITE PELLETS
Setup/Hydration Time 0.5 HR
Tremied ([redacted]N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW7-55 | Installation: WPAFB | Site: CW7 |
| Project No.: 199819 | Client/Project BATTELLE/WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-14-90 ( 1:15 Am) | Comp. End: 9-14-90 ( 9:55 Am) | |
| Built By: S. SPESSHARDT | Well Coord: 661102.11391 N<br>1554791.70511 E | |

Elev. 792.19
Height 2.5
Elev. 791.79
Height 2.1 Ft
GS Elev. 789.69
GS Height 0.00'
Depth BGS




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.5 Ft Weep Hole (Y/[redacted])

**GUARD POSTS** (Y/[redacted])
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 46.5 Ft.

**GROUT**
Composition & Proportions 15 SX's PORTLAND IA, 100 GAL WATER, 1 SX BENTONITE
Interval BGS SURFACE to 39.7 Ft.
Tremied (Y/[redacted])

**CENTRALIZERS** ([redacted]/N)
Depth NONE

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 1 HR Vol. Fluid Added
Tremied (Y/[redacted])

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 3 SX's 50# EA
Source
Gr. Size Dist.
Tremied ([redacted]/N)

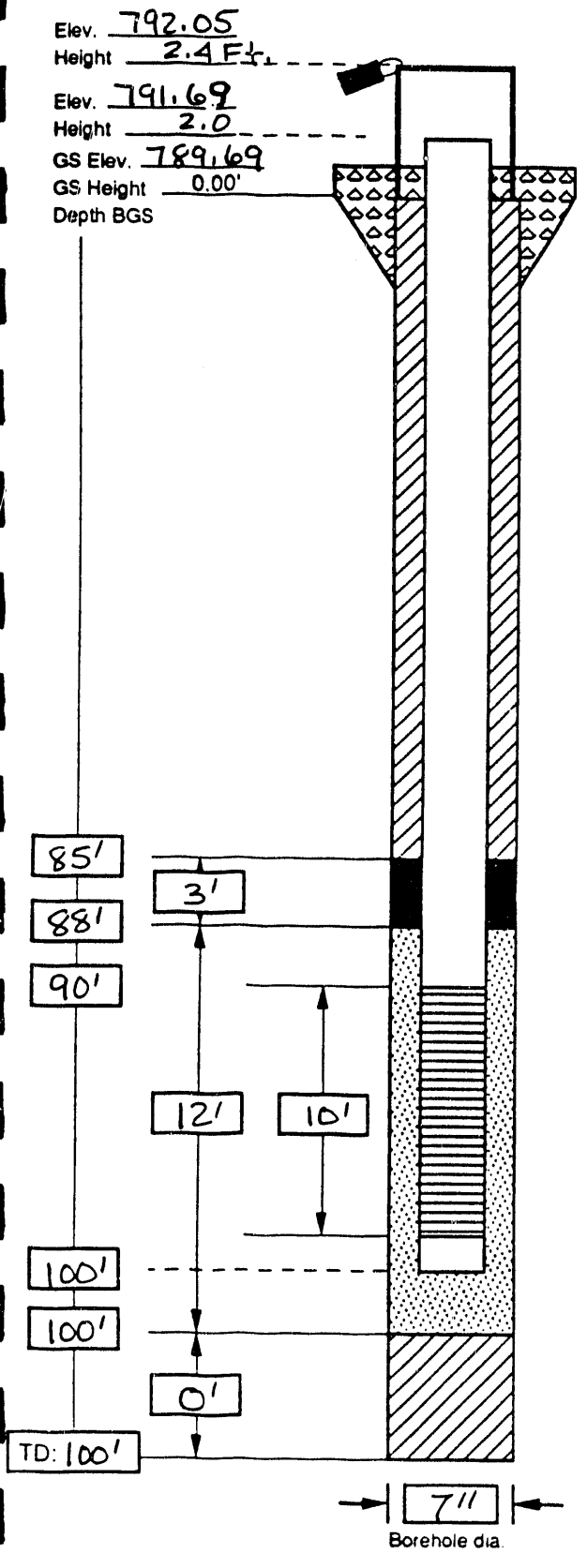
**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 44.5 to 55.5 Ft

**SUMP** ([redacted]/N)
Interval BGS NONE Length
Bottom Cap (Y/[redacted])

**BACKFILL PLUG**
Material NONE
Setup/Hydration Time
Tremied (Y/N)

# MONITORING WELL CONSTRUCTION LOG - Standard

| | | |
|---|---|---|
| Well No.: CW7-100 | Installation: WPAFB | Site: CW7 |
| Project No.: 199814 | Client/Project BATTELLE/EMO/WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-11-90 (2:10 Pm) | Comp. End: 9-14-90 (10:40 Am) | |
| Built By: A. GAULT / R. MILNER | Well Coord: 661124.82494 N 1554794.77929 E | |




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.6 Ft Weep Hole (Y/N)

**GUARD POSTS** (Y/N)
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type FLUSH THREADED STAINLESS STEEL
Diameter 2-INCH ID
Total Length (TOC to TOS) 92 Ft

**GROUT**
Composition & Proportions 60 SX'S PORTLAND TYPE IA, 50 GAL WATER, 1/2 SX BENTONITE
Interval BGS SURFACE TO 85 Ft.
Tremied (Y/N)

**CENTRALIZERS** (Y/N)
Depth 36Ft, 56Ft, 86Ft

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 1 HR Vol. Fluid Added
Tremied (Y/N)

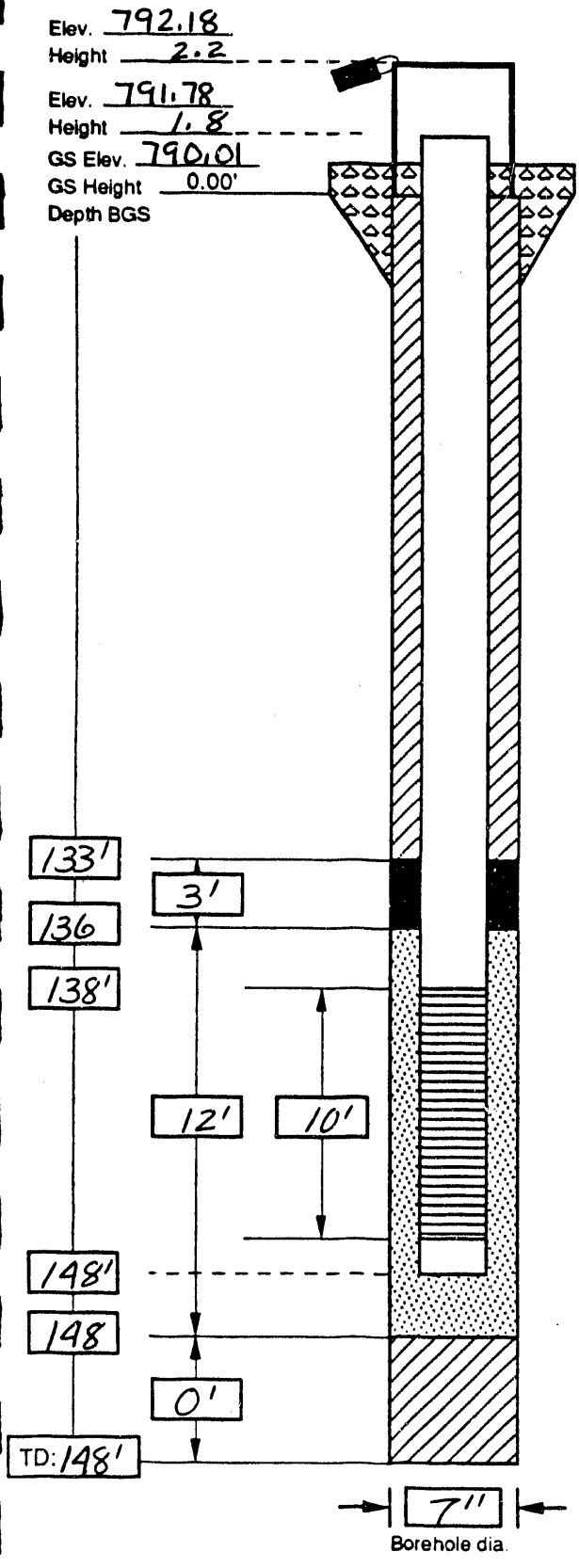
**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 4 SX'S 50#EA.
Source
Gr. Size Dist.
Tremied (Y/N)

**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 90 to 100 Ft.

**SUMP** (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

**BACKFILL PLUG**
Material NONE
Setup/Hydration Time
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW7-148 | Installation: WPAFB | Site: CW7 |
| Project No.: 199819 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: | |
| Comp. Start: 9-26-90 ( 8:30 P m) | Comp. End: 9-27-90 ( 2:45 P m) | |
| Built By: K. TAPPA / M. HEBERT | Well Coord: 661148.83885 N 1554785.01313 E | |




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.8 Ft. Weep Hole (Y/N)

**GUARD POSTS** (Y/N)
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 140 Ft

**GROUT**
Composition & Proportions 27 SX'S PORTLAND TYPE IA, 220 GAL WATER, 2 SX'S BENTONITE
Interval BGS SURFACE TO 133 Ft.
Tremied (Y/N)

**CENTRALIZERS** (Y/N)
Depth 30 Ft, 60 Ft, 90 Ft, 120 Ft.

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 1 HR Vol. Fluid Added
Tremied (Y/N)

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 7 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied (Y/N)

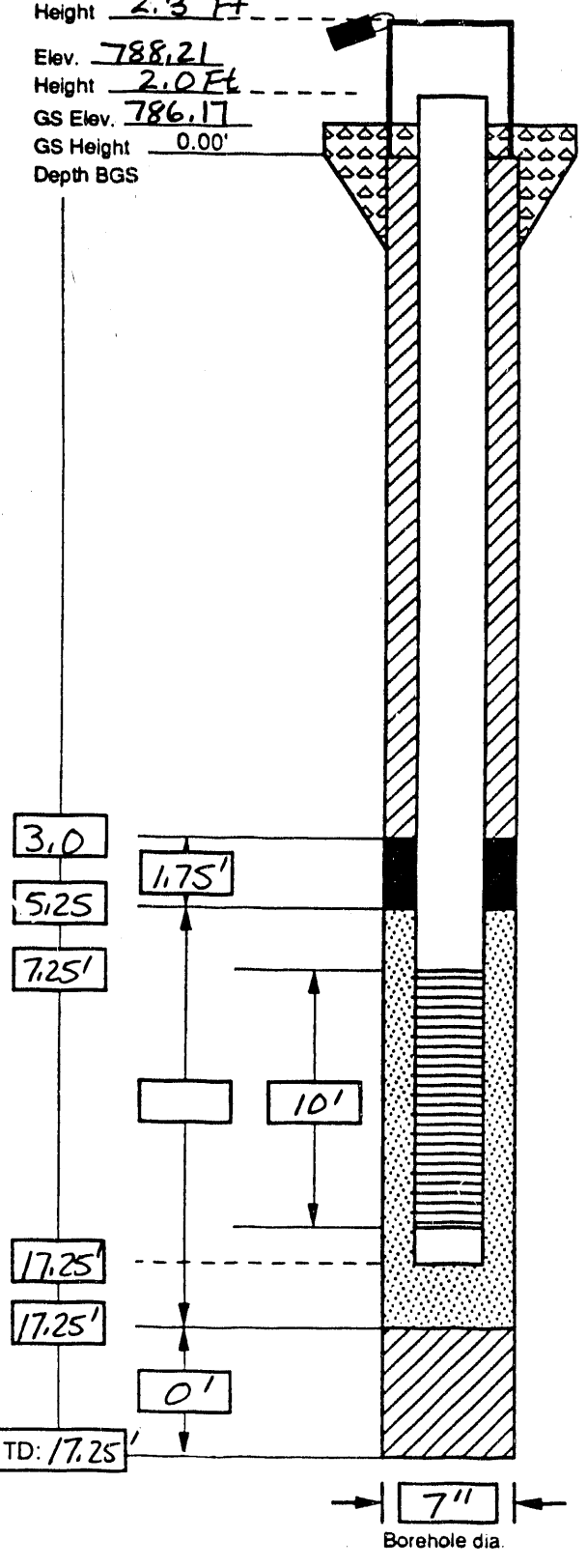
**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 138 to 148 Ft.

**SUMP** (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

**BACKFILL PLUG**
Material NONE
Setup/Hydration Time
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW8-17 | Installation: WPAFB | Site: CW8 |
| Project No.: 199819 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-13-90 (9:43 Am) | Comp. End: 9-13-90 (11:06 Am) | |
| Built By: S. SPESSHARDT | Well Coord: 661298.82813 N 1554729.46888 E | |

Elev. 788.43
Height 2.3 Ft
Elev. 788.21
Height 2.0 Ft
GS Elev. 786.17
GS Height 0.00'
Depth BGS




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.7 Ft. Weep Hole (Y/N)

**GUARD POSTS** (Y/N)
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 7.25 Ft

**GROUT**
Composition & Proportions 1 SX PORTLAND IA, 7.5 GAL WATER, 5 lb BENTONITE
Interval BGS SURFACE TO 3 Ft
Tremied (Y/N)

**CENTRALIZERS** (Y/N)
Depth NONE

**SEAL**
Type BENTONITE PELLETS
Source
Setup/Hydration Time 1/2 HR. Vol. Fluid Added 3 1/2 GAL.
Tremied (Y/N)

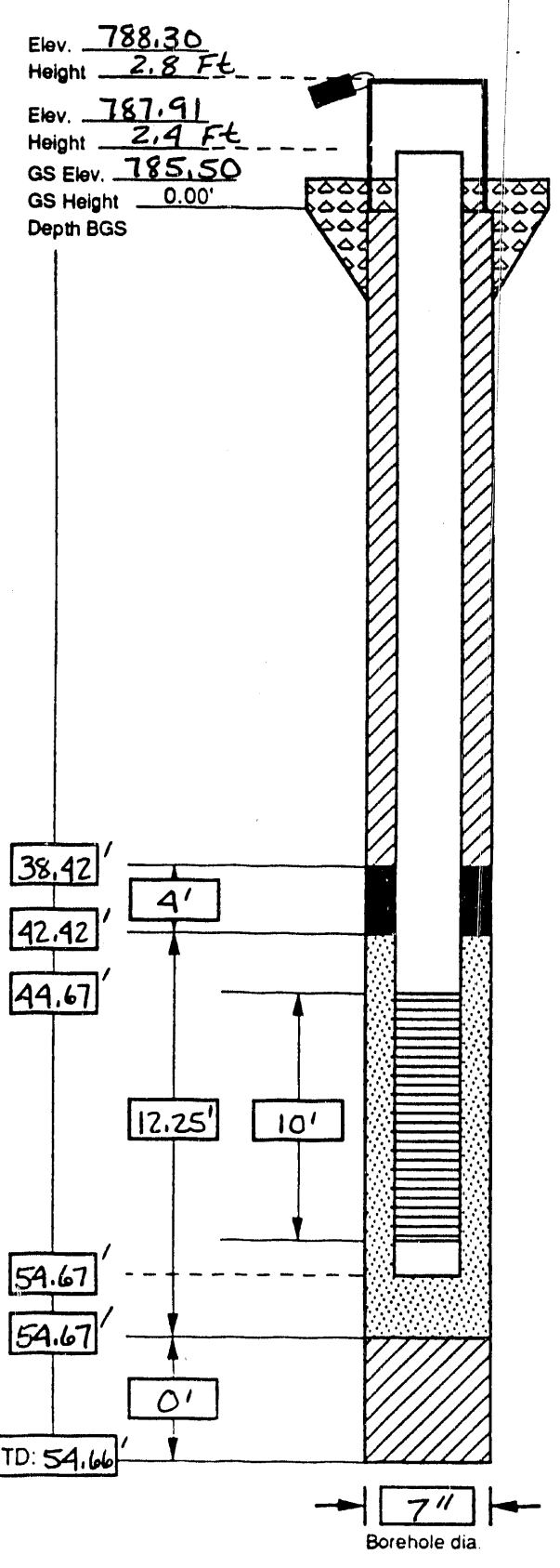
**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 3.25 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied (Y/N)

**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 17.25 to 7.25 Ft.

**SUMP** (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

**BACKFILL PLUG**
Material NONE
Setup/Hydration Time
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW8-55 | Installation: WPAFB | Site: CW8 |
| Project No.: 199814 | Client/Project BATTELLE-EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-18-90 (10:15 Am) | Comp. End: 9-18-90 (7:48 Pm) | |
| Built By: L. HESSON / S. SPESSHARDT | Well Coord: 661323.97597 N 1554720.72342 E | |




**PROTECTIVE CSG**
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 3.2 Ft Weep Hole (Y/[redacted])

**GUARD POSTS** (Y/[redacted])
No. 3 Type STEEL

**SURFACE PAD**
Composition & Size CONCRETE 4'x4'x6"

**RISER PIPE**
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 47 Ft.

**GROUT**
Composition & Proportions 10 SX'S PORTLAND IA, 32 GAL WATER, 1SX BENTONITE
Interval BGS SURFACE TO 38.42 Ft.
Tremied (Y/[redacted])

**CENTRALIZERS** ([redacted]/N)
Depth NONE

**SEAL**
Type BENTONITE SLURRY
Source
Setup/Hydration Time 0.5 HR Vol. Fluid Added
Tremied (Y/[redacted])

**FILTER PACK**
Type COARSE WASHED QUARTZ
Amount Used 2.25 SX'S 50# EA.
Source
Gr. Size Dist.
Tremied ([redacted]/N)

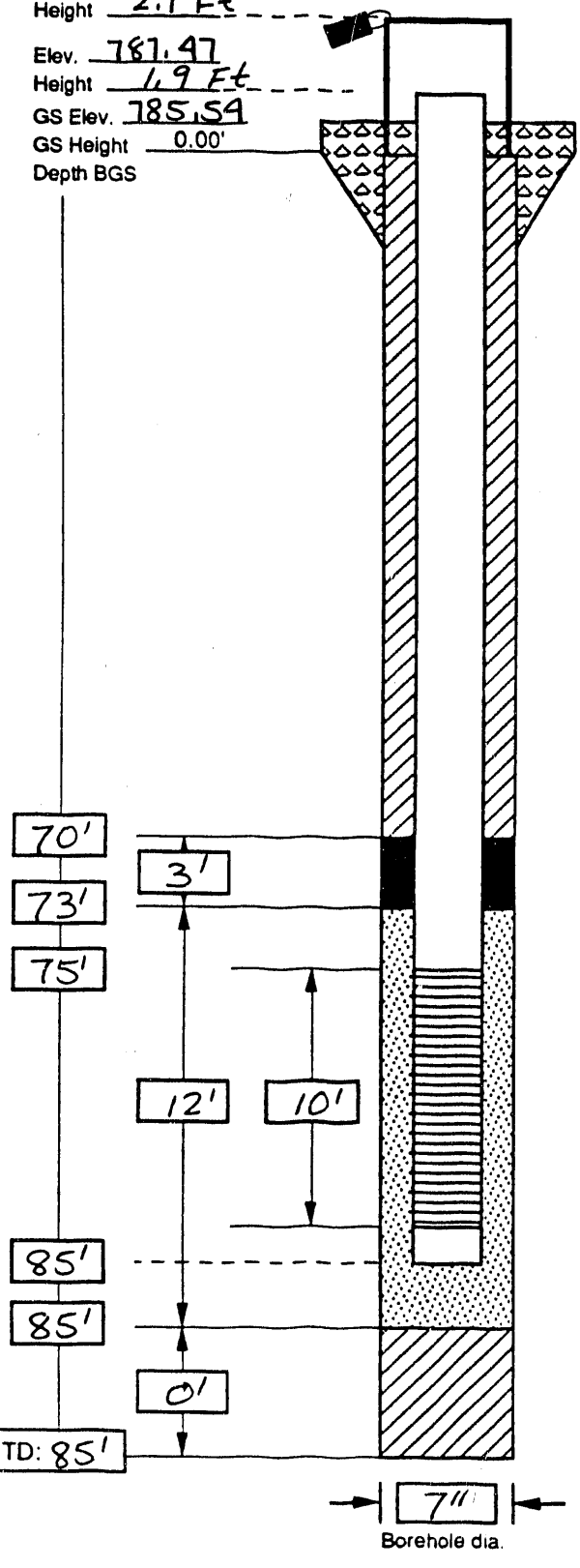
**SCREEN**
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 49.67 TO 54.67 Ft.

**SUMP** ([redacted]/N)
Interval BGS NONE Length
Bottom Cap (Y/[redacted])

**BACKFILL PLUG**
Material NONE
Setup/Hydration Time
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW8-85 | Installation: WPAFB | Site: CW8 |
| Project No.: 199814 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP. | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-16-90 ( 1:45 Pm) | Comp. End: 9-17-90 ( 1:25 Am) | |
| Built By: K. TAPPA | Well Coord: 661314.68414 N 1554725.69889 E | |

Elev. 787.64
Height 2.1 Ft
Elev. 787.47
Height 1.9 Ft
GS Elev. 785.59
GS Height 0.00'
Depth BGS




PROTECTIVE CSG
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS _____ Weep Hole (Y/N)

GUARD POSTS (Y/N)
No. 3 Type STEEL

SURFACE PAD
Composition & Size CONCRETE 4'x4'x6"

RISER PIPE
Type STAINLESS STEEL FLUSH THREADED
Diameter 2-INCH ID
Total Length (TOC to TOS) 77 Ft.

GROUT
Composition & Proportions 12 SX'S PORTLAND TYPE IA 50 GAL WATER, 1.1/2 SX'S BENTONITE
Interval BGS SURFACE TO 70 Ft.
Tremied (Y/N)

CENTRALIZERS (Y/N)
Depth 20 Ft, 65 Ft

SEAL
Type BENTONITE SLURRY
Source _____
Setup/Hydration Time 1 HR Vol. Fluid Added _____
Tremied (Y/N)

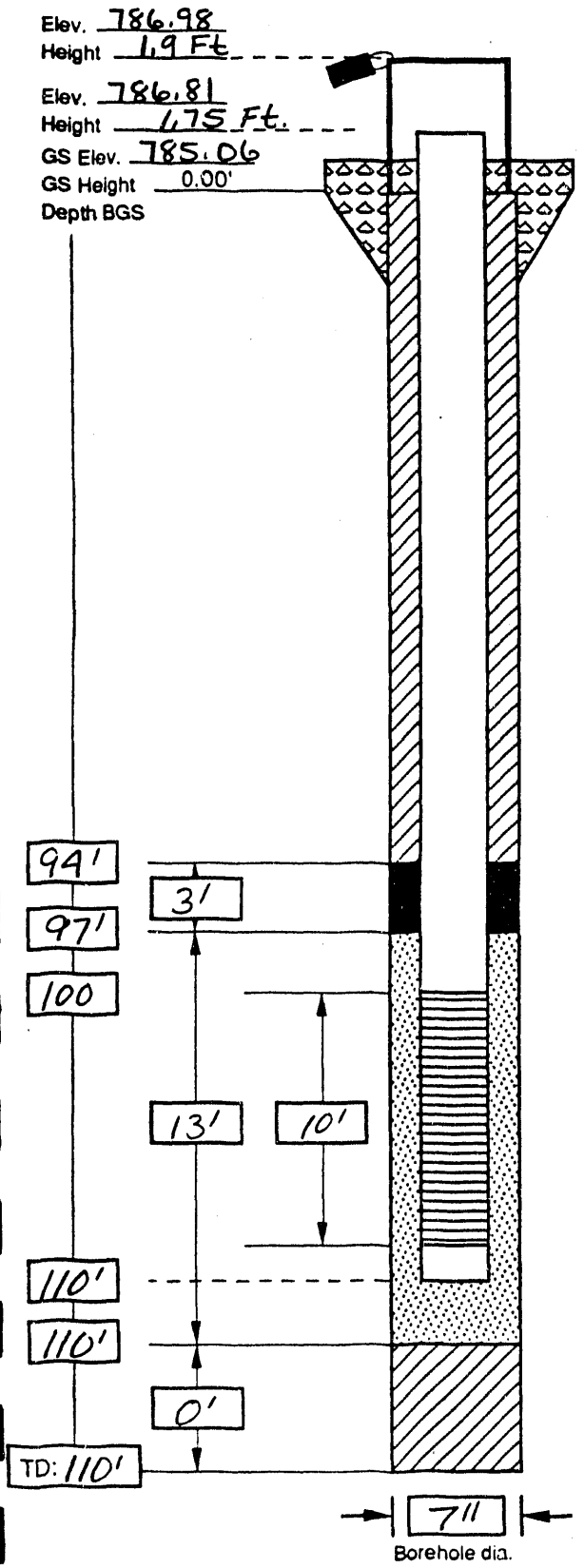
FILTER PACK
Type COARSE WASHED QUARTZ
Amount Used 3 SX'S 50# EA.
Source _____
Gr. Size Dist. _____
Tremied (Y/N)

SCREEN
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 75 to 85 Ft

SUMP (Y/N)
Interval BGS NONE Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material NONE
Setup/Hydration Time _____
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW8-110 | Installation: WPAFB | Site: CW8 |
| Project No.: 199819 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-11-90 (12:20 Pm) | Comp. End: 9-15-90 (8:30 Am) | |
| Built By: L. HESSON / R. VIERA | Well Coord: 661328.69595 N 1554711.17862 E | |




**PROTECTIVE CSG**
Material/Type: STEEL LOCKING
Diameter: 6-INCH ID
Depth BGS: 4.1 Ft Weep Hole (Y/[redacted])

**GUARD POSTS** (Y/[redacted])
No. 3 Type: STEEL

**SURFACE PAD**
Composition & Size: CONCRETE 4'x4'x6"

**RISER PIPE**
Type: STAINLESS STEEL (FLUSH THREADED)
Diameter: 2-INCH ID
Total Length (TOC to TOS): 102 Ft

**GROUT**
Composition & Proportions: 15 SX'S PORTLAND 1A, 100 GAL WATER, 2 SX'S BENTONITE
Interval BGS: SURFACE TO 94 Ft.
Tremied (Y/[redacted])

**CENTRALIZERS** (Y/[redacted])
Depth: 35Ft, 75.Ft,

**SEAL**
Type: BENTONITE SLURRY
Source:
Setup/Hydration Time: 0.5 HR. Vol. Fluid Added:
Tremied (Y/[redacted])

**FILTER PACK**
Type: COARSE WASHED QUARTZ
Amount Used: 8 SX'S 50# EA.
Source:
Gr. Size Dist.:
Tremied ([redacted]N)

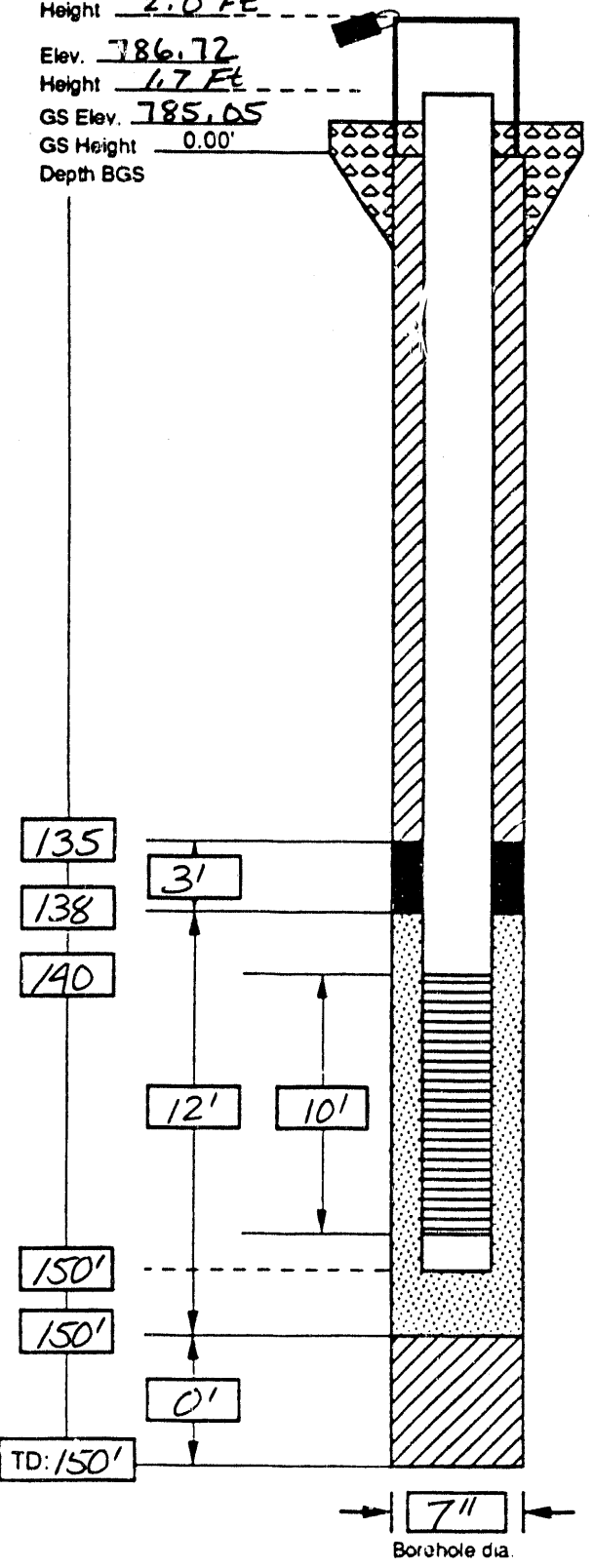
**SCREEN**
Type: STAINLESS STEEL
Diameter: 2-INCH ID
Slot Size & Type: 0.010 WIRE
Interval BGS: 100 to 110 Ft.

**SUMP** ([redacted]N)
Interval BGS: NONE Length:
Bottom Cap (Y/[redacted])

**BACKFILL PLUG**
Material: NONE
Setup/Hydration Time:
Tremied (Y/N)

| MONITORING WELL CONSTRUCTION LOG - Standard | | |
|---|---|---|
| Well No.: CW8-150 | Installation: WPAFB | Site: CW8 |
| Project No.: 199819 | Client/Project BATTELLE EMO / WPAFB | |
| Contractor: IT CORP | Drlg Contractor: MID EASTERN GEOTECH | |
| Comp. Start: 9-10-90 (12:15 Pm) | Comp. End: 9-18-90 (7:00 Am) | |
| Built By: K. TAPPA / S. SPESSHARDT / R. VIERA | Well Coord: 661334.50038 N 1554697.16621 E | |

Elev. 787.01
Height 2.0 Ft
Elev. 786.72
Height 1.7 Ft
GS Elev. 785.05
GS Height 0.00'
Depth BGS




PROTECTIVE CSG
Material/Type STEEL LOCKING
Diameter 6-INCH ID
Depth BGS 4.0 Ft. Weep Hole (Y/N)

GUARD POSTS (Y/N)
No. 3 Type STEEL

SURFACE PAD
Composition & Size CONCRETE 4'x4'x6"

RISER PIPE
Type STAINLESS STEEL (FLUSH THREADED)
Diameter 2-INCH ID
Total Length (TOC to TOS) 142 Ft.

GROUT
Composition & Proportions 16 SX'S PORTLAND IA, 80 GAL WATER, 2 SX'S BENTONITE
Interval BGS SURFACE TO 135 Ft.
Tremied (Y/N)

CENTRALIZERS (Y/N)
Depth 30 Ft, 65 Ft, 100 Ft, 130 Ft

SEAL
Type BENTONITE SLURRY
Source
Setup/Hydration Time 1 HR Vol. Fluid Added
Tremied (Y/N)

FILTER PACK
Type COARSE WASHED QUARTZ
Amount Used 4 SX'S 50# SX'S
Source
Gr. Size Dist.
Tremied (Y/N)

SCREEN
Type STAINLESS STEEL
Diameter 2-INCH ID
Slot Size & Type 0.010 WIRE
Interval BGS 140 to 150 Ft

SUMP (Y/N)
Interval BGS NONE Length
Bottom Cap (Y/N)

BACKFILL PLUG
Material NONE
Setup/Hydration Time
Tremied (Y/N)

# APPENDIX D

# WELL DEVELOPMENT LOGS

# APPENDIX D - WELL DEVELOPMENT LOGS

Well Development Logs included in this Appendix:

CW1-27
CW1-35
CW1-121
CW2-35
CW2-44
CW2-90
CW3-27
CW3-35
CW3-85
CW4-60
CW4-85
CW5-55
CW5-85
CW6-77
CW7-55
CW7-100
CW7-148
CW8-17
CW8-55
CW8-85
CW8-110
CW8-150

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW127 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | Site: CWI | |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-17-90 (8:20 Am) | Dev. End: 9-17-90 (10:45 Pm) | Csg Dia.: 2" |
| Developed by: L. HESSON AND R. VIERA | | Dev. Rig (Y/N) |

Dev. Method: SURGE AND PUMP

Equipment: 5 H.P CENTRIFUGAL PUMP 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL: 24.0 ft. Maximum drawdown during pumping: N/A ft at N/A gpm

Range and Average discharge rate: 3 to 5 gpm

Total quantity of material bailed: NONE

Total quantity of water discharged by pumping: 135 GAL

Disposition of discharge water: PLACED IN HOLDIND TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C/F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 8:20 | 25 | N/A | N/A | GYISH | 63° | 7.85 | 820 | |
| 9:00 | 25 | N/A | N/A | GYISH | 64° | 7.53 | 780 | |
| 18:00 | 25 | N/A | N/A | GYISH | 63° | N/A | N/A | |
| 18:38 | 25 | N/A | N/A | GYISH | 62° | N/A | N/A | |
| 20:45 | 30 | N/A | N/A | GYISH | 61° | 7.35 | 830 | |
| 22:24 | 2 | N/A | N/A | GYISH | 57° | 7.33 | 840 | |
| 22:39 | 2 | N/A | 19.5 | GYISH | 57° | 7.23 | 840 | |
| 22:43 | 1 | N/A | 10.8 | GYISH | 61° | 7.20 | 800 | Requires Sampling for XRD analysis |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW1 35 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW1 |
| Project No.: 199814 | Client/Project: BATELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-17-90 (11 :40 A m) | Dev. End: 9-17-90 ( 4 :50 P m) | Csg Dia.: 2" |
| Developed by: L. HESSON | | Dev. Rig (Y/(N)) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 23.9 ft Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 390 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C/F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 11:40 | 50 | N/A | N/A | GYISH | 64° | 7.82 | 813 | |
| 12:25 | 60 | N/A | N/A | GYISH | 68° | 7.34 | 810 | |
| 13:05 | 325 | N/A | N/A | GYISH | 93° | 7.50 | 800 | |
| 13:46 | 40 | N/A | N/A | GYISH | 65° | 7.34 | 810 | |
| 15:17 | 45 | N/A | N/A | GYISH | 65° | 7.19 | 820 | |
| 15:54 | 87 | N/A | N/A | OPAQUE | 61° | 7.24 | 800 | |
| 16:32 | 65 | N/A | 23.2 | OPAQUE | 62° | 7.22 | 810 | |
| 16:33 | 10 | N/A | 18.7 | CLEAR | 61° | 7.26 | 800 | Requires Sampling for XRD analysis. |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW1 121 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW1 |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-27-90 (6 : 30 pm) | Dev. End: 9-28-90 (7 : 30 pm) | Csg Dia.: 2" |
| Developed by: A. GAULT | | Dev. Rig (Y/N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P CENTRIFUGAL PUMP 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS AND HAND PUMP

Pre-Dev. SWL 36.1 ft Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 230 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 18:35 | 35 | N/A | N/A | BRN | 64° | 7.99 | 940 | |
| 19:25 | 30 | N/A | N/A | BRN | 64° | 7.30 | 867 | |
| 14:25 | 15 | N/A | N/A | BRNISH | 64° | 6.19 | 970 | |
| 14:35 | 20 | N/A | N/A | BRNISH | 64° | 6.17 | 880 | |
| 15:15 | 40 | N/A | N/A | BRN | 64° | 6.41 | 861 | |
| 15:35 | 40 | N/A | N/A | BRN | 64° | 6.39 | 870 | |
| 19:30 | 150 | N/A | 11.3 | OPAQUE | 64° | 6.27 | 869 | Requires Sampling for XRD analysis |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW2-35 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW2 |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: ITCORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-26-90 ( 5:30 Pm) | Dev. End: 9-27-90 ( 8 :35 Am) | Csg Dia.: 2-INCH ID |
| Developed by: R. VIERA | | Dev. Rig (Y/N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 24.1 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3-5 GPM gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 1450 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C/F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1730 | ~100 | N/A | — | grayish | 63° | 7.38 | 826 | |
| 1815 | ~150 | N/A | — | opaque | 62° | 7.22 | 850 | |
| 0830 | ~200 | N/A | 3.36 | clear | 61° | 7.19 | 856 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CWZ 44 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | Site: CWZ | |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-16-90 ( 5:52 Pm) | Dev. End: 9-16-90 ( 7:22 Pm) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/ N) |

Dev. Method SURGE AND PUMP

Equipment 5H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 23.9 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3-5 GPM gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping ~285 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C °F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 17:52 | ~70 | N/A | 98.3 | BRNISH | 64° | 7.14 | 920 | |
| 18:29 | ~80 | N/A | 72.7 | OPAQUE | 63° | 7.14 | 930 | |
| 18:54 | ~70 | N/A | 63.6 | OPAQUE | 63° | 7.14 | 920 | |
| 19:18 | ~10 | N/A | >5.0 | OPAQUE | 64° | 7.10 | 930 | |
| 19:21 | ~20 | N/A | 8.2 | OPAQUE | 64° | 7.14 | 920 | |
| 19:22 | ~35 | N/A | 5.8 | CLEAR | 64° | 7.14 | 920 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW2 90 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW2 |
| Project No.: 199814 | Client/Project: BATTELLE EMO/ WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-26-90 (11 :15 A m) | Dev. End: 9-27-90 (5 :20 P m) | Csg Dia.: 2" |
| Developed by: R VIERA | | Dev. Rig (Ⓨ/ N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 24.0 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate .02 to 2.4 GPM gpm

Total quantity of material bailed N/A

Total quantity of water discharged by pumping 130

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 11:15 | 25 | N/A | N/A | grayish | 63° | 10.58 | 703 | |
| 12:30 | 25 | N/A | N/A | grayish | 64° | 7.89 | 946 | |
| 14:30 | 25 | N/A | N/A | grayish | 63° | 8.21 | 702 | |
| 18:15 (9-27) | 10 | N/A | N/A | grayish | 64° | 8.05 | 782 | |
| 11:25 | 35 | N/A | N/A | BRNISH | 64° | 8.38 | 659 | |
| 13:45 | 5 | N/A | N/A | OPAQUE | 63° | 8.20 | 752 | |
| 17:10 | 5 | N/A | 49.0 | OPAQUE | 64° | 7.83 | 897 | Requires samplins for X-RD analysis |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW3 27 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW3 |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-17-90 ( 4:25 Am) | Dev. End: 9-17-90 ( 6:15 Am) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 21.9 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3-5 GPM gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 506 GAL.

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 4:25 | 110 | N/A | 10.3 | GYISH | 67° | 7.20 | 819 | |
| 4:50 | 115 | N/A | N/A | GYISH | 65° | 7.21 | 850 | |
| 5:18 | 105 | N/A | N/A | OPAQUE | 65° | 7.22 | 821 | |
| 5:47 | 100 | N/A | N/A | OPAQUE | 64° | 7.23 | 816 | |
| 6:10 | 1 | N/A | 1.44 | CLEAR | 64° | 7.34 | 815 | |
| 6:11 | 25 | N/A | 1.21 | CLEAR | 64° | 7.37 | 810 | |
| 6:13 | 50 | N/A | 1.15 | CLEAR | 63° | 7.34 | 815 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW3-35 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW3 |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-16-90 (10:51 pm) | Dev. End: 9-17-90 (1:48 am) | Csg Dia.: 2" |
| Developed by: L. HESSON | | Dev. Rig (Y/N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 22.0 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 2.9 to 5 GPM gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 701 GAL.

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C °F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 22:51 | 135 | N/A | 52.2 | BRNISH | 66° | 7.30 | 850 | |
| 23:18 | 140 | N/A | N/A | BRNISH | 65° | 7.24 | 860 | |
| 23:47 | 115 | N/A | N/A | BRNISH | 65° | 7.28 | 860 | |
| 24:12 | 115 | N/A | N/A | OPAQUE | 64° | 7.29 | 870 | |
| 01:15 | 110 | N/A | N/A | OPAQUE | 64° | 7.20 | 823 | |
| 01:45 | 1 | N/A | 8.13 | OPAQUE | 63° | 7.22 | 823 | |
| 01:46 | 20 | N/A | 2.56 | CLEAR | 63° | 7.33 | 833 | |
| 01:48 | 35 | N/A | 1.32 | CLEAR | 62° | 7.35 | 826 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW3-85 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW3 |
| Project No.: 199814 | Client/Project: BATTELLE EMO/ WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH. | |
| Dev. Start: 9-26-90 (4:10 pm) | Dev. End: 9-26-90 (10:33 pm) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 22.0 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 250 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 16:10 | 100 | N/A | N/A | GYISH | 58° | 8.92 | 553 | |
| 19:20 | 75 | N/A | N/A | OPAQUE | 59° | 8.19 | 803 | |
| 20:25 | 75 | N/A | 1.91 | CLEAR | 59° | 7.45 | 822 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW460 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW4 |
| Project No.: 199814 | Client/Project: BATTELLE EMO/WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-14-90 (9:45 Pm) | Dev. End: 9-15-90 (06:20 Am) | Csg Dia.: 2" |
| Developed by: L. HESSON | | Dev. Rig (Y/N) |

Dev. Method SURGE AND BAIL

Equipment 15 Foot x 1.5 INCH, STEEL BAILER AND DRILLING RIG

Pre-Dev. SWL 13.0 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate N/A gpm

Total quantity of material bailed 305 GAL.

Total quantity of water discharged by pumping NONE

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C/F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 21:45 | 5 | N/A | N/A | BRN | 58° | 7.1 | 8000 | |
| 23:04 | 50 | N/A | N/A | BRN | 57° | 6.9 | 9000 | |
| 00:24 | 50 | N/A | N/A | BRN | 57° | 6.92 | 10,000 | |
| 02:00 | 50 | N/A | N/A | BRNISH | 57° | 7.15 | 828 | |
| 03:30 | 50 | N/A | N/A | BRNISH | 57° | 7.15 | 842 | |
| 03:43 | 10 | N/A | 48.1 | GYISH | 57° | N/A | N/A | |
| 04:58 | 40 | N/A | N/A | OPAQUE | 57° | 7.33 | 839 | |
| 06:20 | 50 | N/A | 84.7 | OPAQUE | 57° | 7.30 | 834 | Requires Sampling for XRD analysis |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW4 85 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW4 |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: ITCORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-15-90 ( 7:22 Am) | Dev. End: 9-15-90 ( 3:48 Pm) | Csg Dia.: 2" |
| Developed by: S. SPESSHARDT | | Dev. Rig (Y/N) |

Dev. Method SURGE AND BAIL

Equipment 15foot x 1.5foot STEEL BAILER AND DRILLING RIG

Pre-Dev. SWL 13.0 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate N/A gpm

Total quantity of material bailed 200 GAL

Total quantity of water discharged by pumping NONE

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 7.22 | 1 | N/A | N/A | GRISH | 57° | 11.05 | 3640 | |
| 9.07 | 49 | N/A | N/A | GRISH | 57° | 7.20 | 995 | |
| 11:08 | 50 | N/A | N/A | OPAQUE | 57° | 7.39 | 988 | |
| 14:03 | 50 | N/A | N/A | OPAQUE | 57° | 7.46 | 990 | |
| 15:48 | 50 | N/A | N/A | OPAQUE | 57° | 7.52 | 990 | Requires Sampling for XRD analysis |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CWS 55 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | Site: CWS | |
| Project No.: 199814 | Client/Project: BATTELE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH. | |
| Dev. Start: 9-25-90 ( 8:50 Am) | Dev. End: 9-25-90 ( 11 :45 Am) | Csg Dia.: 2". |
| Developed by: R. VIERA | | Dev. Rig (Y/N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 13.2 Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 605 GAL.

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 8:50 | 100 | N/A | N/A | GYISH | 56° | 8.32 | 708 | |
| 9:40 | 150 | N/A | N/A | GYISH | 55° | 8.35 | 685 | |
| 10:20 | 175 | N/A | N/A | OPAQUE | 55° | 9.00 | 686 | |
| 11:40 | 180 | N/A | 4.73 | CLEAR | 56° | 8.62 | 875 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CWS 85 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CWS |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-24-90 ( 5:25 P m) | Dev. End: 9-24-90 ( 8:10 A m) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/(N)) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 14.3 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 570 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C °F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 17:25 | 125 | N/A | N/A | GYISH | 55° | 7.36 | 898 | |
| 18:30 | 205 | N/A | N/A | BRNISH | 56° | 7.51 | 862 | |
| 19:15 | 140 | N/A | N/A | OPAQUE | 55° | 7.40 | 895 | |
| 20:05 | 100 | N/A | 4.27 | CLEAR | 55° | 7.32 | 858 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW6-77 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW6 |
| Project No.: 199814 | Client/Project: BATTELE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-24-90 (11:00 ~~A~~ m) | Dev. End: 9-24-90 (2:25 ~~A~~ m) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/(N)) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 14.1 Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3-5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 700 GAL.

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 11:00 | 200 | N/A | N/A | GYISH | 56° | 7.25 | 930 | |
| 11:45 | 200 | N/A | N/A | BRNISH | 55° | 7.23 | 890 | |
| 12:45 | 100 | N/A | N/A | BRNISH | 55° | 7.22 | 910 | |
| 13:30 | 100 | N/A | N/A | OPAQUE | 55° | 7.21 | 915 | |
| 14:15 | 100 | N/A | 4.72 | CLEAR | 55° | 7.20 | 934 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW7-100 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199814 | Client/Project: BATTELLE EMO/ WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-16-90 ( 2:15 A m) | Dev. End: 9-23-90 ( 6:45 P m) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/(N)) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 9.0 ft Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 350 GAL.

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 2:15 | 5 | N/A | >5.0 | BRNISH | 58° | 11.25 | 1340 | |
| 4:35 | 50 | N/A | >5.0 | BRNISH | 58° | 8.50 | 740 | |
| 9:35 | 50 | N/A | 2.04 | BRNISH | 58° | 7.98 | 790 | |
| 11:15 | 38 | N/A | >5.0 | OPAQUE | 57° | 7.76 | 892 | |
| 11:47 | 12 | N/A | 4.68 | OPAQUE | 57° | 7.56 | 918 | |
| (9-23) 18:45 | 200 | N/A | 4.24 | CLEAR | 56° | 7.37 | 837 | 3 CONSECUTIVE MEASUREMENTS. |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW7-148 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW7 |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-30-90 (10:10 A m) | Dev. End: 9-30-90 (12:45 P m) | Csg Dia.: 2" |
| Developed by: A. GAULT | | Dev. Rig (Y/N) |

Dev. Method HAND PUMP

Equipment PUMP JACK

Pre-Dev. SWL 7.8 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 490 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C/F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 10:10 | 75 | N/A | N/A | BRN | 61° | 5.62 | 890 | VERY DIRTY |
| 10:30 | 50 | N/A | N/A | TNISH | 58° | 5.98 | 871 | CLEARING UP |
| 10:47 | 75 | N/A | N/A | OPAQUE | 58° | 6.29 | 890 | CLEANING UP |
| 11:05 | 75 | N/A | N/A | OPAQUE | 58° | 6.20 | 890 | |
| 12:05 | 75 | N/A | N/A | OPAQUE | 58° | 6.20 | 885 | DIRTY - THEN CLEANED UP |
| 12:10 | 15 | N/A | 11.6 | OPAQUE | 58° | 6.21 | 887 | |
| 12:25 | 35 | N/A | N/A | CLEAR | 58° | 6.37 | 881 | |
| 12:30 | 15 | N/A | 4.3 | CLEAR | 58° | 6.37 | 885 | |
| 12:45 | 75 | N/A | 4.3 | CLEAR | 58° | 6.37 | 885 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW8-17 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE EMD / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-20-90 ( 6 : 55 ~~P~~ m) | Dev. End: 9-23-90 ( 1 :30 ~~P~~ m) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/(N)) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 8.2 ft Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 860 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °~~C~~ F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 18:55 | 100 | N/A | N/A | GYISH | 56° | 7.07 | 867 | |
| 19:20 | 145 | N/A | N/A | GYISH | 57° | 7.13 | 900 | |
| (9/23) | | | | | | | | |
| 10:07 | 140 | N/A | N/A | OPAQUE | 55° | 6.98 | 890 | |
| 10:33 | 125 | N/A | N/A | OPAQUE | 56° | 7.10 | 890 | |
| 11:17 | 25 | N/A | 19.9 | CLEAR | 56° | 7.04 | 852 | |
| 11:20 | 50 | N/A | 14.3 | CLEAR | 56° | 7.02 | 858 | |
| 11:22 | 75 | N/A | 11.9 | CLEAR | 56° | 7.01 | 854 | |
| 13:20 | 100 | N/A | 4.95 | CLEAR | 56° | 7.09 | 865 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW8 55 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-20-90 (12:12 Pm) | Dev. End: 9-23-90 (12:56 Pm) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 9.2 ft Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 660 GAL.

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C °F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 12:12 | 105 | N/A | N/A | GYISH | 55° | 7.14 | 862 | |
| 12:35 | 75 | N/A | N/A | GYISH | 54° | 7.24 | 910 | |
| 13:46 | 105 | N/A | N/A | GYISH | 58° | 7.25 | 888 | |
| 14:08 | 100 | N/A | N/A | OPAQUE | 54° | 7.26 | 884 | |
| 14:40 | 25 | N/A | 75.5 | OPAQUE | 55° | 7.23 | 885 | |
| 14:44 | 50 | N/A | 33.5 | OPAQUE | 56° | 7.22 | 887 | |
| 14:48 (9-23) | 100 | N/A | 18.0 | OPAQUE | 55° | 7.20 | 868 | |
| 12:45 | 5 | N/A | 7.80 | CLEAR | 56° | 7.23 | 879 | |
| 12:50 | 45 | N/A | 5.41 | CLEAR | 55° | 7.25 | 892 | |
| 12:56 | 50 | N/A | 3.63 | CLEAR | 55° | 7.30 | 900 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW8 85 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE EMO/WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-21-90 ( 4 : 35 P m) | Dev. End: 9-22-90 ( 3 : 05 P m) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/(N)) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 8.8 ft Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 700 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C °F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 16:35 | 100 | N/A | N/A | GYISH | 59° | 7.80 | 907 | |
| 17:10 | 100 | N/A | N/A | GYISH | 58° | 7.84 | 930 | |
| 18:35 | 100 | N/A | N/A | GYISH | 56° | 7.41 | 890 | |
| 19:00 | 100 | N/A | N/A | GYISH | 56° | 7.32 | 865 | |
| 19:30 | 5 | N/A | 18.9 | OPAQUE | 55° | 7.29 | 878 | |
| 19:35 | 45 | N/A | 17.7 | OPAQUE | 55° | 7.27 | 893 | |
| 19:41 | 50 | N/A | 17.2 | OPAQUE | 55° | 7.25 | 889 | |
| (9-22) | | | | | | | | |
| 13:55 | 100 | N/A | N/A | CLEAR | 55° | 7.28 | 889 | |
| 15:00 | 50 | N/A | 5.32 | CLEAR | 55° | 7.27 | 890 | |
| 15:05 | 50 | N/A | 3.09 | CLEAR | 55° | 7.25 | 891 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW8110 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: |
| Project No.: 199814 | Client/Project: BATTELLE EMO/WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-22-90 ( 4:20 P m) | Dev. End: 9-23-90 ( 8:41 A m) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 8.4 Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3 to 5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 500 GAL

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 16:20 | 100 | N/A | N/A | GYISH | 56° | 7.15 | 878 | |
| 16:50 | 100 | N/A | N/A | GYISH | 55° | 7.32 | 873 | |
| 18:20 | 100 | N/A | N/A | GYISH | 56° | 7.27 | 910 | |
| 18:50 (9-23) | 100 | N/A | N/A | OPAQUE | 55° | 7.22 | 870 | |
| 08:40 | 5 | N/A | 0.93 | OPAQUE | 55° | 7.51 | 897 | |
| 08:45 | 45 | N/A | 0.77 | CLEAR | 55° | 7.24 | 868 | |
| 08:49 | 100 | N/A | 0.65 | CLEAR | 55° | 7.22 | 867 | 3 CONSECUTIVE MEASUREMENTS |

REV. DATE: JAN 1989

| WELL DEVELOPMENT LOG | WELL NO.: CW8 150 | Page 1 of 1 |
|---|---|---|
| Installation: WPAFB | | Site: CW8 |
| Project No.: 199814 | Client/Project: BATTELLE EMO / WPAFB | |
| HAZWRAP Contractor: IT CORP | Dev. Contractor: MIDEASTERN GEOTECH | |
| Dev. Start: 9-22-90 (10:47 A m) | Dev. End: 9-23-90 (10:41 A m) | Csg Dia.: 2" |
| Developed by: R. VIERA | | Dev. Rig (Y/N) |

Dev. Method SURGE AND PUMP

Equipment 5 H.P. CENTRIFUGAL PUMP, 1" POLYPROPYLENE TUBING, 1.5" DIA. FOOT VALVE WITH RUBBER WASHERS

Pre-Dev. SWL 9.2 ft. Maximum drawdown during pumping N/A ft at N/A gpm

Range and Average discharge rate 3-5 gpm

Total quantity of material bailed NONE

Total quantity of water discharged by pumping 735 GAL.

Disposition of discharge water PLACED IN HOLDING TANK FOR DISPOSAL

| Time | Volume Removed (gal) | Water Level ft.BTOC | Turbidity | Clarity/ Color | Temp. °C F | pH | Conductivity | Remarks |
|---|---|---|---|---|---|---|---|---|
| 10:47 | 100 | N/A | N/A | GYISH | 56° | 11:08 | 1098 | |
| 11:25 | 100 | N/A | N/A | GYISH | 56° | 11.13 | 717 | |
| 12:00 | 75 | N/A | N/A | GYISH | 56° | 8.26 | 721 | |
| 13:27 | 110 | N/A | N/A | GYISH | 56° | 7.87 | 773 | |
| 14:00 | 5 | N/A | N/A | GYISH | 55° | 7.72 | 783 | |
| 14:05 | 45 | N/A | N/A | OPAQUE | 55° | 7.45 | 765 | |
| 14:11 | 100 | N/A | 23.9 | OPAQUE | 55° | 7.43 | 790 | |
| (9-23) | | | | | | | | |
| 9:59 | 100 | N/A | 7.65 | OPAQUE | 55° | 8.83 | 783 | |
| 10:30 | 100 | N/A | 3.18 | CLEAR | 55° | 8.17 | 780 | 3 CONSECUTIVE MEASUREMENTS |

# APPENDIX E

## X-RAY DIFFRACTION RESULTS FOR GROUND WATER SAMPLES

# APPENDIX E - X-RAY DIFFRACTION RESULTS FOR GROUND-WATER SAMPLES

X-Ray Diffraction Results for Ground-Water Samples included in this Appendix:

CW1-27
CW1-35
CW1-121
CW2-44
CW2-90
CW4-60
CW4-85

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Cincinnati, Ohio 45246

# X-RAY DIFFRACTION DETERMINATION OF THE QUALITATIVE PHASE ANALYSIS OF SEVEN WELL WATER/SEDIMENT SAMPLES

REPORT: 0476-0001
DATE: 12/19/90

ATTN: Mr. Charles Schick
AUTHORIZATION: 109468

## INTRODUCTION

Seven well water/sediment samples were received from International Technology Corporation for the purpose of qualitative phase analysis by x-ray diffraction. The samples are identified as CW1-27, CW1-35, CW1-121, CW2-44, CW2-90, CW4-60 and CW4-85.

Paul S. Prevey
Director of Research

Kevin R. O'Bryan
Laboratory Technician

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## TECHNIQUE

A quantity of sediment from each sample was evaporated on a glass slide. The glass slide was placed in a flat sample holder.

Diffraction patterns were obtained using graphite monochromated copper K-alpha radiation on a computer-controlled, Bragg-Brentano focusing geometry horizontal diffractometer employing the following step-scanning technique:

| | | |
|---|---|---|
| Operating Voltage | : | 50 Kv |
| Operating Current | : | 25 mA |
| Incident Beam Divergence | : | 1.0 deg. |
| Receiving Slit | : | 0.2 deg. |
| Detector | : | Scintillation |

The angular range, step increment and counting time for each data set are shown at the top of the corresponding table of reduced diffraction data.

The x-ray diffraction patterns were analyzed using first and second derivative algorithms, after Golay [1] digital filter smoothing, to determine the angular positions and the absolute and relative intensities of each detectable diffraction peak.

Either NBS standard reference material No. 640, "Silicon Powder for X-ray Diffraction," [2] or No. 675, "Low Two-Theta Standard for X-ray Powder Diffraction," was employed to correct systematic error in the diffraction angle caused by instrument misalignment and aberrations due to defocusing, beam divergence, etc.

The diffraction pattern obtained was compared to tabulated patterns in the Powder Diffraction File, published by the Joint Committee on Powder Diffraction Standards (JCPDS) for identification of the phases present, using MDI computer search/match software. An attempt is also made to resolve any unmatched diffraction peaks manually, employing the Hanawalt and/or Fink search techniques. The lattice spacings, chemistry (from energy dispersive x-ray fluorescence), and the relative intensities of the peaks were used to find the appropriate match. All plausible matches are reported.

Qualitative energy dispersive x-ray fluorescence analysis was performed to aid in the analysis of the x-ray diffraction data. Qualitative energy dispersive x-ray fluorescence analysis, capable of identifying elemental constituents from Al to U, provided the following elemental analysis. The elements are shown in order of total fluorescent intensity (which is not simply related to the weight fraction of the elements present).

| Sample | Elements Present |
|---|---|
| CW1-27 | Ca, Fe, Si, Sr, As |
| CW1-35 | Ca, Fe, Si, Sr, As |
| CW1-121 | Ca, Fe, Si, Sr, As |
| CW2-44 | Ca, Fe, Si, Zr, Sr, As |
| CW2-90 | Ca, Fe, Si, As, Sr, Zr |
| CW4-60 | Ca, Fe, Si, As, Sr |
| CW4-85 | Ca, Fe, Si, As |

Where there is an insufficient quantity of a sample available for analysis on the diffractometer, a glass capillary sample is prepared and analyzed using a Debye-Scherrer camera technique. X-ray fluorescence is not used on samples of insufficient quantity because of the possibility of losing the sample.

## RESULTS AND DISCUSSION

The x-ray diffraction patterns are shown graphically in Figures 1 through 7, A and B, and are tabulated in Tables I through VII, A through H, for samples analyzed on the diffractometer.

The figures present the raw data as a plot of x-ray intensity versus the diffraction angle. The diffracted intensity, measured at each step scanning increment, is plotted individually. The "B" series of figures represent an enlarged view of the "A" scale to facilitate the identification of minor diffraction peaks.

For the tables from data generated on the diffractometer, detectable peaks are identified by an assigned number at the left of the table. The next two columns show the diffraction angle, "2-theta," and interplanar spacing, "d," after correction for systematic angular error using the NBS silicon standard. In the fourth column, "I/Io," the net peak maximum intensities are listed on a relative scale, with the most intense peak given a value of 100. The fifth column, "Net I % S.D.," displays the percentage standard deviation of the net peak intensity. Peaks with a standard deviation above 50% are not reported.

The absolute intensities, in counts per second, are presented in the next three columns under the headings "Peak," "B.G."(background), and "Net." The last column contains an estimate of the nominal diffraction peak width between inflection points.

The edited diffraction lines and a candidate phase returned by the computer search/match are presented in any associated tables labeled A, B, C, etc.

Debye-Scherrer film data are read manually, intensities are estimated, and the data are shown only in the tables for candidate phases.

## CONCLUSIONS

X-ray diffraction patterns of the seven well samples were observed to be similar. The dominant species of the sand and silt fraction included quartz, dolomite and ferroan dolomite. Calcite and albite also appear to be present, but in smaller quantities.

The clay fraction appears to be represented by chlorites, illites and some smectites. In each case, the species with the best fit to the pattern for each of the above mentioned family of clay minerals are compared to the diffraction pattern. However, other clay species of the same families may be present as well.

### SAMPLE CW1-27

The dominant phases in Sample CW1-27 include dolomite (JPS 36-426) and calcite (JPS 5-586). Quartz (JPS 33-1161) and possibly albite (JPS 19-1184) are also present but appear not to be as abundant. These mineral species are compared to the observed diffraction pattern of Sample CW1-27 in Tables IB, IC, ID and IE, respectively.

Clay minerals observed in Sample CW1-27 appear to be both chlorite (JPS 16-362) and illite (JPS 26-911). Tables IF and IG compare these species, respectively.

SAMPLE CW1-35

The dominant phases in Sample CW1-35 include quartz (JPS 33-1161) and dolomite (JPS 36-426). Calcite (JPS 5-586) also appears to be present but in a smaller quantity. Tables IIB, IIC and II,D, respectively, compare these species to the diffraction pattern. There appears to be no clay fraction in this sample.

SAMPLE CW1-121

The dominant phases in Sample CW1-121 are quartz (JPS 33-1161) and calcite (JPS 5-586). Dolomite (JPS 36-426) is also present but appears to be in lesser quantities. All of the above species are compared, respectively, in Tables IIIB, IIIC and IIID, to the diffraction pattern of Sample CW1-121. A clay fraction was not observed in this sample.

SAMPLE CW2-44

The major phases in Sample CW2-44 include dolomite (JPS 36-426), ferroan dolomite (JPS 34-517) and quartz (JPS 33-1161). Calcite (JPS 5-586) is also present, apparently in smaller quantities. These species are respectively compared in Tables IVB, IVC, IVD and IVE to the diffraction pattern of Sample CW1-44.

The clay fraction is apparently composed of chlorite (JPS 7-78) and illite (JPS 26-911). Both of these species are compared in Tables IVF and IVG, respectively.

SAMPLE CW2-90

The dominant phase of Sample CW2-90 is quartz (JPS 33-1161). Dolomite (JPS-426), ferroan dolomite (JPS 34-517) and calcite (JPS 5-586) are also present but in smaller quantities. Albite (JPS 19-1184) may also be present. Table VB through VF, respectively, compare the species to the observed diffraction pattern.

The clay fraction appears to be represented by chlorite (JPS 16-362) and illite (JPS 26-911). These species are compared in Tables VG and VH, respectively.

SAMPLE CW4-60

The major phases in sample CW4-60 show quartz (JPS 33-1161) as the most dominant, followed by dolomite (JPS 36-462), ferroan dolomite (JPS 34-517) and calcite (JPS 5-586). Albite (JPS 20-554) may also be present. Tables VIB through VI-F compare these species to the diffraction pattern of CW4-60, respectively.

The clay fraction appears to be represented by chlorite (JPS 16-351) and illite (JPS 26-911) and are compared in Tables VIG and VIH, respectively.

SAMPLE CW4-85

The major species in Sample CW4-85 include dolomite (JPS 36-462), ferroan dolomite (JPS 34-517), quartz (JPS 33-1161) and calcite (JPS 5-586). These species are compared in Tables VIIB through VIIE, respectively, to the diffraction pattern of Sample CW4-85.

The clay fraction is represented by a dioctahedral smectite (JPS 13-135) and illite (JPS 26-911). Both species are compared in Tables VIIF and VIIG, respectively. In addition, kaolinite may be present.

REFERENCES: [ qal.102390.fm ]

(1) Golay, M., Anal. Chem., Vol. 36, 1627 (1964)

(2) Hubbard, C., NBS Publication 567 (1980)

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW1-27 Sand/Silt 1/.2NSLS/M
Data File: 476001.q07 9012E10KO Wavelength = 1.54178 (A)
Corrected Using NBS SRM 640 Maximum Intensity = 2301 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

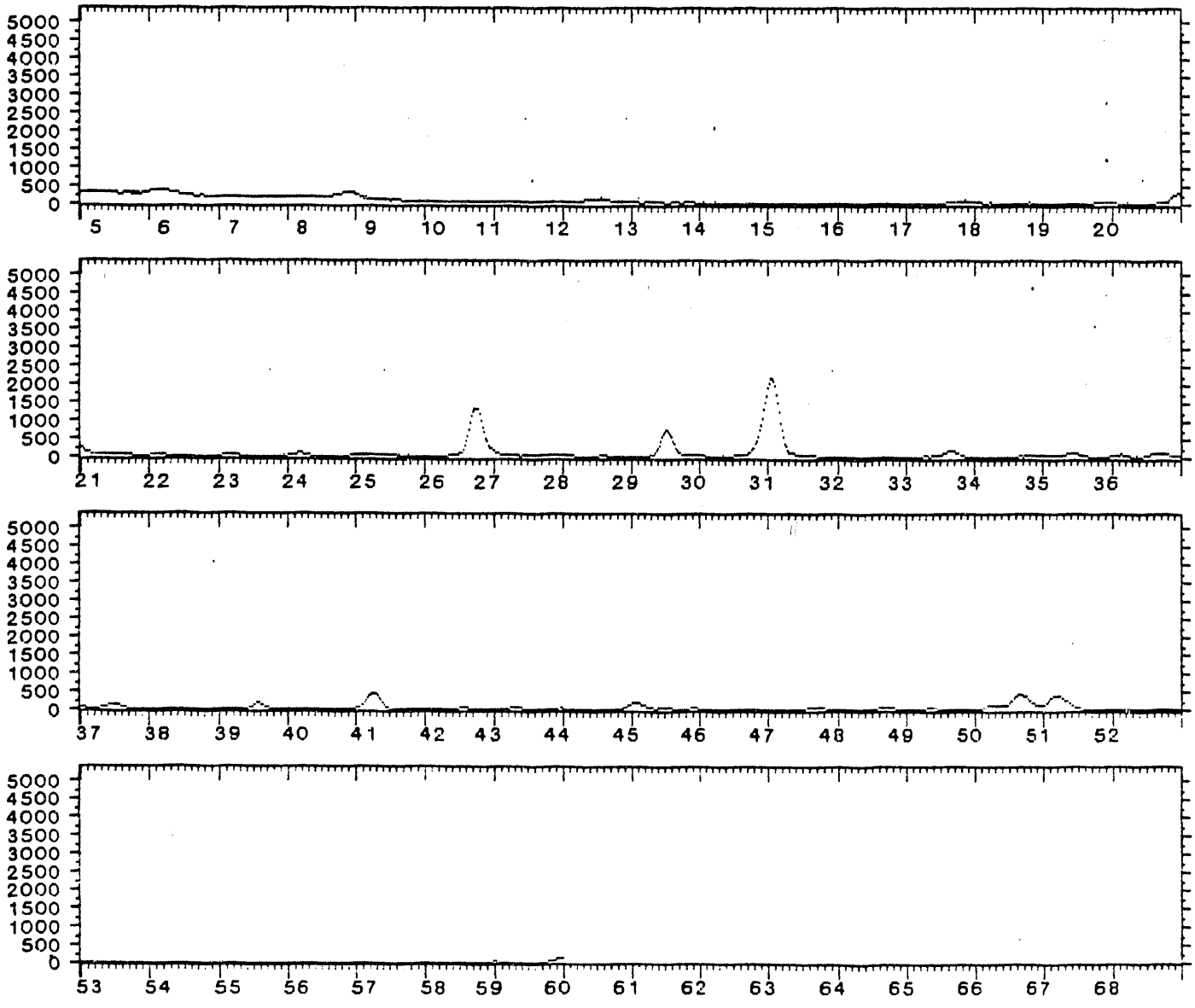


Figure 1A

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW1-27 Sand/Silt
Data File: 476001.q07 9012E10KO
Corrected Using NBS SRM 640

1/.2NSLS/M
Wavelength = 1.54178 (A)
Maximum Intensity = 2301 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

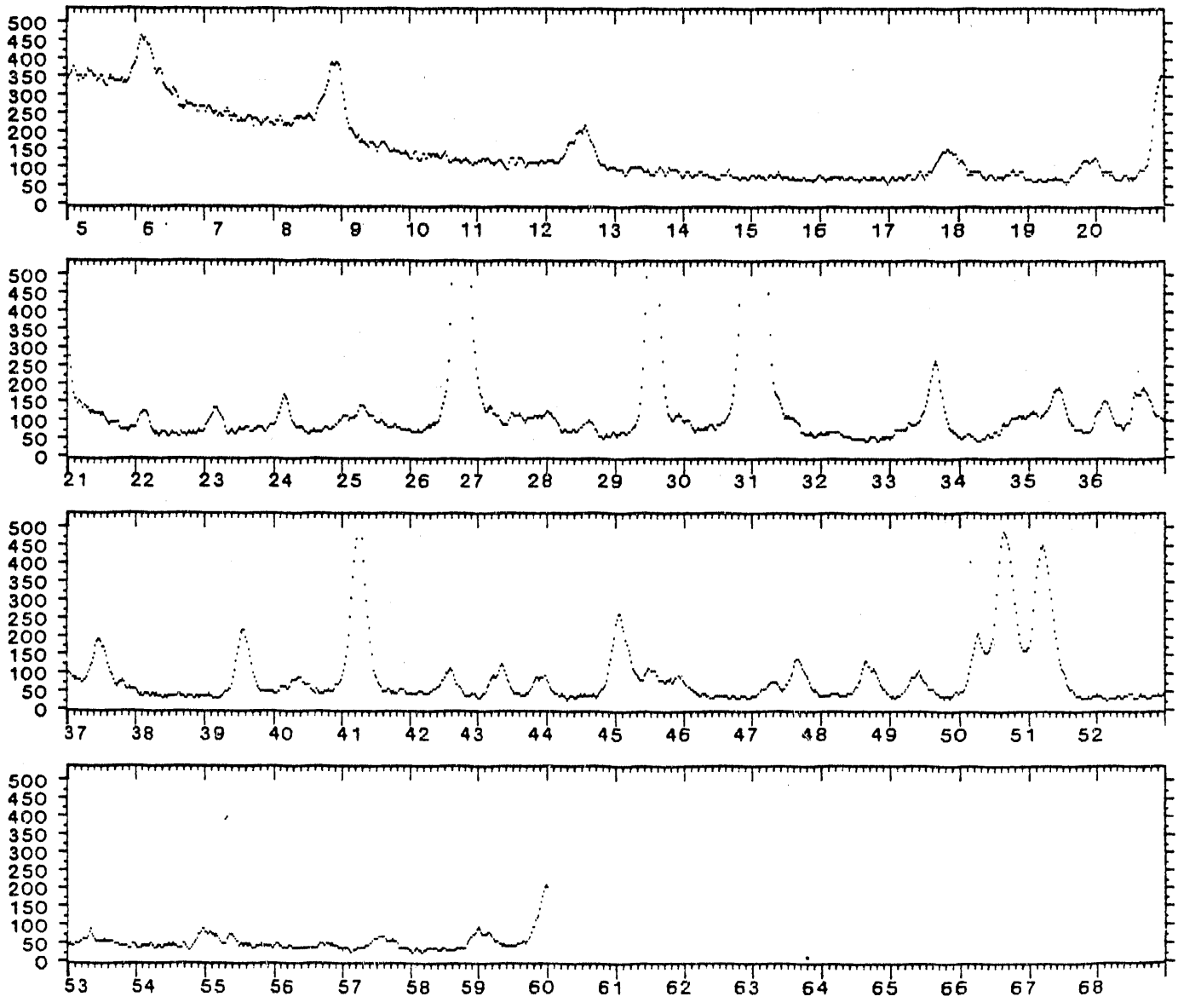


Figure 1B

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW1-35 Sand/Silt 1./.2NSLS/M
Data File: 476001.q06 9012E10RR Wavelength = 1.54178 (A)
Corrected Using NBS SRM 640 Maximum Intensity = 5656 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

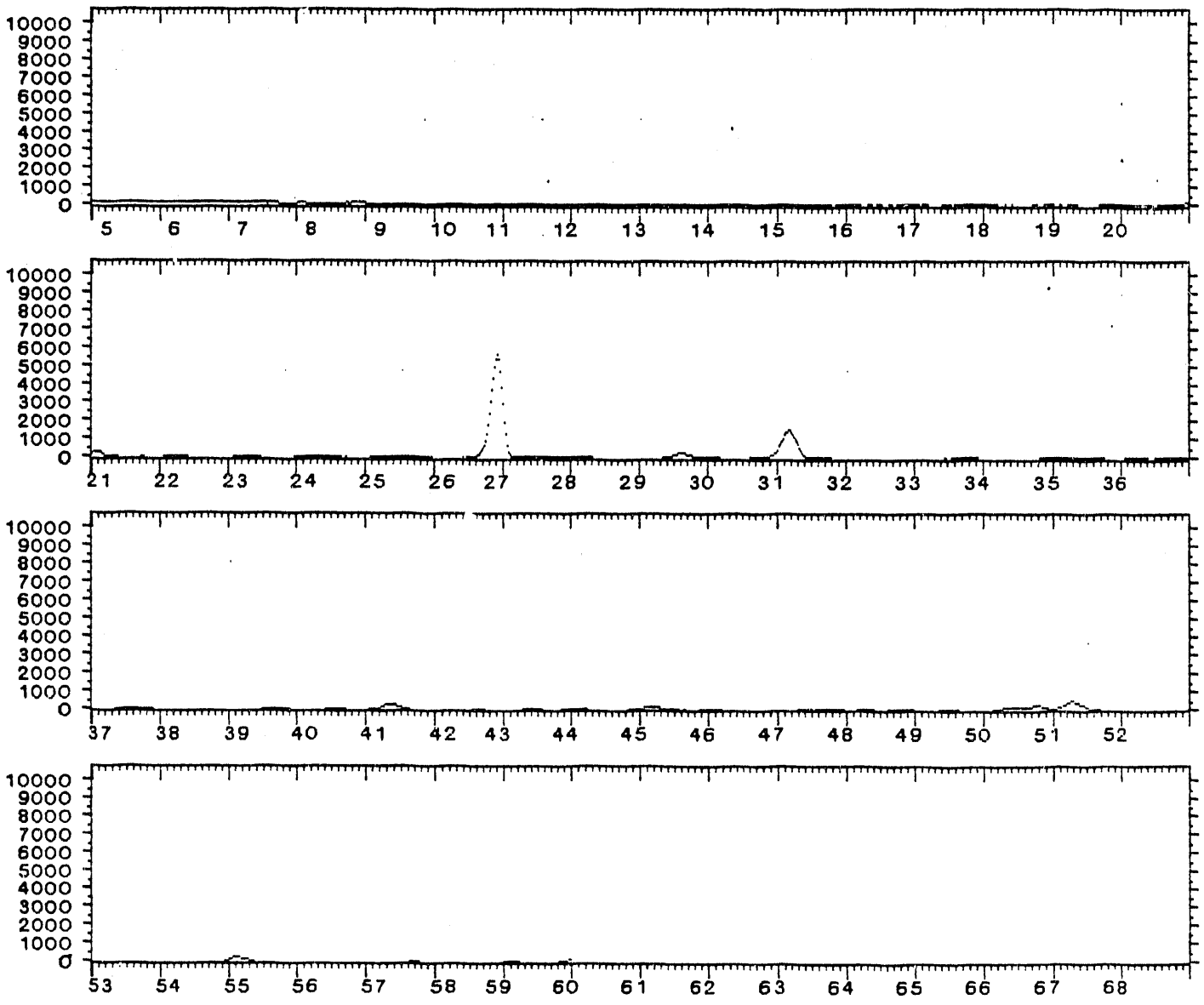


Figure 2A

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW1-35 Sand/Silt
Data File: 476001.q06 9012E10RR
Corrected Using NBS SRM 640

1./.2NSLS/M
Wavelength = 1.54178 (A)
Maximum Intensity = 5656 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

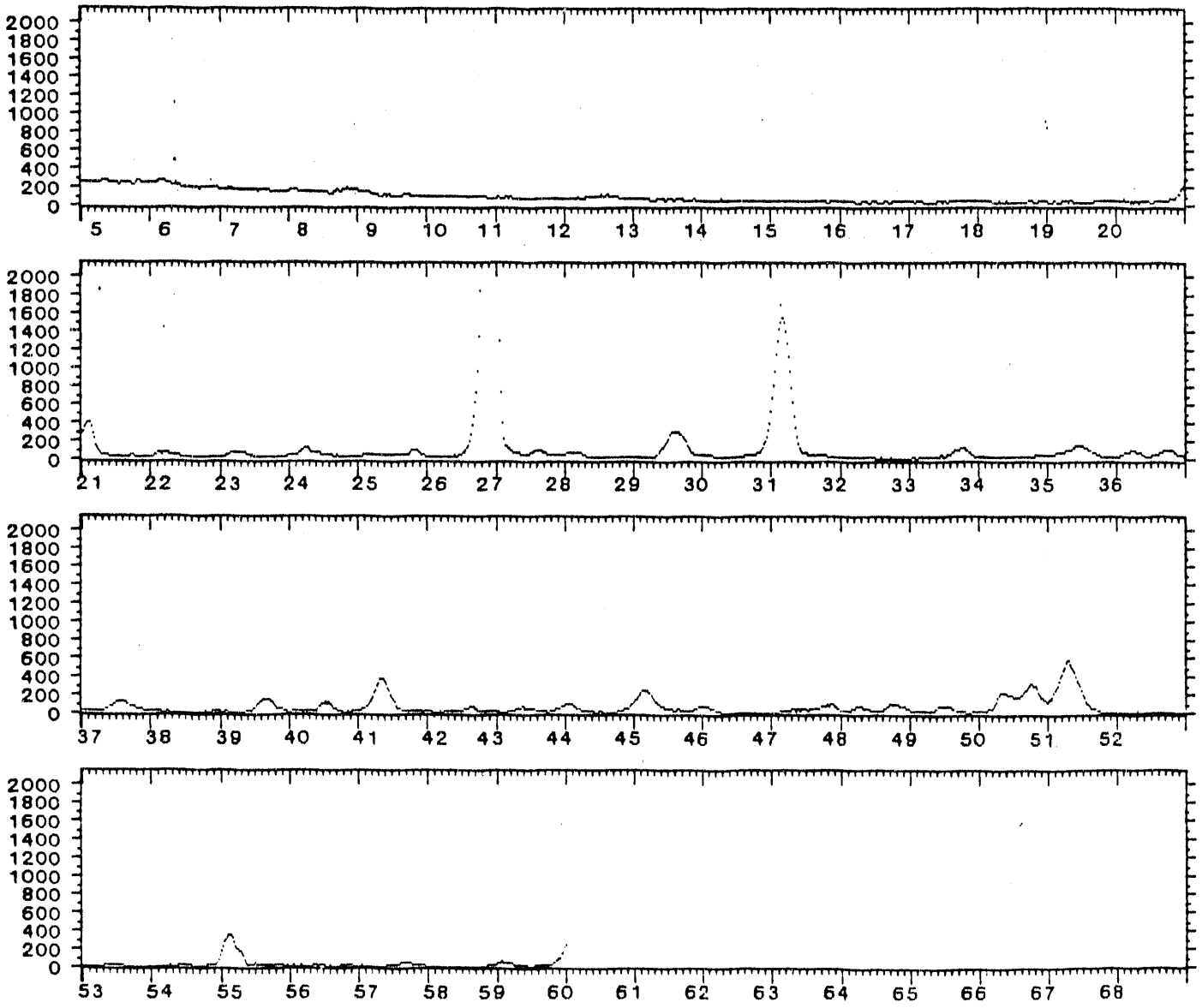


Figure 2B

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW1-121 silt/sand 1/.2NSLS/M
Data File: 476001.q01 9012E07KO Wavelength = 1.54178 (A)
Corrected Using NBS SRM 640 Maximum Intensity = 2055 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

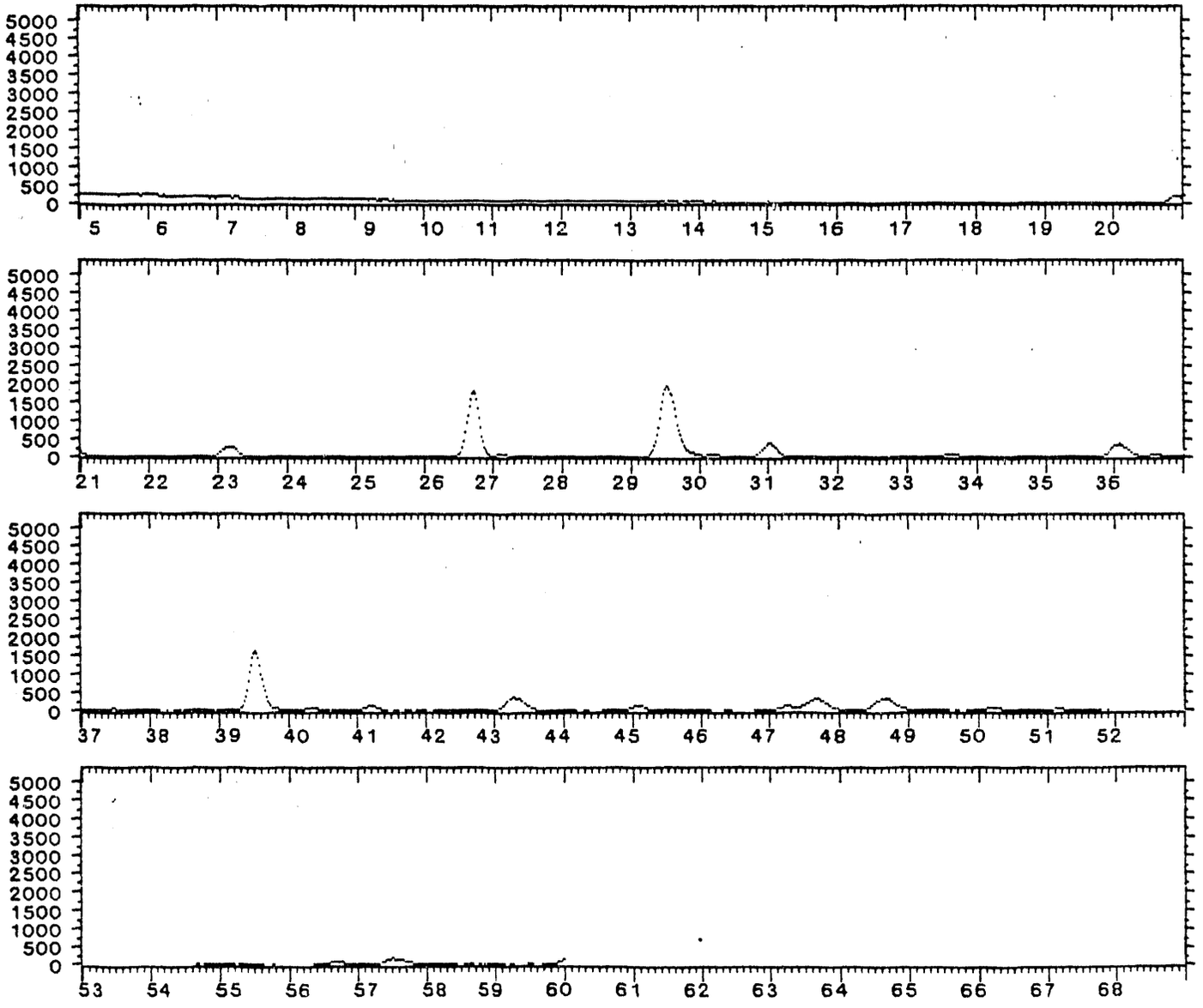


Figure 3A

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW1-121 silt/sand
Data File: 476001.q01 9012E07KO
Corrected Using NBS SRM 640

1/.2NSLS/M
Wavelength = 1.54178 (A)
Maximum Intensity = 2055 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

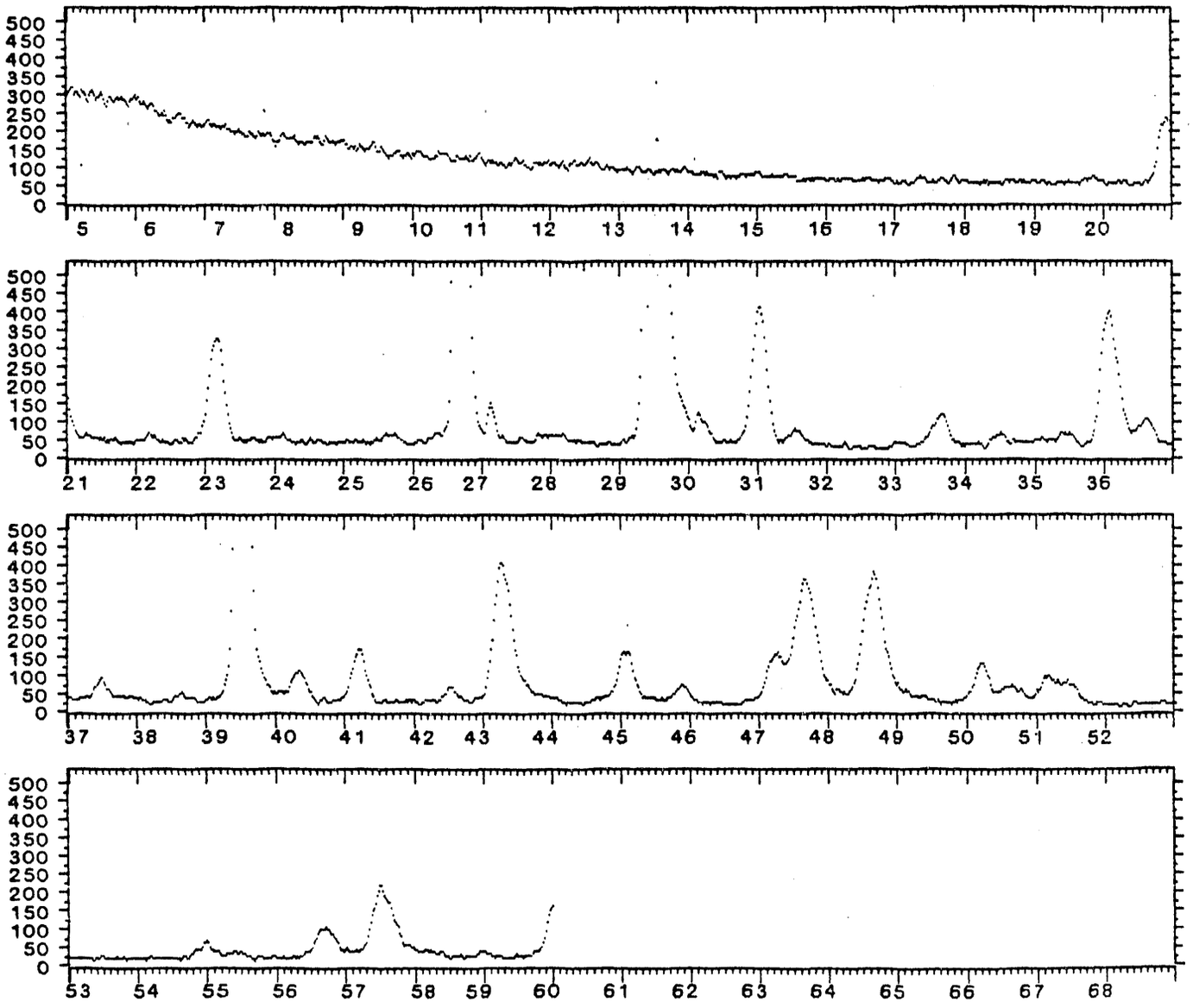


Figure 3B

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW2-44 sand/silt
Data File: 476001.q04 9012E07KO
Corrected Using NBS SRM 640

1/.2NSLS/M
Wavelength = 1.54178 (A)
Maximum Intensity = 2177 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

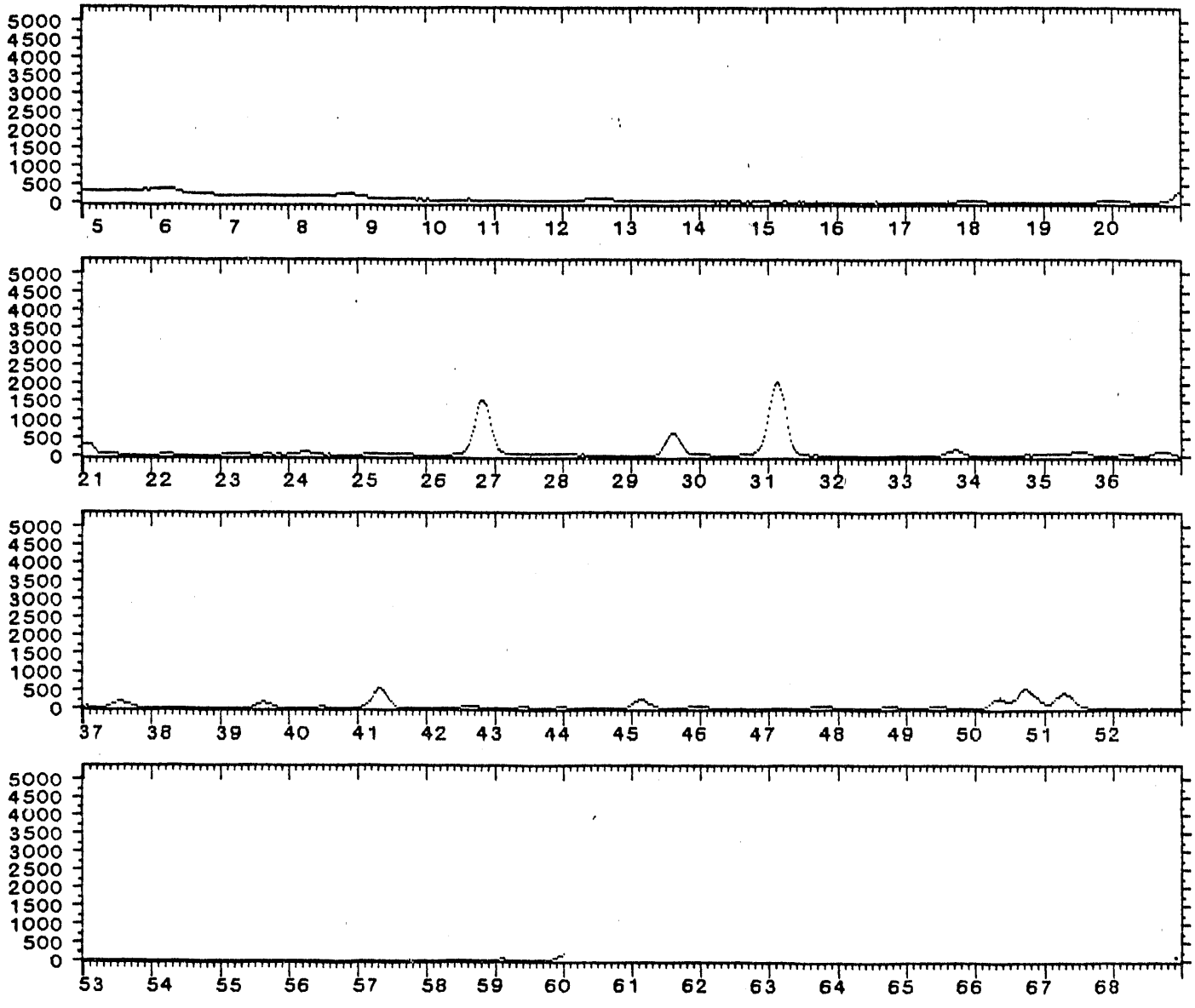


Figure 4A

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW2-44 sand/silt
Data File: 476001.q04 9012E07KO
Corrected Using NBS SRM 640

1/.2NSLS/M
Wavelength = 1.54178 (A)
Maximum Intensity = 2177 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

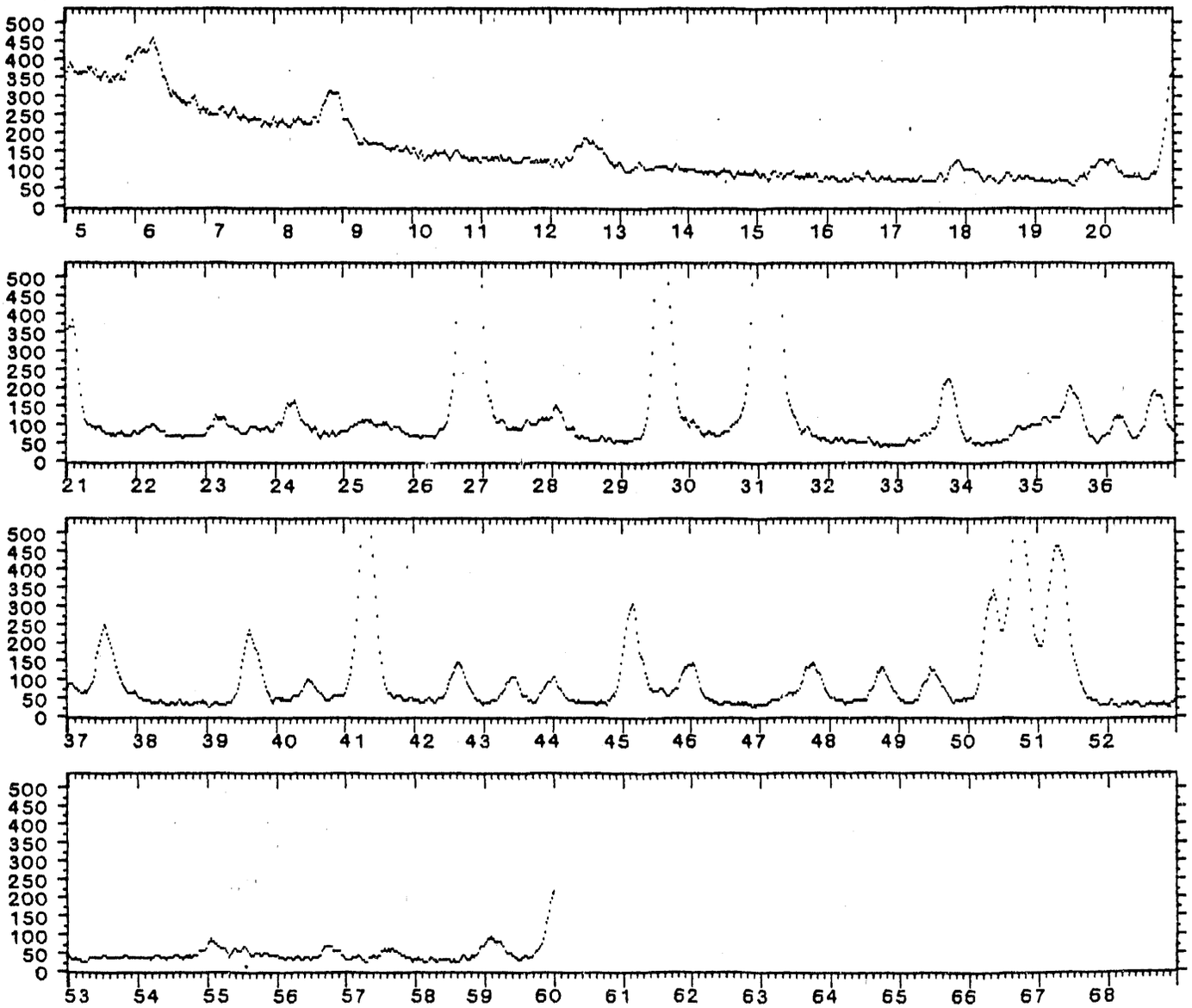


Figure 4B

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW2-90 sand/silt
Data File: 476001.q05 9012E07KO
Corrected Using NBS SRM 640

1/.2NSLS/M
Wavelength = 1.54178 (A)
Maximum Intensity = 3864 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

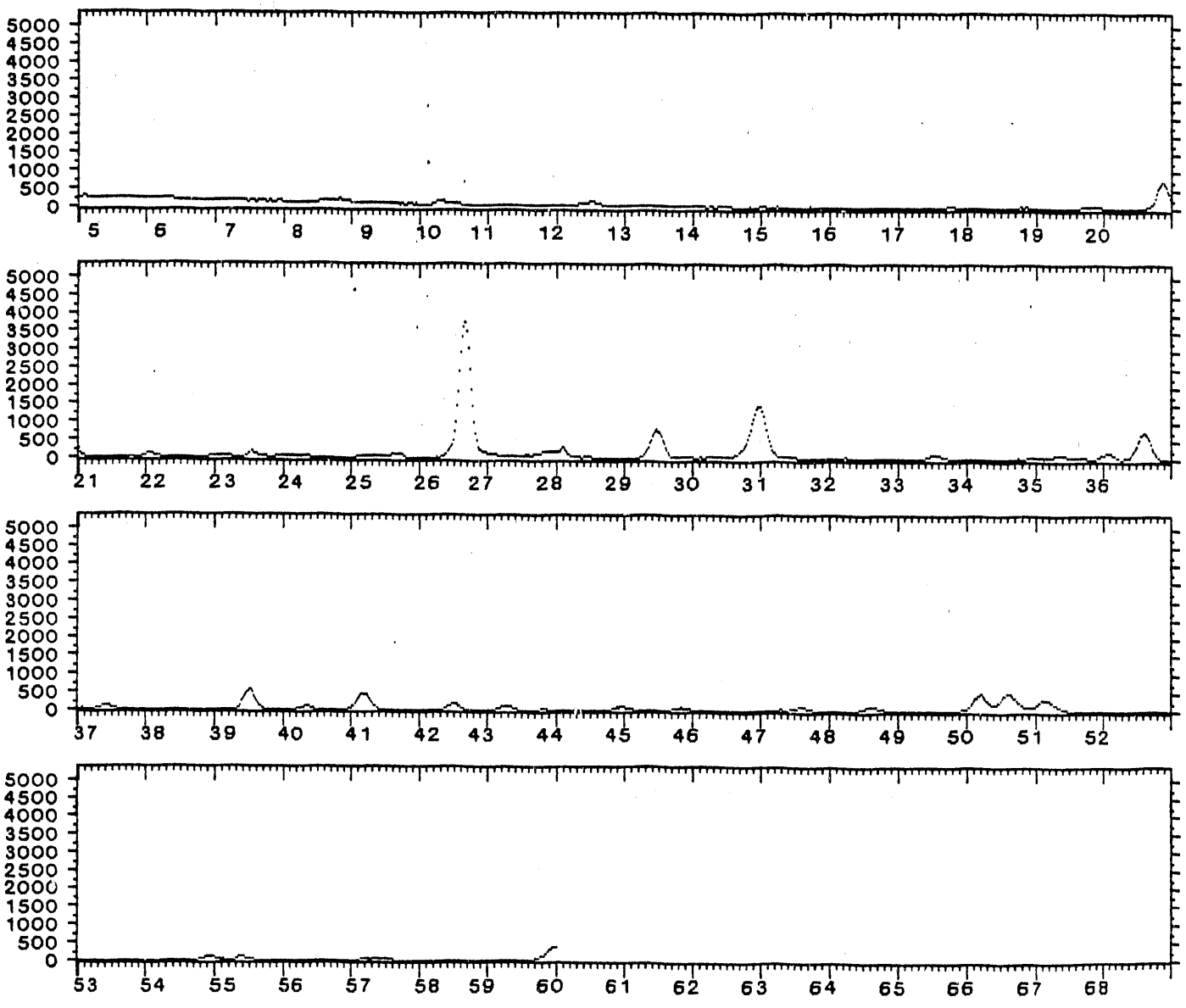


Figure 5A

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW2-90 sand/silt 1/.2NSLS/M
Data File: 476001.q05 9012E07KO Wavelength = 1.54178 (A)
Corrected Using NBS SRM 640 Maximum Intensity = 3864 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

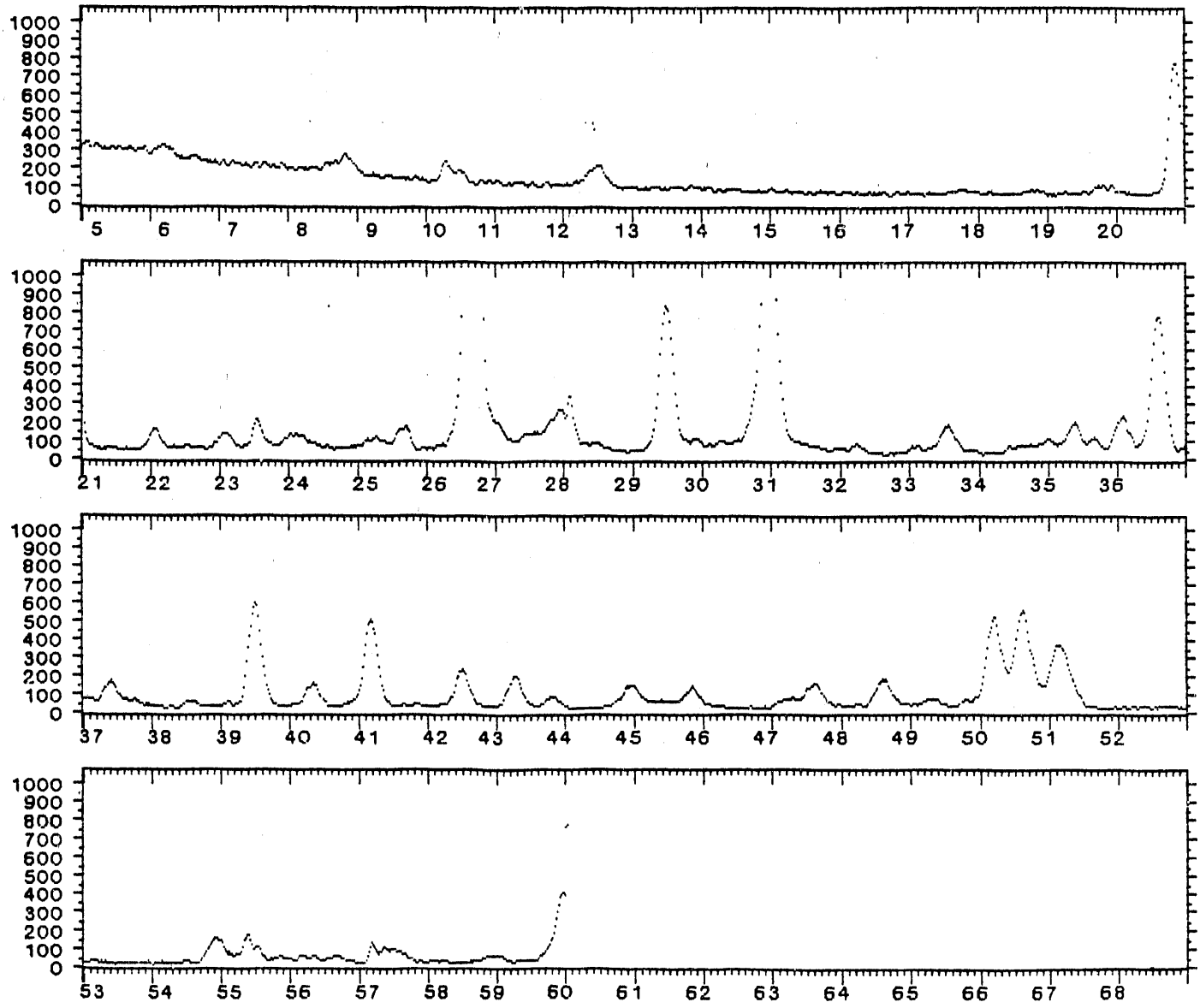


Figure 5B

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW4-60 sand/silt
Data File: 476001.q02 9012E07KO
Corrected Using NBS SRM 640

1/.2NSLS/M
Wavelength = 1.54178 (A)
Maximum Intensity = 3371 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

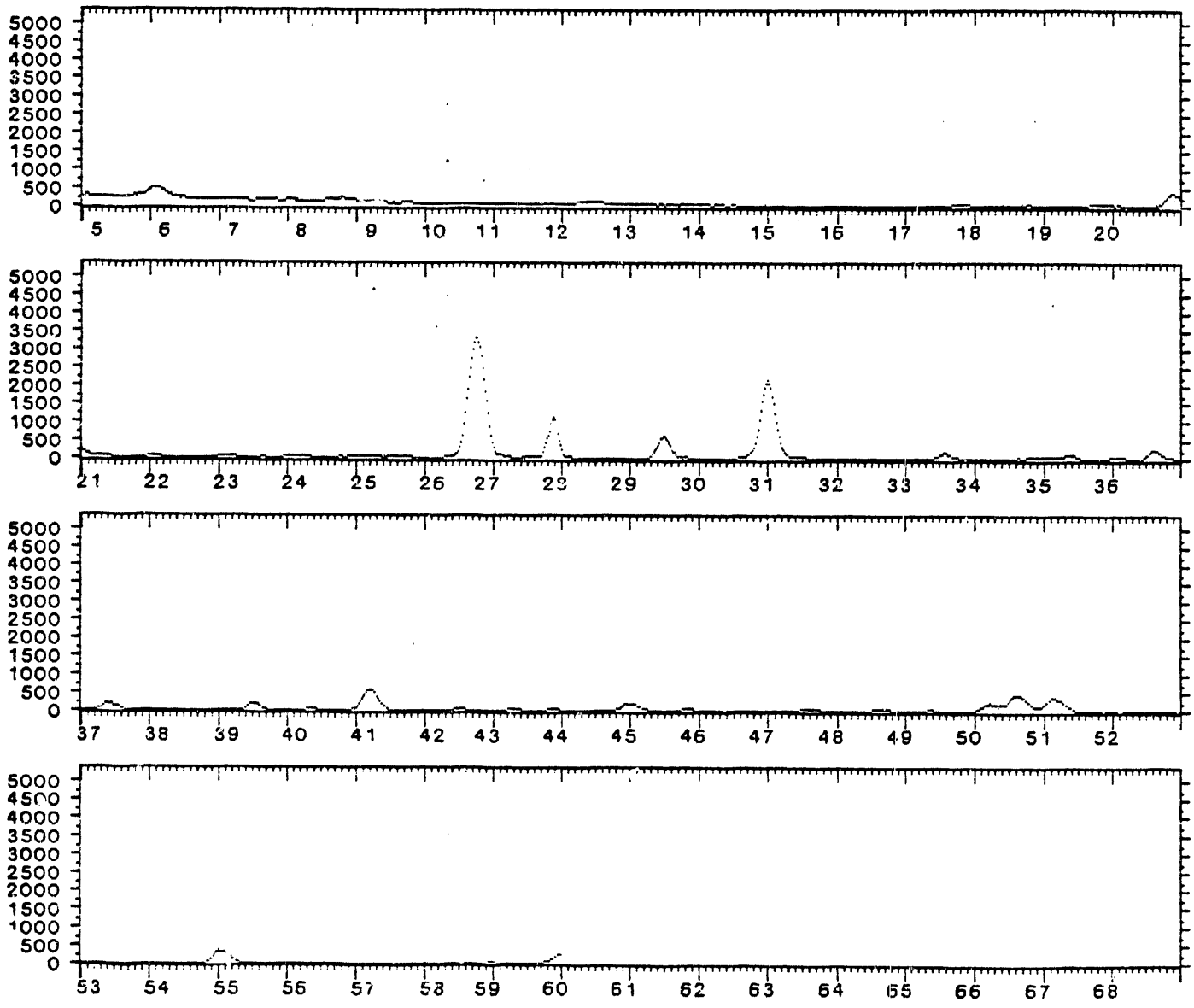


Figure 6A

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW4-60 sand/silt
Data File: 476001.q02 9012E07KO
Corrected Using NBS SRM 640

1/.2NSLS/M
Wavelength = 1.54178 (A)
Maximum Intensity = 3371 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

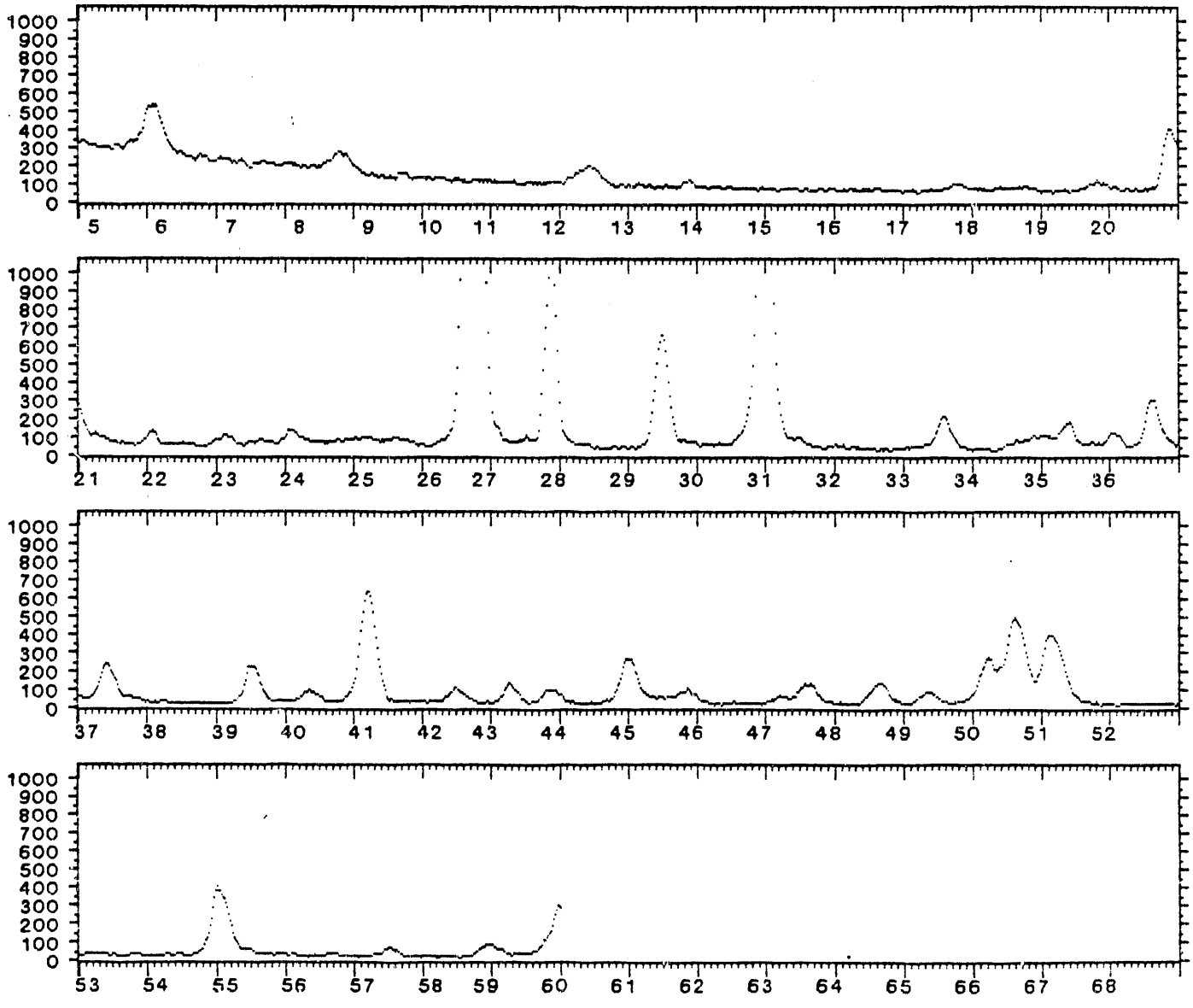


Figure 6B

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW4-85 sand/silt 1/.2NSLS/M
Data File: 476001.q03 9012E07KO Wavelength = 1.54178 (A)
Corrected Using NBS SRM 640 Maximum Intensity = 2203 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

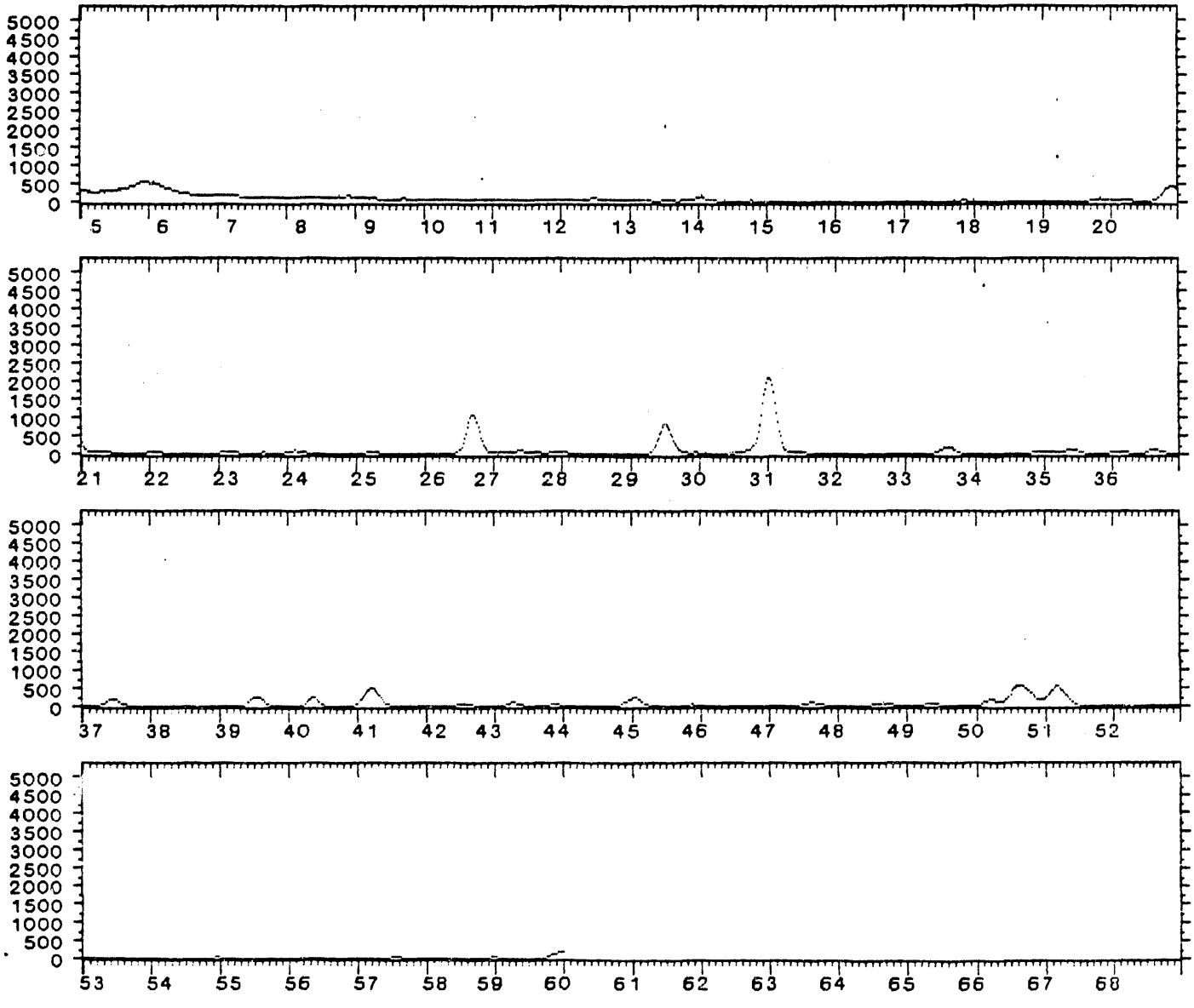


Figure 7A

LAMBDA RESEARCH INC.
CINCINNATI OHIO

QUALITATIVE PHASE ANALYSIS

CW4-85 sand/silt
Data File: 476001.q03 9012E07KO
Corrected Using NBS SRM 640

1/.2NSLS/M
Wavelength = 1.54178 (A)
Maximum Intensity = 2203 cps

Range No 1 5.00 --> 60.00 deg. at .02 deg. steps for 1.0 s

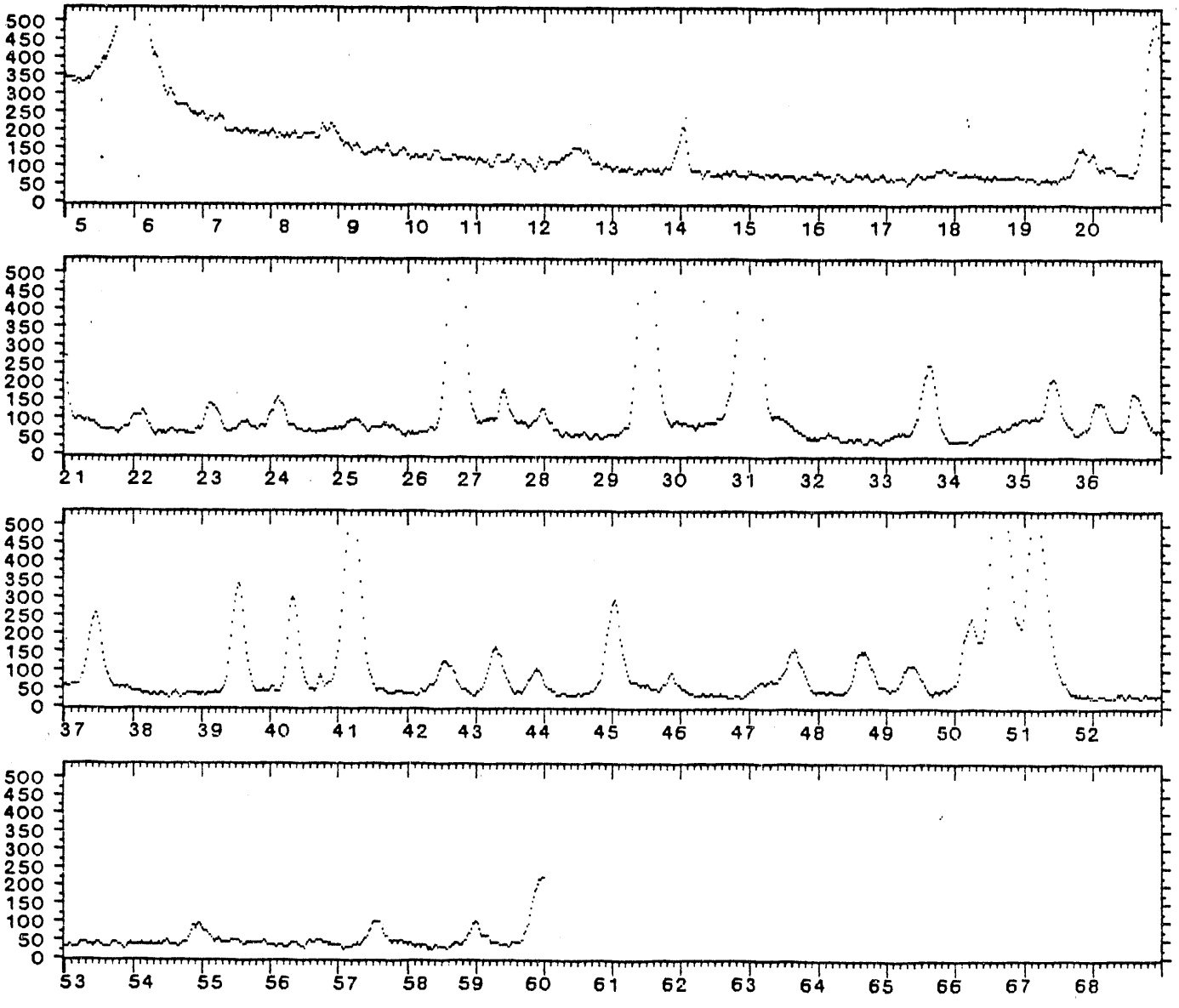


Figure 7B

Lambda Research, Inc.

476001.q07 QUALTAB3.04.FOR 12/10/90

QUALITATIVE PHASE ANALYSIS 

CW1-27 Sand/Silt 1/.2NSLS/M

Data File: 476001.q07 9012E10KO Wavelength = 1.54178 (A)

Alignment Correction Using NBS SRM 640 Maximum Intensity = 2301 cps

| Peak No. | 2-Theta (deg.) | d(A) | I/Io | Net I %S.D. | Intensity (cps) Peak | B.G. | Net | Width (deg.) |
|---|---|---|---|---|---|---|---|---|
| Range No: 1 | 5.00 --) 60.00 deg. using .02 deg. steps for 1.0s | | | | | | | |
| 1 | 6.10 | 14.489 | 9 | 14 | 467 | 267 | 200 | .30 |
| 2 | 8.85 | 9.992 | 8 | 13 | 394 | 205 | 189 | .28 |
| 3 | 12.54 | 7.059 | 4 | 23 | 225 | 141 | 84 | .36 |
| 4 | 17.83 | 4.975 | 3 | 20 | 156 | 80 | 76 | .34 |
| 5 | 19.97 | 4.446 | 3 | 21 | 130 | 64 | 66 | .36 |
| 6 | 20.93 | 4.244 | 13 | 7 | 358 | 57 | 300 | .24 |
| 7 | 22.11 | 4.020 | 4 | 16 | 133 | 50 | 83 | .20 |
| 8 | 23.13 | 3.845 | 4 | 15 | 136 | 45 | 91 | .24 |
| 9 | 24.13 | 3.688 | 6 | 11 | 171 | 41 | 131 | .24 |
| 10 | 25.27 | 3.524 | 5 | 12 | 143 | 36 | 107 | .22 |
| 11 | 26.70 | 3.339 | 61 | 3 | 1405 | 31 | 1373 | .26 |
| 12 | 27.56 | 3.236 | 4 | 13 | 124 | 29 | 95 | .16 |
| 13 | 27.98 | 3.189 | 5 | 12 | 131 | 28 | 103 | .26 |
| 14 | 28.56 | 3.125 | 3 | 15 | 103 | 26 | 77 | .22 |
| 15 | 29.48 | 3.030 | 35 | 4 | 804 | 24 | 780 | .26 |
| 16 | 31.02 | 2.883 | 100 | 2 | 2263 | 22 | 2242 | .28 |
| 17 | 33.62 | 2.666 | 11 | 7 | 267 | 18 | 248 | .26 |
| 18 | 35.40 | 2.536 | 8 | 8 | 200 | 17 | 183 | .24 |
| 19 | 36.10 | 2.488 | 6 | 9 | 158 | 17 | 142 | .26 |
| 20 | 36.66 | 2.451 | 8 | 8 | 198 | 17 | 181 | .28 |
| 21 | 37.42 | 2.403 | 8 | 8 | 200 | 16 | 184 | .24 |
| 22 | 39.52 | 2.280 | 9 | 7 | 226 | 16 | 209 | .24 |
| 23 | 40.36 | 2.235 | 3 | 14 | 92 | 17 | 75 | .30 |
| 24 | 41.24 | 2.189 | 22 | 5 | 509 | 17 | 491 | .28 |
| 25 | 42.54 | 2.125 | 4 | 12 | 115 | 18 | 97 | .24 |
| 26 | 43.30 | 2.090 | 5 | 11 | 133 | 19 | 114 | .28 |
| 27 | 43.92 | 2.061 | 3 | 14 | 97 | 20 | 77 | .26 |
| 28 | 45.00 | 2.014 | 11 | 7 | 269 | 21 | 248 | .26 |
| 29 | 47.64 | 1.909 | 5 | 11 | 144 | 26 | 117 | .26 |
| 30 | 48.60 | 1.873 | 5 | 12 | 138 | 29 | 110 | .32 |
| 31 | 49.36 | 1.846 | 4 | 15 | 111 | 31 | 81 | .28 |
| 32 | 50.60 | 1.804 | 20 | 5 | 492 | 35 | 457 | .26 |
| 33 | 51.17 | 1.785 | 19 | 5 | 456 | 37 | 419 | .31 |
| 34 | 53.31 | 1.718 | 2 | 27 | 90 | 46 | 44 | .26 |
| 35 | 54.95 | 1.671 | 2 | 32 | 94 | 55 | 39 | .24 |

TABLE IA

476001.q07 CW1-27 S 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.489 | 9 | 6.095 | | | | |
| 9.992 | 8 | 8.843 | | | | |
| 7.059 | 4 | 12.530 | | | | |
| 4.975 | 3 | 17.816 | | | | |
| 4.720 | 2 | 18.785 | | | | |
| 4.446 | 3 | 19.954 | | | | |
| 4.244 | 13 | 20.913 | | | | |
| 4.020 | 4 | 22.092 | 22.022 | 4.033 | 1 | .070 |
| 3.845 | 4 | 23.112 | | | | |
| 3.688 | 6 | 24.111 | 24.039 | 3.699 | 4 | .072 |
| 3.524 | 5 | 25.250 | | | | |
| 3.339 | 61 | 26.679 | | | | |
| 3.236 | 4 | 27.538 | | | | |
| 3.189 | 5 | 27.958 | | | | |
| 3.125 | 3 | 28.537 | | | | |
| 3.030 | 35 | 29.456 | | | | |
| 2.883 | 100 | 30.995 | 30.939 | 2.888 | 100 | .056 |
| 2.666 | 11 | 33.593 | 33.537 | 2.670 | 4 | .056 |
| 2.536 | 8 | 35.371 | 35.323 | 2.539 | 3 | .049 |
| 2.488 | 6 | 36.071 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.451 | 8 | 36.630 | | | | |
| 2.403 | 8 | 37.390 | 37.377 | 2.404 | 7 | .012 |
| 2.280 | 9 | 39.488 | | | | |
| 2.235 | 3 | 40.327 | | | | |
| 2.189 | 22 | 41.206 | 41.128 | 2.193 | 19 | .078 |
| 2.125 | 4 | 42.505 | | | | |
| 2.090 | 5 | 43.264 | | | | |
| 2.061 | 3 | 43.884 | 43.805 | 2.065 | 3 | .079 |
| 2.014 | 11 | 44.963 | * 45.057 | 2.010 | 11 | -.094 |
| 1.993 | 5 | 45.475 | | | | |
| 1.922 | 2 | 47.254 | | | | |
| 1.909 | 5 | 47.600 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.846 | 4 | 49.319 | 49.289 | 1.847 | 3 | .029 |
| 1.816 | 10 | 50.197 | | | | |
| 1.804 | 20 | 50.558 | 50.527 | 1.805 | 10 | .030 |
| 1.785 | 19 | 51.127 | * 51.177 | 1.783 | 15 | -.050 |
| 1.718 | 2 | 53.265 | | | | |
| 1.671 | 2 | 54.903 | | | | |
| 1.603 | 2 | 57.441 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.566 | 5 | 58.930 | 58.901 | 1.567 | 2 | .029 |
| 1.542 | 11 | 59.941 | * 59.921 | 1.542 | 5 | .019 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IB

476001.q07 CW1-27 S 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.489 | 9 | 6.095 | | | | |
| 9.992 | 8 | 8.843 | | | | |
| 7.059 | 4 | 12.530 | | | | |
| 4.975 | 3 | 17.816 | | | | |
| 4.720 | 2 | 18.785 | | | | |
| 4.446 | 3 | 19.954 | | | | |
| 4.244 | 13 | 20.913 | | | | |
| 4.020 | 4 | 22.092 | | | | |
| 3.845 | 4 | 23.112 | 23.023 | 3.860 | 12 | .089 |
| 3.688 | 6 | 24.111 | | | | |
| 3.524 | 5 | 25.250 | | | | |
| 3.339 | 61 | 26.679 | | | | |
| 3.236 | 4 | 27.538 | | | | |
| 3.189 | 5 | 27.958 | | | | |
| 3.125 | 3 | 28.537 | | | | |
| 3.030 | 35 | 29.456 | 29.406 | 3.035 | 100 | .051 |
| 2.883 | 100 | 30.995 | | | | |
| 2.666 | 11 | 33.593 | | | | |
| 2.536 | 8 | 35.371 | | | | |
| 2.488 | 6 | 36.071 | 35.967 | 2.495 | 14 | .104 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.451 | 8 | 36.630 | | | | |
| 2.403 | 8 | 37.390 | | | | |
| 2.280 | 9 | 39.488 | 39.402 | 2.285 | 18 | .085 |
| 2.235 | 3 | 40.327 | | | | |
| 2.189 | 22 | 41.206 | | | | |
| 2.125 | 4 | 42.505 | | | | |
| 2.090 | 5 | 43.264 | 43.146 | 2.095 | 18 | .118 |
| 2.061 | 3 | 43.884 | | | | |
| 2.014 | 11 | 44.963 | | | | |
| 1.993 | 5 | 45.475 | | | | |
| 1.922 | 2 | 47.254 | 47.124 | 1.927 | 5 | .130 |
| 1.909 | 5 | 47.600 | 47.490 | 1.913 | 17 | .110 |
| 1.873 | 5 | 48.559 | 48.514 | 1.875 | 17 | .046 |
| 1.846 | 4 | 49.319 | | | | |
| 1.816 | 10 | 50.197 | | | | |
| 1.804 | 20 | 50.558 | | | | |
| 1.785 | 19 | 51.127 | | | | |
| 1.718 | 2 | 53.265 | | | | |
| 1.671 | 2 | 54.903 | | | | |
| 1.603 | 2 | 57.441 | 57.402 | 1.604 | 8 | .039 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.566 | 5 | 58.930 | | | | |
| 1.542 | 11 | 59.941 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IC

476001.q07 CW1-27 S 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.489 | 9 | 6.095 | | | | |
| 9.992 | 8 | 8.843 | | | | |
| 7.059 | 4 | 12.530 | | | | |
| 4.975 | 3 | 17.816 | | | | |
| 4.720 | 2 | 18.785 | | | | |
| 4.446 | 3 | 19.954 | | | | |
| 4.244 | 13 | 20.913 | 20.850 | 4.257 | 22 | .063 |
| 4.020 | 4 | 22.092 | | | | |
| 3.845 | 4 | 23.112 | | | | |
| 3.688 | 6 | 24.111 | | | | |
| 3.524 | 5 | 25.250 | | | | |
| 3.339 | 61 | 26.679 | 26.652 | 3.342 | 100 | .027 |
| 3.236 | 4 | 27.538 | | | | |
| 3.189 | 5 | 27.958 | | | | |
| 3.125 | 3 | 28.537 | | | | |
| 3.030 | 35 | 29.456 | | | | |
| 2.883 | 100 | 30.995 | | | | |
| 2.666 | 11 | 33.593 | | | | |
| 2.536 | 8 | 35.371 | | | | |
| 2.488 | 6 | 36.071 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.451 | 8 | 36.630 | 36.542 | 2.457 | 8 | .088 |
| 2.403 | 8 | 37.390 | | | | |
| 2.280 | 9 | 39.488 | 39.456 | 2.282 | 8 | .032 |
| 2.235 | 3 | 40.327 | 40.284 | 2.237 | 4 | .043 |
| 2.189 | 22 | 41.206 | | | | |
| 2.125 | 4 | 42.505 | 42.465 | 2.127 | 6 | .040 |
| 2.090 | 5 | 43.264 | | | | |
| 2.061 | 3 | 43.884 | | | | |
| 2.014 | 11 | 44.963 | | | | |
| 1.993 | 5 | 45.475 | 45.809 | 1.979 | 4 | -.335 |
| 1.922 | 2 | 47.254 | | | | |
| 1.909 | 5 | 47.600 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.846 | 4 | 49.319 | | | | |
| 1.816 | 10 | 50.197 | 50.141 | 1.818 | 14 | .056 |
| 1.804 | 20 | 50.558 | 50.611 | 1.802 | 1 | -.054 |
| 1.785 | 19 | 51.127 | | | | |
| 1.718 | 2 | 53.265 | | | | |
| 1.671 | 2 | 54.903 | 54.869 | 1.672 | 4 | .034 |
| 1.603 | 2 | 57.441 | 57.238 | 1.608 | 1 | .203 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.566 | 5 | 58.930 | | | | |
| 1.542 | 11 | 59.941 | 59.949 | 1.542 | 9 | -.008 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

**TABLE ID**

476001.q07 CW1-27 S 19-1184 Sodium Aluminum Silicate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.489 | 9 | 6.095 | | | | |
| 9.992 | 8 | 8.843 | | | | |
| 7.059 | 4 | 12.530 | | | | |
| 4.975 | 3 | 17.816 | | | | |
| 4.720 | 2 | 18.785 | | | | |
| 4.446 | 3 | 19.954 | | | | |
| 4.244 | 13 | 20.913 | | | | |
| 4.020 | 4 | 22.092 | 22.039 | 4.030 | 100 | .053 |
| 3.845 | 4 | 23.112 | 23.083 | 3.850 | 10 | .028 |
| 3.688 | 6 | 24.111 | * 24.232 | 3.670 | 85 | -.121 |
| 3.524 | 5 | 25.250 | 25.428 | 3.500 | 12 | -.178 |
| 3.339 | 61 | 26.679 | 26.750 | 3.330 | 2 | -.071 |
| 3.236 | 4 | 27.538 | 27.682 | 3.220 | 65 | -.144 |
| 3.189 | 5 | 27.958 | * 28.015 | 3.182 | 130 | -.057 |
| 3.125 | 3 | 28.537 | 28.309 | 3.150 | 50 | .228 |
| 3.030 | 35 | 29.456 | | | | |
| 2.883 | 100 | 30.995 | 31.227 | 2.862 | 8 | -.232 |
| 2.666 | 11 | 33.593 | 33.615 | 2.664 | 2 | -.022 |
| 2.536 | 8 | 35.371 | 35.337 | 2.538 | 6 | .034 |
| 2.488 | 6 | 36.071 | * 36.064 | 2.488 | 4 | .007 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 19-1184 Sodium Aluminum Silicate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.451 | 8 | 36.630 | 36.759 | 2.443 | 35 | -.129 |
| 2.403 | 8 | 37.390 | * 37.507 | 2.396 | 18 | -.118 |
| 2.280 | 9 | 39.488 | | | | |
| 2.235 | 3 | 40.327 | | | | |
| 2.189 | 22 | 41.206 | | | | |
| 2.125 | 4 | 42.505 | | | | |
| 2.090 | 5 | 43.264 | | | | |
| 2.061 | 3 | 43.884 | | | | |
| 2.014 | 11 | 44.963 | | | | |
| 1.993 | 5 | 45.475 | | | | |
| 1.922 | 2 | 47.254 | | | | |
| 1.909 | 5 | 47.600 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.846 | 4 | 49.319 | | | | |
| 1.816 | 10 | 50.197 | | | | |
| 1.804 | 20 | 50.558 | | | | |
| 1.785 | 19 | 51.127 | | | | |
| 1.718 | 2 | 53.265 | | | | |
| 1.671 | 2 | 54.903 | | | | |
| 1.603 | 2 | 57.441 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 19-1184 Sodium Aluminum Silicate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.566 | 5 | 58.930 | | | | |
| 1.542 | 11 | 59.941 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IE

476001.q07 CW1-27 S 16- 362 Magnesium Aluminum Iron Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.489 | 9 | 6.095 | 6.219 | 14.200 | 60 | -.124 |
| 9.992 | 8 | 8.843 | | | | |
| 7.059 | 4 | 12.530 | 12.457 | 7.100 | 100 | .073 |
| 4.975 | 3 | 17.816 | | | | |
| 4.720 | 2 | 18.785 | 18.745 | 4.730 | 40 | .040 |
| 4.446 | 3 | 19.954 | | | | |
| 4.244 | 13 | 20.913 | | | | |
| 4.020 | 4 | 22.092 | | | | |
| 3.845 | 4 | 23.112 | | | | |
| 3.688 | 6 | 24.111 | | | | |
| 3.524 | 5 | 25.250 | 25.064 | 3.550 | 80 | .186 |
| 3.339 | 61 | 26.679 | | | | |
| 3.236 | 4 | 27.538 | | | | |
| 3.189 | 5 | 27.958 | | | | |
| 3.125 | 3 | 28.537 | | | | |
| 3.030 | 35 | 29.456 | | | | |
| 2.883 | 100 | 30.995 | | | | |
| 2.666 | 11 | 33.593 | 33.667 | 2.660 | 40 | -.074 |
| 2.536 | 8 | 35.371 | 35.165 | 2.550 | 10 | .206 |
| 2.488 | 6 | 36.071 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 16- 362 Magnesium Aluminum Iron Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.451 | 8 | 36.630 | | | | |
| 2.403 | 8 | 37.390 | 37.523 | 2.395 | 60 | -.134 |
| 2.280 | 9 | 39.488 | 39.673 | 2.270 | 10 | -.186 |
| 2.235 | 3 | 40.327 | | | | |
| 2.189 | 22 | 41.206 | | | | |
| 2.125 | 4 | 42.505 | | | | |
| 2.090 | 5 | 43.264 | | | | |
| 2.061 | 3 | 43.884 | 43.694 | 2.070 | 5 | .190 |
| 2.014 | 11 | 44.963 | 45.069 | 2.010 | 30 | -.106 |
| 1.993 | 5 | 45.475 | | | | |
| 1.922 | 2 | 47.254 | | | | |
| 1.909 | 5 | 47.600 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.846 | 4 | 49.319 | | | | |
| 1.816 | 10 | 50.197 | | | | |
| 1.804 | 20 | 50.558 | | | | |
| 1.785 | 19 | 51.127 | | | | |
| 1.718 | 2 | 53.265 | | | | |
| 1.671 | 2 | 54.903 | 54.937 | 1.670 | 25 | -.034 |
| 1.603 | 2 | 57.441 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 16- 362 Magnesium Aluminum Iron Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.566 | 5 | 58.930 | 58.765 | 1.570 | 10 | .165 |
| 1.542 | 11 | 59.941 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

**TABLE IF**

476001.q07 CW1-27 S 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.489 | 9 | 6.095 | | | | |
| 9.992 | 8 | 8.843 | 8.836 | 10.000 | 90 | .007 |
| 7.059 | 4 | 12.530 | | | | |
| 4.975 | 3 | 17.816 | 17.653 | 5.020 | 50 | .162 |
| 4.720 | 2 | 18.785 | | | | |
| 4.446 | 3 | 19.954 | * 19.892 | 4.460 | 30 | .062 |
| 4.244 | 13 | 20.913 | | | | |
| 4.020 | 4 | 22.092 | | | | |
| 3.845 | 4 | 23.112 | 22.843 | 3.890 | 8 | .269 |
| 3.688 | 6 | 24.111 | 23.902 | 3.720 | 12 | .209 |
| 3.524 | 5 | 25.250 | | | | |
| 3.339 | 61 | 26.679 | 26.668 | 3.340 | 100 | .010 |
| 3.236 | 4 | 27.538 | | | | |
| 3.189 | 5 | 27.958 | 27.858 | 3.200 | 16 | .100 |
| 3.125 | 3 | 28.537 | | | | |
| 3.030 | 35 | 29.456 | | | | |
| 2.883 | 100 | 30.995 | 31.171 | 2.867 | 12 | -.176 |
| 2.666 | 11 | 33.593 | | | | |
| 2.536 | 8 | 35.371 | 35.052 | 2.558 | 12 | .320 |
| 2.488 | 6 | 36.071 | 35.759 | 2.509 | 8 | .312 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.451 | 8 | 36.630 | 36.450 | 2.463 | 8 | .180 |
| 2.403 | 8 | 37.390 | | | | |
| 2.280 | 9 | 39.488 | | | | |
| 2.235 | 3 | 40.327 | 40.209 | 2.241 | 4 | .118 |
| 2.189 | 22 | 41.206 | | | | |
| 2.125 | 4 | 42.505 | | | | |
| 2.090 | 5 | 43.264 | | | | |
| 2.061 | 3 | 43.884 | | | | |
| 2.014 | 11 | 44.963 | 45.187 | 2.005 | 50 | -.224 |
| 1.993 | 5 | 45.475 | | | | |
| 1.922 | 2 | 47.254 | | | | |
| 1.909 | 5 | 47.600 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.846 | 4 | 49.319 | | | | |
| 1.816 | 10 | 50.197 | | | | |
| 1.804 | 20 | 50.558 | | | | |
| 1.785 | 19 | 51.127 | | | | |
| 1.718 | 2 | 53.265 | | | | |
| 1.671 | 2 | 54.903 | | | | |
| 1.603 | 2 | 57.441 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q07 CW1-27 S 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.566 | 5 | 58.930 | | | | |
| 1.542 | 11 | 59.941 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IG

Lambda Research, Inc.

476001.q06 QUALTAB3.04.FOR 12/10/90

QUALITATIVE PHASE ANALYSIS



CW1-35 Sand/Silt 1./.2NSLS/M

Data File: 476001.q06 9012E10RR Wavelength = 1.54178 (A)

Alignment Correction Using NBS SRM 640 Maximum Intensity = 5656 cps

Range No: 1 5.00 --> 60.00 deg. using .02 deg. steps for 1.0s

| Peak No. | 2-Theta (deg.) | d(A) | I/Io | Net I %S.D. | Intensity (cps) Peak | B.G. | Net | Width (deg.) |
|---|---|---|---|---|---|---|---|---|
| 1 | 5.38 | 16.426 | 1 | 32 | 290 | 219 | 72 | .20 |
| 2 | 6.16 | 14.348 | 2 | 23 | 303 | 204 | 99 | .24 |
| 3 | 8.85 | 9.992 | 1 | 34 | 216 | 159 | 57 | .28 |
| 4 | 20.09 | 4.420 | 1 | 30 | 88 | 50 | 39 | .44 |
| 5 | 21.07 | 4.216 | 7 | 6 | 426 | 44 | 382 | .24 |
| 6 | 22.19 | 4.006 | 1 | 20 | 96 | 39 | 57 | .28 |
| 7 | 23.17 | 3.839 | 1 | 17 | 103 | 35 | 68 | .28 |
| 8 | 24.23 | 3.673 | 2 | 11 | 157 | 31 | 126 | .26 |
| 9 | 25.77 | 3.457 | 2 | 13 | 120 | 27 | 93 | .22 |
| 10 | 26.88 | 3.317 | 100 | 1 | 5721 | 24 | 5697 | .26 |
| 11 | 27.58 | 3.234 | 2 | 12 | 125 | 22 | 103 | .20 |
| 12 | 28.08 | 3.178 | 1 | 14 | 102 | 21 | 81 | .26 |
| 13 | 29.58 | 3.020 | 5 | 6 | 325 | 18 | 308 | .34 |
| 14 | 31.12 | 2.874 | 28 | 3 | 1585 | 15 | 1569 | .30 |
| 15 | 33.74 | 2.656 | 2 | 9 | 149 | 13 | 136 | .24 |
| 16 | 35.44 | 2.533 | 3 | 8 | 173 | 11 | 162 | .32 |
| 17 | 36.24 | 2.479 | 2 | 11 | 118 | 11 | 107 | .24 |
| 18 | 36.70 | 2.449 | 2 | 10 | 134 | 11 | 124 | .26 |
| 19 | 37.54 | 2.396 | 3 | 9 | 161 | 10 | 151 | .30 |
| 20 | 38.84 | 2.319 | 1 | 24 | 39 | 10 | 29 | .24 |
| 21 | 39.62 | 2.275 | 3 | 8 | 186 | 10 | 176 | .30 |
| 22 | 40.50 | 2.227 | 2 | 9 | 138 | 10 | 128 | .24 |
| 23 | 41.32 | 2.185 | 7 | 5 | 407 | 10 | 397 | .28 |
| 24 | 42.62 | 2.121 | 1 | 12 | 94 | 10 | 84 | .24 |
| 25 | 43.36 | 2.087 | 1 | 13 | 88 | 10 | 78 | .30 |
| 26 | 44.02 | 2.057 | 2 | 10 | 120 | 10 | 109 | .28 |
| 27 | 45.08 | 2.011 | 5 | 6 | 277 | 11 | 266 | .32 |
| 28 | 45.98 | 1.974 | 2 | 12 | 103 | 12 | 91 | .28 |
| 29 | 47.82 | 1.902 | 2 | 11 | 116 | 13 | 103 | .24 |
| 30 | 48.22 | 1.887 | 2 | 12 | 103 | 14 | 89 | .20 |
| 31 | 48.74 | 1.868 | 2 | 11 | 120 | 14 | 106 | .30 |
| 32 | 49.54 | 1.840 | 1 | 13 | 97 | 15 | 82 | .30 |
| 33 | 50.72 | 1.800 | 6 | 6 | 344 | 17 | 327 | .20 |
| 34 | 51.27 | 1.782 | 10 | 4 | 590 | 18 | 572 | .35 |
| 35 | 53.33 | 1.718 | 0 | 33 | 47 | 22 | 25 | .26 |
| 36 | 54.45 | 1.685 | 0 | 45 | 43 | 25 | 18 | .20 |
| 37 | 55.09 | 1.667 | 6 | 6 | 379 | 27 | 352 | .28 |
| 38 | 57.61 | 1.600 | 1 | 31 | 67 | 35 | 32 | .44 |
| 39 | 59.03 | 1.565 | 1 | 24 | 87 | 41 | 47 | .28 |

TABLE IIA

476001.q06 CW1-35 S 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 9.992 | 1 | 8.843 | | | | |
| 4.216 | 7 | 21.053 | 20.850 | 4.257 | 22 | .203 |
| 4.006 | 1 | 22.172 | | | | |
| 3.839 | 1 | 23.152 | | | | |
| 3.673 | 2 | 24.211 | | | | |
| 3.457 | 2 | 25.749 | | | | |
| 3.317 | 100 | 26.859 | 26.652 | 3.342 | 100 | .206 |
| 3.234 | 2 | 27.558 | | | | |
| 3.178 | 1 | 28.058 | | | | |
| 3.020 | 5 | 29.556 | | | | |
| 2.874 | 28 | 31.095 | | | | |
| 2.656 | 2 | 33.713 | | | | |
| 2.533 | 3 | 35.411 | | | | |
| 2.479 | 2 | 36.211 | | | | |
| 2.449 | 2 | 36.670 | 36.542 | 2.457 | 8 | .128 |
| 2.396 | 3 | 37.509 | | | | |
| 2.275 | 3 | 39.588 | 39.456 | 2.282 | 8 | .131 |
| 2.227 | 2 | 40.467 | 40.284 | 2.237 | 4 | .183 |
| 2.185 | 7 | 41.286 | | | | |
| 2.121 | 1 | 42.585 | 42.465 | 2.127 | 6 | .120 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q06 CW1-35 S 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.087 | 1 | 43.324 | | | | |
| 2.057 | 2 | 43.984 | | | | |
| 2.011 | 5 | 45.043 | | | | |
| 1.974 | 2 | 45.942 | 45.809 | 1.979 | 4 | .132 |
| 1.902 | 2 | 47.780 | | | | |
| 1.887 | 2 | 48.180 | | | | |
| 1.868 | 2 | 48.699 | | | | |
| 1.860 | 5 | 48.931 | | | | |
| 1.840 | 1 | 49.499 | | | | |
| 1.800 | 6 | 50.677 | 50.611 | 1.802 | 1 | .066 |
| 1.782 | 10 | 51.227 | | | | |
| 1.667 | 6 | 55.043 | 54.869 | 1.672 | 4 | .174 |
| 1.600 | 1 | 57.561 | | | | |
| 1.565 | 1 | 58.979 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IIB

476001.q06 CW1-35 S 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 9.992 | 1 | 8.843 | | | | |
| 4.216 | 7 | 21.053 | | | | |
| 4.006 | 1 | 22.172 | 22.022 | 4.033 | 1 | .150 |
| 3.839 | 1 | 23.152 | | | | |
| 3.673 | 2 | 24.211 | 24.039 | 3.699 | 4 | .171 |
| 3.457 | 2 | 25.749 | | | | |
| 3.317 | 100 | 26.859 | | | | |
| 3.234 | 2 | 27.558 | | | | |
| 3.178 | 1 | 28.058 | | | | |
| 3.020 | 5 | 29.556 | | | | |
| 2.874 | 28 | 31.095 | 30.939 | 2.888 | 100 | .156 |
| 2.656 | 2 | 33.713 | 33.537 | 2.670 | 4 | .176 |
| 2.533 | 3 | 35.411 | 35.323 | 2.539 | 3 | .089 |
| 2.479 | 2 | 36.211 | | | | |
| 2.449 | 2 | 36.670 | | | | |
| 2.396 | 3 | 37.509 | 37.377 | 2.404 | 7 | .132 |
| 2.275 | 3 | 39.588 | | | | |
| 2.227 | 2 | 40.467 | | | | |
| 2.185 | 7 | 41.286 | 41.128 | 2.193 | 19 | .158 |
| 2.121 | 1 | 42.585 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q06 CW1-35 S 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.087 | 1 | 43.324 | | | | |
| 2.057 | 2 | 43.984 | 43.805 | 2.065 | 3 | .179 |
| 2.011 | 5 | 45.043 | * 45.057 | 2.010 | 11 | -.014 |
| 1.974 | 2 | 45.942 | | | | |
| 1.902 | 2 | 47.780 | | | | |
| 1.887 | 2 | 48.180 | | | | |
| 1.868 | 2 | 48.699 | | | | |
| 1.860 | 5 | 48.931 | | | | |
| 1.840 | 1 | 49.499 | | | | |
| 1.800 | 6 | 50.677 | 50.527 | 1.805 | 10 | .150 |
| 1.782 | 10 | 51.227 | * 51.177 | 1.783 | 15 | .050 |
| 1.667 | 6 | 55.043 | | | | |
| 1.600 | 1 | 57.561 | | | | |
| 1.565 | 1 | 58.979 | 58.901 | 1.567 | 2 | .078 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IIC

476001.q06 CW1-35 S 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 9.992 | 1 | 8.843 | | | | |
| 4.216 | 7 | 21.053 | | | | |
| 4.006 | 1 | 22.172 | | | | |
| 3.839 | 1 | 23.152 | 23.023 | 3.860 | 12 | .129 |
| 3.673 | 2 | 24.211 | | | | |
| 3.457 | 2 | 25.749 | | | | |
| 3.317 | 100 | 26.859 | | | | |
| 3.234 | 2 | 27.558 | | | | |
| 3.178 | 1 | 28.058 | | | | |
| 3.020 | 5 | 29.556 | 29.406 | 3.035 | 100 | .150 |
| 2.874 | 28 | 31.095 | | | | |
| 2.656 | 2 | 33.713 | | | | |
| 2.533 | 3 | 35.411 | | | | |
| 2.479 | 2 | 36.211 | 35.967 | 2.495 | 14 | .244 |
| 2.449 | 2 | 36.670 | | | | |
| 2.396 | 3 | 37.509 | | | | |
| 2.275 | 3 | 39.588 | 39.402 | 2.285 | 18 | .185 |
| 2.227 | 2 | 40.467 | | | | |
| 2.185 | 7 | 41.286 | | | | |
| 2.121 | 1 | 42.585 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q06 CW1-35 S 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.087 | 1 | 43.324 | 43.146 | 2.095 | 18 | .178 |
| 2.057 | 2 | 43.984 | | | | |
| 2.011 | 5 | 45.043 | | | | |
| 1.974 | 2 | 45.942 | | | | |
| 1.902 | 2 | 47.780 | | | | |
| 1.887 | 2 | 48.180 | | | | |
| 1.868 | 2 | 48.699 | 48.514 | 1.875 | 17 | .186 |
| 1.860 | 5 | 48.931 | | | | |
| 1.840 | 1 | 49.499 | | | | |
| 1.800 | 6 | 50.677 | | | | |
| 1.782 | 10 | 51.227 | | | | |
| 1.667 | 6 | 55.043 | | | | |
| 1.600 | 1 | 57.561 | 57.402 | 1.604 | 8 | .159 |
| 1.565 | 1 | 58.979 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IID

Lambda Research, Inc.

476001.q01 QUALTAB3.04.FOR 12/07/90

QUALITATIVE PHASE ANALYSIS



CW1-121 silt/sand 1/.2NSLS/M

Data File: 476001.q01 9012E07KO Wavelength = 1.54178 (A)

Alignment Correction Using NBS SRM 640 Maximum Intensity = 2055 cps

| Peak No. | 2-Theta (deg.) | | d(A) | I/Io | Net I %S.D. | Intensity (cps) Peak | B.G. | Net | Width (deg.) |
|---|---|---|---|---|---|---|---|---|---|
| Range No: 1 | 5.00 --> 60.00 deg. using .02 deg. steps for 1.0s | | | | | | | | |
| 1 | 20.91 | | 4.248 | 10 | 9 | 245 | 52 | 194 | .24 |
| 2 | 22.17 | | 4.010 | 1 | 42 | 71 | 45 | 26 | .24 |
| 3 | 23.15 | | 3.842 | 15 | 7 | 333 | 41 | 292 | .26 |
| 4 | 24.09 | Kb | 3.344 | 2 | 30 | 71 | 37 | 34 | .22 |
| 5 | 24.61 | | 3.617 | 1 | 50 | 54 | 35 | 19 | .18 |
| 6 | 25.71 | | 3.465 | 2 | 26 | 71 | 31 | 40 | .30 |
| 7 | 26.66 | | 3.344 | 94 | 2 | 1876 | 29 | 1847 | .24 |
| 8 | 29.48 | | 3.030 | 100 | 2 | 1986 | 22 | 1964 | .30 |
| 9 | 31.00 | | 2.885 | 20 | 5 | 419 | 19 | 400 | .28 |
| 10 | 31.50 | | 2.840 | 3 | 15 | 87 | 18 | 68 | .22 |
| 11 | 32.98 | | 2.716 | 2 | 24 | 51 | 16 | 34 | .22 |
| 12 | 33.60 | | 2.667 | 5 | 11 | 123 | 16 | 108 | .30 |
| 13 | 34.46 | | 2.603 | 3 | 17 | 71 | 15 | 56 | .18 |
| 14 | 35.38 | | 2.537 | 3 | 16 | 72 | 14 | 58 | .20 |
| 15 | 36.04 | | 2.492 | 20 | 5 | 406 | 14 | 392 | .30 |
| 16 | 36.58 | | 2.456 | 5 | 11 | 114 | 13 | 100 | .20 |
| 17 | 37.44 | | 2.402 | 4 | 12 | 101 | 13 | 88 | .24 |
| 18 | 38.62 | | 2.331 | 2 | 18 | 59 | 13 | 47 | .26 |
| 19 | 39.48 | | 2.282 | 85 | 2 | 1690 | 12 | 1677 | .26 |
| 20 | 40.30 | | 2.238 | 5 | 11 | 119 | 12 | 106 | .26 |
| 21 | 41.18 | | 2.192 | 9 | 8 | 180 | 12 | 167 | .26 |
| 22 | 42.48 | | 2.128 | 3 | 15 | 76 | 13 | 63 | .24 |
| 23 | 43.24 | | 2.092 | 20 | 5 | 412 | 13 | 400 | .32 |
| 24 | 45.08 | | 2.011 | 8 | 9 | 168 | 14 | 154 | .28 |
| 25 | 45.86 | | 1.979 | 3 | 15 | 80 | 14 | 66 | .26 |
| 26 | 47.64 | | 1.909 | 18 | 6 | 368 | 16 | 352 | .30 |
| 27 | 48.62 | | 1.873 | 19 | 5 | 387 | 17 | 370 | .34 |
| 28 | 50.16 | | 1.819 | 6 | 11 | 135 | 20 | 116 | .24 |
| 29 | 50.60 | | 1.804 | 3 | 17 | 78 | 20 | 57 | .22 |
| 30 | 51.08 | | 1.788 | 4 | 13 | 107 | 21 | 86 | .25 |
| 31 | 54.97 | | 1.670 | 2 | 25 | 71 | 31 | 40 | .26 |
| 32 | 56.69 | | 1.624 | 4 | 16 | 110 | 36 | 74 | .32 |
| 33 | 57.49 | | 1.603 | 9 | 9 | 223 | 40 | 183 | .36 |

TABLE IIIA

476001.q01 CW1-121 s 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 4.248 | 10 | 20.893 | 20.850 | 4.257 | 22 | .043 |
| 4.010 | 1 | 22.152 | | | | |
| 3.842 | 15 | 23.132 | | | | |
| 3.617 | 1 | 24.590 | | | | |
| 3.465 | 2 | 25.689 | | | | |
| 3.344 | 94 | 26.639 | 26.652 | 3.342 | 100 | -.013 |
| 3.284 | 5 | 27.132 | | | | |
| 3.030 | 100 | 29.456 | | | | |
| 2.946 | 5 | 30.315 | | | | |
| 2.885 | 20 | 30.975 | | | | |
| 2.840 | 3 | 31.475 | | | | |
| 2.716 | 2 | 32.953 | | | | |
| 2.667 | 5 | 33.573 | | | | |
| 2.603 | 3 | 34.432 | | | | |
| 2.537 | 3 | 35.351 | | | | |
| 2.492 | 20 | 36.011 | | | | |
| 2.456 | 5 | 36.550 | 36.542 | 2.457 | 8 | .008 |
| 2.402 | 4 | 37.409 | | | | |
| 2.331 | 2 | 38.588 | | | | |
| 2.282 | 85 | 39.448 | 39.456 | 2.282 | 8 | -.009 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q01 CW1-121 s 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.238 | 5 | 40.267 | 40.284 | 2.237 | 4 | -.017 |
| 2.192 | 9 | 41.146 | | | | |
| 2.128 | 3 | 42.445 | 42.465 | 2.127 | 6 | -.020 |
| 2.092 | 20 | 43.204 | | | | |
| 2.011 | 8 | 45.043 | | | | |
| 1.979 | 3 | 45.822 | 45.809 | 1.979 | 4 | .012 |
| 1.924 | 8 | 47.202 | | | | |
| 1.909 | 18 | 47.600 | | | | |
| 1.873 | 19 | 48.579 | | | | |
| 1.819 | 6 | 50.118 | 50.141 | 1.818 | 14 | -.023 |
| 1.804 | 3 | 50.557 | 50.611 | 1.802 | 1 | -.054 |
| 1.788 | 4 | 51.037 | | | | |
| 1.670 | 2 | 54.923 | 54.869 | 1.672 | 4 | .054 |
| 1.624 | 4 | 56.641 | | | | |
| 1.603 | 9 | 57.441 | 57.238 | 1.608 | 1 | .202 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IIIB

476001.q01 CW1-121 s 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 4.248 | 10 | 20.893 | | | | |
| 4.010 | 1 | 22.152 | | | | |
| 3.842 | 15 | 23.132 | 23.023 | 3.860 | 12 | .109 |
| 3.617 | 1 | 24.590 | | | | |
| 3.465 | 2 | 25.689 | | | | |
| 3.344 | 94 | 26.639 | | | | |
| 3.284 | 5 | 27.132 | | | | |
| 3.030 | 100 | 29.456 | 29.406 | 3.035 | 100 | .050 |
| 2.946 | 5 | 30.315 | | | | |
| 2.885 | 20 | 30.975 | | | | |
| 2.840 | 3 | 31.475 | 31.419 | 2.845 | 3 | .056 |
| 2.716 | 2 | 32.953 | | | | |
| 2.667 | 5 | 33.573 | | | | |
| 2.603 | 3 | 34.432 | | | | |
| 2.537 | 3 | 35.351 | | | | |
| 2.492 | 20 | 36.011 | 35.967 | 2.495 | 14 | .044 |
| 2.456 | 5 | 36.550 | | | | |
| 2.402 | 4 | 37.409 | | | | |
| 2.331 | 2 | 38.588 | | | | |
| 2.282 | 85 | 39.448 | 39.402 | 2.285 | 18 | .045 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q01 CW1-121 s 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.238 | 5 | 40.267 | | | | |
| 2.192 | 9 | 41.146 | | | | |
| 2.128 | 3 | 42.445 | | | | |
| 2.092 | 20 | 43.204 | 43.146 | 2.095 | 18 | .058 |
| 2.011 | 8 | 45.043 | | | | |
| 1.979 | 3 | 45.822 | | | | |
| 1.924 | 8 | 47.202 | 47.124 | 1.927 | 5 | .078 |
| 1.909 | 18 | 47.600 | 47.490 | 1.913 | 17 | .110 |
| 1.873 | 19 | 48.579 | 48.514 | 1.875 | 17 | .065 |
| 1.819 | 6 | 50.118 | | | | |
| 1.804 | 3 | 50.557 | | | | |
| 1.788 | 4 | 51.037 | | | | |
| 1.670 | 2 | 54.923 | | | | |
| 1.624 | 4 | 56.641 | 56.555 | 1.626 | 4 | .086 |
| 1.603 | 9 | 57.441 | 57.402 | 1.604 | 8 | .038 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IIIC

476001.q01 CW1-121 s 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 4.248 | 10 | 20.893 | | | | |
| 4.010 | 1 | 22.152 | 22.022 | 4.033 | 1 | .130 |
| 3.842 | 15 | 23.132 | | | | |
| 3.617 | 1 | 24.590 | | | | |
| 3.465 | 2 | 25.689 | | | | |
| 3.344 | 94 | 26.639 | | | | |
| 3.284 | 5 | 27.132 | | | | |
| 3.030 | 100 | 29.456 | | | | |
| 2.946 | 5 | 30.315 | | | | |
| 2.885 | 20 | 30.975 | 30.939 | 2.888 | 100 | .036 |
| 2.840 | 3 | 31.475 | | | | |
| 2.716 | 2 | 32.953 | | | | |
| 2.667 | 5 | 33.573 | 33.537 | 2.670 | 4 | .036 |
| 2.603 | 3 | 34.432 | | | | |
| 2.537 | 3 | 35.351 | 35.323 | 2.539 | 3 | .029 |
| 2.492 | 20 | 36.011 | | | | |
| 2.456 | 5 | 36.550 | | | | |
| 2.402 | 4 | 37.409 | 37.377 | 2.404 | 7 | .032 |
| 2.331 | 2 | 38.588 | | | | |
| 2.282 | 85 | 39.448 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q01 CW1-121 s 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.238 | 5 | 40.267 | | | | |
| 2.192 | 9 | 41.146 | 41.128 | 2.193 | 19 | .018 |
| 2.128 | 3 | 42.445 | | | | |
| 2.092 | 20 | 43.204 | | | | |
| 2.011 | 8 | 45.043 | * 45.057 | 2.010 | 11 | -.014 |
| 1.979 | 3 | 45.822 | | | | |
| 1.924 | 8 | 47.202 | | | | |
| 1.909 | 18 | 47.600 | | | | |
| 1.873 | 19 | 48.579 | | | | |
| 1.819 | 6 | 50.118 | | | | |
| 1.804 | 3 | 50.557 | 50.527 | 1.805 | 10 | .030 |
| 1.788 | 4 | 51.037 | * 51.177 | 1.783 | 15 | -.141 |
| 1.670 | 2 | 54.923 | | | | |
| 1.624 | 4 | 56.641 | | | | |
| 1.603 | 9 | 57.441 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IIID

Lambda Research, Inc.

476001.q04 QUALTAB3.04.FOR 12/07/90

QUALITATIVE PHASE ANALYSIS page 1

CW2-44 sand/silt 1/.2NSLS/M

Data File: 476001.q04 9012E07KO Wavelength = 1.54178 (A)

Alignment Correction Using NBS SRM 640 Maximum Intensity = 2177 cps

| Peak No. | 2-Theta (deg.) | d(A) | I/Io | Net I %S.D. | Intensity (cps) Peak | B.G. | Net | Width (deg.) |
|---|---|---|---|---|---|---|---|---|
| Range No: 1 | 5.00 --> 60.00 deg. using .02 deg. steps for 1.0s | | | | | | | |
| 1 | 6.26 | 14.119 | 11 | 11 | 459 | 230 | 230 | .28 |
| 2 | 8.83 | 10.014 | 6 | 17 | 318 | 188 | 130 | .34 |
| 3 | 12.50 | 7.081 | 2 | 36 | 191 | 140 | 51 | .40 |
| 4 | 17.85 | 4.969 | 2 | 38 | 130 | 91 | 39 | .38 |
| 5 | 20.07 | 4.424 | 3 | 26 | 132 | 76 | 56 | .38 |
| 6 | 21.05 | 4.220 | 15 | 7 | 388 | 70 | 318 | .30 |
| 7 | 22.19 | 4.006 | 2 | 30 | 108 | 64 | 44 | .24 |
| 8 | 23.11 | 3.849 | 3 | 20 | 129 | 60 | 69 | .30 |
| 9 | 23.69 | 3.756 | 2 | 32 | 96 | 57 | 39 | .14 |
| 10 | 24.25 | 3.670 | 5 | 13 | 166 | 55 | 111 | .26 |
| 11 | 25.31 | 3.519 | 3 | 19 | 120 | 51 | 69 | .22 |
| 12 | 26.78 | 3.329 | 73 | 3 | 1563 | 45 | 1518 | .30 |
| 13 | 28.02 | 3.184 | 5 | 12 | 154 | 42 | 112 | .26 |
| 14 | 29.58 | 3.020 | 31 | 4 | 684 | 38 | 647 | .28 |
| 15 | 31.10 | 2.876 | 100 | 2 | 2117 | 34 | 2083 | .30 |
| 16 | 33.68 | 2.661 | 10 | 8 | 233 | 30 | 203 | .26 |
| 17 | 35.42 | 2.534 | 9 | 8 | 212 | 28 | 185 | .28 |
| 18 | 36.16 | 2.484 | 5 | 12 | 130 | 27 | 103 | .24 |
| 19 | 36.66 | 2.451 | 8 | 9 | 201 | 27 | 175 | .26 |
| 20 | 37.50 | 2.398 | 11 | 7 | 259 | 26 | 232 | .26 |
| 21 | 39.58 | 2.277 | 10 | 8 | 242 | 25 | 217 | .30 |
| 22 | 40.42 | 2.232 | 4 | 14 | 107 | 25 | 82 | .26 |
| 23 | 41.30 | 2.186 | 28 | 4 | 617 | 25 | 592 | .30 |
| 24 | 42.58 | 2.123 | 6 | 11 | 148 | 25 | 123 | .30 |
| 25 | 43.40 | 2.085 | 4 | 13 | 114 | 25 | 89 | .26 |
| 26 | 43.96 | 2.060 | 4 | 13 | 112 | 25 | 87 | .26 |
| 27 | 45.12 | 2.009 | 14 | 6 | 309 | 26 | 283 | .28 |
| 28 | 46.00 | 1.973 | 6 | 11 | 147 | 27 | 120 | .30 |
| 29 | 47.72 | 1.906 | 6 | 11 | 149 | 28 | 121 | .30 |
| 30 | 48.70 | 1.870 | 5 | 12 | 136 | 30 | 106 | .30 |
| 31 | 49.40 | 1.845 | 5 | 12 | 135 | 31 | 104 | .28 |
| 32 | 50.66 | 1.802 | 28 | 4 | 612 | 33 | 580 | .24 |
| 33 | 51.25 | 1.783 | 21 | 5 | 470 | 34 | 437 | .31 |
| 34 | 55.01 | 1.669 | 2 | 24 | 91 | 43 | 48 | .24 |
| 35 | 55.51 | 1.655 | 1 | 37 | 73 | 44 | 29 | .20 |
| 36 | 56.71 | 1.623 | 1 | 39 | 77 | 48 | 29 | .26 |
| 37 | 59.05 | 1.564 | 2 | 32 | 97 | 58 | 39 | .38 |

TABLE IVA

476001.q04 CW2-44 s 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.119 | 11 | 6.255 | | | | |
| 10.014 | 6 | 8.823 | | | | |
| 7.081 | 2 | 12.490 | | | | |
| 4.969 | 2 | 17.836 | | | | |
| 4.424 | 3 | 20.054 | | | | |
| 4.220 | 15 | 21.033 | | | | |
| 4.006 | 2 | 22.172 | 22.022 | 4.033 | 1 | .150 |
| 3.849 | 3 | 23.092 | | | | |
| 3.756 | 2 | 23.671 | | | | |
| 3.670 | 5 | 24.231 | 24.039 | 3.699 | 4 | .191 |
| 3.519 | 3 | 25.290 | | | | |
| 3.329 | 73 | 26.759 | | | | |
| 3.184 | 5 | 27.998 | | | | |
| 3.020 | 31 | 29.556 | | | | |
| 2.876 | 100 | 31.075 | 30.939 | 2.888 | 100 | .136 |
| 2.661 | 10 | 33.653 | 33.537 | 2.670 | 4 | .116 |
| 2.534 | 9 | 35.391 | 35.323 | 2.539 | 3 | .069 |
| 2.484 | 5 | 36.131 | | | | |
| 2.451 | 8 | 36.630 | | | | |
| 2.398 | 11 | 37.470 | 37.377 | 2.404 | 7 | .092 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q04 CW2-44 s 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.277 | 10 | 39.548 | | | | |
| 2.232 | 4 | 40.387 | | | | |
| 2.186 | 28 | 41.266 | 41.128 | 2.193 | 19 | .138 |
| 2.123 | 6 | 42.545 | | | | |
| 2.085 | 4 | 43.364 | | | | |
| 2.060 | 4 | 43.924 | 43.805 | 2.065 | 3 | .119 |
| 2.009 | 14 | 45.083 | * 45.057 | 2.010 | 11 | .026 |
| 1.973 | 6 | 45.962 | | | | |
| 1.906 | 6 | 47.680 | | | | |
| 1.870 | 5 | 48.659 | | | | |
| 1.845 | 5 | 49.359 | 49.289 | 1.847 | 3 | .069 |
| 1.814 | 20 | 50.257 | | | | |
| 1.802 | 28 | 50.618 | 50.527 | 1.805 | 10 | .090 |
| 1.783 | 21 | 51.207 | * 51.177 | 1.783 | 15 | .030 |
| 1.669 | 2 | 54.963 | | | | |
| 1.655 | 1 | 55.463 | | | | |
| 1.623 | 1 | 56.662 | | | | |
| 1.600 | 1 | 57.559 | | | | |
| 1.564 | 2 | 58.999 | 58.901 | 1.567 | 2 | .098 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IVB

476001.q04 CW2-44 s 34- 517 Calcium Magnesium Iron Car

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.119 | 11 | 6.255 | | | | |
| 10.014 | 6 | 8.823 | | | | |
| 7.081 | 2 | 12.490 | | | | |
| 4.969 | 2 | 17.836 | | | | |
| 4.424 | 3 | 20.054 | | | | |
| 4.220 | 15 | 21.033 | | | | |
| 4.006 | 2 | 22.172 | | | | |
| 3.849 | 3 | 23.092 | | | | |
| 3.756 | 2 | 23.671 | | | | |
| 3.670 | 5 | 24.231 | 24.033 | 3.700 | 4 | .198 |
| 3.519 | 3 | 25.290 | | | | |
| 3.329 | 73 | 26.759 | | | | |
| 3.184 | 5 | 27.998 | | | | |
| 3.020 | 31 | 29.556 | | | | |
| 2.876 | 100 | 31.075 | 30.819 | 2.899 | 100 | .256 |
| 2.661 | 10 | 33.653 | | | | |
| 2.534 | 9 | 35.391 | 35.137 | 2.552 | 1 | .255 |
| 2.484 | 5 | 36.131 | | | | |
| 2.451 | 8 | 36.630 | | | | |
| 2.398 | 11 | 37.470 | 37.265 | 2.411 | 4 | .205 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q04 CW2-44 s 34- 517 Calcium Magnesium Iron Car

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.277 | 10 | 39.548 | | | | |
| 2.232 | 4 | 40.387 | | | | |
| 2.186 | 28 | 41.266 | 41.011 | 2.199 | 6 | .255 |
| 2.123 | 6 | 42.545 | | | | |
| 2.085 | 4 | 43.364 | | | | |
| 2.060 | 4 | 43.924 | 43.761 | 2.067 | 1 | .163 |
| 2.009 | 14 | 45.083 | 44.833 | 2.020 | 4 | .249 |
| 1.973 | 6 | 45.962 | | | | |
| 1.906 | 6 | 47.680 | | | | |
| 1.870 | 5 | 48.659 | | | | |
| 1.845 | 5 | 49.359 | 49.156 | 1.852 | 1 | .203 |
| 1.814 | 20 | 50.257 | 50.316 | 1.812 | 6 | -.059 |
| 1.802 | 28 | 50.618 | | | | |
| 1.783 | 21 | 51.207 | * 50.917 | 1.792 | 12 | .290 |
| 1.669 | 2 | 54.963 | | | | |
| 1.655 | 1 | 55.463 | | | | |
| 1.623 | 1 | 56.662 | | | | |
| 1.600 | 1 | 57.559 | | | | |
| 1.564 | 2 | 58.999 | 58.806 | 1.569 | 1 | .193 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IVC

476001.q04 CW2-44 s 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.119 | 11 | 6.255 | | | | |
| 10.014 | 6 | 8.823 | | | | |
| 7.081 | 2 | 12.490 | | | | |
| 4.969 | 2 | 17.836 | | | | |
| 4.424 | 3 | 20.054 | | | | |
| 4.220 | 15 | 21.033 | 20.850 | 4.257 | 22 | .183 |
| 4.006 | 2 | 22.172 | | | | |
| 3.849 | 3 | 23.092 | | | | |
| 3.756 | 2 | 23.671 | | | | |
| 3.670 | 5 | 24.231 | | | | |
| 3.519 | 3 | 25.290 | | | | |
| 3.329 | 73 | 26.759 | 26.652 | 3.342 | 100 | .107 |
| 3.184 | 5 | 27.998 | | | | |
| 3.020 | 31 | 29.556 | | | | |
| 2.876 | 100 | 31.075 | | | | |
| 2.661 | 10 | 33.653 | | | | |
| 2.534 | 9 | 35.391 | | | | |
| 2.484 | 5 | 36.131 | | | | |
| 2.451 | 8 | 36.630 | 36.542 | 2.457 | 8 | .088 |
| 2.398 | 11 | 37.470 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q04 CW2-44 s 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.277 | 10 | 39.548 | 39.456 | 2.282 | 8 | .091 |
| 2.232 | 4 | 40.387 | 40.284 | 2.237 | 4 | .103 |
| 2.186 | 28 | 41.266 | | | | |
| 2.123 | 6 | 42.545 | 42.465 | 2.127 | 6 | .080 |
| 2.085 | 4 | 43.364 | | | | |
| 2.060 | 4 | 43.924 | | | | |
| 2.009 | 14 | 45.083 | | | | |
| 1.973 | 6 | 45.962 | 45.809 | 1.979 | 4 | .152 |
| 1.906 | 6 | 47.680 | | | | |
| 1.870 | 5 | 48.659 | | | | |
| 1.845 | 5 | 49.359 | | | | |
| 1.814 | 20 | 50.257 | 50.141 | 1.818 | 14 | .115 |
| 1.802 | 28 | 50.618 | 50.611 | 1.802 | 1 | .006 |
| 1.783 | 21 | 51.207 | | | | |
| 1.669 | 2 | 54.963 | 54.869 | 1.672 | 4 | .094 |
| 1.655 | 1 | 55.463 | 55.329 | 1.659 | 2 | .134 |
| 1.623 | 1 | 56.662 | | | | |
| 1.600 | 1 | 57.559 | | | | |
| 1.564 | 2 | 58.999 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IVD

476001.q04 CW2-44 s 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.119 | 11 | 6.255 | | | | |
| 10.014 | 6 | 8.823 | | | | |
| 7.081 | 2 | 12.490 | | | | |
| 4.969 | 2 | 17.836 | | | | |
| 4.424 | 3 | 20.054 | | | | |
| 4.220 | 15 | 21.033 | | | | |
| 4.006 | 2 | 22.172 | | | | |
| 3.849 | 3 | 23.092 | 23.023 | 3.860 | 12 | .069 |
| 3.756 | 2 | 23.671 | | | | |
| 3.670 | 5 | 24.231 | | | | |
| 3.519 | 3 | 25.290 | | | | |
| 3.329 | 73 | 26.759 | | | | |
| 3.184 | 5 | 27.998 | | | | |
| 3.020 | 31 | 29.556 | 29.406 | 3.035 | 100 | .150 |
| 2.876 | 100 | 31.075 | | | | |
| 2.661 | 10 | 33.653 | | | | |
| 2.534 | 9 | 35.391 | | | | |
| 2.484 | 5 | 36.131 | 35.967 | 2.495 | 14 | .164 |
| 2.451 | 8 | 36.630 | | | | |
| 2.398 | 11 | 37.470 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q04 CW2-44 s 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.277 | 10 | 39.548 | 39.402 | 2.285 | 18 | .145 |
| 2.232 | 4 | 40.387 | | | | |
| 2.186 | 28 | 41.266 | | | | |
| 2.123 | 6 | 42.545 | | | | |
| 2.085 | 4 | 43.364 | | | | |
| 2.060 | 4 | 43.924 | | | | |
| 2.009 | 14 | 45.083 | | | | |
| 1.973 | 6 | 45.962 | | | | |
| 1.906 | 6 | 47.680 | 47.490 | 1.913 | 17 | .190 |
| 1.870 | 5 | 48.659 | 48.514 | 1.875 | 17 | .146 |
| 1.845 | 5 | 49.359 | | | | |
| 1.814 | 20 | 50.257 | | | | |
| 1.802 | 28 | 50.618 | | | | |
| 1.783 | 21 | 51.207 | | | | |
| 1.669 | 2 | 54.963 | | | | |
| 1.655 | 1 | 55.463 | | | | |
| 1.623 | 1 | 56.662 | 56.555 | 1.626 | 4 | .107 |
| 1.600 | 1 | 57.559 | 57.402 | 1.604 | 8 | .157 |
| 1.564 | 2 | 58.999 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IVE

476001.q04 CW2-44 s 7- 78 Magnesium Iron Aluminum Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.119 | 11 | 6.255 | 6.263 | 14.100 | 90 | -.008 |
| 10.014 | 6 | 8.823 | | | | |
| 7.081 | 2 | 12.490 | 12.510 | 7.070 | 100 | -.020 |
| 4.969 | 2 | 17.836 | | | | |
| 4.424 | 3 | 20.054 | | | | |
| 4.220 | 15 | 21.033 | | | | |
| 4.006 | 2 | 22.172 | | | | |
| 3.849 | 3 | 23.092 | | | | |
| 3.756 | 2 | 23.671 | | | | |
| 3.670 | 5 | 24.231 | | | | |
| 3.519 | 3 | 25.290 | 25.129 | 3.541 | 60 | .161 |
| 3.329 | 73 | 26.759 | | | | |
| 3.184 | 5 | 27.998 | | | | |
| 3.020 | 31 | 29.556 | | | | |
| 2.876 | 100 | 31.075 | | | | |
| 2.661 | 10 | 33.653 | | | | |
| 2.534 | 9 | 35.391 | 35.467 | 2.529 | 30 | -.076 |
| 2.484 | 5 | 36.131 | | | | |
| 2.451 | 8 | 36.630 | | | | |
| 2.398 | 11 | 37.470 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q04 CW2-44 s 7- 78 Magnesium Iron Aluminum Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.277 | 10 | 39.548 | | | | |
| 2.232 | 4 | 40.387 | | | | |
| 2.186 | 28 | 41.266 | | | | |
| 2.123 | 6 | 42.545 | | | | |
| 2.085 | 4 | 43.364 | | | | |
| 2.060 | 4 | 43.924 | 43.872 | 2.062 | 5 | .052 |
| 2.009 | 14 | 45.083 | | | | |
| 1.973 | 6 | 45.962 | | | | |
| 1.906 | 6 | 47.680 | | | | |
| 1.870 | 5 | 48.659 | 48.431 | 1.878 | 10 | .228 |
| 1.845 | 5 | 49.359 | | | | |
| 1.814 | 20 | 50.257 | 50.138 | 1.818 | 5 | .118 |
| 1.802 | 28 | 50.618 | | | | |
| 1.783 | 21 | 51.207 | | | | |
| 1.669 | 2 | 54.963 | | | | |
| 1.655 | 1 | 55.463 | 55.296 | 1.660 | 5 | .167 |
| 1.623 | 1 | 56.662 | | | | |
| 1.600 | 1 | 57.559 | | | | |
| 1.564 | 2 | 58.999 | 59.054 | 1.563 | 10 | -.055 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IVF

476001.q04 CW2-44 s 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.119 | 11 | 6.255 | | | | |
| 10.014 | 6 | 8.823 | 8.836 | 10.000 | 90 | -.013 |
| 7.081 | 2 | 12.490 | | | | |
| 4.969 | 2 | 17.836 | 17.653 | 5.020 | 50 | .182 |
| 4.424 | 3 | 20.054 | 19.982 | 4.440 | 14 | .072 |
| 4.220 | 15 | 21.033 | | | | |
| 4.006 | 2 | 22.172 | | | | |
| 3.849 | 3 | 23.092 | 22.843 | 3.890 | 8 | .249 |
| 3.756 | 2 | 23.671 | 23.902 | 3.720 | 12 | -.230 |
| 3.670 | 5 | 24.231 | | | | |
| 3.519 | 3 | 25.290 | | | | |
| 3.329 | 73 | 26.759 | 26.668 | 3.340 | 100 | .090 |
| 3.184 | 5 | 27.998 | 27.858 | 3.200 | 16 | .139 |
| 3.020 | 31 | 29.556 | | | | |
| 2.876 | 100 | 31.075 | 31.171 | 2.867 | 12 | -.096 |
| 2.661 | 10 | 33.653 | | | | |
| 2.534 | 9 | 35.391 | | | | |
| 2.484 | 5 | 36.131 | | | | |
| 2.451 | 8 | 36.630 | 36.450 | 2.463 | 8 | .180 |
| 2.398 | 11 | 37.470 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q04 CW2-44 s 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.277 | 10 | 39.548 | | | | |
| 2.232 | 4 | 40.387 | 40.209 | 2.241 | 4 | .178 |
| 2.186 | 28 | 41.266 | | | | |
| 2.123 | 6 | 42.545 | | | | |
| 2.085 | 4 | 43.364 | | | | |
| 2.060 | 4 | 43.924 | | | | |
| 2.009 | 14 | 45.083 | 45.187 | 2.005 | 50 | -.104 |
| 1.973 | 6 | 45.962 | | | | |
| 1.906 | 6 | 47.680 | | | | |
| 1.870 | 5 | 48.659 | | | | |
| 1.845 | 5 | 49.359 | | | | |
| 1.814 | 20 | 50.257 | | | | |
| 1.802 | 28 | 50.618 | | | | |
| 1.783 | 21 | 51.207 | | | | |
| 1.669 | 2 | 54.963 | | | | |
| 1.655 | 1 | 55.463 | | | | |
| 1.623 | 1 | 56.662 | | | | |
| 1.600 | 1 | 57.559 | | | | |
| 1.564 | 2 | 58.999 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

LINES IN STANDARD PATTERN NOT IN OBSERVED:

| | | |
|---|---|---|
| 4.480 | 19.802 | 16 |
| 3.460 | 25.727 | 14 |
| 2.988 | 29.879 | 18 |
| 2.799 | 31.949 | 12 |
| 2.558 | 35.052 | 12 |
| 2.509 | 35.759 | 8 |
| 1.499 | 61.845 | 14 |

NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE IVC

Lambda Research, Inc.

476001.q05 QUALTAB3.04.FOR 12/07/90

QUALITATIVE PHASE ANALYSIS



CW2-90 sand/silt 1/.2NSLS/M

Data File: 476001.q05 9012E07KO Wavelength = 1.54178 (A)

Alignment Correction Using NBS SRM 640 Maximum Intensity = 3864 cps

| Peak No. | 2-Theta (deg.) | d(A) | I/Io | Net I %S.D. | Intensity (cps) Peak | B.G. | Net | Width (deg.) |
|---|---|---|---|---|---|---|---|---|
| Range No: 1 | 5.00 --> 60.00 deg. using .02 deg. steps for 1.0s | | | | | | | |
| 1 | 6.22 | 14.210 | 2 | 37 | 341 | 274 | 67 | .22 |
| 2 | 8.83 | 10.014 | 2 | 25 | 290 | 203 | 87 | .30 |
| 3 | 10.27 | 8.613 | 2 | 26 | 249 | 171 | 79 | .36 |
| 4 | 12.48 | 7.093 | 3 | 19 | 228 | 129 | 99 | .28 |
| 5 | 17.79 | 4.986 | 1 | 37 | 96 | 62 | 34 | .30 |
| 6 | 18.73 | 4.738 | 1 | 30 | 95 | 54 | 40 | .24 |
| 7 | 19.77 | 4.491 | 2 | 17 | 126 | 46 | 79 | .30 |
| 8 | 20.85 | 4.260 | 20 | 4 | 788 | 39 | 749 | .24 |
| 9 | 22.01 | 4.038 | 4 | 10 | 175 | 33 | 142 | .22 |
| 10 | 23.03 | 3.862 | 3 | 11 | 153 | 28 | 125 | .24 |
| 11 | 23.51 | 3.784 | 5 | 8 | 226 | 26 | 200 | .22 |
| 12 | 24.09 | 3.694 | 3 | 11 | 147 | 24 | 124 | .32 |
| 13 | 25.23 | 3.530 | 3 | 11 | 137 | 20 | 118 | .24 |
| 14 | 25.67 | 3.470 | 4 | 8 | 189 | 18 | 170 | .20 |
| 15 | 26.62 | 3.349 | 100 | 2 | 3831 | 16 | 3815 | .24 |
| 16 | 28.04 | 3.182 | 9 | 6 | 354 | 13 | 341 | .38 |
| 17 | 29.42 | 3.036 | 22 | 3 | 848 | 10 | 837 | .26 |
| 18 | 30.92 | 2.892 | 40 | 3 | 1518 | 8 | 1509 | .26 |
| 19 | 32.20 | 2.780 | 2 | 11 | 100 | 7 | 93 | .20 |
| 20 | 33.52 | 2.673 | 5 | 8 | 194 | 6 | 188 | .26 |
| 21 | 35.34 | 2.540 | 5 | 7 | 210 | 6 | 205 | .20 |
| 22 | 36.04 | 2.492 | 6 | 7 | 242 | 6 | 237 | .22 |
| 23 | 36.56 | 2.458 | 20 | 4 | 787 | 6 | 782 | .26 |
| 24 | 37.38 | 2.406 | 5 | 8 | 181 | 5 | 176 | .22 |
| 25 | 38.50 | 2.338 | 2 | 13 | 75 | 6 | 69 | .22 |
| 26 | 39.46 | 2.284 | 16 | 4 | 618 | 6 | 612 | .24 |
| 27 | 40.30 | 2.238 | 4 | 8 | 174 | 6 | 168 | .26 |
| 28 | 41.14 | 2.194 | 13 | 4 | 519 | 7 | 512 | .26 |
| 29 | 41.84 | 2.159 | 1 | 16 | 57 | 7 | 49 | .22 |
| 30 | 42.46 | 2.129 | 6 | 7 | 247 | 8 | 240 | .24 |
| 31 | 43.24 | 2.092 | 5 | 7 | 211 | 8 | 203 | .26 |
| 32 | 43.78 | 2.068 | 2 | 11 | 100 | 9 | 91 | .24 |
| 33 | 44.92 | 2.018 | 4 | 9 | 165 | 10 | 155 | .26 |
| 34 | 45.80 | 1.981 | 4 | 9 | 158 | 12 | 146 | .24 |
| 35 | 47.58 | 1.911 | 4 | 9 | 173 | 16 | 157 | .26 |
| 36 | 48.60 | 1.873 | 5 | 8 | 196 | 18 | 178 | .26 |
| 37 | 49.30 | 1.848 | 2 | 15 | 92 | 21 | 71 | .24 |
| 38 | 50.16 | 1.819 | 14 | 5 | 539 | 24 | 516 | .22 |
| 39 | 50.58 | 1.805 | 14 | 4 | 570 | 25 | 545 | .22 |
| 40 | 51.08 | 1.788 | 10 | 6 | 391 | 27 | 363 | .33 |
| 41 | 54.91 | 1.672 | 3 | 12 | 170 | 49 | 121 | .26 |

TABLE VA

QUALITATIVE PHASE ANALYSIS



CW2-90 sand/silt 1/.2NSLS/M

| Peak No. | 2-Theta (deg.) | d(A) | I/Io | Net I %S.D. | Intensity (cps) Peak | B.G. | Net | Width (deg.) |
|---|---|---|---|---|---|---|---|---|
| 42 | 55.35 | 1.660 | 4 | 11 | 193 | 52 | 141 | .22 |
| 43 | 57.15 | 1.612 | 2 | 19 | 145 | 68 | 77 | .20 |

TABLE VA
(Cont.)

476001.q05 CW2-90 sa 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.210 | 2 | 6.215 | | | | |
| 10.014 | 2 | 8.823 | | | | |
| 8.613 | 2 | 10.262 | | | | |
| 7.093 | 3 | 12.470 | | | | |
| 4.986 | 1 | 17.776 | | | | |
| 4.738 | 1 | 18.715 | | | | |
| 4.491 | 2 | 19.754 | | | | |
| 4.260 | 20 | 20.833 | 20.850 | 4.257 | 22 | -.017 |
| 4.038 | 4 | 21.992 | | | | |
| 3.862 | 3 | 23.012 | | | | |
| 3.784 | 5 | 23.491 | | | | |
| 3.694 | 3 | 24.071 | | | | |
| 3.530 | 3 | 25.210 | | | | |
| 3.470 | 4 | 25.649 | | | | |
| 3.349 | 100 | 26.599 | 26.652 | 3.342 | 100 | -.053 |
| 3.198 | 7 | 27.876 | | | | |
| 3.182 | 9 | 28.017 | | | | |
| 3.036 | 22 | 29.396 | | | | |
| 2.892 | 40 | 30.895 | | | | |
| 2.780 | 2 | 32.174 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.673 | 5 | 33.493 | | | | |
| 2.540 | 5 | 35.311 | | | | |
| 2.515 | 3 | 35.671 | | | | |
| 2.492 | 6 | 36.011 | | | | |
| 2.458 | 20 | 36.530 | 36.542 | 2.457 | 8 | -.012 |
| 2.406 | 5 | 37.349 | | | | |
| 2.338 | 2 | 38.468 | | | | |
| 2.284 | 16 | 39.428 | 39.456 | 2.282 | 8 | -.029 |
| 2.238 | 4 | 40.267 | 40.284 | 2.237 | 4 | -.017 |
| 2.194 | 13 | 41.106 | | | | |
| 2.159 | 1 | 41.806 | | | | |
| 2.129 | 6 | 42.425 | 42.465 | 2.127 | 6 | -.040 |
| 2.092 | 5 | 43.204 | | | | |
| 2.068 | 2 | 43.744 | | | | |
| 2.018 | 4 | 44.883 | | | | |
| 1.981 | 4 | 45.762 | 45.809 | 1.979 | 4 | -.048 |
| 1.911 | 4 | 47.540 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.848 | 2 | 49.259 | | | | |
| 1.819 | 14 | 50.118 | 50.141 | 1.818 | 14 | -.023 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.805 | 14 | 50.537 | 50.611 | 1.802 | 1 | -.074 |
| 1.788 | 10 | 51.037 | | | | |
| 1.672 | 3 | 54.863 | 54.869 | 1.672 | 4 | -.006 |
| 1.660 | 4 | 55.303 | 55.329 | 1.659 | 2 | -.026 |
| 1.612 | 2 | 57.101 | 57.238 | 1.608 | 1 | -.137 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VB

476001.q05 CW2-90 sa 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.210 | 2 | 6.215 | | | | |
| 10.014 | 2 | 8.823 | | | | |
| 8.613 | 2 | 10.262 | | | | |
| 7.093 | 3 | 12.470 | | | | |
| 4.986 | 1 | 17.776 | | | | |
| 4.738 | 1 | 18.715 | | | | |
| 4.491 | 2 | 19.754 | | | | |
| 4.260 | 20 | 20.833 | | | | |
| 4.038 | 4 | 21.992 | 22.022 | 4.033 | 1 | -.030 |
| 3.862 | 3 | 23.012 | | | | |
| 3.784 | 5 | 23.491 | | | | |
| 3.694 | 3 | 24.071 | 24.039 | 3.699 | 4 | .031 |
| 3.530 | 3 | 25.210 | | | | |
| 3.470 | 4 | 25.649 | | | | |
| 3.349 | 100 | 26.599 | | | | |
| 3.198 | 7 | 27.876 | | | | |
| 3.182 | 9 | 28.017 | | | | |
| 3.036 | 22 | 29.396 | | | | |
| 2.892 | 40 | 30.895 | 30.939 | 2.888 | 100 | -.044 |
| 2.780 | 2 | 32.174 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.673 | 5 | 33.493 | 33.537 | 2.670 | 4 | -.044 |
| 2.540 | 5 | 35.311 | 35.323 | 2.539 | 3 | -.011 |
| 2.515 | 3 | 35.671 | | | | |
| 2.492 | 6 | 36.011 | | | | |
| 2.458 | 20 | 36.530 | | | | |
| 2.406 | 5 | 37.349 | 37.377 | 2.404 | 7 | -.028 |
| 2.338 | 2 | 38.468 | | | | |
| 2.284 | 16 | 39.428 | | | | |
| 2.238 | 4 | 40.267 | | | | |
| 2.194 | 13 | 41.106 | 41.128 | 2.193 | 19 | -.022 |
| 2.159 | 1 | 41.806 | | | | |
| 2.129 | 6 | 42.425 | | | | |
| 2.092 | 5 | 43.204 | | | | |
| 2.068 | 2 | 43.744 | 43.805 | 2.065 | 3 | -.061 |
| 2.018 | 4 | 44.883 | 44.951 | 2.015 | 10 | -.068 |
| 1.981 | 4 | 45.762 | | | | |
| 1.911 | 4 | 47.540 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.848 | 2 | 49.259 | 49.289 | 1.847 | 3 | -.031 |
| 1.819 | 14 | 50.118 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.805 | 14 | 50.537 | 50.527 | 1.805 | 10 | .010 |
| 1.788 | 10 | 51.037 | 51.070 | 1.787 | 13 | -.033 |
| 1.672 | 3 | 54.863 | | | | |
| 1.660 | 4 | 55.303 | | | | |
| 1.612 | 2 | 57.101 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 34- 517 Calcium Magnesium Iron Car

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.210 | 2 | 6.215 | | | | |
| 10.014 | 2 | 8.823 | | | | |
| 8.613 | 2 | 10.262 | | | | |
| 7.093 | 3 | 12.470 | | | | |
| 4.986 | 1 | 17.776 | | | | |
| 4.738 | 1 | 18.715 | | | | |
| 4.491 | 2 | 19.754 | | | | |
| 4.260 | 20 | 20.833 | | | | |
| 4.038 | 4 | 21.992 | | | | |
| 3.862 | 3 | 23.012 | | | | |
| 3.784 | 5 | 23.491 | | | | |
| 3.694 | 3 | 24.071 | 24.033 | 3.700 | 4 | .038 |
| 3.530 | 3 | 25.210 | | | | |
| 3.470 | 4 | 25.649 | | | | |
| 3.349 | 100 | 26.599 | | | | |
| 3.198 | 7 | 27.876 | | | | |
| 3.182 | 9 | 28.017 | | | | |
| 3.036 | 22 | 29.396 | | | | |
| 2.892 | 40 | 30.895 | 30.819 | 2.899 | 100 | .076 |
| 2.780 | 2 | 32.174 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 34- 517 Calcium Magnesium Iron Car

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.673 | 5 | 33.493 | 33.344 | 2.685 | 4 | .149 |
| 2.540 | 5 | 35.311 | 35.137 | 2.552 | 1 | .175 |
| 2.515 | 3 | 35.671 | | | | |
| 2.492 | 6 | 36.011 | | | | |
| 2.458 | 20 | 36.530 | | | | |
| 2.406 | 5 | 37.349 | 37.265 | 2.411 | 4 | .085 |
| 2.338 | 2 | 38.468 | | | | |
| 2.284 | 16 | 39.428 | | | | |
| 2.238 | 4 | 40.267 | | | | |
| 2.194 | 13 | 41.106 | 41.011 | 2.199 | 6 | .095 |
| 2.159 | 1 | 41.806 | | | | |
| 2.129 | 6 | 42.425 | | | | |
| 2.092 | 5 | 43.204 | | | | |
| 2.068 | 2 | 43.744 | 43.761 | 2.067 | 1 | -.017 |
| 2.018 | 4 | 44.883 | 44.833 | 2.020 | 4 | .049 |
| 1.981 | 4 | 45.762 | | | | |
| 1.911 | 4 | 47.540 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.848 | 2 | 49.259 | 49.156 | 1.852 | 1 | .103 |
| 1.819 | 14 | 50.118 | 50.316 | 1.812 | 6 | -.198 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 34- 517 Calcium Magnesium Iron Car

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.805 | 14 | 50.537 | | | | |
| 1.788 | 10 | 51.037 | * 50.917 | 1.792 | 12 | .120 |
| 1.672 | 3 | 54.863 | | | | |
| 1.660 | 4 | 55.303 | | | | |
| 1.612 | 2 | 57.101 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

**TABLE VD**

476001.q05 CW2-90 sa 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.210 | 2 | 6.215 | | | | |
| 10.014 | 2 | 8.823 | | | | |
| 8.613 | 2 | 10.262 | | | | |
| 7.093 | 3 | 12.470 | | | | |
| 4.986 | 1 | 17.776 | | | | |
| 4.738 | 1 | 18.715 | | | | |
| 4.491 | 2 | 19.754 | | | | |
| 4.260 | 20 | 20.833 | | | | |
| 4.038 | 4 | 21.992 | | | | |
| 3.862 | 3 | 23.012 | 23.023 | 3.860 | 12 | -.011 |
| 3.784 | 5 | 23.491 | | | | |
| 3.694 | 3 | 24.071 | | | | |
| 3.530 | 3 | 25.210 | | | | |
| 3.470 | 4 | 25.649 | | | | |
| 3.349 | 100 | 26.599 | | | | |
| 3.198 | 7 | 27.876 | | | | |
| 3.182 | 9 | 28.017 | | | | |
| 3.036 | 22 | 29.396 | 29.406 | 3.035 | 100 | -.010 |
| 2.892 | 40 | 30.895 | | | | |
| 2.780 | 2 | 32.174 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.673 | 5 | 33.493 | | | | |
| 2.540 | 5 | 35.311 | | | | |
| 2.515 | 3 | 35.671 | | | | |
| 2.492 | 6 | 36.011 | 35.967 | 2.495 | 14 | .044 |
| 2.458 | 20 | 36.530 | | | | |
| 2.406 | 5 | 37.349 | | | | |
| 2.338 | 2 | 38.468 | | | | |
| 2.284 | 16 | 39.428 | 39.402 | 2.287 | 18 | .025 |
| 2.238 | 4 | 40.267 | | | | |
| 2.194 | 13 | 41.106 | | | | |
| 2.159 | 1 | 41.806 | | | | |
| 2.129 | 6 | 42.425 | | | | |
| 2.092 | 5 | 43.204 | 43.146 | 2.095 | 18 | .058 |
| 2.068 | 2 | 43.744 | | | | |
| 2.018 | 4 | 44.883 | | | | |
| 1.981 | 4 | 45.762 | | | | |
| 1.911 | 4 | 47.540 | 47.490 | 1.913 | 17 | .050 |
| 1.873 | 5 | 48.559 | 48.514 | 1.875 | 17 | .045 |
| 1.848 | 2 | 49.259 | | | | |
| 1.819 | 14 | 50.118 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.805 | 14 | 50.537 | | | | |
| 1.788 | 10 | 51.037 | | | | |
| 1.672 | 3 | 54.863 | | | | |
| 1.660 | 4 | 55.303 | | | | |
| 1.612 | 2 | 57.101 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VE

476001.q05 CW2-90 s 19-1184 Sodium Aluminum Silicate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.209 | 2 | 6.215 | | | | |
| 10.014 | 2 | 8.823 | | | | |
| 8.613 | 2 | 10.262 | | | | |
| 7.092 | 3 | 12.470 | | | | |
| 4.986 | 1 | 17.776 | | | | |
| 4.738 | 1 | 18.715 | | | | |
| 4.491 | 2 | 19.754 | | | | |
| 4.260 | 20 | 20.833 | | | | |
| 4.038 | 4 | 21.993 | 22.039 | 4.030 | 100 | -.046 |
| 3.862 | 3 | 23.012 | 23.083 | 3.850 | 10 | -.071 |
| 3.784 | 5 | 23.491 | 23.580 | 3.770 | 25 | -.089 |
| 3.694 | 3 | 24.071 | * 24.232 | 3.670 | 85 | -.161 |
| 3.530 | 3 | 25.210 | 25.428 | 3.500 | 12 | -.218 |
| 3.470 | 4 | 25.650 | 25.577 | 3.480 | 10 | .073 |
| 3.349 | 100 | 26.599 | * 26.588 | 3.350 | 16 | .010 |
| 3.198 | 7 | 27.876 | * 27.770 | 3.210 | 120 | .106 |
| 3.182 | 9 | 28.018 | * 28.037 | 3.180 | 75 | -.020 |
| 3.036 | 22 | 29.396 | | | | |
| 2.892 | 40 | 30.895 | | | | |
| 2.780 | 2 | 32.174 | 32.114 | 2.785 | 2 | .060 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 s 19-1184 Sodium Aluminum Silicate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.673 | 5 | 33.493 | 33.615 | 2.664 | 2 | -.122 |
| 2.540 | 5 | 35.311 | 35.337 | 2.538 | 6 | -.026 |
| 2.515 | 3 | 35.671 | 35.671 | 2.515 | 2 | .000 |
| 2.492 | 6 | 36.011 | * 36.064 | 2.488 | 4 | -.053 |
| 2.458 | 20 | 36.530 | 36.759 | 2.443 | 35 | -.229 |
| 2.406 | 5 | 37.350 | * 37.377 | 2.404 | 10 | -.028 |
| 2.338 | 2 | 38.469 | | | | |
| 2.284 | 16 | 39.428 | | | | |
| 2.238 | 4 | 40.267 | | | | |
| 2.194 | 13 | 41.106 | | | | |
| 2.159 | 1 | 41.806 | | | | |
| 2.129 | 6 | 42.425 | | | | |
| 2.092 | 5 | 43.204 | | | | |
| 2.068 | 2 | 43.744 | | | | |
| 2.018 | 4 | 44.883 | | | | |
| 1.981 | 4 | 45.762 | | | | |
| 1.911 | 4 | 47.540 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.848 | 2 | 49.259 | | | | |
| 1.819 | 14 | 50.118 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 s 19-1184 Sodium Aluminum Silicate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.805 | 14 | 50.538 | | | | |
| 1.788 | 10 | 51.037 | | | | |
| 1.672 | 3 | 54.863 | | | | |
| 1.660 | 4 | 55.303 | | | | |
| 1.612 | 2 | 57.101 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VF

476001.q05 CW2-90 s 16- 362 Magnesium Aluminum Iron Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.209 | 2 | 6.215 | 6.219 | 14.200 | 60 | -.004 |
| 10.014 | 2 | 8.823 | | | | |
| 8.613 | 2 | 10.262 | | | | |
| 7.092 | 3 | 12.470 | 12.457 | 7.100 | 100 | .013 |
| 4.986 | 1 | 17.776 | | | | |
| 4.738 | 1 | 18.715 | 18.745 | 4.730 | 40 | -.030 |
| 4.491 | 2 | 19.754 | | | | |
| 4.260 | 20 | 20.833 | | | | |
| 4.038 | 4 | 21.993 | | | | |
| 3.862 | 3 | 23.012 | | | | |
| 3.784 | 5 | 23.491 | | | | |
| 3.694 | 3 | 24.071 | | | | |
| 3.530 | 3 | 25.210 | 25.064 | 3.550 | 80 | .146 |
| 3.470 | 4 | 25.650 | | | | |
| 3.349 | 100 | 26.599 | | | | |
| 3.198 | 7 | 27.876 | | | | |
| 3.182 | 9 | 28.018 | | | | |
| 3.036 | 22 | 29.396 | | | | |
| 2.892 | 40 | 30.895 | | | | |
| 2.780 | 2 | 32.174 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 s 16- 362 Magnesium Aluminum Iron Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.673 | 5 | 33.493 | 33.667 | 2.660 | 40 | -.174 |
| 2.540 | 5 | 35.311 | 35.165 | 2.550 | 10 | .146 |
| 2.515 | 3 | 35.671 | | | | |
| 2.492 | 6 | 36.011 | | | | |
| 2.458 | 20 | 36.530 | | | | |
| 2.406 | 5 | 37.350 | 37.523 | 2.395 | 60 | -.173 |
| 2.338 | 2 | 38.469 | | | | |
| 2.284 | 16 | 39.428 | 39.673 | 2.270 | 10 | -.246 |
| 2.238 | 4 | 40.267 | | | | |
| 2.194 | 13 | 41.106 | | | | |
| 2.159 | 1 | 41.806 | | | | |
| 2.129 | 6 | 42.425 | | | | |
| 2.092 | 5 | 43.204 | | | | |
| 2.068 | 2 | 43.744 | 43.694 | 2.070 | 5 | .050 |
| 2.018 | 4 | 44.883 | 45.069 | 2.010 | 30 | -.186 |
| 1.981 | 4 | 45.762 | | | | |
| 1.911 | 4 | 47.540 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.848 | 2 | 49.259 | | | | |
| 1.819 | 14 | 50.118 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 s 16- 362 Magnesium Aluminum Iron Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.805 | 14 | 50.538 | | | | |
| 1.788 | 10 | 51.037 | | | | |
| 1.672 | 3 | 54.863 | 54.937 | 1.670 | 25 | -.074 |
| 1.660 | 4 | 55.303 | | | | |
| 1.612 | 2 | 57.101 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.210 | 2 | 6.215 | | | | |
| 10.014 | 2 | 8.823 | 8.836 | 10.000 | 90 | -.013 |
| 8.613 | 2 | 10.262 | | | | |
| 7.093 | 3 | 12.470 | | | | |
| 4.986 | 1 | 17.776 | 17.653 | 5.020 | 50 | .122 |
| 4.738 | 1 | 18.715 | | | | |
| 4.491 | 2 | 19.754 | 19.802 | 4.480 | 16 | -.047 |
| 4.260 | 20 | 20.833 | | | | |
| 4.038 | 4 | 21.992 | | | | |
| 3.862 | 3 | 23.012 | 22.843 | 3.890 | 8 | .169 |
| 3.784 | 5 | 23.491 | | | | |
| 3.694 | 3 | 24.071 | 23.902 | 3.720 | 12 | .169 |
| 3.530 | 3 | 25.210 | | | | |
| 3.470 | 4 | 25.649 | 25.727 | 3.460 | 14 | -.078 |
| 3.349 | 100 | 26.599 | 26.668 | 3.340 | 100 | -.070 |
| 3.198 | 7 | 27.876 | 27.858 | 3.200 | 16 | .018 |
| 3.182 | 9 | 28.017 | | | | |
| 3.036 | 22 | 29.396 | | | | |
| 2.892 | 40 | 30.895 | | | | |
| 2.780 | 2 | 32.174 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.673 | 5 | 33.493 | | | | |
| 2.540 | 5 | 35.311 | | | | |
| 2.515 | 3 | 35.671 | 35.759 | 2.509 | 8 | -.088 |
| 2.492 | 6 | 36.011 | | | | |
| 2.458 | 20 | 36.530 | 36.450 | 2.463 | 8 | .080 |
| 2.406 | 5 | 37.349 | | | | |
| 2.338 | 2 | 38.468 | | | | |
| 2.[illegible]4 | 16 | 39.428 | | | | |
| 2.2[illegible]3 | 4 | 40.267 | 40.209 | 2.241 | 4 | .058 |
| 2.194 | 13 | 41.106 | | | | |
| 2.159 | 1 | 41.806 | | | | |
| 2.129 | 6 | 42.425 | | | | |
| 2.092 | 5 | 43.204 | | | | |
| 2.068 | 2 | 43.744 | | | | |
| 2.018 | 4 | 44.883 | | | | |
| 1.981 | 4 | 45.762 | | | | |
| 1.911 | 4 | 47.540 | | | | |
| 1.873 | 5 | 48.559 | | | | |
| 1.848 | 2 | 49.259 | | | | |
| 1.819 | 14 | 50.118 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q05 CW2-90 sa 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 1.805 | 14 | 50.537 | | | | |
| 1.788 | 10 | 51.037 | | | | |
| 1.672 | 3 | 54.863 | | | | |
| 1.660 | 4 | 55.303 | | | | |
| 1.612 | 2 | 57.101 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VH

Lambda Research, Inc.

476001.q02 QUALTAB3.04.FOR 12/07/90

QUALITATIVE PHASE ANALYSIS 

CW4-60 sand/silt 1/.2NSLS/M

Data File: 476001.q02 9012E07KO Wavelength = 1.54178 (A)

Alignment Correction Using NBS SRM 640 Maximum Intensity = 3371 cps

| Peak No. | 2-Theta (deg.) | d(A) | I/Io | Net I %S.D. | Intensity (cps) Peak | B.G. | Net | Width (deg.) |
|---|---|---|---|---|---|---|---|---|
| Range No: 1 | 5.00 --> 60.00 deg. using .02 deg. steps for 1.0s | | | | | | | |
| 1 | 6.08 | 14.536 | 11 | 8 | 550 | 194 | 356 | .30 |
| 2 | 7.71 | 11.467 | 2 | 29 | 240 | 171 | 69 | .18 |
| 3 | 8.79 | 10.060 | 4 | 16 | 290 | 157 | 133 | .32 |
| 4 | 12.42 | 7.127 | 3 | 19 | 215 | 118 | 98 | .44 |
| 5 | 17.79 | 4.986 | 1 | 38 | 113 | 77 | 37 | .28 |
| 6 | 18.77 | 4.728 | 1 | 47 | 99 | 71 | 28 | .26 |
| 7 | 19.79 | 4.486 | 2 | 21 | 133 | 65 | 68 | .32 |
| 8 | 20.85 | 4.260 | 11 | 6 | 425 | 60 | 365 | .26 |
| 9 | 22.05 | 4.031 | 3 | 16 | 143 | 55 | 88 | .22 |
| 10 | 22.53 | 3.946 | 1 | 48 | 77 | 53 | 24 | .20 |
| 11 | 23.07 | 3.855 | 2 | 18 | 124 | 51 | 73 | .26 |
| 12 | 23.57 | 3.775 | 1 | 32 | 85 | 49 | 36 | .22 |
| 13 | 24.05 | 3.700 | 3 | 13 | 155 | 47 | 108 | .24 |
| 14 | 25.13 | 3.544 | 2 | 18 | 116 | 44 | 72 | .30 |
| 15 | 25.57 | 3.484 | 2 | 18 | 113 | 43 | 70 | .34 |
| 16 | 26.72 | 3.336 | 100 | 2 | 3363 | 40 | 3324 | .32 |
| 17 | 27.84 | 3.205 | 34 | 3 | 1169 | 37 | 1133 | .22 |
| 18 | 29.46 | 3.032 | 19 | 4 | 673 | 34 | 639 | .26 |
| 19 | 30.96 | 2.888 | 66 | 2 | 2233 | 31 | 2202 | .28 |
| 20 | 33.54 | 2.672 | 6 | 8 | 230 | 28 | 202 | .26 |
| 21 | 35.36 | 2.538 | 5 | 9 | 194 | 26 | 167 | .22 |
| 22 | 36.00 | 2.495 | 3 | 12 | 136 | 26 | 110 | .22 |
| 23 | 36.58 | 2.456 | 9 | 6 | 317 | 26 | 291 | .26 |
| 24 | 37.40 | 2.404 | 7 | 7 | 252 | 25 | 227 | .26 |
| 25 | 39.48 | 2.282 | 7 | 8 | 242 | 25 | 217 | .28 |
| 26 | 40.32 | 2.237 | 3 | 14 | 109 | 25 | 84 | .26 |
| 27 | 41.18 | 2.192 | 19 | 4 | 655 | 25 | 630 | .30 |
| 28 | 42.46 | 2.129 | 3 | 13 | 123 | 26 | 97 | .28 |
| 29 | 43.22 | 2.093 | 4 | 11 | 149 | 26 | 122 | .24 |
| 30 | 43.88 | 2.063 | 3 | 13 | 116 | 27 | 90 | .30 |
| 31 | 44.98 | 2.015 | 8 | 7 | 279 | 27 | 252 | .28 |
| 32 | 45.82 | 1.980 | 3 | 14 | 118 | 28 | 90 | .28 |
| 33 | 47.54 | 1.913 | 3 | 12 | 145 | 31 | 115 | .26 |
| 34 | 48.62 | 1.873 | 3 | 12 | 145 | 32 | 113 | .32 |
| 35 | 49.32 | 1.848 | 2 | 17 | 100 | 33 | 67 | .28 |
| 36 | 50.56 | 1.805 | 14 | 5 | 508 | 36 | 472 | .24 |
| 37 | 51.06 | 1.789 | 11 | 6 | 415 | 37 | 378 | .33 |
| 38 | 54.97 | 1.670 | 11 | 6 | 421 | 48 | 373 | .30 |
| 39 | 57.51 | 1.603 | 1 | 49 | 82 | 58 | 24 | .26 |
| 40 | 58.93 | 1.567 | 1 | 35 | 101 | 65 | 37 | .34 |

TABLE VIA

476001.q02 CW4-60 s 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.536 | 11 | 6.075 | | | | |
| 10.060 | 4 | 8.783 | | | | |
| 7.127 | 3 | 12.410 | | | | |
| 4.986 | 1 | 17.775 | | | | |
| 4.486 | 2 | 19.774 | | | | |
| 4.260 | 11 | 20.833 | 20.850 | 4.257 | 22 | -.017 |
| 4.031 | 3 | 22.032 | | | | |
| 3.855 | 2 | 23.053 | | | | |
| 3.775 | 1 | 23.548 | | | | |
| 3.700 | 3 | 24.033 | | | | |
| 3.484 | 2 | 25.550 | | | | |
| 3.336 | 100 | 26.699 | 26.652 | 3.342 | 100 | .047 |
| 3.205 | 34 | 27.818 | | | | |
| 3.032 | 19 | 29.436 | | | | |
| 2.888 | 66 | 30.935 | | | | |
| 2.672 | 6 | 33.513 | | | | |
| 2.538 | 5 | 35.331 | | | | |
| 2.495 | 3 | 35.971 | | | | |
| 2.456 | 9 | 36.550 | 36.542 | 2.457 | 8 | .008 |
| 2.404 | 7 | 37.370 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q02 CW4-60 s 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.282 | 7 | 39.448 | 39.456 | 2.282 | 8 | -.008 |
| 2.237 | 3 | 40.287 | 40.284 | 2.237 | 4 | .003 |
| 2.192 | 19 | 41.146 | | | | |
| 2.129 | 3 | 42.425 | 42.465 | 2.127 | 6 | -.040 |
| 2.093 | 4 | 43.184 | | | | |
| 2.063 | 3 | 43.844 | | | | |
| 2.015 | 8 | 44.943 | | | | |
| 1.980 | 3 | 45.782 | 45.809 | 1.979 | 4 | -.027 |
| 1.913 | 3 | 47.500 | | | | |
| 1.873 | 3 | 48.579 | | | | |
| 1.848 | 2 | 49.279 | | | | |
| 1.816 | 10 | 50.197 | 50.141 | 1.818 | 14 | .056 |
| 1.805 | 14 | 50.518 | 50.611 | 1.802 | 1 | -.094 |
| 1.789 | 11 | 51.017 | | | | |
| 1.670 | 11 | 54.923 | 54.869 | 1.672 | 4 | .054 |
| 1.602 | 1 | 57.461 | 57.238 | 1.608 | 1 | .222 |
| 1.567 | 1 | 58.879 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIB

476001.q02 CW4-60 s 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.536 | 11 | 6.075 | | | | |
| 10.060 | 4 | 8.783 | | | | |
| 7.127 | 3 | 12.410 | | | | |
| 4.986 | 1 | 17.775 | | | | |
| 4.486 | 2 | 19.774 | | | | |
| 4.260 | 11 | 20.833 | | | | |
| 4.031 | 3 | 22.032 | 22.022 | 4.033 | 1 | .010 |
| 3.855 | 2 | 23.053 | | | | |
| 3.775 | 1 | 23.548 | | | | |
| 3.700 | 3 | 24.033 | 24.039 | 3.699 | 4 | -.007 |
| 3.484 | 2 | 25.550 | | | | |
| 3.336 | 100 | 26.699 | | | | |
| 3.205 | 34 | 27.818 | | | | |
| 3.032 | 19 | 29.436 | | | | |
| 2.888 | 66 | 30.935 | 30.939 | 2.888 | 100 | -.004 |
| 2.672 | 6 | 33.513 | 33.537 | 2.670 | 4 | -.024 |
| 2.538 | 5 | 35.331 | 35.323 | 2.539 | 3 | .009 |
| 2.495 | 3 | 35.971 | | | | |
| 2.456 | 9 | 36.550 | | | | |
| 2.404 | 7 | 37.370 | 37.377 | 2.404 | 7 | -.008 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q02 CW4-60 s 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.282 | 7 | 39.448 | | | | |
| 2.237 | 3 | 40.287 | | | | |
| 2.192 | 19 | 41.146 | 41.128 | 2.193 | 19 | .018 |
| 2.129 | 3 | 42.425 | | | | |
| 2.093 | 4 | 43.184 | | | | |
| 2.063 | 3 | 43.844 | 43.805 | 2.065 | 3 | .039 |
| 2.015 | 8 | 44.943 | * 45.057 | 2.010 | 11 | -.114 |
| 1.980 | 3 | 45.782 | | | | |
| 1.913 | 3 | 47.500 | | | | |
| 1.873 | 3 | 48.579 | | | | |
| 1.848 | 2 | 49.279 | 49.289 | 1.847 | 3 | -.011 |
| 1.816 | 10 | 50.197 | | | | |
| 1.805 | 14 | 50.518 | 50.527 | 1.805 | 10 | -.010 |
| 1.789 | 11 | 51.017 | 51.070 | 1.787 | 13 | -.053 |
| 1.670 | 11 | 54.923 | | | | |
| 1.602 | 1 | 57.461 | | | | |
| 1.567 | 1 | 58.879 | 58.901 | 1.567 | 2 | -.022 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIC

476001.q02 CW4-60 s 34- 517 Calcium Magnesium Iron Car

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.536 | 11 | 6.075 | | | | |
| 10.060 | 4 | 8.783 | | | | |
| 7.127 | 3 | 12.410 | | | | |
| 4.986 | 1 | 17.775 | | | | |
| 4.486 | 2 | 19.774 | | | | |
| 4.260 | 11 | 20.833 | | | | |
| 4.031 | 3 | 22.032 | | | | |
| 3.855 | 2 | 23.053 | | | | |
| 3.775 | 1 | 23.548 | | | | |
| 3.700 | 3 | 24.033 | 24.033 | 3.700 | 4 | .000 |
| 3.484 | 2 | 25.550 | | | | |
| 3.336 | 100 | 26.699 | | | | |
| 3.205 | 34 | 27.818 | | | | |
| 3.032 | 19 | 29.436 | | | | |
| 2.888 | 66 | 30.935 | 30.819 | 2.899 | 100 | .116 |
| 2.672 | 6 | 33.513 | 33.344 | 2.685 | 4 | .169 |
| 2.538 | 5 | 35.331 | 35.137 | 2.552 | 1 | .195 |
| 2.495 | 3 | 35.971 | | | | |
| 2.456 | 9 | 36.550 | | | | |
| 2.404 | 7 | 37.370 | 37.265 | 2.411 | 4 | .105 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q02 CW4-60 s 34- 517 Calcium Magnesium Iron Car

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.282 | 7 | 39.448 | | | | |
| 2.237 | 3 | 40.287 | | | | |
| 2.192 | 19 | 41.146 | 41.011 | 2.199 | 6 | .135 |
| 2.129 | 3 | 42.425 | | | | |
| 2.093 | 4 | 43.184 | | | | |
| 2.063 | 3 | 43.844 | 43.761 | 2.067 | 1 | .083 |
| 2.015 | 8 | 44.943 | 44.833 | 2.020 | 4 | .110 |
| 1.980 | 3 | 45.782 | | | | |
| 1.913 | 3 | 47.500 | | | | |
| 1.873 | 3 | 48.579 | | | | |
| 1.848 | 2 | 49.279 | 49.156 | 1.852 | 1 | .123 |
| 1.816 | 10 | 50.197 | 50.316 | 1.812 | 6 | -.118 |
| 1.805 | 14 | 50.518 | | | | |
| 1.789 | 11 | 51.017 | * 50.917 | 1.792 | 12 | .100 |
| 1.670 | 11 | 54.923 | | | | |
| 1.602 | 1 | 57.461 | | | | |
| 1.567 | 1 | 58.879 | 58.806 | 1.569 | 1 | .073 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VID

476001.q02 CW4-60 s 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.536 | 11 | 6.075 | | | | |
| 10.060 | 4 | 8.783 | | | | |
| 7.127 | 3 | 12.410 | | | | |
| 4.986 | 1 | 17.775 | | | | |
| 4.486 | 2 | 19.774 | | | | |
| 4.260 | 11 | 20.833 | | | | |
| 4.031 | 3 | 22.032 | | | | |
| 3.855 | 2 | 23.053 | 23.023 | 3.860 | 12 | .030 |
| 3.775 | 1 | 23.548 | | | | |
| 3.700 | 3 | 24.033 | | | | |
| 3.484 | 2 | 25.550 | | | | |
| 3.336 | 100 | 26.699 | | | | |
| 3.205 | 34 | 27.818 | | | | |
| 3.032 | 19 | 29.436 | 29.406 | 3.035 | 100 | .031 |
| 2.888 | 66 | 30.935 | | | | |
| 2.672 | 6 | 33.513 | | | | |
| 2.538 | 5 | 35.331 | | | | |
| 2.495 | 3 | 35.971 | 35.967 | 2.495 | 14 | .004 |
| 2.456 | 9 | 36.550 | | | | |
| 2.404 | 7 | 37.370 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q02 CW4-60 s 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.282 | 7 | 39.448 | 39.402 | 2.285 | 18 | .046 |
| 2.237 | 3 | 40.287 | | | | |
| 2.192 | 19 | 41.146 | | | | |
| 2.129 | 3 | 42.425 | | | | |
| 2.093 | 4 | 43.184 | 43.146 | 2.095 | 18 | .038 |
| 2.063 | 3 | 43.844 | | | | |
| 2.015 | 8 | 44.943 | | | | |
| 1.980 | 3 | 45.782 | | | | |
| 1.913 | 3 | 47.500 | 47.490 | 1.913 | 17 | .010 |
| 1.873 | 3 | 48.579 | 48.514 | 1.875 | 17 | .066 |
| 1.848 | 2 | 49.279 | | | | |
| 1.816 | 10 | 50.197 | | | | |
| 1.805 | 14 | 50.518 | | | | |
| 1.789 | 11 | 51.017 | | | | |
| 1.670 | 11 | 54.923 | | | | |
| 1.602 | 1 | 57.461 | 57.402 | 1.604 | 8 | .059 |
| 1.567 | 1 | 58.879 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIE

476001.q02 CW4-60 s  20- 554  Sodium Aluminum Silicate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.536 | 11 | 6.075 | | | | |
| 10.060 | 4 | 8.783 | | | | |
| 7.127 | 3 | 12.410 | | | | |
| 4.986 | 1 | 17.775 | | | | |
| 4.486 | 2 | 19.774 | | | | |
| 4.260 | 11 | 20.833 | | | | |
| 4.031 | 3 | 22.032 | 22.056 | 4.027 | 61 | -.023 |
| 3.855 | 2 | 23.053 | 23.059 | 3.854 | 11 | -.006 |
| 3.775 | 1 | 23.548 | 23.536 | 3.777 | 26 | .013 |
| 3.700 | 3 | 24.033 | 24.139 | 3.684 | 21 | -.106 |
| 3.484 | 2 | 25.550 | * 25.473 | 3.494 | 15 | .077 |
| 3.336 | 100 | 26.699 | | | | |
| 3.205 | 34 | 27.818 | * 27.850 | 3.201 | 158 | -.032 |
| 3.032 | 19 | 29.436 | | | | |
| 2.888 | 66 | 30.935 | | | | |
| 2.672 | 6 | 33.513 | | | | |
| 2.538 | 5 | 35.331 | 35.351 | 2.537 | 2 | -.020 |
| 2.495 | 3 | 35.971 | 35.952 | 2.496 | 2 | .019 |
| 2.456 | 9 | 36.550 | 36.775 | 2.442 | 9 | -.224 |
| 2.404 | 7 | 37.370 | 37.313 | 2.408 | 4 | .057 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q02 CW4-60 s  20- 554  Sodium Aluminum Silicate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.282 | 7 | 39.448 | 39.565 | 2.276 | 2 | -.117 |
| 2.237 | 3 | 40.287 | 40.153 | 2.244 | 2 | .134 |
| 2.192 | 19 | 41.146 | 41.266 | 2.186 | 5 | -.120 |
| 2.129 | 3 | 42.425 | 42.507 | 2.125 | 7 | -.082 |
| 2.093 | 4 | 43.184 | 43.298 | 2.088 | 2 | -.114 |
| 2.063 | 3 | 43.844 | | | | |
| 2.015 | 8 | 44.943 | | | | |
| 1.980 | 3 | 45.782 | 45.814 | 1.979 | 3 | -.032 |
| 1.913 | 3 | 47.500 | | | | |
| 1.873 | 3 | 48.579 | | | | |
| 1.848 | 2 | 49.279 | | | | |
| 1.816 | 10 | 50.197 | | | | |
| 1.805 | 14 | 50.518 | | | | |
| 1.789 | 11 | 51.017 | | | | |
| 1.670 | 11 | 54.923 | | | | |
| 1.602 | 1 | 57.461 | | | | |
| 1.567 | 1 | 58.879 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIF

476001.q02 CW4-60 16- 351 Magnesium Aluminum Iron Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.536 | 11 | 6.075 | 6.133 | 14.400 | 60 | -.058 |
| 10.060 | 4 | 8.783 | | | | |
| 7.127 | 3 | 12.410 | 12.370 | 7.150 | 100 | .040 |
| 4.986 | 1 | 17.775 | | | | |
| 4.486 | 2 | 19.774 | | | | |
| 4.260 | 11 | 20.834 | | | | |
| 4.031 | 3 | 22.033 | | | | |
| 3.855 | 2 | 23.053 | | | | |
| 3.775 | 1 | 23.548 | | | | |
| 3.700 | 3 | 24.033 | | | | |
| 3.484 | 2 | 25.550 | | | | |
| 3.336 | 100 | 26.699 | | | | |
| 3.205 | 34 | 27.818 | | | | |
| 3.032 | 19 | 29.436 | | | | |
| 2.888 | 66 | 30.935 | 31.138 | 2.870 | 25 | -.203 |
| 2.672 | 6 | 33.513 | 33.408 | 2.680 | 40 | .105 |
| 2.538 | 5 | 35.331 | 35.165 | 2.550 | 5 | .166 |
| 2.495 | 3 | 35.971 | | | | |
| 2.456 | 9 | 36.550 | | | | |
| 2.404 | 7 | 37.370 | 37.605 | 2.390 | 10 | -.235 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q02 CW4-60 16- 351 Magnesium Aluminum Iron Si

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.282 | 7 | 39.448 | 39.313 | 2.290 | 10 | .135 |
| 2.237 | 3 | 40.287 | | | | |
| 2.192 | 19 | 41.146 | 40.992 | 2.200 | 5 | .155 |
| 2.129 | 3 | 42.425 | | | | |
| 2.093 | 4 | 43.185 | | | | |
| 2.063 | 3 | 43.844 | | | | |
| 2.015 | 8 | 44.943 | 45.069 | 2.010 | 10 | -.126 |
| 1.980 | 3 | 45.782 | | | | |
| 1.913 | 3 | 47.501 | 47.569 | 1.910 | 5 | -.069 |
| 1.873 | 3 | 48.580 | | | | |
| 1.848 | 2 | 49.279 | | | | |
| 1.816 | 10 | 50.197 | | | | |
| 1.805 | 14 | 50.518 | | | | |
| 1.789 | 11 | 51.017 | | | | |
| 1.670 | 11 | 54.924 | | | | |
| 1.602 | 1 | 57.461 | | | | |
| 1.567 | 1 | 58.880 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIG

476001.q02 CW4-60 s 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.536 | 11 | 6.075 | | | | |
| 10.060 | 4 | 8.783 | 8.836 | 10.000 | 90 | -.053 |
| 7.127 | 3 | 12.410 | | | | |
| 4.986 | 1 | 17.775 | 17.653 | 5.020 | 50 | .121 |
| 4.486 | 2 | 19.774 | * 19.892 | 4.460 | 30 | -.117 |
| 4.260 | 11 | 20.833 | | | | |
| 4.031 | 3 | 22.032 | | | | |
| 3.855 | 2 | 23.053 | 22.843 | 3.890 | 8 | .210 |
| 3.775 | 1 | 23.548 | | | | |
| 3.700 | 3 | 24.033 | 23.902 | 3.720 | 12 | .131 |
| 3.484 | 2 | 25.550 | 25.727 | 3.460 | 14 | -.178 |
| 3.336 | 100 | 26.699 | 26.668 | 3.340 | 100 | .030 |
| 3.205 | 34 | 27.818 | 27.858 | 3.200 | 16 | -.040 |
| 3.032 | 19 | 29.436 | | | | |
| 2.888 | 66 | 30.935 | 31.171 | 2.867 | 12 | -.236 |
| 2.672 | 6 | 33.513 | | | | |
| 2.538 | 5 | 35.331 | | | | |
| 2.495 | 3 | 35.971 | 35.759 | 2.509 | 8 | .212 |
| 2.456 | 9 | 36.550 | 36.450 | 2.463 | 8 | .100 |
| 2.404 | 7 | 37.370 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q02 CW4-60 s 26- 911 Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.282 | 7 | 39.448 | | | | |
| 2.237 | 3 | 40.287 | 40.209 | 2.241 | 4 | .078 |
| 2.192 | 19 | 41.146 | | | | |
| 2.129 | 3 | 42.425 | | | | |
| 2.093 | 4 | 43.184 | | | | |
| 2.063 | 3 | 43.844 | | | | |
| 2.015 | 8 | 44.943 | 45.187 | 2.005 | 50 | -.244 |
| 1.980 | 3 | 45.782 | | | | |
| 1.913 | 3 | 47.500 | | | | |
| 1.873 | 3 | 48.579 | | | | |
| 1.848 | 2 | 49.279 | | | | |
| 1.816 | 10 | 50.197 | | | | |
| 1.805 | 14 | 50.518 | | | | |
| 1.789 | 11 | 51.017 | | | | |
| 1.670 | 11 | 54.923 | | | | |
| 1.602 | 1 | 57.461 | | | | |
| 1.567 | 1 | 58.879 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

LINES IN STANDARD PATTERN NOT IN OBSERVED:

| | | |
|---|---|---|
| 2.988 | 29.879 | 18 |
| 2.799 | 31.949 | 12 |
| 2.558 | 35.052 | 12 |
| 1.499 | 61.845 | 14 |

NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

**TABLE VIH**

Lambda Research, Inc.

476001.q03 QUALTAB3.04.FOR 12/07/90

QUALITATIVE PHASE ANALYSIS



CW4-85 sand/silt 1/.2NSLS/M

Data File: 476001.q03 9012E07KO Wavelength = 1.54178 (A)

Alignment Correction Using NBS SRM 640 Maximum Intensity = 2203 cps

| Peak No. | 2-Theta (deg.) | d(A) | I/Io | Net I %S.D. | Intensity (cps) Peak | B.G. | Net | Width (deg.) |
|---|---|---|---|---|---|---|---|---|
| Range No: 1 | 5.00 --> 60.00 deg. using .02 deg. steps for 1.0s | | | | | | | |
| 1 | 5.96 | 14.829 | 19 | 7 | 621 | 205 | 416 | .48 |
| 2 | 8.89 | 9.947 | 3 | 31 | 224 | 161 | 63 | .24 |
| 3 | 12.46 | 7.104 | 2 | 44 | 158 | 120 | 38 | .32 |
| 4 | 14.02 | 6.317 | 5 | 16 | 221 | 105 | 116 | .24 |
| 5 | 19.81 | 4.482 | 4 | 16 | 155 | 65 | 91 | .28 |
| 6 | 20.87 | 4.256 | 21 | 5 | 506 | 59 | 447 | .26 |
| 7 | 22.09 | 4.024 | 3 | 19 | 126 | 54 | 72 | .26 |
| 8 | 23.09 | 3.852 | 4 | 15 | 145 | 49 | 95 | .24 |
| 9 | 23.63 | 3.765 | 2 | 25 | 96 | 47 | 48 | .20 |
| 10 | 24.09 | 3.694 | 5 | 13 | 159 | 46 | 114 | .24 |
| 11 | 25.23 | 3.530 | 3 | 20 | 103 | 42 | 61 | .20 |
| 12 | 25.67 | 3.470 | 2 | 23 | 89 | 41 | 49 | .28 |
| 13 | 26.66 | 3.344 | 50 | 3 | 1128 | 38 | 1090 | .24 |
| 14 | 27.36 | 3.260 | 7 | 10 | 190 | 36 | 154 | .22 |
| 15 | 27.92 | 3.196 | 4 | 13 | 131 | 35 | 97 | .22 |
| 16 | 29.46 | 3.032 | 40 | 4 | 894 | 32 | 862 | .26 |
| 17 | 30.98 | 2.887 | 100 | 2 | 2190 | 29 | 2161 | .26 |
| 18 | 33.58 | 2.669 | 11 | 7 | 258 | 26 | 232 | .28 |
| 19 | 35.36 | 2.538 | 9 | 8 | 217 | 24 | 193 | .22 |
| 20 | 36.08 | 2.489 | 6 | 10 | 151 | 24 | 127 | .26 |
| 21 | 36.56 | 2.458 | 7 | 9 | 175 | 24 | 151 | .24 |
| 22 | 37.42 | 2.403 | 11 | 7 | 262 | 23 | 239 | .26 |
| 23 | 39.50 | 2.281 | 15 | 6 | 340 | 23 | 317 | .26 |
| 24 | 40.30 | 2.238 | 13 | 6 | 308 | 23 | 284 | .22 |
| 25 | 41.18 | 2.192 | 25 | 4 | 567 | 23 | 543 | .30 |
| 26 | 42.52 | 2.126 | 5 | 12 | 131 | 24 | 107 | .28 |
| 27 | 43.24 | 2.092 | 7 | 10 | 169 | 24 | 145 | .28 |
| 28 | 43.84 | 2.065 | 4 | 14 | 109 | 25 | 84 | .26 |
| 29 | 45.00 | 2.014 | 13 | 7 | 298 | 26 | 272 | .28 |
| 30 | 45.82 | 1.980 | 3 | 16 | 98 | 27 | 71 | .24 |
| 31 | 47.60 | 1.910 | 6 | 11 | 159 | 29 | 130 | .28 |
| 32 | 48.62 | 1.873 | 6 | 11 | 156 | 31 | 125 | .28 |
| 33 | 49.28 | 1.849 | 4 | 14 | 120 | 32 | 88 | .28 |
| 34 | 50.58 | 1.805 | 28 | 4 | 649 | 35 | 614 | .28 |
| 35 | 51.12 | 1.787 | 27 | 4 | 624 | 36 | 588 | .27 |
| 36 | 54.93 | 1.672 | 2 | 25 | 97 | 48 | 49 | .28 |
| 37 | 57.53 | 1.602 | 2 | 27 | 107 | 59 | 48 | .24 |
| 38 | 58.95 | 1.567 | 2 | 31 | 109 | 66 | 42 | .24 |

TABLE VIIA

476001.q03 CW4-85 sa 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.829 | 19 | 5.955 | | | | |
| 9.947 | 3 | 8.883 | | | | |
| 7.104 | 2 | 12.450 | | | | |
| 6.317 | 5 | 14.008 | | | | |
| 4.482 | 4 | 19.793 | | | | |
| 4.256 | 21 | 20.855 | | | | |
| 4.024 | 3 | 22.072 | 22.022 | 4.033 | 1 | .050 |
| 3.852 | 4 | 23.071 | | | | |
| 3.765 | 2 | 23.612 | | | | |
| 3.694 | 5 | 24.072 | 24.039 | 3.699 | 4 | .033 |
| 3.530 | 3 | 25.209 | | | | |
| 3.470 | 2 | 25.652 | | | | |
| 3.344 | 50 | 26.636 | | | | |
| 3.260 | 7 | 27.335 | | | | |
| 3.196 | 4 | 27.894 | | | | |
| 3.032 | 40 | 29.436 | | | | |
| 2.887 | 100 | 30.950 | 30.939 | 2.888 | 100 | .011 |
| 2.669 | 11 | 33.550 | 33.537 | 2.670 | 4 | .013 |
| 2.538 | 9 | 35.337 | 35.323 | 2.539 | 3 | .014 |
| 2.489 | 6 | 36.056 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q03 CW4-85 sa 36- 426 Calcium Magnesium Carbonat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.458 | 7 | 36.527 | | | | |
| 2.403 | 11 | 37.394 | 37.377 | 2.404 | 7 | .016 |
| 2.281 | 15 | 39.474 | | | | |
| 2.238 | 13 | 40.265 | | | | |
| 2.192 | 25 | 41.148 | 41.128 | 2.193 | 19 | .020 |
| 2.126 | 5 | 42.486 | | | | |
| 2.092 | 7 | 43.211 | | | | |
| 2.065 | 4 | 43.805 | 43.805 | 2.065 | 3 | .000 |
| 2.014 | 13 | 44.974 | * 45.057 | 2.010 | 11 | -.083 |
| 1.980 | 3 | 45.790 | | | | |
| 1.910 | 6 | 47.569 | | | | |
| 1.873 | 6 | 48.569 | | | | |
| 1.849 | 4 | 49.241 | 49.289 | 1.847 | 3 | -.048 |
| 1.815 | 10 | 50.227 | | | | |
| 1.805 | 28 | 50.524 | 50.527 | 1.805 | 10 | -.003 |
| 1.787 | 27 | 51.070 | * 51.177 | 1.783 | 15 | -.108 |
| 1.672 | 2 | 54.866 | | | | |
| 1.602 | 2 | 57.480 | | | | |
| 1.567 | 2 | 58.889 | 58.901 | 1.567 | 2 | -.012 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIIB

476001.q03 CW4-85 sa 34- 517 Calcium Magnesium Iron Car

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.829 | 19 | 5.955 | | | | |
| 9.947 | 3 | 8.883 | | | | |
| 7.104 | 2 | 12.450 | | | | |
| 6.317 | 5 | 14.008 | | | | |
| 4.482 | 4 | 19.793 | | | | |
| 4.256 | 21 | 20.855 | | | | |
| 4.024 | 3 | 22.072 | | | | |
| 3.852 | 4 | 23.071 | | | | |
| 3.765 | 2 | 23.612 | | | | |
| 3.694 | 5 | 24.072 | 24.033 | 3.700 | 4 | .040 |
| 3.530 | 3 | 25.209 | | | | |
| 3.470 | 2 | 25.652 | | | | |
| 3.344 | 50 | 26.636 | | | | |
| 3.260 | 7 | 27.335 | | | | |
| 3.196 | 4 | 27.894 | | | | |
| 3.032 | 40 | 29.436 | | | | |
| 2.887 | 100 | 30.950 | 30.819 | 2.899 | 100 | .131 |
| 2.669 | 11 | 33.550 | 33.344 | 2.685 | 4 | .206 |
| 2.538 | 9 | 35.337 | 35.137 | 2.552 | 1 | .200 |
| 2.489 | 6 | 36.056 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q03 CW4-85 sa 34- 517 Calcium Magnesium Iron Car

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.458 | 7 | 36.527 | | | | |
| 2.403 | 11 | 37.394 | 37.265 | 2.411 | 4 | .129 |
| 2.281 | 15 | 39.474 | | | | |
| 2.238 | 13 | 40.265 | | | | |
| 2.192 | 25 | 41.148 | 41.011 | 2.199 | 6 | .137 |
| 2.126 | 5 | 42.486 | | | | |
| 2.092 | 7 | 43.211 | | | | |
| 2.065 | 4 | 43.805 | 43.761 | 2.067 | 1 | .045 |
| 2.014 | 13 | 44.974 | 44.833 | 2.020 | 4 | .141 |
| 1.980 | 3 | 45.790 | | | | |
| 1.910 | 6 | 47.569 | | | | |
| 1.873 | 6 | 48.569 | | | | |
| 1.849 | 4 | 49.241 | 49.156 | 1.852 | 1 | .085 |
| 1.815 | 10 | 50.227 | 50.316 | 1.812 | 6 | -.089 |
| 1.805 | 28 | 50.524 | | | | |
| 1.787 | 27 | 51.070 | * 50.917 | 1.792 | 12 | .153 |
| 1.672 | 2 | 54.866 | | | | |
| 1.602 | 2 | 57.480 | | | | |
| 1.567 | 2 | 58.889 | 58.806 | 1.569 | 1 | .082 |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIIC

476001.q03 CW4-85 sa 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.829 | 19 | 5.955 | | | | |
| 9.947 | 3 | 8.883 | | | | |
| 7.104 | 2 | 12.450 | | | | |
| 6.317 | 5 | 14.008 | | | | |
| 4.482 | 4 | 19.793 | | | | |
| 4.256 | 21 | 20.855 | 20.850 | 4.257 | 22 | .005 |
| 4.024 | 3 | 22.072 | | | | |
| 3.852 | 4 | 23.071 | | | | |
| 3.765 | 2 | 23.612 | | | | |
| 3.694 | 5 | 24.072 | | | | |
| 3.530 | 3 | 25.209 | | | | |
| 3.470 | 2 | 25.652 | | | | |
| 3.344 | 50 | 26.636 | 26.652 | 3.342 | 100 | -.016 |
| 3.260 | 7 | 27.335 | | | | |
| 3.196 | 4 | 27.894 | | | | |
| 3.032 | 40 | 29.436 | | | | |
| 2.887 | 100 | 30.950 | | | | |
| 2.669 | 11 | 33.550 | | | | |
| 2.538 | 9 | 35.337 | | | | |
| 2.489 | 6 | 36.056 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q03 CW4-85 sa 33-1161 Silicon Oxide

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.458 | 7 | 36.527 | 36.542 | 2.457 | 8 | -.015 |
| 2.403 | 11 | 37.394 | | | | |
| 2.281 | 15 | 39.474 | 39.456 | 2.282 | 8 | .018 |
| 2.238 | 13 | 40.265 | 40.284 | 2.237 | 4 | -.019 |
| 2.192 | 25 | 41.148 | | | | |
| 2.126 | 5 | 42.486 | 42.465 | 2.127 | 6 | .021 |
| 2.092 | 7 | 43.211 | | | | |
| 2.065 | 4 | 43.805 | | | | |
| 2.014 | 13 | 44.974 | | | | |
| 1.980 | 3 | 45.790 | 45.809 | 1.979 | 4 | -.020 |
| 1.910 | 6 | 47.569 | | | | |
| 1.873 | 6 | 48.569 | | | | |
| 1.849 | 4 | 49.241 | | | | |
| 1.815 | 10 | 50.227 | 50.141 | 1.818 | 14 | .086 |
| 1.805 | 28 | 50.524 | 50.611 | 1.802 | 1 | -.087 |
| 1.787 | 27 | 51.070 | | | | |
| 1.672 | 2 | 54.866 | 54.869 | 1.672 | 4 | -.004 |
| 1.602 | 2 | 57.480 | 57.238 | 1.608 | 1 | .242 |
| 1.567 | 2 | 58.889 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIID

476001.q03 CW4-85 sa 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.829 | 19 | 5.955 | | | | |
| 9.947 | 3 | 8.883 | | | | |
| 7.104 | 2 | 12.450 | | | | |
| 6.317 | 5 | 14.008 | | | | |
| 4.482 | 4 | 19.793 | | | | |
| 4.256 | 21 | 20.855 | | | | |
| 4.024 | 3 | 22.072 | | | | |
| 3.852 | 4 | 23.071 | 23.023 | 3.860 | 12 | .048 |
| 3.765 | 2 | 23.612 | | | | |
| 3.694 | 5 | 24.072 | | | | |
| 3.530 | 3 | 25.209 | | | | |
| 3.470 | 2 | 25.652 | | | | |
| 3.344 | 50 | 26.636 | | | | |
| 3.260 | 7 | 27.335 | | | | |
| 3.196 | 4 | 27.894 | | | | |
| 3.032 | 40 | 29.436 | 29.406 | 3.035 | 100 | .030 |
| 2.887 | 100 | 30.950 | | | | |
| 2.669 | 11 | 33.550 | | | | |
| 2.538 | 9 | 35.337 | | | | |
| 2.489 | 6 | 36.056 | 35.967 | 2.495 | 14 | .090 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q03 CW4-85 sa 5- 586 Calcium Carbonate

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.458 | 7 | 36.527 | | | | |
| 2.403 | 11 | 37.394 | | | | |
| 2.281 | 15 | 39.474 | 39.402 | 2.285 | 18 | .072 |
| 2.238 | 13 | 40.265 | | | | |
| 2.192 | 25 | 41.148 | | | | |
| 2.126 | 5 | 42.486 | | | | |
| 2.092 | 7 | 43.211 | 43.146 | 2.095 | 18 | .065 |
| 2.065 | 4 | 43.805 | | | | |
| 2.014 | 13 | 44.974 | | | | |
| 1.980 | 3 | 45.790 | | | | |
| 1.910 | 6 | 47.569 | 47.490 | 1.913 | 17 | .079 |
| 1.873 | 6 | 48.569 | 48.514 | 1.875 | 17 | .055 |
| 1.849 | 4 | 49.241 | | | | |
| 1.815 | 10 | 50.227 | | | | |
| 1.805 | 28 | 50.524 | | | | |
| 1.787 | 27 | 51.070 | | | | |
| 1.672 | 2 | 54.866 | | | | |
| 1.602 | 2 | 57.480 | 57.402 | 1.604 | 8 | .078 |
| 1.567 | 2 | 58.889 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIIE

476001.q03 CW4-85 sa 13- 135 Calcium Magnesium Aluminum

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.829 | 19 | 5.955 | 5.887 | 15.000 | 100 | .068 |
| 9.947 | 3 | 8.883 | | | | |
| 7.104 | 2 | 12.450 | | | | |
| 6.317 | 5 | 14.009 | | | | |
| 4.482 | 4 | 19.794 | 19.713 | 4.500 | 80 | .081 |
| 4.256 | 21 | 20.853 | | | | |
| 4.024 | 3 | 22.072 | | | | |
| 3.852 | 4 | 23.072 | | | | |
| 3.765 | 2 | 23.611 | 23.580 | 3.770 | 20 | .031 |
| 3.694 | 5 | 24.071 | | | | |
| 3.530 | 3 | 25.210 | 25.428 | 3.500 | 10 | -.219 |
| 3.470 | 2 | 25.649 | | | | |
| 3.344 | 50 | 26.639 | | | | |
| 3.260 | 7 | 27.338 | | | | |
| 3.196 | 4 | 27.898 | | | | |
| 3.032 | 40 | 29.436 | 29.555 | 3.020 | 60 | -.119 |
| 2.887 | 100 | 30.955 | | | | |
| 2.669 | 11 | 33.553 | | | | |
| 2.538 | 9 | 35.331 | | | | |
| 2.489 | 6 | 36.051 | 35.892 | 2.500 | 40 | .158 |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
NTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q03 CW4-85 sa 13- 135 Calcium Magnesium Aluminum

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.458 | 7 | 36.530 | | | | |
| 2.403 | 11 | 37.389 | | | | |
| 2.281 | 15 | 39.468 | | | | |
| 2.238 | 13 | 40.267 | | | | |
| 2.192 | 25 | 41.146 | | | | |
| 2.126 | 5 | 42.485 | | | | |
| 2.092 | 7 | 43.204 | | | | |
| 2.065 | 4 | 43.804 | | | | |
| 2.014 | 13 | 44.963 | | | | |
| 1.980 | 3 | 45.782 | | | | |
| 1.910 | 6 | 47.560 | | | | |
| 1.873 | 6 | 48.579 | 48.377 | 1.880 | 10 | .203 |
| 1.849 | 4 | 49.239 | | | | |
| 1.805 | 28 | 50.537 | | | | |
| 1.787 | 27 | 51.077 | | | | |
| 1.672 | 2 | 54.883 | | | | |
| 1.602 | 2 | 57.481 | | | | |
| 1.567 | 2 | 58.899 | | | | |

AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIIF

476001.q03 CW4-85 sa  26- 911  Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 14.829 | 19 | 5.955 | | | | |
| 9.947 | 3 | 8.883 | 8.836 | 10.000 | 90 | .047 |
| 7.104 | 2 | 12.450 | | | | |
| 6.317 | 5 | 14.009 | | | | |
| 4.482 | 4 | 19.794 | * 19.892 | 4.460 | 30 | -.097 |
| 4.256 | 21 | 20.853 | | | | |
| 4.024 | 3 | 22.072 | | | | |
| 3.852 | 4 | 23.072 | 22.843 | 3.890 | 8 | .229 |
| 3.765 | 2 | 23.611 | | | | |
| 3.694 | 5 | 24.071 | 23.902 | 3.720 | 12 | .169 |
| 3.530 | 3 | 25.210 | | | | |
| 3.470 | 2 | 25.649 | 25.727 | 3.460 | 14 | -.078 |
| 3.344 | 50 | 26.639 | 26.668 | 3.340 | 100 | -.030 |
| 3.260 | 7 | 27.338 | | | | |
| 3.196 | 4 | 27.898 | 27.858 | 3.200 | 16 | .039 |
| 3.032 | 40 | 29.436 | | | | |
| 2.887 | 100 | 30.955 | 31.171 | 2.867 | 12 | -.216 |
| 2.669 | 11 | 33.553 | | | | |
| 2.538 | 9 | 35.331 | | | | |
| 2.489 | 6 | 36.051 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

476001.q03 CW4-85 sa  26- 911  Potassium Aluminum Silicat

| D | I | 2-THETA | 2-THETA | D | I | DELTA |
|---|---|---|---|---|---|---|
| 2.458 | 7 | 36.530 | 36.450 | 2.463 | 8 | .080 |
| 2.403 | 11 | 37.389 | | | | |
| 2.281 | 15 | 39.468 | | | | |
| 2.238 | 13 | 40.267 | 40.209 | 2.241 | 4 | .058 |
| 2.192 | 25 | 41.146 | | | | |
| 2.126 | 5 | 42.485 | | | | |
| 2.092 | 7 | 43.204 | | | | |
| 2.065 | 4 | 43.804 | | | | |
| 2.014 | 13 | 44.963 | 45.187 | 2.005 | 50 | -.225 |
| 1.980 | 3 | 45.782 | | | | |
| 1.910 | 6 | 47.560 | | | | |
| 1.873 | 6 | 48.579 | | | | |
| 1.849 | 4 | 49.239 | | | | |
| 1.805 | 28 | 50.537 | | | | |
| 1.787 | 27 | 51.077 | | | | |
| 1.672 | 2 | 54.883 | | | | |
| 1.602 | 2 | 57.481 | | | | |
| 1.567 | 2 | 58.899 | | | | |

(AN * INDICATES MULTIPLE MATCHES WITH TARGET LINE)
ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

LINES IN STANDARD PATTERN NOT IN OBSERVED:

| | | |
|---|---|---|
| 5.020 | 17.653 | 50 |
| 2.988 | 29.879 | 18 |
| 2.799 | 31.949 | 12 |
| 2.558 | 35.052 | 12 |
| 2.509 | 35.759 | 8 |
| 1.499 | 61.845 | 14 |

ENTER + OR <RETURN> TO PAGE FORWARD, - TO PAGE BACK, M FOR MENU >

TABLE VIIG

# APPENDIX F

# GROUND WATER SAMPLING FORMS

# APPENDIX F - GROUND-WATER SAMPLING FORMS

Ground-Water Sampling Forms included in this Appendix:

CW1-27
CW1-35
CW1-121
CW2-35
CW2-44
CW2-90
CW3-27
CW3-35
CW3-77
CW4-60
CW4-85
CW5-55
CW5-85
CW6-77
CW7-55
CW7-100
CW7-148
CW8-17
CW8-55
CW8-85
CW8-110
CW8-150
GR-50
HD-10D
HD-11
HD-12M
HD-12S
HD-13D
HD-13S
HD-14S
HR-10
HW-2
HW-2D
HW-19D
HW-19S
MR-109S
MR-110S
MR-111S
MR-112D
MR-112S
MR-113S
P-1
P-2
P-5
P-11
P-14
P-15
P-19
P-25
P-30
P-37
P-55
P-56
P-57
P-58
MW-20
MW-21
MW-22
MW-23
08-522-M
08-523-M
08-524-M
08-525-M
08-526-M
08-527-M
08-528-M
09-530-M
18-559-M
18-560-M
18-561-M
19-564-M

GROUNDWATER SAMPLING FORM

1. Date/Time 0929901 Sample No. CW1-27/0929/01

2. Location CW1-27

3. Well No. CW1-27 Sketch on Back [Y/N] N

4. Total Depth 29.7 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s)

6. [Y/N] Well Secure? Comments

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~0 mph, Precipitation none Air Temperature 70°F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type, I.D., Gal./Ft.
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 29.7, Depth to Water 23.55 = Ht. 6.15

14. Well Volume 9.04 = Ht. 6.15 * Gal./Ft. 1.47

15. Required Purge Volume 27.1 gal Actual Purge 30 gal

16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —

17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 930 | 7.43 | 59 | N/A |
| (Purged) | 910 | 7.38 | 58 | |
| cycle) | 910 | 7.36 | 58 | |
| | | | | |
| Sample | 910 | 7.35 | 58 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By, Date/Time

Form Complete? [Y/N]
Decon Complete? [Y/N] yes

21. Purging Method Bailing

GROUNDWATER SAMPLING FORM

1. Date/Time 092990/ Sample No. CW1-35/0929/01

2. Location CW1

3. Well No. CW1-35 Sketch on Back [Y/N] N

4. Total Depth 38.3 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s)

6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~ 0 mph, Precipitation none Air Temperature 70°F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled NO, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 38.3, Depth to Water 24.7 = Ht. 13.6

14. Well Volume 17.9 17.64 .26 = Ht. 12 1.6 * Gal./Ft. 1.42 .163

15. Required Purge Volume gal Actual Purge gal

16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —

17.

| | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 930 | 7.51 | 60 | N/A |
| (Purged) | 900 | 7.46 | 59 | |
| cycle) | 890 | 7.44 | 59 | |
| | | | | |
| Sample | 880 | 7.43 | 59 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bailer

# GROUNDWATER SAMPLING FORM

1. Date/Time 093090/1095 Sample No. CW1-121/0930/01
2. Location CW1-121
3. Well No. CW1-121 Sketch on Back [Y/N] N
4. Total Depth 121 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s)
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 5 mph, Precipitation — Air Temperature 70 °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled No, Elev. Ref. For Water Level
    Comments
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 121, Depth to Water 36.5 = Ht. 84.5
14. Well Volume 29.45 17.64 11.81 = Ht. 12 72.5 * Gal./Ft. 1.47 .163
15. Required Purge Volume 88.4 gal Actual Purge 90 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 980 | 7.54 | 59 | N/A |
    | (Purged) | 980 | 7.39 | 59 | |
    | cycle) | 980 | 7.37 | 59 | |
    | | | | | |
    | Sample | 960 | 7.35 | 59 | |
    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____
    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

GROUNDWATER SAMPLING FORM

1. Date/Time 092990/ Sample No. CW2-35/0929/01

2. Location CW2

3. Well No. CW2-35 Sketch on Back [Y/N] N

4. Total Depth 36.8 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s) 26.8

6. [Y/N] Well Secure? Comments Yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~ 0 mph, Precipitation light + occ. Air Temperature 70 °F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled NO, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 36.8, Depth to Water 26.35 = Ht. 10.45

14. Well Volume 15.30 = Ht. 10.45 * Gal./Ft. 1.47

15. Required Purge Volume 4/6 gal Actual Purge _____ gal

16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —

17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 770 | 7.13 | 59 | N/A |
| (Purged) | 750 | 7.16 | 59 | |
| cycle) | 960 | 7.18 | 59 | |
| | | | | |
| Sample | 1100 | 7.08 | 60 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bailing

## GROUNDWATER SAMPLING FORM

1. Date/Time 092990/ Sample No. CW2-44/0929/01
2. Location CW2
3. Well No. CW2-44 Sketch on Back [Y/N] N
4. Total Depth 47 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s)
6. [Y/N] Well Secure? Comments Yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation light Air Temperature 70 °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled no, Elev. Ref. For Water Level
    Comments
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type, I.D., Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 47, Depth to Water 26.55 = Ht. 20.45
14. Well Volume 19.01 17.69 1.37 = Ht. 12 8.45 * Gal./Ft. 1.47 1.63
15. Required Purge Volume 57 gal Actual Purge 60 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 990 | 7.19 | 58 | N/A |
    | (Purged) | 1000 | 7.16 | 56 | |
    | cycle) | 990 | 7.20 | 58 | |
    | | | | | |
    | Sample | 1000 | 7.11 | 59 | |
    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By, Date/Time
    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method Bailer

GROUNDWATER SAMPLING FORM

1. Date/Time 092990/ Sample No. CW2-90/0929/01

2. Location CW2

3. Well No. CW2-90 Sketch on Back [Y/N] N

4. Total Depth 89 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s)

6. [Y/N] Well Secure? Comments Yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~ 0 mph, Precipitation light Air Temperature 70°F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled NO, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 89, Depth to Water 36.75 = Ht. 52.25

14. Well Volume 24.28 17.64 6.69 = Ht. 12 40.25 * Gal./Ft. 1.47 1.63

15. Required Purge Volume 73 gal Actual Purge 75 gal

16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —

17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 785 | 7.62 | 60 | N/A |
| (Purged) | 790 | 7.72 | 60 | |
| cycle) | 790 | 7.64 | 60 | |
| | | | | |
| Sample | 790 | 7.72 | 60 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized Yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] Yes

21. Purging Method Bailing

## GROUNDWATER SAMPLING FORM

1. Date/Time 092790/ Sample No. CW3-27/0927/01
2. Location CW3
3. Well No. CW3-27 Sketch on Back [Y/N] N
4. Total Depth 27 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 17
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~calm mph, Precipitation — Air Temperature 65 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled , Elev. Ref. For Water Level

    Comments

    Odor none
11. 

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type , I.D. , Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 31, Depth to Water 23.35 = Ht. 7.65
14. Well Volume 11.25 = Ht. 7.65 * Gal./Ft. 1.47
15. Required Purge Volume 33.75 gal Actual Purge 35 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17. 

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 920 | 7.07 | 64 | N/A |
| (Purged) | 930 | 7.03 | 63 | |
| cycle) | 920 | 7.02 | 63 | |
| | | | | |
| Sample | 910 | 7.00 | 63 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By , Date/Time

    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 092790/ Sample No. CW3-35/0927/CY
2. Location CW3
3. Well No. CW3-[redacted]-35 Sketch on Back [Y/N] N
4. Total Depth ~~3~~ 39 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) _____
6. [Y/N] Well Secure? Comments _____
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading ppm
9. Weather: Wind ~ mph, Precipitation _____ Air Temperature °F
10. Water Level Measurement: FEL No. _____
    [Y/N] Well Labeled _____, Elev. Ref. For Water Level _____
    Comments _____
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 39, Depth to Water 22.2 = Ht. 16.8
14. Well Volume 18.412 17.69 .178 = Ht. 12 4.8 * Gal./Ft. 1.47 .163
15. Required Purge Volume 55.26 gal Actual Purge 60 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 910 | 7.27 | 64 | N/A |
    | (Purged) | 900 | 7.18 | 64 | |
    | cycle) | 900 | 7.18 | 64 | |
    | | ~~900~~ | ~~7.14~~ | | |
    | Sample | 900 | 7.14 | 64 | |
    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____
    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 0928 / Sample No. CW3 77/0928/01
2. Location CW3
3. Well No. CW3-77 Sketch on Back [Y/N] N
4. Total Depth 77 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 67
6. [Y/N] Well Secure? Comments NO
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 70 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled NO, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 77, Depth to Water 22.8 = Ht. 54.2
14. Well Volume 24.5 17.64 6.57 = Ht. 12 42.2 * Gal./Ft. 1.47 .163
15. Required Purge Volume 73.5 gal Actual Purge 75 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 890 | 7.43 | 60 | N/A |
| (Purged) | 1000 | 7.45 | 59 | |
| cycle) | 890 | 7.46 | 59 | |
| | | | | |
| Sample | 890 | 7.48 | 59 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 092190 / 1330 Sample No. CW4-60/0921/01
2. Location CW4
3. Well No. CW4-60 Sketch on Back [Y/N] N
4. Total Depth 63.5 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s)
6. [Y/N] Well Secure? Comments Yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~5 mph, Precipitation 0 Air Temperature 70 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled _____, Elev. Ref. For Water Level _____

    Comments _____

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 63.5, Depth to Water 12.9 = Ht. 50.6
14. Well Volume 23.93 ~~6.29~~ 17.64 = Ht. ~~38.6~~ 12 * Gal./Ft. ~~.163~~ 1.47
15. Required Purge Volume 72 gal Actual Purge 75 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 830 | 7.22 | 64 | N/A |
    | (Purged) | 840 | 7.39 | 63 | |
    | cycle) | 820 | 7.39 | 63 | |
    | | | | | |
    | Sample | 830 | 7.40 | 64 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid No, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] Yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 092190 / 1330 Sample No. CW4-85/0921/01
2. Location CW4-85
3. Well No. CW4-85 Sketch on Back [Y/N] N
4. Total Depth 86.8 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s)
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 70 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled , Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type , I.D. , Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 86.8, Depth to Water 10.9 = Ht. 75.9
14. Well Volume 28 17.64 10.41 = Ht. 12 63.9 * Gal./Ft. 1.47 .163
15. Required Purge Volume 84 gal Actual Purge 90 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1020 | 7.08 | 61 | N/A |
    | (Purged) | 1020 | 7.28 | 61 | |
    | cycle) | 1030 | 7.30 | 61 | |
    | | | | | |
    | Sample | 1050 | 7.40 | 62 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By , Date/Time

    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method Bailer

# GROUNDWATER SAMPLING FORM

1. Date/Time 092690 / Sample No. CW5-55/0926/01
2. Location CW5
3. Well No. CW5-55 Sketch on Back [Y/N] N
4. Total Depth 55 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 45
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~10 mph, Precipitation 0 Air Temperature 75°F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled NO, Elev. Ref. For Water Level
    Comments
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type, I.D., Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 55, Depth to Water 14.45 = Ht. 40.55
14. Well Volume 22.13 17.64 4.49 = Ht. 12 27.55 * Gal./Ft. 1.47 .163
15. Required Purge Volume 66.4 gal Actual Purge 70 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 820 | 8.37 | 62 | N/A |
    | (Purged) | 710 | 8.35 | 62 | |
    | cycle) | 780 | 8.36 | 62 | |
    | | | | | |
    | Sample | 720 | 8.37 | 62 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By, Date/Time
    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 092690 / Sample No. CW5-85/0926/01
2. Location CW5
3. Well No. CW5-85 Sketch on Back [Y/N] N
4. Total Depth 85 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 75
6. [Y/N] Well Secure? Comments No

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~10 mph, Precipitation 0 Air Temperature 75 °F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled NO, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 85, Depth to Water 14.7 = Ht. 70.3
14. Well Volume 27.04 ~~9.40~~ 17.64 = Ht. 57.7 ~~12~~ * Gal./Ft. 16.3 ~~1.47~~
15. Required Purge Volume 81.13 gal Actual Purge 85 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 950 | 7.28 | 58 | N/A |
| (Purged) | 970 | 7.25 | 66 | |
| cycle) | 960 | 7.26 | 57 | |
| | | | | |
| Sample | 970 | 7.25 | 58 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] Yes

21. Purging Method Bailing

GROUNDWATER SAMPLING FORM

1. Date/Time 0925901 Sample No. CWG-77/0925/01

2. Location CWG-77

3. Well No. CWG-77 Sketch on Back [Y/N] N

4. Total Depth 76 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s) 66

6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~15 mph, Precipitation 0 Air Temperature 65°F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled yes, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 76, Depth to Water 13.95 = Ht. 62.05

14. Well Volume 25.80 (7.64) (8.16) = Ht. 50.05 (12) * Gal./Ft. .163 (1.47)

15. Required Purge Volume 77.4 gal Actual Purge 80 gal

16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —

17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1010 | 7.23 | 55 | N/A |
| (Purged) | 1030 | 7.28 | 56 | |
| cycle) | 1010 | 7.23 | 56 | |
| | | | | |
| Sample | 1010 | 7.20 | 56 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bailer

# GROUNDWATER SAMPLING FORM

1. Date/Time 092590/ Sample No. CW7-55/0925/01
2. Location CW7-55
3. Well No. CW7-55 Sketch on Back [Y/N] N
4. Total Depth 55 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 45
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~10-15 mph, Precipitation 0 Air Temperature 60 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled _____, Elev. Ref. For Water Level _____

    Comments _____

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 55, Depth to Water 9.5 = Ht. 45.5
14. Well Volume 23.1 5.46 (17.64) = Ht. 33.5 (12) * Gal./Ft. .163 (7.47)
15. Required Purge Volume 69.3 gal Actual Purge 70 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1030 | 7.13 | 55 | N/A |
    | (Purged) | 1030 | 7.13 | 55 | |
    | cycle) | 1020 | 7.22 | 55 | |
    | | | | | |
    | Sample | 1020 | 7.20 | 55 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

GROUNDWATER SAMPLING FORM

1. Date/Time 092590/ Sample No. CW7-100

2. Location CW7-100

3. Well No. CW7-100 Sketch on Back [Y/N] N

4. Total Depth 100 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s) 90

6. [Y/N] Well Secure? Comments NO

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~ 10-15 mph, Precipitation 0 Air Temperature 60 °F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled NO, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 100, Depth to Water 8.25 = Ht. 91.25

14. Well Volume 30.55 12.91 (12.64) = Ht. 79.25 (12) * Gal./Ft. 1163 (1.47)

15. Required Purge Volume 91.67 gal Actual Purge 95 gal

16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —

17.

| | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1030 | 7.34 | 56 | N/A |
| (Purged) | 1030 | 7.31 | 56 | |
| cycle) | 1030 | 7.37 | 56 | |
| | | | | |
| Sample | 1030 | 7.33 | 56 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized Yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] Yes

21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 100190/ Sample No. CW7-148/1001/01
2. Location CW7-148
3. Well No. CW7-148 Sketch on Back [Y/N] N
4. Total Depth 148 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 138
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm
9. Weather: Wind ~ 5 mph, Precipitation 0 Air Temperature 75°F
10. Water Level Measurement: FEL No.
[Y/N] Well Labeled yes, Elev. Ref. For Water Level
Comments
Odor none
11. Depth to Product / Depth to Interface/Water / Thickness
1st None / N/A / N/A
12. Casing Type, I.D., Gal./Ft.
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 148, Depth to Water 10.31 = Ht. 137.69
14. Well Volume 38.13 17.69 26.49 = Ht. 121 125.69 * Gal./Ft. 1.47 .163
15. Required Purge Volume 114.39 gal Actual Purge 115 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1010 | 7.31 | 56 | N/A |
| (Purged) | 980 | 7.37 | 56 | |
| cycle) | 990 | 7.32 | 56 | |
| | | | | |
| Sample | 990 | 7.34 | 56 | |

Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By, Date/Time
Form Complete? [Y/N]
Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 092490/ Sample No. CW8-17/0924/01
2. Location CW8
3. Well No. CW8-17 Sketch on Back [Y/N] N
4. Total Depth 17 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 7
6. [Y/N] Well Secure? Comments Yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation c Air Temperature 60 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled _____, Elev. Ref. For Water Level _____

    Comments _____

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 17, Depth to Water 10.25 = Ht. 6.75
14. Well Volume 9.92 = Ht. 6.75 * Gal./Ft. 1.47
15. Required Purge Volume 29.76 gal Actual Purge 35 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 7.03 | 950 | 57 | N/A |
    | (Furged) | 7.08 | 950 | 57 | |
    | cycle) | 6.90 | 94 | 57 | |
    | | | | | |
    | Sample | 6.97 | 950 | 57 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] Yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 092401 Sample No. CW8-55/0924/01
2. Location CW8
3. Well No. CW8-55 Sketch on Back [Y/N] N
4. Total Depth 55 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 45
6. [Y/N] Well Secure? Comments

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~0 mph, Precipitation 0 Air Temperature 60 °F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled , Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type , I.D. , Gal./Ft.
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 55, Depth to Water 9.15 = Ht. 45.85
14. Well Volume 23.15 17.69 5.5 = Ht. 12 33.85 * Gal./Ft. 1.47 .163
15. Required Purge Volume gal Actual Purge gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 970 | 7.25 | 58 | N/A |
| (Purged) | 960 | 7.17 | 58 | |
| cycle) | 970 | 7.16 | 58 | |
| | | | | |
| Sample | 970 | 7.18 | 58 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By , Date/Time

Form Complete? [Y/N]
Decon Complete? [Y/N] yes

21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 092490/ Sample No. CW8-85/0924/01
2. Location CW8-85
3. Well No. CW8-55 Sketch on Back [Y/N] N
4. Total Depth 85 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 75
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 65 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled N, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 85, Depth to Water 8.65 = Ht. 76.35
14. Well Volume 28.1 17.64 10.48 = Ht. 12 64.35 * Gal./Ft. 1.47 .163
15. Required Purge Volume 84.9 gal Actual Purge 85 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 930 | 7.05 | 55 | N/A |
| (Purged) | 950 | 7.15 | 55 | |
| cycle) | 950 | 7.19 | 55 | |
| | | | | |
| Sample | 940 | 7.15 | 55 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 092490/ Sample No. CW8-110/0924/0
2. Location CW8-110
3. Well No. CW8-110 Sketch on Back [Y/N] N
4. Total Depth 110 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 100
6. [Y/N] Well Secure? Comments No.
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 65 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled Yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. 

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 110, Depth to Water 8.3 = Ht. 101.7
14. Well Volume 32.26 17.24 14.62 = Ht. 12 89.4 * Gal./Ft. 1.47 .163
15. Required Purge Volume 96.78 gal Actual Purge 106 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17. 

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 966 | 7.09 | 53 | N/A |
| (Purged) | 960 | 7.19 | 53 | |
| cycle) | 950 | 7.19 | 55 | |
| | | | | |
| Sample | 970 | 7.08 | 56 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 092490/ Sample No. CW8-150/0924/01
2. Location CW8-150
3. Well No. CW8-150 Sketch on Back [Y/N] N
4. Total Depth 150 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 140
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 5 mph, Precipitation 0 Air Temperature 50°F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled NO, Elev. Ref. For Water Level
    Comments
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 150, Depth to Water 8.15 = Ht. 141.85
14. Well Volume 39.28 17.64 21.64 = Ht. 129.85 12 * Gal./Ft. 1.47 1163
15. Required Purge Volume 117.85 gal Actual Purge 120 gal
16. FEL No.'s Cond. 0890112 pH 0890112 Temp. 105838 Redox —
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 810 | 7.01 | 54 | N/A |
    | (Purged) | 810 | 7.09 | 54 | |
    | cycle) | 870 | 7.12 | 54 | |
    | | | | | |
    | Sample | 810 | 7.12 | 54 | |
    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____
    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailer

GROUNDWATER SAMPLING FORM

1. Date/Time 091890/1700 Sample No. Gr-50/0918/01
2. Location Gr-50
3. Well No. Gr-50 Sketch on Back [Y/N] N
4. Total Depth 44.6 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 34.6
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~0 mph, Precipitation –, Air Temperature 70°F
10. Water Level Measurement: FEL No. _____

[Y/N] Well Labeled _____, Elev. Ref. For Water Level _____

Comments _____

Odor _____

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | | | |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth _____, Depth to Water _____ = Ht. _____
14. Well Volume _____ = Ht. _____ * Gal./Ft. _____
15. Required Purge Volume _____ Actual Purge _____
16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | | | | N/A |
| (Purged) | | | | |
| cycle) | | | | |
| | | | | |
| Sample | 820 | 7.00 | 65 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purge Method _____

# GROUNDWATER SAMPLING FORM

1. Date/Time 091890 / 0740 Sample No. HD-10D/0918/01
2. Location HD-10 D
3. Well No. HD-10 D Sketch on Back [Y/N] N
4. Total Depth 63.4 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 53.4
6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~0 mph, Precipitation 0 Air Temperature 60°F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled yes, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 63.4, Depth to Water 14.15 = Ht. 49.25
14. Well Volume 23.71 (17.69 / 6.07) = Ht. (12 / 37.25) * Gal./Ft. (1.47 / .163)
15. Required Purge Volume 71.13 gal Actual Purge 85 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 980 | 6.97 | 62 | N/A |
| (Purged) | 940 | 7.10 | 62 | |
| cycle) | 950 | 7.12 | 62 | |
| | | | | |
| Sample | 960 | 6.95 | 63 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bladder Pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 091890/ 1315 Sample No. HD-11/0918/01
2. Location HD-11
3. Well No. HD-11 Sketch on Back [Y/N] N
4. Total Depth 81.5 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 71.5
6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428. Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation — Air Temperature 70 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none

11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 81.5, Depth to Water 12.6 = Ht. 68.9
14. Well Volume 26.9 17.64 9.27 = Ht. 56.9 12.0 * Gal./Ft. 1.47 .163
15. Required Purge Volume 81.74 gal Actual Purge 85 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1040 | 7.01 | 57 | N/A |
| (Purged) | 1040 | 7.20 | 57 | |
| cycle) | 1050 | 7.28 | 57 | |
| | | | | |
| Sample | 1040 | 7.29 | 57 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bladder pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 091890 / 1520 Sample No. HD-12m/0918/01
2. Location HD-12m
3. Well No. HD-12m Sketch on Back [Y/N] N
4. Total Depth 54.5 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 44.0
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation — Air Temperature 70 °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled N, Elev. Ref. For Water Level
    Comments
    Odor none
11. Depth to Product / Depth to Interface/Water / Thickness
    1st .None / N/A / N/A
12. Casing Type, I.D., Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 54.5, Depth to Water 13.1 = Ht. 41.4
14. Well Volume 22.43 ~~479~~ 17.64 = Ht. 29.4 12 * Gal./Ft. 1.47 ~~163~~
15. Required Purge Volume 67.29 gal Actual Purge 70 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1020 | 6.89 | 54 | N/A |
| (Purged) | 1050 | 7.04 | 54 | |
| cycle) | 1040 | 7.13 | 54 | |
| | | | | |
| Sample | 1050 | 7.09 | 54 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By, Date/Time
    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method Bladder Pump

GROUNDWATER SAMPLING FORM

1. Date/Time 091890/140 Sample No. HD-125/0918/01

2. Location HD-125

3. Well No. HD-125 Sketch on Back [Y/N] N

4. Total Depth 24.5 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s) 14.5

6. [Y/N] Well Secure? Comments Yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm

9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 70 °F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled Yes Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 24.5, Depth to Water 12.65 = Ht. 11.85

14. Well Volume 17.41 = Ht. 11.85 * Gal./Ft. 1.47

15. Required Purge Volume 52.25 gal Actual Purge 60 gal

16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —

17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1250 | 6.75 | 55 | N/A |
| (Purged) | 1240 | 6.89 | 55 | |
| cycle) | 1260 | 6.89 | 55 | |
| | | | | |
| Sample | 1250 | 6.96 | 56 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized Yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] Yes

21. Purging Method Bladder pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 091890 / 1000 Sample No. HD-13D/0918/01
2. Location HD-13D
3. Well No. HD-13D Sketch on Back [Y/N] N
4. Total Depth 106.5 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 92'
6. [Y/N] Well Secure? Comments Yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 70 °F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled Yes, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 106.5, Depth to Water 11.25 = Ht. 95.25
14. Well Volume 37.75 ~~12.75~~ 25 = Ht. ~~78.25~~ 17 * Gal./Ft. ~~.163~~ 1.47
15. Required Purge Volume 113.25 gal Actual Purge _____ gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1110 | 7.08 | 57 | N/A |
| (Purged) | 1070 | 7.20 | 57 | |
| cycle) | 1070 | 7.25 | 57 | |
| | | | | |
| Sample | 1070 | 7.48 | 58 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] Yes

21. Purging Method Bladder Pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 091890/ Sample No. HD-135/0918/01
2. Location HD-135
3. Well No. HD-135 Sketch on Back [Y/N] N
4. Total Depth 35.5 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 25.5
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 70 °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled yes, Elev. Ref. For Water Level
    Comments
    Odor none
11. 

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type, I.D., Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 35.5, Depth to Water 10.45 = Ht. 25.05
14. Well Volume 19.76 17.64 2.13 = Ht. 12 13.05 * Gal./Ft. 1.47 .163
15. Required Purge Volume 60 gal Actual Purge 65 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. 

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1090 | 6.97 | 56 | N/A |
| (Purged) | 1100 | 7.13 | 56 | |
| cycle) | 1100 | 7.15 | 56 | |
| | | | | |
| Sample | 1000 | 7.27 | 56 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered no, Filter Size N/A
20. Reviewed By, Date/Time
    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method Bladder Pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 091990 /0830 Sample No. HD-14S/0919/01
2. Location HD-14S
3. Well No. HD-14S Sketch on Back [Y/N] N
4. Total Depth 33 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 23
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm
9. Weather: Wind ~5 mph, Precipitation drizzle Air Temperature 70 °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled yes, Elev. Ref. For Water Level
    Comments
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 33, Depth to Water 12.8 = Ht. 20.2
14. Well Volume 190 17.64 1.37 = Ht. 12 8.2 * Gal./Ft. 1.47 1.63
15. Required Purge Volume 57 gal Actual Purge 75 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1110 | 6.90 | 56 | N/A |
    | (Purged) | 1090 | 6.97 | 56 | |
    | cycle) | 1080 | 6.97 | 56 | |
    | | | | | |
    | Sample | 1090 | 7.03 | 57 | |
    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____
    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bladder Pump

## GROUNDWATER SAMPLING FORM

1. Date/Time 092190 / 0800 Sample No. HR-10/0921/01
2. Location HR-10
3. Well No. HR-10 Sketch on Back [Y/N] N
4. Total Depth 65.75 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) Unk
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm
9. Weather: Wind ~ – mph Precipitation 0 Air Temperature 65 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type , I.D. , Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 65.75 , Depth to Water 14.9 = Ht. 51.15
14. Well Volume 300.34 = Ht. 51.15 * Gal./Ft. 5.87
15. Required Purge Volume 901 gal Actual Purge 950 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 970 | 6.26 | 55 | N/A |
    | (Purged) | 960 | 6.28 | 55 | |
    | cycle) | 970 | 6.27 | 55 | |
    | | | | | |
    | Sample | 970 | 6.25 | 55 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO , Purge Water Containerized yes
19. Sample Filtered NO , Filter Size N/A
20. Reviewed By , Date/Time

    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method Submersible pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 091490 / 0830 Sample No. HW-2/0914/01
2. Location HW-2 (DAP)
3. Well No. HW-2 Sketch on Back [Y/N] N
4. Total Depth 34.4 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 24.4
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ - mph, Precipitation — Air Temperature 80 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled ~~yes~~ no, Elev. Ref. For Water Level

    Comments

    Odor none
11. 

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 34.4, Depth to Water 26.2 = Ht. 8.2
14. Well Volume 12.05 = Ht. 8.2 * Gal./Ft. 1.47
15. Required Purge Volume 36.2 gal Actual Purge 40 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. 

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 860 | 7.31 | 58 | N/A |
| (Purged) | 870 | 7.40 | 58 | |
| cycle) | 870 | 7.35 | 57 | |
| | | | | |
| Sample | 860 | 7.27 | 58 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091490/0830 Sample No. HW-2D/0914/01
2. Location DAP HW-2D
3. Well No. HW-2D Sketch on Back [Y/N] N
4. Total Depth 59.4 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 54.4
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~5 mph, Precipitation — Air Temperature 70 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 59.4, Depth to Water 27.15 = Ht. 32.25
14. Well Volume 14.37 10.29 4.07 = Ht. 7 25.25 * Gal./Ft. 1.47 .163
15. Required Purge Volume 43.1 gal Actual Purge 45.0 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1140 | 6.83 | 57 | N/A |
    | (Purged) | 1180 | 6.89 | 58 | |
    | cycle) | 1170 | 6.70 | 57 | |
    | | | | | |
    | Sample | 1150 | 6.75 | 57 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091490 / 1045 Sample No. HW-19D/0914/2
2. Location DAP
3. Well No. HW-19D Sketch on Back [Y/N] N
4. Total Depth 61 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s)
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ — mph, Precipitation — Air Temperature 75 °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled yes, Elev. Ref. For Water Level
    Comments
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 61, Depth to Water _____ = Ht. _____
14. Well Volume 13.5 10.29 3.2 = Ht. 7 19.65 * Gal./Ft. 1.47 .163
15. Required Purge Volume 40.5 gal Actual Purge 45 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1050 | 7.03 | 59 | N/A |
    | (Purged) | 1060 | 7.13 | 59 | |
    | cycle) | 1070 | 7.25 | 59 | |
    | | | | | |
    | Sample | 1060 | 7.22 | 59 | |
    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____
    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 09/490/1045 Sample No. HW-195/0914/01
2. Location DAP
3. Well No. HW-195 Sketch on Back [Y/N] N
4. Total Depth 29.7 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s)
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm
9. Weather: Wind ~5 mph, Precipitation — Air Temperature 75°F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 29.7, Depth to Water 23.9 = Ht. 5.8
14. Well Volume 8.53 = Ht. 5.8 * Gal./Ft. 1.47
15. Required Purge Volume 25.6 gal Actual Purge 30 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 790 | 7.60 | 57 | N/A |
    | (Purged) | 770 | 7.54 | 57 | |
    | cycle) | 760 | 7.55 | 57 | |
    | | | | | |
    | Sample | 770 | 7.54 | 57 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

GROUNDWATER SAMPLING FORM

1. Date/Time 091990/ Sample No. MR-109S/0919/01
2. Location MR-109S
3. Well No. MR-109S Sketch on Back [Y/N] N
4. Total Depth 50 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 28'
6. [Y/N] Well Secure? Comments Yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 70 °F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled _____, Elev. Ref. For Water Level _____

Comments _____

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 50, Depth to Water 11.55 = Ht. 38.45
14. Well Volume 44.7 35.28 9.4 = Ht. 24 14.45 * Gal./Ft. 1.47 .652
15. Required Purge Volume 134 gal Actual Purge 135 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1030 | 7.01 | 55 | N/A |
| (Purged) | 1006 | 6.97 | 55 | |
| cycle) | 1050 | 7.10 | 55 | |
| | | | | |
| Sample | 1050 | 7.10 | 57 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] Yes

21. Purging Method Bladder pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 092090/1315 Sample No. MR-1105/0920/01
2. Location MR-1105
3. Well No. MR-1105 Sketch on Back [Y/N] N
4. Total Depth 38.45 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 26.45
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm
9. Weather: Wind ~ — mph, Precipitation — Air Temperature 75 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 38.45, Depth to Water 30.2 = Ht. 8.25
14. Well Volume 12.13 = Ht. 8.25 * Gal./Ft. 1.47
15. Required Purge Volume 36.4 gal Actual Purge 40 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1020 | 7.10 | 59 | N/A |
    | (Purged) | 1000 | 7.32 | 59 | |
    | cycle) | 980 | 7.32 | 59 | |
    | | | | | |
    | Sample | 1010 | 7.20 | 59 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bladder pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 092090/ 1330 Sample No. MR-111S/0920/01
2. Location MR-111S
3. Well No. MR-111S Sketch on Back [Y/N] N
4. Total Depth 54 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s)
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 70 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 54, Depth to Water 25.1 = Ht. 28.9
14. Well Volume 39.5 35.28 3.95 = Ht. 24 4.9 * Gal./Ft. 1.47 .652
15. Required Purge Volume 118.5 gal Actual Purge 120 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1180 | 7.00 | 58 | N/A |
| (Purged) | 1110 | 7.13 | 58 | |
| cycle) | 1100 | 7.19 | 58 | |
| | | | | |
| Sample | 1120 | 7.22 | 58 | |

    Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes

21. Purging Method Bladder pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 092090 / 0745 Sample No. MR-112D/0920/01
2. Location MR-112D
3. Well No. MR-112D Sketch on Back [Y/N] N
4. Total Depth 132 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 110
6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 65 °F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled yes, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 132, Depth to Water 31.9 = Ht. 100.1
14. Well Volume 84.84 35.23 49.61 = Ht. 24 76.1 * Gal./Ft. 1.47 .652
15. Required Purge Volume 254.5 gal Actual Purge 255 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1120 | 6.8 | 58 | N/A |
| (Purged) | 1080 | 6.93 | 57 | |
| cycle) | 1120 | 6.8 | 57 | |
| | | | | |
| Sample | 1070 | 7.06 | 58 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bladder pump

## GROUNDWATER SAMPLING FORM

1. Date/Time 091990 / 1420 Sample No. MR-1125/0919/01
2. Location MR-1125
3. Well No. MR-1125 Sketch on Back [Y/N] N
4. Total Depth 50 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 28
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~5 mph, Precipitation Drizzle Air Temperature 70°F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 50, Depth to Water 30.15 = Ht. 19.85
14. Well Volume 29.2 = Ht. 19.85 * Gal./Ft. 1.47
15. Required Purge Volume 87.6 gal Actual Purge 90 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1100 | 6.86 | 56 | N/A |
    | (Purged) | 1060 | 6.90 | 56 | |
    | cycle) | 1120 | 6.96 | 56 | |
    | | | | | |
    | Sample | 1120 | 6.98 | 56 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bladder pump

# GROUNDWATER SAMPLING FORM

1. Date/Time 092090 / 1120 Sample No. MR-1135/0920/01
2. Location MR-113S
3. Well No. MR-113S Sketch on Back [Y/N] N
4. Total Depth 37 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 15
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~2-3 mph, Precipitation 0 Air Temperature 76 °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled yes, Elev. Ref. For Water Level
    Comments
    Odor none
11. Depth to Product / Depth to Interface/Water / Thickness
    1st None / N/A / N/A
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 37, Depth to Water 25.5 ★ = Ht. 11.5
14. Well Volume 16.9 = Ht. 11.5 * Gal./Ft. 1.47
15. Required Purge Volume 51 gal Actual Purge 55 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 710 | 7.08 | 55 | N/A |
| (Purged) | 710 | 7.19 | 55 | |
| cycle) | 720 | 7.24 | 55 | |
| | | | | |
| Sample | 710 | 7.25 | 55 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____
    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bladder pump

★ Assumed water level after noting logs of 18-560-m and 18-561-m. m-scope hit top of pump ~~after~~ without hitting water

# GROUNDWATER SAMPLING FORM

1. Date/Time 091390 / 0900 Sample No. P-1/0913/01
2. Location P-1
3. Well No. P-1 Sketch on Back [Y/N] N
4. Total Depth unk No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) unk
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading ppm
9. Weather: Wind ~ mph, Precipitation Air Temperature °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type, I.D., Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth, Depth to Water = Ht.
14. Well Volume ~1000 gal = Ht. * Gal./Ft.
15. Required Purge Volume 1 hour @ 1000 gal/min ~~gal~~ Actual Purge ~60,000 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1170 | 6.7 | 55 | N/A |
    | (Purged) | 1200 | 6.72 | 55 | |
    | cycle) | 1180 | 6.7 | 55 | |
    | | | | | |
    | Sample | 1180 | 7.05 | 55 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized ~~yes~~
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By, Date/Time

    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method Production well Area B

# GROUNDWATER SAMPLING FORM

1. Date/Time 091390/ 0915 Sample No. P-2/0913/01
2. Location P-2
3. Well No. P-2 Sketch on Back [Y/N] N
4. Total Depth Unk No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) Unk
6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading ppm
9. Weather: Wind ~ mph, Precipitation _____ Air Temperature °F
10. Water Level Measurement: FEL No. _____

[Y/N] Well Labeled _____, Elev. Ref. For Water Level _____

Comments _____

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth _____, Depth to Water _____ = Ht. _____
14. Well Volume ~1000 gal = Ht. _____ * Gal./Ft. _____
15. Required Purge Volume 1 hour @ 1000 gal/min Actual Purge ~60000 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1210 | 6.80 | 55 | N/A |
| (Purged) | 1230 | 6.86 | 55 | |
| cycle) | 1220 | 6.90 | 55 | |
| | | | | |
| Sample | 1230 | 6.85 | 55 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized ~~yes~~
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Production Well Area B

GROUNDWATER SAMPLING FORM

1. Date/Time 091390/1015 Sample No. P-5/0913/01

2. Location P-5

3. Well No. P-5 Sketch on Back [Y/N] N

4. Total Depth Unk No. of Screened Interval(s) 1

5. Depth to Screen/Length(s)

6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428 Reading — ppm

9. Weather: Wind ~0 mph, Precipitation 0 Air Temperature 80 °F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled , Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type , I.D. , Gal./Ft.
(Show derivation for Gal./Ft. of Casing)

13. Total Depth , Depth to Water = Ht.

14. Well Volume ~2300 gal = Ht. * Gal./Ft.

15. Required Purge Volume 1 hour @ 2300 gal/min Actual Purge 138,000 gal

16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —

17.

| | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1010 | 7.00 | 55 | N/A |
| (Purged) | 1020 | 6.98 | 55 | |
| cycle) | 1020 | 7.01 | 55 | |
| | | | | |
| Sample | 1020 | 7.01 | 55 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO , Purge Water Containerized ~~yes~~

19. Sample Filtered NO , Filter Size N/A

20. Reviewed By , Date/Time

Form Complete? [Y/N]
Decon Complete? [Y/N] yes

21. Purging Method Production well Area B

## GROUNDWATER SAMPLING FORM

1. Date/Time 100190/1120 Sample No. P-11/1001/01
2. Location P-11
3. Well No. P-11 Sketch on Back [Y/N] N
4. Total Depth 81 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 41
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind _____, Precipitation _____, Air Temperature _____
10. Water Level Measurement: FEL No. _____

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level _____

    Comments _____

    Odor _____

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | | | |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth _____, Depth to Water _____ = Ht. _____
14. Well Volume _____ = Ht. _____ * Gal./Ft. _____
15. Required Purge Volume _____ Actual Purge _____
16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | | | | N/A |
| (Purged) | | | | |
| cycle) | | | | |
| | | | | |
| Sample | 950 | 7.06 | 67 | |

    Sample Type and FEL No. water

18. [Y/N] Turbid No, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes

21. Purging Method _____

GROUNDWATER SAMPLING FORM

1. Date/Time 092490/1010 Sample No. P-14/0924/01
2. Location P-14
3. Well No. P-14 Sketch on Back [Y/N] N
4. Total Depth 75 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 35
6. [Y/N] Well Secure? Comments Yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation 0, Air Temperature 65°F
10. Water Level Measurement: FEL No. _____

[Y/N] Well Labeled _____, Elev. Ref. For Water Level _____

Comments _____

Odor _____

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | | | |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth _____, Depth to Water _____ = Ht. _____
14. Well Volume _____ = Ht. _____ * Gal./Ft. _____
15. Required Purge Volume _____ Actual Purge _____
16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | | | | N/A |
| (Purged) | | | | |
| cycle) | | | | |
| | | | | |
| Sample | 850 | 7.17 | 64 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] Yes

21. Purging Method _____

GROUNDWATER SAMPLING FORM

1. Date/Time 092690/0820 Sample No. P-15/0926/01

2. Location P-15

3. Well No. P-15 Sketch on Back [Y/N] N

4. Total Depth 86 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s) 56

6. [Y/N] Well Secure? Comments Yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~10 mph, Precipitation 0, Air Temperature 75°F

10. Water Level Measurement: FEL No. _____

[Y/N] Well Labeled Yes, Elev. Ref. For Water Level _____

Comments _____

Odor _____

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | | | |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth _____, Depth to Water _____ = Ht. _____

14. Well Volume _____ = Ht. _____ * Gal./Ft. _____

15. Required Purge Volume _____ Actual Purge _____

16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____

17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | | | | N/A |
| (Purged) | | | | |
| cycle) | | | | |
| | | | | |
| Sample | 760 | 7.32 | 67 | |

Sample Type and FEL No. water

18. [Y/N] Turbid NO, Purge Water Containerized Yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] Yes

21. Purging Method _____

## GROUNDWATER SAMPLING FORM

1. Date/Time 092890/1130 Sample No. P-19/0928/01
2. Location P-19
3. Well No. P-19 Sketch on Back [Y/N] N
4. Total Depth 79 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 64
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. , Reading
9. Weather: Wind ~ 0 mph, Precipitation 0, Air Temperature 70° F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor

11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | | | |

12. Casing Type , I.D. , Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth , Depth to Water = Ht.
14. Well Volume = Ht. * Gal./Ft.
15. Required Purge Volume Actual Purge
16. FEL No.'s Cond. pH Temp. Redox
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | | | | N/A |
    | (Purged) | | | | |
    | cycle) | | | | |
    | | | | | |
    | Sample | 790 | 7.23 | 70 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By , Date/Time

    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method

## GROUNDWATER SAMPLING FORM

1. Date/Time 092890/1145 Sample No. P-25/0928/01
2. Location P-25
3. Well No. P-25 Sketch on Back [Y/N] N
4. Total Depth 70 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 55
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~0 mph, Precipitation 0, Air Temperature 70° F
10. Water Level Measurement: FEL No. _____

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level _____

    Comments _____

    Odor _____

11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | | | |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth _____, Depth to Water _____ = Ht. _____
14. Well Volume _____ = Ht. _____ * Gal./Ft. _____
15. Required Purge Volume _____ Actual Purge _____
16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | | | | N/A |
    | (Purged) | | | | |
    | cycle) | | | | |
    | | | | | |
    | Sample | 780 | 7.45 | 71 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method _____

## GROUNDWATER SAMPLING FORM

1. Date/Time 092690/0840 Sample No. P-30/0926/01
2. Location P-30
3. Well No. P-30 Sketch on Back [Y/N] N
4. Total Depth 99 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 69
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 10 mph, Precipitation 0, Air Temperature 75°F
10. Water Level Measurement: FEL No. _____

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level _____

    Comments _____

    Odor _____
11. 

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | | | |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth _____, Depth to Water _____ = Ht. _____
14. Well Volume _____ = Ht. _____ * Gal./Ft. _____
15. Required Purge Volume _____ Actual Purge _____
16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____
17. 

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | | | | N/A |
| (Purged) | | | | |
| cycle) | | | | |
| | | | | |
| Sample | 800 | 7.19 | 62 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method _____

## GROUNDWATER SAMPLING FORM

1. Date/Time 092890/1200 Sample No. P-37/0928/01
2. Location P-37
3. Well No. P-37 Sketch on Back [Y/N] N
4. Total Depth 86 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 51
6. [Y/N] Well Secure? Comments Yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~0 mph, Precipitation 0, Air Temperature 70°F
10. Water Level Measurement: FEL No. _____

    [Y/N] Well Labeled Yes, Elev. Ref. For Water Level _____

    Comments _____

    Odor _____
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | | | |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth _____, Depth to Water _____ = Ht. _____
14. Well Volume _____ = Ht. _____ * Gal./Ft. _____
15. Required Purge Volume _____ Actual Purge _____
16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | | | | N/A |
    | (Purged) | | | | |
    | cycle) | | | | |
    | | | | | |
    | Sample | 790 | 7.40 | 68 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] Yes
21. Purging Method _____

## GROUNDWATER SAMPLING FORM

1. Date/Time 092690/0945 Sample No. P-55/0926/01
2. Location P-55
3. Well No. P-55 Sketch on Back [Y/N] N
4. Total Depth 151.5 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 111.5
6. [Y/N] Well Secure? Comments Yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~10 mph, Precipitation 0, Air Temperature 75° F
10. Water Level Measurement: FEL No. _____

    [Y/N] Well Labeled Yes, Elev. Ref. For Water Level _____

    Comments _____

    Odor _____

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | | | |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth _____, Depth to Water _____ = Ht. _____
14. Well Volume _____ = Ht. _____ * Gal./Ft. _____
15. Required Purge Volume _____ Actual Purge _____
16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____
17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | | | | N/A |
| (Purged) | | | | |
| cycle) | | | | |
| | | | | |
| Sample | 820 | 7.39 | 56 | |

    Sample Type and FEL No. _____
18. [Y/N] Turbid NO, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] Yes
21. Purging Method _____

GROUNDWATER SAMPLING FORM

1. Date/Time 092690/0955 Sample No. P-56/0926/01

2. Location P-56

3. Well No. P-56 Sketch on Back [Y/N] N

4. Total Depth 151 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s) 111

6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~10 mph, Precipitation 0, Air Temperature 75°f

10. Water Level Measurement: FEL No. _____

[Y/N] Well Labeled yes, Elev. Ref. For Water Level _____

Comments _____

Odor _____

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | | | |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth _____, Depth to Water _____ = Ht. _____

14. Well Volume _____ = Ht. _____ * Gal./Ft. _____

15. Required Purge Volume _____ Actual Purge _____

16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____

17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | | | | |
| (Purged) | | | | |
| cycle) | | | | |
| | | | | |
| Sample | 900 | 7.43 | 58 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method _____

GROUNDWATER SAMPLING FORM

1. Date/Time 092490/1040 Sample No. P-57/0924/01

2. Location P-57

3. Well No. P-57 Sketch on Back [Y/N] N

4. Total Depth 95 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s) 50

6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~0 mph, Precipitation 0, Air Temperature 65°F

10. Water Level Measurement: FEL No. _____

[Y/N] Well Labeled yes, Elev. Ref. For Water Level _____

Comments _____

Odor _____

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | | | |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth _____, Depth to Water _____ = Ht. _____

14. Well Volume _____ = Ht. _____ * Gal./Ft. _____

15. Required Purge Volume _____ Actual Purge _____

16. FEL No.'s Cond. _____ pH _____ Temp. _____ Redox _____

17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | | | | N/A |
| (Purged) | | | | |
| cycle) | | | | |
| | | | | |
| Sample | 790 | 6.96 | 56 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method _____

GROUNDWATER SAMPLING FORM

1. Date/Time 092690/1015 Sample No. P-58/0926/01
2. Location P-58
3. Well No. P-58 Sketch on Back [Y/N] N
4. Total Depth 90 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 65
6. [Y/N] Well Secure? Comments Yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0ppm
9. Weather: Wind ~10 mph, Precipitation 0, Air Temperature 75°F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled Yes, Elev. Ref. For Water Level

Comments

Odor

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | | | |

12. Casing Type, I.D., Gal./Ft.
(Show derivation for Gal./Ft. of Casing)
13. Total Depth, Depth to Water = Ht.
14. Well Volume = Ht. * Gal./Ft.
15. Required Purge Volume Actual Purge
16. FEL No.'s Cond. pH Temp. Redox
17.

| | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | | | | N/A |
| (Purged) | | | | |
| cycle) | | | | |
| | | | | |
| Sample | 830 | 7.46 | 56 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By, Date/Time

Form Complete? [Y/N]
Decon Complete? [Y/N] Yes

21. Purging Method

GROUNDWATER SAMPLING FORM

1. Date/Time 091190/ Sample No. MW-20/0911/01

2. Location MW-20

3. Well No. MW-20 Sketch on Back [Y/N] N

4. Total Depth 23.85 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s) 13.85

6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading ppm

9. Weather: Wind ~ 5 mph, Precipitation — Air Temperature 85 °F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled yes, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 23.85, Depth to Water 12 = Ht. 11.85

14. Well Volume 31.9 = Ht. 11.85 * Gal./Ft. 2.61

15. Required Purge Volume 92.75 gal Actual Purge 95 gal

16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —

17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1370 | 6.95 | 56 | N/A |
| (Purged) | 1300 | 7.16 | 55 | |
| cycle) | 1300 | 7.20 | 55 | |
| | | | | |
| Sample | 1310 | 7.23 | 55 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091080/ Sample No. MW-21/0910/01
2. Location MW-21
3. Well No. MW-21 Sketch on Back [Y/N] N
4. Total Depth 23.7 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 13.7
6. [Y/N] Well Secure? Comments Yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation — Air Temperature 85 °F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled Yes, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 23.7, Depth to Water 11.7 = Ht. 12
14. Well Volume 31.3 = Ht. 12 * Gal./Ft. 2.61
15. Required Purge Volume 93.9 gal Actual Purge 100 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1580 | 6.65 | 55 | N/A |
| (Purged) | 1560 | 6.69 | 55 | |
| cycle) | 1576 | 6.76 | 55 | |
| | | | | |
| Sample | 1590 | 6.8 | 55 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid No, Purge Water Containerized Yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091190 / 1110 Sample No. MW-22/0911/01
2. Location MW-22
3. Well No. MW-22 Sketch on Back [Y/N] N
4. Total Depth 37.35 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 27.35
6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ - mph, Precipitation - Air Temperature 85 °F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled yes, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 37.35, Depth to Water 15.65 = Ht. 21.7
14. Well Volume 37.64 31.32 6.32 = Ht. 12 9.7 * Gal./Ft. 2.61 .652
15. Required Purge Volume 112.9 gal Actual Purge 120 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1240 | 7.00 | 56 | N/A |
| (Purged) | 1200 | 7.05 | 56 | |
| cycle) | 1190 | 7.10 | 56 | |
| | | | | |
| Sample | 1190 | 7.14 | 56 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 09/1901 Sample No. MW-23/0911/01
2. Location MW-23
3. Well No. MW-23 Sketch on Back [Y/N] N
4. Total Depth 35.85 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 25.85
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm
9. Weather: Wind ~ – mph, Precipitation – Air Temperature – °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled yes, Elev. Ref. For Water Level
    Comments
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 35.85, Depth to Water 6.3 = Ht. 29.55
14. Well Volume 4.27 31.3 / 11.4 = Ht. 12 / 17.55 * Gal./Ft. 2.61 / .652
15. Required Purge Volume 128.2 gal Actual Purge 130 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox –
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1230 | 7.15 | 55 | N/A |
    | (Purged) | 1150 | 7.22 | 55 | |
    | cycle) | 1210 | 7.26 | 55 | |
    | | | | | |
    | Sample | 1210 | 7.24 | 55 | |
    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed by _____, Date/Time _____
    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

GROUNDWATER SAMPLING FORM

1. Date/Time 091190/ 1100 Sample No. 08-522-m/0911/01

2. Location 08-522-m

3. Well No. 08-522-m Sketch on Back [Y/N] N

4. Total Depth 16.5 No. of Screened Interval(s) 1

5. Depth to Screen/Length(s) 6.5

6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray

8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm

9. Weather: Wind ~0-5 mph, Precipitation — Air Temperature 85 °F

10. Water Level Measurement: FEL No.

[Y/N] Well Labeled Yes, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)

13. Total Depth 16.5, Depth to Water 8.2 = Ht. 8.3

14. Well Volume 21.67 = Ht. 8.3 * Gal./Ft. 2.61

15. Required Purge Volume 65 gal Actual Purge 65 gal

16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —

17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 840 | 7.19 | 55 | N/A |
| (Purged) | 840 | 7.36 | 55 | |
| cycle) | 840 | 7.32 | 55 | |
| | | | | |
| Sample | 850 | 7.30 | 55 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes

19. Sample Filtered NO, Filter Size N/A

20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bailing

GROUNDWATER SAMPLING FORM

1. Date/Time 09/19/0800 Sample No. 08-523-m/0911/01
2. Location 08-523-m
3. Well No. 08-523-m Sketch on Back [Y/N] N
4. Total Depth 16.9 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 6.9
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation — Air Temperature 75 °F
10. Water Level Measurement: FEL No.
[Y/N] Well Labeled Y, Elev. Ref. For Water Level
Comments
Odor none
11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 16.9, Depth to Water 5.75 = Ht. 11.15
14. Well Volume 29.1 = Ht. 11.1 * Gal./Ft. 2.61
15. Required Purge Volume 87.3 gal Actual Purge 90 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1040 | 6.90 | 54 | N/A |
| (Purged) | 970 | 7.10 | 55 | |
| cycle) | 960 | 7.25 | 55 | |
| | | | | |
| Sample | 970 | 7.17 | 55 | |

Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____
Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091190/ 1010 Sample No. 08-524-m/0911/01
2. Location 08-524-m
3. Well No. 08-524-m Sketch on Back [Y/N] N
4. Total Depth 16.85 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 6.85
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ — mph, Precipitation — Air Temperature 80 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 16.85, Depth to Water 6.0 = Ht. 10.85
14. Well Volume 28.3 = Ht. 10.85 * Gal./Ft. 2.61
15. Required Purge Volume 85 gal Actual Purge 90 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 950 | 7.08 | 55 | N/A |
    | (Purged) | 940 | 7.25 | 55 | |
    | cycle) | 940 | 7.29 | 55 | |
    | | | | | |
    | Sample | 980 | 7.24 | 55 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091190 / Sample No. 08-525-m/0911/01
2. Location 08-525-m
3. Well No. 08-525-m Sketch on Back [Y/N] N
4. Total Depth 17.6 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 7.6
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~5 mph, Precipitation _____ Air Temperature 85°F
10. Water Level Measurement: FEL No. _____
    [Y/N] Well Labeled yes, Elev. Ref. For Water Level _____
    Comments _____
    Odor none
11. 

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 17.6, Depth to Water 9.3 = Ht. 8.3
14. Well Volume 21.66 = Ht. 8.3 * Gal./Ft. 2.61
15. Required Purge Volume 65 gal Actual Purge 70 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. 

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1080 | 5.06 | 56 | N/A |
| (Purged) | 1090 | 5.00 | 56 | |
| cycle) | 1100 | 5.07 | 56 | |
| | | | | |
| Sample | 1100 | 5.10 | 56 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____
    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091390/ Sample No. 08-526-m/0913/0
2. Location 08-526-m
3. Well No. 08-526-m Sketch on Back [Y/N] N
4. Total Depth 19.2 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 9.2
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ — mph, Precipitation — Air Temperature 70 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 19.2, Depth to Water 11.2 = Ht. 7
14. Well Volume 18.27 = Ht. 7 * Gal./Ft. 2.61
15. Required Purge Volume 55 gal Actual Purge 55 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1040 | 6.91 | 55 | N/A |
    | (Purged) | 1010 | 7.05 | 55 | |
    | cycle) | 990 | 7.05 | 56 | |
    | | | | | |
    | Sample | 1000 | 7.14 | 55 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

GROUNDWATER SAMPLING FORM

1. Date/Time 091390/ Sample No. 08-527-m/0913/01
2. Location 08-527-m
3. Well No. 08-527-m Sketch on Back [Y/N] N
4. Total Depth 17.25 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 7.25
6. [Y/N] Well Secure? Comments
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ mph, Precipitation Air Temperature 70 °F
10. Water Level Measurement: FEL No.
[Y/N] Well Labeled yes, Elev. Ref. For Water Level
Comments
Odor none
11. Depth to Product / Depth to Interface/Water / Thickness
1st None / N/A / N/A
12. Casing Type, I.D., Gal./Ft.
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 17.25, Depth to Water 9.55 = Ht. 7.7
14. Well Volume 20.1 = Ht. 7.7 * Gal./Ft. 2.61
15. Required Purge Volume 60.3 gal Actual Purge 65 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| | Cond. µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 1090 | 6.70 | 56 | N/A |
| (Purged) | 1050 | 7.10 | 55 | |
| cycle) | 1090 | 7.10 | 55 | |
| | | | | |
| Sample | 1090 | 7.10 | 55 | |

Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By, Date/Time
Form Complete? [Y/N]
Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091390/ Sample No. 08-528-m/0913/01
2. Location 08-528-m
3. Well No. 08-528-m Sketch on Back [Y/N] N
4. Total Depth 19.4 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 9.4
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading ppm
9. Weather: Wind ~ 0 mph, Precipitation 0 Air Temperature 70 °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled yes, Elev. Ref. For Water Level
    Comments
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type, I.D., Gal./Ft.
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 19.4, Depth to Water 11 = Ht. 8.4
14. Well Volume 22 = Ht. 8.4 * Gal./Ft. 2.61
15. Required Purge Volume 66.0 gal Actual Purge 66 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1376 | 6.55 | 56 | N/A |
    | (Purged) | 1400 | 6.75 | 56 | |
    | cycle) | 1400 | 6.80 | 55 | |
    | | | | | |
    | Sample | 1410 | 6.80 | 55 | |
    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By, Date/Time
    Form Complete? [Y/N]
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091090/ 1430 Sample No. 09-530-m/0910/01
2. Location 09530-m
3. Well No. 09530-m Sketch on Back [Y/N] N
4. Total Depth 13' No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 3'
6. [Y/N] Well Secure? Comments Y
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~ — mph, Precipitation — Air Temperature 80°F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 13, Depth to Water 6.15 = Ht. 6.85
14. Well Volume 17.87 = Ht. 6.85 * Gal./Ft. 2.61
15. Required Purge Volume 53.6 gal Actual Purge 55 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | | Cond. µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1140 | 6.61 | 55 | N/A |
    | (Purged) | 1010 | 6.82 | 55 | |
    | cycle) | 1000 | 6.87 | 55 | |
    | | | | | |
    | Sample | 1050 | 6.70 | 55 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091290/1300 Sample No. 18-559-m/0912/01
2. Location 18-559-m
3. Well No. 18-559-m Sketch on Back [Y/N] N
4. Total Depth 35.0' No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 25.0
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm
9. Weather: Wind ~ 0 mph, Precipitation rain Air Temperature 80 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 35, Depth to Water 23.8 = Ht. 11.2
14. Well Volume 29.23 = Ht. 11.2 * Gal./Ft. 2.61
15. Required Purge Volume 87.7 gal Actual Purge 90 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 940 | 6.85 | 56 | N/A |
    | (Purged) | 860 | 7.27 | 55 | |
    | cycle) | 860 | 7.20 | 55 | |
    | | | | | |
    | Sample | 860 | 7.25 | 55 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091290 / 1330 Sample No. 18-560-m/0912/01
2. Location 18-560-m
3. Well No. 18-560-m Sketch on Back [Y/N] N
4. Total Depth 37 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s) 27
6. [Y/N] Well Secure? Comments yes

7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm
9. Weather: Wind ~ — mph, Precipitation ½" Air Temperature 80 °F
10. Water Level Measurement: FEL No.

[Y/N] Well Labeled yes, Elev. Ref. For Water Level

Comments

Odor none

11.

| | Depth to Product | Depth to Interface/Water | Thickness |
|---|---|---|---|
| 1st | None | N/A | N/A |

12. Casing Type _____, I.D. _____, Gal./Ft. _____
(Show derivation for Gal./Ft. of Casing)
13. Total Depth 37, Depth to Water 25.4 = Ht. 11.6
14. Well Volume 30.27 = Ht. 11.6 * Gal./Ft. 2.61
15. Required Purge Volume 91 gal Actual Purge 100 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17.

| Cond. | µmhos/cm | pH | Temp. | Redox |
|---|---|---|---|---|
| Initial | 770 | 7.25 | 56 | N/A |
| (Purged) | 745 | 7.30 | 56 | |
| cycle) | 750 | 7.30 | 56 | |
| | | | | |
| Sample | 745 | 7.25 | 56 | |

Sample Type and FEL No. Water

18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

Form Complete? [Y/N] _____
Decon Complete? [Y/N] yes

21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091290 / 1330 Sample No. 18-561-m/0912/01
2. Location 18-561-m
3. Well No. 18-561-m Sketch on Back [Y/N] N
4. Total Depth 37.3 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s)
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428, Reading 0 ppm
9. Weather: Wind ~0-5 mph, Precipitation ¼" Air Temperature 80 °F
10. Water Level Measurement: FEL No.

    [Y/N] Well Labeled yes, Elev. Ref. For Water Level

    Comments

    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 37.3, Depth to Water 25.9 = Ht. 11.4
14. Well Volume 29.75 = Ht. 11.4 * Gal./Ft. 2.61
15. Required Purge Volume 89.25 gal Actual Purge 100 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox —
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 780 | 7.00 | 56 | N/A |
    | (Purged) | 780 | 7.24 | 56 | |
    | cycle) | 770 | 7.25 | 56 | |
    | | | | | |
    | Sample | 770 | 7.23 | 56 | |

    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____

    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# GROUNDWATER SAMPLING FORM

1. Date/Time 091390/1030 Sample No. 19-564-m/0913/01
2. Location 19-564-m
3. Well No. 19-564-m Sketch on Back [Y/N] N
4. Total Depth 30.8 No. of Screened Interval(s) 1
5. Depth to Screen/Length(s)
6. [Y/N] Well Secure? Comments yes
7. Sampler Dolack Other present Ambeau, McCray
8. Organic Vapor Detector FEL No. 801428 Reading 0 ppm
9. Weather: Wind ~0 mph, Precipitation – Air Temperature 80 °F
10. Water Level Measurement: FEL No.
    [Y/N] Well Labeled yes, Elev. Ref. For Water Level
    Comments
    Odor none
11. | | Depth to Product | Depth to Interface/Water | Thickness |
    |---|---|---|---|
    | 1st | None | N/A | N/A |
12. Casing Type _____, I.D. _____, Gal./Ft. _____
    (Show derivation for Gal./Ft. of Casing)
13. Total Depth 30.8, Depth to Water 23.5 = Ht. 7.3
14. Well Volume 19.05 = Ht. 7.3 * Gal./Ft. 2.61
15. Required Purge Volume 57.15 gal Actual Purge 60 gal
16. FEL No.'s Cond. 0890235 pH 0890235 Temp. 105838 Redox –
17. | Cond. | µmhos/cm | pH | Temp. | Redox |
    |---|---|---|---|---|
    | Initial | 1260 | 6.75 | 53 | N/A |
    | (Purged) | 1210 | 7.12 | 53 | |
    | cycle) | 1220 | 7.28 | 53 | |
    | | | | | |
    | Sample | 1210 | 7.35 | 53 | |
    Sample Type and FEL No. Water
18. [Y/N] Turbid NO, Purge Water Containerized yes
19. Sample Filtered NO, Filter Size N/A
20. Reviewed By _____, Date/Time _____
    Form Complete? [Y/N] _____
    Decon Complete? [Y/N] yes
21. Purging Method Bailing

# APPENDIX G

## CHAIN-OF-CUSTODY RECORDS
## AND
## REQUEST-FOR-ANALYSIS FORMS

## APPENDIX G - CHAIN-OF-CUSTODY RECORDS AND REQUEST-FOR-ANALYSIS FORMS

Chain-of-Custody Records and Request-for-Analysis forms included in this Appendix:

By date collected/date sent

September 10, 1990
September 11, 1990
September 12, 1990
September 13, 1990
September 14, 1990
September 17, 1990
September 18, 1990
September 19, 1990
September 20, 1990
September 21, 1990
September 24, 1990
September 25, 1990
September 26, 1990
September 27, 1990
September 28, 1990
September 29, 1990
October 1, 1990

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216909, 216910

C/C Control No. 226442

PROJECT NAME/NUMBER WPAFB / 199814.04.01

LAB DESTINATION ITAS-Cincinnati

SAMPLE TEAM MEMBERS R. Dolack / N. Anderson / W. McCoy

CARRIER/WAYBILL NO. Hand Deliver

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| 09-530-m/0910/0[illegible] | water | 091090-1530 | Water | 2 1500ml | Samples Received | |
| MW-21/0910/04 | ↓ | ↓ -1730 | ↓ | ↓ ↓ | in good Condition | |
| MW-21/0910/04 | ↓ | ↓ -1730 | ↓ | ↓ ↓ | LaNita Riddy | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard Dolack / IT, 091090-1900

   Received By: LaNita Riddy ITAS 09-10-90 2030

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216909, 216910

C/C Control No. 226441

PROJECT NAME/NUMBER ~~IT~~ WPAFB/199814.04.01 LAB DESTINATION ITAS - Cincinnati

SAMPLE TEAM MEMBERS R. Dolack / N. Ambeau / W. McCray CARRIER/WAYBILL NO. HAND Deliver

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| 09-530-m/0910/03 | water | 091090- — | Water | 2x40ml | Samples Received | |
| 09-530-m/0910/02 | | -1530 | | 4x40ml | in Good condition | |
| 09-530-m/0910/02 | | -1530 | | 2x500ml | La Nita Ridge | |
| MW-21/0910/01 | | -1700 | | 4x40ml | | |
| MW-21/0910/01 | | -1700 | | 2x500ml | | |
| MW-21/0910/05 | | -1700 | | 4x40ml | | |
| MW-21/0910/05 | | -1700 | | 2x500ml | | |
| MW-21/0910/06 | | -1700 | | 4x40ml | | |
| MW-21/0910/06 | | -1700 | | 2x500ml | | |
| 09-530-m/0910/01 | | -1530 | | 4x40ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A. Dolack / IT 090190-1700

   Received By: La Nita Ridge ITAS 09-10-90 2030

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216912 216926

C/C Control No. 226443

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION Itas-Cinti

SAMPLE TEAM MEMBERS R. Dolack/W. McCray/N. Ambeau

CARRIER/WAYBILL NO. Hand Deliver

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| 08-525-m/0911/03 | Water | 091190- | Water | 2x40 ml | Samples Received | |
| 08-523-m/0911/01 | | -0930 | | 4x40 ml | in Good Condition | |
| 08-523-m/0911/01 | | -0930 | | 2x500 ml | | |
| mw-23/0911/01 | | -1000 | | 4x40 ml | La Nita Ridge | |
| mw-23/0911/01 | | -1000 | | 2x500 ml | | |
| 08-524-m/0911/01 | | -1045 | | 4x40 ml | | |
| 08-524-m/0911/01 | | -1045 | | 2x500 ml | | |
| 08-522-m/0911/01 | | -1145 | | 4x40 ml | | |
| 08-522-m/0911/01 | | -1145 | | 2x500 ml | | |
| mw-22/0911/01 | | -1200 | | 4x40 ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A. Dolack, IT, 091190-1900

   Received By: La Nita Ridge ITAS 9-11-90 2015

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216926

C/C Control No. 226444

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION ITAS-Cont'l

SAMPLE TEAM MEMBERS R. Dolack/W. McCray/N. Ambey

CARRIER/WAYBILL NO. Hand Delivered

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| MW-22/0911/01 | Water | 091190-1200 | water | 2x500ml | Samples Received | |
| MW-20/0911/01 | | -1430 | | 4x40ml | in Good Condition. | |
| MW-20/0911/01 | | -1436 | | 2x500ml | | |
| MW-20/0911/02 | | -1430 | | 4x40ml | JaNita Ridge | |
| MW-20/0911/02 | | -1430 | | 2x500ml | | |
| 08-525-m/0911/01 | | -1530 | | 4x40ml | | |
| 08-525-m/0911/01 | | -1530 | | 2x500ml | | |
| 08-525-m/0911/04 | | -1600 | | 4x40ml | | |
| 08-525-m/0911/04 | | -1600 | | 2x500ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A Dolack/IT, 091190-1900

Received By: JaNita Ridge ITAS 9-11-90 2015

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216725

C/C Control No. 226455

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION ITAS-Cincy

SAMPLE TEAM MEMBERS Dolack/Ambeau/McCray

CARRIER/WAYBILL NO. Hand Delivery

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| 18-559-m/0912/01 | Water | 091290-1420 | Water | 4x40ml | Samples | |
| 18-559-m/0912/01 | | -1420 | | 2x500ml | Received | |
| 18-560-m/0912/01 | | -1445 | | 4x40ml | in Good | |
| 18-560-m/0912/01 | | -1445 | | 2x500ml | Condition | |
| 18-561-m/0912/01 | | -1510 | | 4x40ml | Lajita Ridge | |
| 18-561-m/0912/01 | | -1510 | | 2x500ml | | |
| 18-561-m/0912/04 | | -1545 | | 4x40ml | | |
| 18-561-m/0912/04 | | -1545 | | 2x500ml | | |
| 18-559-m/0912/03 | | " | | 2x40ml | | |
| | | | | | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A Dolack / IT 091290-1900 2400

Received By: Lajita Ridge ITAS 9-12-90

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 169 216923 216924

C/C Control No. 226458

PROJECT NAME/NUMBER: WPAFB / 199814.04.01

LAB DESTINATION: IT-Cincinnati

SAMPLE TEAM MEMBERS: Dolack / Ambeau / McCray

CARRIER/WAYBILL NO.: Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| 08-527-m/0913/01 | Water | 091390-0900 | Water | 2x500ml | Samples | |
| 08-528-m/0913/01 | | -0945 | | 4x40ml | Received | |
| 08-528-m/0913/01 | | -0945 | | 2x500ml | in Good | |
| 19-564-m/0913/04 | | -1230 | | 4x40ml | Condition. | |
| 19-564-m/0913/04 | | -1230 | | 2x500ml | | |
| 19-564-m/0913/01 | | -1115 | | 4x40ml | | |
| 19-564-m/0913/01 | | -1115 | | 2x500ml | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time) Itcorp

1. Relinquished By: Richard A. Dolack 1900-091390

Received By: LaNita Ridge 9-13-90 1945

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216923 216924

C/C Control No. 226459

PROJECT NAME/NUMBER: WPAFB/199814.04.01

LAB DESTINATION: IT-Cincinnati

SAMPLE TEAM MEMBERS: Dolack / Hambeau / McCray

CARRIER/WAYBILL NO.: Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| P-1/0913/01 | water | 091390-[illegible] | water | 2x40 ml | Samples | |
| P-1/0913/01 | | -0900 | | 4x40 ml | Received | |
| P-1/0913/01 | | -0900 | | 2x500 ml | in Good | |
| P-2/0913/01 | | -0915 | | 4x 40 ml | Condition. | |
| P-2/0913/01 | | -0915 | | 2x 500 ml | | |
| P-5/0913/01 | | -1015 | | 4x 40 ml | La Nita Ridge | |
| P-5/0913/01 | | -1015 | | 2x 500 ml | | |
| 08-526-m/0913/01 | | -0830 | | 4x 40 ml | | |
| 08-526-m/0913/01 | | -0830 | | 2x 500 ml | | |
| 08-527-m/0913/01 | | -0900 | | 4x 40 ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [signature] IT 091390-1900

   Received By: La Nita Ridge ITA 09-1390 1945

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

[redacted] 216928

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216928

C/C Control No. 226457

PROJECT NAME/NUMBER WPAFB / 199814.04.01

LAB DESTINATION IT-Cincinnati

SAMPLE TEAM MEMBERS DOLACK / McCIRAY / AMBEAU

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| HW-19S/0914/01 | water | 091490-1200 | water | 2x500ml | Samples Received | |
| HW-19D/0914/01 | | -1145 | | 4x40ml | in Good Condition | |
| HW-19D/0914/01 | | -1145 | | 2x500ml | LaNita Ridge | |
| HW-19D/0914/04 | | -1600 | | 4x40ml | | |
| HW-19D/0914/04 | | -1600 | | 2x500ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A Dolack / IT 091490/1200
   Received By: LaNita Ridge ITAS 9-14-90 1645
2. Relinquished By:
   Received By:
3. Relinquished By:
   Received by:
4. Relinquished By:
   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216928 216926

C/C Control No. 226456

PROJECT NAME/NUMBER WPAFB / 199814.09.01

LAB DESTINATION IT-Cincinnati

SAMPLE TEAM MEMBERS Dolack / McCray / Ambeau

CARRIER/WAYBILL NO. Hand Deliver

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| HW-2/0914/03 | WATER | 091490 | ~~2x40ml~~ water | 2x40ml | Samples Received | |
| HW-2/0914/01 | | 091490 -0930 | water | 4x40ml | in Good Condition | |
| HW-2/0914/01 | | -0930 | | 2x500ml | | |
| HW-2D/0914/01 | | -0915 | | 4x40ml | LaNita Ridge | |
| HW-2D/0914/01 | | -0915 | | 2x500ml | | |
| HW-2D/0914/05 | | -0915 | | 4x40ml | | |
| HW-2D/0914/05 | | -0915 | | 2x500ml | | |
| HW-2D/0914/06 | | -0915 | | 4x40ml | | |
| HW-2D/0914/06 | | -0915 | | 2x500ml | | |
| HW-19S/0914/01 | | -1200 | | 4x40ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [signature] IT

Received By: LaNita Ridge ITAS 9-14-90 1645

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216930

C/C Control No. 226460

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| WT/0917/03 | Water | 091790 | Water | 2x40ml | Samples Received | |
| WT/0917/01 | ↓ | 091790-1000 | water | 4x40ml | in Good Condition. | |
| WT/0917/01 | ↓ | 091790-1000 | water | 2x500ml | La Nita Ridge | |
| | | | | | | |
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Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A. Dolack IT, 091790-1900
   Received By: La Nita Ridge ITAS 9-17-90 1955
2. Relinquished By:
   Received By:
3. Relinquished By:
   Received by:
4. Relinquished By:
   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 2169341

C/C Control No. 226463

PROJECT NAME/NUMBER WPAFB / 199814.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dobel

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| WST-01 | 0918/01 water | 091890/1830 | water | 3x40ml | Samples Recieved | |
| WST-01 | 0918/01 " | 091890/1830 | water | 1/2 gallon | in Good | |
| | | | | | Condition. | |
| | | | | | La Nita Ridge | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A Dobel / IT / 091890 / 1900

   Received By: La Nita Ridge ITA 9-18-90 2015

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 46933

C/C Control No. 226461

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack/McCray/Ambeau

CARRIER/WAYBILL NO. Hand Deliver

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| HD-100/0918/03 | water | 091890 | water | 2x40ml | Samples Received | |
| HD-100/0918/01 | | 091890 - 0900 | | 7x40ml | in Good Condition | |
| HD-100/0918/01 | | - 0900 | | 3x500ml | | |
| HD-135/0918/01 | | - 1000 | | 4x40ml | La Rita Ridge | |
| ↓ ↓ ↓ ↓ | | - 1000 | | 3x500ml | | |
| HD-130/0918/01 | | - 1300 | | 4x40ml | | |
| ↓ ↓ ↓ ↓ | | - 1300 | | 3x500ml | | |
| HD-11/0918/01 | | - 1500 | | 4x40ml | | |
| ↓ ↓ ↓ ↓ | | - 1500 | | 3x500ml | | |
| HD-12m/0918/01 | | - 1600 | | 4x40ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [illegible], IT, 091890, 1900

   Received By: La Rita Ridge ITAS, 9-18-90 2014

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216933

C/C Control No. 226462

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION IT-Cra

SAMPLE TEAM MEMBERS Dolack/McCray/Ambeau

CARRIER/WAYBILL NO. Hand Delivered

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| HD-12m/0918/01 | water | 091890-1600 | water | 3x500ml | Samples Received | |
| HD-12S/0918/01 | | -1640 | | 4x40ml | in Good | |
| HD-12S/0918/01 | | -1640 | | 3x500ml | Condition. | |
| GR-50/0918/01 | | -1700 | | 4x40ml | | |
| GR-50/0918/01 | | -1700 | | 3x500ml | La Nita Ridge | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard M. Dolack, IT, 1900, 091890

   Received By: La Nita Ridge ITAS 9-18-90, 2014

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216935 216936

C/C Control No. 226464

PROJECT NAME/NUMBER WPAFB / 199814.04.01

LAB DESTINATION IT-Cinty

SAMPLE TEAM MEMBERS Dolack / Ambrose / McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| HD-145/0919/03 | water | 091990 | water | 2x40ml | Samples were delivered | |
| HD-145/0919/01 | | 091990-0915 | | 4x40ml | by Carrier received in | |
| HD-145/0919/01 | | 091990-0915 | | 3x500ml | good condition, Samples | |
| MR-109S/0919/01 | | 091990-1345 | | 4x40ml | had Ice bags packed | |
| MR-109S/0919/01 | | 091990-1345 | | 3x500ml | with them. | |
| MR-109S/0919/02 | | 091990-1345 | | 4x40ml | Dawn M. Webber | |
| MR-109S/0919/02 | | 091990-1345 | | 3x500ml | Sept. 19, 1990 | |
| MR-112S/0919/01 | | 091990-1515 | | 4x40ml | 7:45pm | |
| MR-112S/0919/01 | | 091990-1515 | | 1x½ gallon | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard W. Dolack, IT, 091990-1900

   Received By: Dawn M. Webber Sept. 19, 1990 7:45pm

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by: ITAS

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 616938

C/C Control No. 226465

PROJECT NAME/NUMBER WMFB/199814.04.01

LAB DESTINATION IT-Cent

SAMPLE TEAM MEMBERS Dolade/Ambard/McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| MR-112D/0920/03 | Water | 092090 | water | 2x40ml | Samples were hand | |
| MR-112D/0920/01 | | 092090 - 1100 | | 4x40ml | delivered by carrier | |
| MR-112D/0920/01 | | - 1100 | | 1x½ gallon | and seals were attached | |
| MR-113S/0920/01 | | - 1230 | | 4x40ml | and intact on coolers. | |
| MR-113S/0920/01 | | - 1230 | | 1x½ gallon | Ice was packed around | |
| MR-111S/0920/01 | | - 1500 | | 4x40ml | the samples. | |
| MR-111S/0920/01 | | - 1500 | | 3x500ml | | |
| MR-110S/0920/01 | | - 1545 | | 4x40ml | Dawn M. Webber | |
| MR-110S/0920/01 | | - 1545 | | 3x500ml | Sept 20, 1990 7:45pm | |
| MR-110S/0920/04 | | - 1700 | | 4x40ml | | |
| MR-110S/0920/04 | water | 092090 - 1700 | water | 1x½ gallon | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard Dolade, IT, 092090 - 1900

   Received By: Dawn M. Webber ITAS 9-20-90 7:45pm

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216940

C/C Control No. 226468

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack/Ambern/McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| CW4-85/0921/01 | Water | 092190-1445 | Water | 1x½ gallon | Samples were received in | |
| CW4-60/0921/01 | ↓ | ↓ -1515 | ↓ | 4x40ml | good condition | |
| CW4-60/0921/01 | ↓ | ↓ -1515 | ↓ | 1x½ gallon | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard D. Dolack, IT, 092190-1900

   Received By: Dawn Webber IT AS 9-21-90 7:45pm

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216939 216940

C/C Control No. 226467

PROJECT NAME/NUMBER WPAFB / 1998140401

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack/Amberu/McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| HR-10/0921/03 | water | 092190 | Water | 2x40ml | Samples were received in | |
| HR-10/0921/01 | | 092190-0930 | | 4x40ml | good Condition. | |
| HR-10/0921/01 | | -0930 | | 1x½ gallon | Samples were hand | |
| HR-10/0921/05 | | -0930 | | 1x½ gallon | delivered by carrier. | |
| HR-10/0921/05 | | -0930 | | 4x40ml | | |
| HR-10/0921/06 | | -0930 | | 4x40ml | Sept 21, 1990 | |
| HR-10/0921/06 | | -0930 | | 1x½ gallon | 7:45pm | |
| HR-10/0921/04 | | -1100 | | 4x40ml | Dawn M. Webber | |
| HR-10/0921/04 | | -1100 | | 1x1/2 gallon | | |
| CW4-85/0921/01 | | -1445 | | 4x40ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A Dolack, IT, 092190-1900

   Received By: Dawn Webber ITAS 9-21-90 7:45pm

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

[redacted] 21[redacted]3

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216942 216944

C/C Control No. 226469

PROJECT NAME/NUMBER WPAFB / 199814.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack / McCray / Ambaw

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| P-14/0924/03 | water | 092490 | water | 2x40ml | Samples were received | |
| P-14/0924/03 | | 092490 - 1010 | | 4x40ml | by carrier and delivered | |
| P-14/0924/01 | | - 1010 | | 1x½ gallon | to Sample Control personnel. | |
| P-14/0924/02 | | - 1010 | | 4x40ml | Samples were received | |
| P-14/0924/02 | | - 1010 | | 1x½ gallon | Cold Seals were attached | |
| P-57/0924/01 | | - 1040 | | 4x40ml | on coolers and box | |
| P-57/0924/01 | | - 1040 | | 1x½ gallon | Dawn Webber | |
| CW8-17/0924/01 | | - 1500 | | 4x40ml | Sept. 24, 1990 | |
| ↓ | ↓ | - 1500 | | 1x½ gallon | 7:10pm | |
| ↓ | ↓ | - 1500 | | 1x500ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard [illegible] / IT 092490-1900

   Received By: Dawn Webber ITAS 9-24-90 7:10pm

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

[redacted]

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216943 296944

C/C Control No. 226470

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack/Ambone/McCrary

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| CW8-17/0924/01 | Water | 092490-1500 | water | 2x1 liter | Samples were hand | |
| CW8-55/0924/01 | | -1630 | | 4x40ml | delivered by carrier | |
| | | -1630 | | 1x½ gallon | and delivered to Sample | |
| | | -1630 | | 2x1 liter | Control personnel | |
| | | -1630 | | 1x500ml | Samples were received | |
| CW8-55/0924/04 | | -1730 | | 4x40ml | cold. Seals were attached | |
| CW8-55/0924/04 | | -1730 | | 1x½ gallon | on cooler and box. | |
| CW8-85/0924/01 | | -1695 | | 4x40ml | Dawn Webber | |
| CW8-85/0924/01 | | -1695 | | 1x½ gallon | Sept. 24, 1990 | |
| CW8-N0/0924/01 | | -1400 | | 4x40ml | 7:10pm | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard M Dolack, IT, 092490-1900

Received By: Dawn Webber IT 9-24-90 7:10pm

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

[redacted] 216942 216944 216943

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. [redacted]

C/C Control No. 226471

PROJECT NAME/NUMBER: WPAFB / 199814.0401

LAB DESTINATION: IT-Cinti

SAMPLE TEAM MEMBERS: Dolack / McCroy / Ambeau

CARRIER/WAYBILL NO.: Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| CW8-110/0924/01 | Water | 092490-1100 | Water | 1x ½ gallon | Samples were received in | |
| CW8-150/0924/01 | | 092490-1350 | | 4x40ml | good condition, delivered | |
| | | -1350 | | 2x1 liter | by carrier to Sample | |
| | | -1350 | | 1x ½ gallon | Control personnel | |
| | | -1350 | | 1x 500ml | Seals were intact + attached | |
| | | | | | on box and cooler. | |
| | | | | | Samples were cold. | |
| | | | | | Dawn Webber | |
| | | | | | Sept 24, 1990 | |
| | | | | | 7:10pm | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A. Dolack, IT, 092490-1900

   Received By: Dawn Webber ITAS 09-24-90 7:10pm

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216946

C/C Control No. 226472

PROJECT NAME/NUMBER WPAFB/#9984.04.01

LAB DESTINATION IT-Cinn

SAMPLE TEAM MEMBERS Dolack/Amberg/McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| CW7-100/0925/03 | water | 092590- | water | 2x40ml | Samples Received | |
| CW7-55/0925/01 | | 092590 1115 | | 4x40ml | in Good Condition | |
| CW7-55/0925/01 | | -1115 | | 1x½ gallon | La Nita Ridge | |
| CW7-55/0925/02 | | -1115 | | 4x40ml | | |
| CW7-55/0925/02 | | -1115 | | 1x½ gallon | | |
| CW7-100/0925/01 | | -1130 | | 4x40ml | | |
| CW7-100/0925/01 | | -1130 | | 1x½ gallon | | |
| CW6-76/0925/01 | | -1330 | | 4x40 ml | | |
| CW6-76/0925/01 | | -1330 | | 1x½ gallon | | |
| CW6-76/0925/04 | | -1600 | | 4x40ml | | |
| CW6-76/0925/04 | water | 092590-1600 | water | 1x½ gallon | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard [illegible], IT, 092590-1900

   Received By: La Nita Ridge ITAS 9-25-90 1940

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216949

C/C Control No. 226475

PROJECT NAME/NUMBER WPAFB / 199814.09.01

LAB DESTINATION IT-Cuti

SAMPLE TEAM MEMBERS Delack / McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| P-58/0926/05 | Water | 092690 - 1015 | water | 4 x 40ml | | |
| P-58/0926/05 | | - 1015 | | 1 x ½ gallon | Samples Received | |
| P-58/0926/06 | | - 1015 | | 4 x 40ml | in Good Condition. | |
| P-58/0926/01 | | - 1015 | | 1 x ½ gallon | | |
| CW5-55/0926/01 | | - 1415 | | 4 x 40ml | La Nita Ridge | |
| CW5-55/0926/01 | | - 1415 | | 1 x ½ gallon | | |
| CW5-85/0926/01 | | - 1430 | | 4 x 40ml | | |
| CW5-85/0926/01 | | - 1430 | | 1 x ½ gallon | | |
| CW5-85/0926/04 | | - 1500 | | 4 x 40ml | | |
| CW5-85/0926/04 | | - 1500 | | 1 x ½ gallon | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard W Delack / IT, 092690-1900

   Received By: La Nita Ridge ITAS, 9-26-90-0800

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 26940

C/C Control No. 225474

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION IT-Cinn.

SAMPLE TEAM MEMBERS Dolack/McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| P-15/0926/01 | water | 092690 – 0820 | water | 4 x 40 ml | | |
| P-15/0926/01 | | – 0820 | | 1 x ½ gallon | | |
| P-30/0926/01 | | – 0840 | | 4 x 40 ml | | |
| P-30/0926/01 | | – 0840 | | 1 x ½ gallon | | |
| P-55/0926/01 | | – 0945 | | 4 x 40 ml | | |
| P-55/0926/01 | | – 0945 | | 1 x ½ gallon | | |
| P-56/0926/01 | | – 0955 | | 4 x 40 ml | | |
| P-56/0926/01 | | – 0955 | | 1 x ½ gallon | | |
| P-58/0926/01 | | – 1015 | | 4 x 40 ml | | |
| P-58/0926/01 | | – 1015 | | 1 x ½ gallon | | |
| CWB-55/0926/03 | water | 092690 | water | 2 x 40 ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [signature], IT, 092690-1900

Received By:

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216951

C/C Control No. 226476

PROJECT NAME/NUMBER WPAFB / 199814.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack / Ambeau / McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| CW3-27/0927/03 | water | 092796 | water | 2x40ml | Samples Received | |
| CW3-27/0927/01 | | 092790-1000 | | 4x40ml | Cold and in | |
| CW3-27/0927/01 | | -1000 | | 1x½ gallon | Good Condition | |
| CW3-27/0927/02 | | -1000 | | 4x40ml | La Nita Ridge | |
| CW3-27/0927/02 | | -1000 | | 1x½ gallon | | |
| CW3-36/0927/01 | | -1030 | | 4x40ml | | |
| CW3-36/0927/01 | | -1030 | | 1x½ gallon | | |
| CW3-36/0927/04 | | -1115 | | 4x40ml | | |
| CW3-36/0927/04 | | -1115 | | 1x½ gallon | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Ruben A. Dolack, IT, 092790-1900

   Received By: La Nita Ridge 9-27-90 1740

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216955

C/C Control No. 226477

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack / McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| CW3-77/0928/03 | water | 092890 | water | 2 x 40ml | Samples Were | |
| CW3-77/0928/01 | | 092890-1015 | | 4 x 40ml | Received in | |
| CW3-77/0928/01 | | -1015 | | 1 x ½gal | Good Condition. | |
| CW3-77/0928/04 | | -1045 | | 4 x 40ml | | |
| CW3-77/0928/04 | | -1045 | | 1 x ½gal | LaNita Ridge | |
| P-19/0928/01 | | -1130 | | 4 x 40ml | | |
| P-19/0928/01 | | -1130 | | 1 x ½gal | | |
| P-25/0928/01 | | -1145 | | 4 x 40ml | | |
| P-25/0928/01 | | -1145 | | 1 x ½gal | | |
| P-37/0928/01 | | -1200 | | 4 x 40ml | | |
| P-37/0928/01 | water | 092890-1200 | water | 1 x ½ gallon | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A. Dolack II, IT, 092890-1200

   Received By: LaNita D. Ridge ITAS, 9-28-90-1945

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216956 216957 216958

C/C Control No. 226480

PROJECT NAME/NUMBER WPAFB/1998/4.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack/Ambeau/McCray

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| CW2-27/0929/03 | Water | 092990 | Water | 2x40 ml | | |
| CW2-27/0929/01 | | 092990-0915 | | 4x40 ml | | |
| CW2-27/0929/01 | | -0915 | | 1x ½ gallon | | |
| CW1-35/0929/01 | | -1245 | | 4x40ml | | |
| CW1-35/0929/01 | | -1245 | | 1x ½ gallon | | |
| CW1-35/0929/02 | | -1245 | | 4x40ml | | |
| CW1-35/0929/02 | | -1245 | | 1x ½ gallon | | |
| CW1-27/0929/04 | | -1430 | | 4x40ml | | |
| CW1-27/0929/04 | | -1430 | | 1x ½ gallon | | |
| CW1-27/0929/01 | | -1215 | | 4x40ml | | |
| CW1-27/0929/01 | Water | 092990-1215 | Water | 1x ½ gallon | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [signature] IT 092990-1900

Received By: LaNita Ridge ITAS 10-01-90

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

WHITE - To accompany samples
YELLOW - Field copy

216956
[redacted]

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 216958

C/C Control No. 226479

PROJECT NAME/NUMBER WPAFB/199814.04.01 LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack/Ambert/McCoy CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| CW2-90/0929/01 | water | 092990-1030 | water | 4x40ml | | |
| CW2-90/0929/01 | | -1030 | | 1x½ gallon | | |
| CW2-90/0929/01 | | -1030 | | 2x1 liter | | |
| CW2-90/0929/01 | | -1030 | | 1x500ml | | |
| CW2-44/0929/01 | | -1000 | | 4x40ml | | |
| CW2-44/0929/01 | | -1000 | | 1x½ gallon | | |
| CW2-44/0929/01 | | -1000 | | 2x1 liter | | |
| CW2-44/0929/01 | | -1000 | | 1x500ml | | |
| CW2-27/0929/01 | | -0915 | | 2x1 liter | | |
| CW2-27/0929/01 | | -0915 | | 1x500ml | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A. Dolack, IT, 092990-1900

   Received By: La Nita Ridge ITAS, 90-01-90

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 616960

C/C Control No. 226482

PROJECT NAME/NUMBER WPAFB/199814.04.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolak/McCray/Ambery

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| P-11/1001/01 | Water | 100190-1120 | Water | 4x40ml | Samples Received | |
| ↓ | ↓ | ↓ -1120 | ↓ | 1x ½ gallon | in Good Condition | |
| | | | | | La Nita Ridge | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [illegible], IT, 100190-1600
   Received By: La Nita Ridge ITAS 100190 1745
2. Relinquished By:
   Received By:
3. Relinquished By:
   Received by:
4. Relinquished By:
   Received By:

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# CHAIN-OF-CUSTODY RECORD

R/A Control No. 616957 616960

C/C Control No. 226481

PROJECT NAME/NUMBER WPAFB / 199814.09.01

LAB DESTINATION IT-Cinti

SAMPLE TEAM MEMBERS Dolack / McCray / Ambam

CARRIER/WAYBILL NO. Hand Carry

| Sample Number | Sample Location and Description | Date and Time Collected | Sample Type | Container Type | Condition on Receipt (Name and Date) | Disposal Record No. |
|---|---|---|---|---|---|---|
| CW7-148/1001/03 | Water | 100190 | Water | 2X40ml | Samples Received | |
| CW1-121/0930/01 | | 093090-1230 | | 4X40ml | in Good Condition. | |
| CW1-121/0930/01 | | -1230 | | 1X½gallon | La Rita Ridge | |
| CW1-121/0930/04 | | -1300 | | 4X40ml | | |
| CW1-121/0930/04 | | -1300 | | 1X½gallon | | |
| CW7-148/1001/01 | | 100190 -1030 | | 4X40ml | | |
| CW7-148/1001/01 | | -1030 | | 1X½gallon | | |
| CW7-148/1001/04 | | -1445 | | 4X40ml | | |
| CW7-148/1001/04 | | -1445 | | 1X½gallon | | |

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Richard A Dolack Jr IT, 100190-1600

Received By: La Rita Ridge ITAS 100190 1745

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

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YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216910
C/C Control No. 226441, 226442

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 09 10 90
LAB DESTINATION: ITAS-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, ITC-Cincinnati
DATE REPORT REQUIRED:
PROJECT CONTACT: R. Dolack
PROJECT CONTACT PHONE NO.: 1-646-0930 or 1-873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| mw-21/0910/04 | water | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| mw-21/0910/05 | ↓ | 80ml | HCl | VOA | Matrix Spike |
| ↓ | ↓ | 80ml | HCl | TPH-LO | ↓ ↓ |
| ↓ | ↓ | 1000ml | $H_2SO_4$ | TPH-HI | |
| mw-21/0910/06 | ↓ | 80ml | HCl | VOA | Matrix Spike Duplicate |
| ↓ | ↓ | 80ml | HCl | TPH-LO | ↓ ↓ ↓ |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 days (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by Lanita Ridge Date/Time 9-10-90 2035

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YELLOW - Field copy

126A-10-85

XO-09-063

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216909
C/C Control No. 226441, 226442

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091090
LAB DESTINATION: ITAS-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson c/o IT-Cinti

DATE REPORT REQUIRED:
PROJECT CONTACT: R. Dolack
PROJECT CONTACT PHONE NO.: 1-646-0930 or 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| 09-530-m/0910/03 | water | 80ml | HCl | VOA | 5240 ⓒ |
| 09-530-m/0910/01 | | ~~40~~ 80ml | HCl | VOA | d |
| ↓ ↓ ↓ | ↓ ↓ | 80ml | HCl | TPH-LO | |
| | | 1000ml | $H_2SO_4$ | TPH-HI | |
| 09-530-m/0910/02 | | 80ml | HCl | VOA | |
| | | 80ml | HCl | TPH-LO | |
| | | 1000ml | $H_2SO_4$ | TPH-HI | |
| mw-21/0910/01 | | 80ml | HCl | VOA | |
| | | 80ml | HCl | TPH-LO | |
| | | 1000ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 days (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by Lanita Ridge Date/Time 9-10-90 @ 2035

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

XO-09-072

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216911
C/C Control No. 226443, 226444

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.

DATE SAMPLES SHIPPED: 091190
LAB DESTINATION: ITAS-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT Cinti

DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 1-646-0930 or 873-8259

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| 08-525-m/0911/03 | Water | 80 ml | HCl | VOA | |
| 08-523-m/0911/01 | | 80 ml | HCl | VOA | |
| ↓ | | 80 ml | HCl | TPH-LO | |
| ↓ | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| MW-23/0911/01 | | 80 ml | HCl | VOA | |
| ↓ | | 80 ml | HCl | TPH-LO | |
| ↓ | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| 08-529-m/0911/01 | | 80 ml | HCl | VOA | |
| ↓ | | 80 ml | HCl | TPH-LO | |
| ↓ | | 1000 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Y Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab Y Archive _____ (Indicate number of months.)

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126A-10-85

XO-09-072

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216912

C/C Control No. 226443, 226444

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091190

LAB DESTINATION: ITAS-Cinti

LABORATORY CONTACT: Craig Crume

SEND LAB REPORT TO: Bill Thompson, IT Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rick Dolack

PROJECT CONTACT PHONE NO.: 1-646-0530 or 873-8257

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| 08-522-m/0911/01 | Water | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ ↓ | 80 ml | HCl | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| mw-22/0911/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| mw-20/0911/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| mw-20/0911/02 | ↓ | 80 ml | HCl | VOA | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal ____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client X Disposal by Lab X Archive ____ (Indicate number of months.)

FOR LAB USE ONLY

Received by LaNita Ridge Date/Time 9-11-90 2015

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126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216926
C/C Control No. 226443, 226444

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.09.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091190
LAB DESTINATION: ITAS Cinti
LABORATORY CONTACT: Craig Crum
SEND LAB REPORT TO: Bill Thompson c/o IT Cinti

DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 1646-0930 or 873-8259

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| MW-20/0911/02 | Water | 80 ml | HCl | TPH-LO | |
| ↓ ↓ ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| 08-525-m/0911/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ ↓ | 80 ml | HCl | TPH-LO | |
| ↓ ↓ ↓ | ↓ ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| 08-525-m/0911/04 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ ↓ | 80 ml | HCl | TPH-LO | |
| ↓ ↓ ↓ | ↓ ↓ ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| | | | | | |
| | | | | | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard P Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by LaNita Ridge Date/Time 9-11-90 2015

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216022
C/C Control No. 226455

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 09-12-90
LAB DESTINATION: IT-Cincinnati
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: BILL Thompson IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| 18-559-m/0912/03 | water | 80 ml | HCl | VOA | |
| 18-559-h/0912/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ ↓ | 80 ml | HCl | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| 18-560-m/0912/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ ↓ | 80 ml | HCl | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| 18-561-m/0912/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ ↓ | 80 ml | HCl | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ___ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ___ II ___ III ___ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable ___ Skin Irritant ___ Highly Toxic ___ Other ___ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ___ Disposal by Lab X Archive ___ (Indicate number of months.)

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126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216925
C/C Control No. 22645

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091290
LAB DESTINATION: IT-Cincinnati
LABORATORY CONTACT: Craig Cierne
SEND LAB REPORT TO: Bill Thompson, IT Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| 18-561-m | 091217/04 water | 80ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ ↓ | 80 ml | HCl | TPH-LO | |
| | | 80 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216923
C/C Control No. 22-6459, 226958

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:
PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091390
LAB DESTINATION: IT-Cincinnati
LABORATORY CONTACT: Craig Clemis
SEND LAB REPORT TO: Bill Thompson, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Delach
PROJECT CONTACT PHONE NO.: 646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| 19-564-m/0913/01 | water | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| 19-564-m/0913/04 | ↓ | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ___ Rush X (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ___ II ___ III ___ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable ___ Skin Irritant ___ Highly Toxic ___ Other ___ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ___ Disposal by Lab X Archive ___ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216921
C/C Control No. 226459, 226458

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091390
LAB DESTINATION: IT-Cincinnati
LABORATORY CONTACT: Craig Crouse
SEND LAB REPORT TO: Bill Thompson, IT-Cinti.
DATE REPORT REQUIRED:
PROJECT CONTACT: Rick Delack
PROJECT CONTACT PHONE NO.: 646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| 08-526-m/0913/01 | Water | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| 08-526-m/0913/01 | ↓ | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| 08-526-m/0913/01 | ↓ | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| | | | | | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216924
C/C Control No. 226459, 226458

PROJECT NAME: WPAFB
PROJECT NUMBER: 198814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091390
LAB DESTINATION: IT-Cincinnati
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinl.
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| P-1/0913/03 | Water | 80 ml | HCl | VOA | |
| P-1/0913/01 | ↓ | 80 ml | ↓ | VOA | |
| ↓ ↓ | ↓ | 80 ml | ↓ | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| P-2/0913/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| P-5/0913/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ✓ Rush X 7 Day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard ✓ Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab ✓ Archive ____ (Indicate number of months.)

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XO-09-099

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216927

C/C Control No. 826456, 826457

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091490

LAB DESTINATION: IT-Cinty

LABORATORY CONTACT: Craig Crump

SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Dolack

PROJECT CONTACT PHONE NO.: 646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| HW-2/0914/03 | water | 80 ml | HCl | VOA | |
| HW-2/0914/01 | ↓ | 80 ml | ↓ | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | ↓ | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| HW-2D/0914/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ | ↓ ↓ | 80 ml | HCl | TPH-LO | |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |
| HW-2D/0914/05 | | 80 ml | HCl | VOA | MS |
| ↓ ↓ ↓ | ↓ | 80 ml | HCl | TPH-LO | ↓ ↓ |
| | | 1000 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal ____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client ____ Disposal by Lab X Archive ____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216928

C/C Control No. 226456, 226455

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091490

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Crouse

SEND LAB REPORT TO: Bill Thompson, IT Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Dolack

PROJECT CONTACT PHONE NO.: 646-0936

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| HW-20/0914/06 | Water | 80 ml | HCl | VOA | MSD |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | ↓ |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | ↓ |
| HW-19S/0914/01 | ↓ | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| HW-19D/0914/01 | ↓ | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HI | |
| | | | | | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush X 7 Day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216929
C/C Control No. 226456, 226457

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091490
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT Cinti

DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| HW-19D/0914/04 | Water | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | 1000 ml | $H_2SO_4$ | TPH-HC | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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XO-09-114

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216930
C/C Control No. 226460

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 9/17/90
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Delal
PROJECT CONTACT PHONE NO.: (513) 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| WT/0917/03 | Water | 80 ml | HCl | VOA | |
| WT/0917/01 | ↓ | 80 ml | HCl | VOA | |
| WT/0917/01 | | 80 ml | HCl | TPH-LO | |
| WT/0917/01 | | 1000 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab X Archive ____ (Indicate number of months.)

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126A-10-85

X0-09922

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216934

C/C Control No. 226463

| | | | |
|---|---|---|---|
| PROJECT NAME | WPAFB | DATE SAMPLES SHIPPED | 091890 |
| PROJECT NUMBER | 199814.04.01 | LAB DESTINATION | IT-Cinti |
| PROFIT CENTER NUMBER | 3572 | LABORATORY CONTACT | Craig Crump |
| PROJECT MANAGER | Bill Thompson | SEND LAB REPORT TO | Bill Thompson |
| BILL TO | | | IT-Cinti |
| | | DATE REPORT REQUIRED | |
| PURCHASE ORDER NO. | | PROJECT CONTACT | Rich Doland |
| | | PROJECT CONTACT PHONE NO. | 878-8041 |

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| WST-01/0918/01 | water | 120 ml | HCl | Priority Pollutant Volatiles | See Bill |
| WST-01/0918/01 | water | ½ gal | none | Priority Pollutant BNA's | Thompson |
| | | | | 8240 Targets are PP VOAs | |
| | | | | 8270 3520-EX Targets are PP BNAs | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush X (Subject to rush surcharge.) 5 day

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific Y

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard Y Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab Y Archive _____ (Indicate number of months.)

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KO-07-121

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216932

C/C Control No. 82646 1, 82646 2

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091890

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Crume

SEND LAB REPORT TO: Bill Thompson IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Dolack

PROJECT CONTACT PHONE NO.: 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| HD-10D/0918/03 | water | 80 ml | HCl | VOA | |
| HD-10D/0918/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| | | 1500 ml | $H_2SO_4$ | TPH-HI | |
| HD-13S/0918/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| | | 1500 ml | $H_2SO_4$ | TPH-HI | |
| HD-13D/0918/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| | | 1500 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal ✓ Rush X 7 Day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client ____ Disposal by Lab X Archive ____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216931
C/C Control No. 226461, 226462

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091890
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| HD-11/0918/01 | water | 80ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| | | 1500 ml | $H_2SO_4$ | TPH-HI | |
| HD-12m/0918/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80ml | HCl | TPH-LO | |
| | | 1500ml | $H_2SO_4$ | TPH-HI | |
| HD-12S/0918/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ | ↓ | 80ml | HCl | TPH-LO | |
| | | 1500 ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 Day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216933

C/C Control No. 226461, 226462

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091890

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Crume

SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Polak

PROJECT CONTACT PHONE NO.: 873-8084

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| GR-50/0918/01 | Water | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | 1500 ml | $H_2SO_4$ | TPH-HI | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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126A-10-85

XD-09-129

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216935
C/C Control No. 226464

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.

DATE SAMPLES SHIPPED: 091990
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| HD-145/0919/03 | Water | 80ml | HCl | VOA | |
| HD-145/0919/01 | | 80ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | ~~$H_2SO_4$~~ RO HCl | TPH - LO | |
| | | 1500 ml | ~~HCl~~ RO $H_2SO_4$ | TPH - HI | |
| MR-109S/0919/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | HCl | TPH - LO | |
| | | 1500 ml | $H_2SO_4$ | TPH - HI | |
| MR-109S/0919/02 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80 ml | HCl | TPH - LO | |
| | ↓ | 1500 ml | $H_2SO_4$ | TPH - HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216936
C/C Control No. 22646 F

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 091990
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| MR-1125/0919/01 | water | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216937
C/C Control No. 226465

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:
PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092090
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crome
SEND LAB REPORT TO: Bill Thompson, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| MR-1120/0920/03 | water | 80ml | HCl | VOA | |
| MR-1120/0920/01 | | 80ml | HCl | VOA | |
| MR-1120/0920/01 | | 80ml | HCl | TPH-LO | |
| MR-1120/0920/01 | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| MR-1135/0920/01 | | 80ml | HCl | VOA | |
| MR-1135/0920/01 | | 80ml | HCl | TPH-LO | |
| MR-1135/0920/01 | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| MR-1115/0920/01 | | 80ml | HCl | VOA | |
| MR-1115/0920/01 | | 80ml | HCl | TPH-LO | |
| MR-1115/0920/01 | | 1500ml | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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20-01-139

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216938
C/C Control No. 226465

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:
PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092090
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 8738041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| MR-110S/0920/01 | Water | 80 ml | HCl | VOA | |
| MR-110S/0920/01 | | 80 ml | HCl | TPH-LO | |
| MR-110S/0920/01 | | | $H_2SO_4$ | TPH-HI | |
| MR-110S/0920/04 | | 80 ml | HCl | VOA | |
| MR-110S/0920/04 | | 80 ml | HCl | TPH-LO | |
| MR-110S/0920/04 | | | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab X Archive ____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216939
C/C Control No. 226467, 226468

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:
PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 9/21/90
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crane
SEND LAB REPORT TO: Bill Thompson IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 873-8041

90-09-145

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| HR-10/0921/03 | Water | 80ml | HCl | VOA | |
| HR-10/0921/01 | | 80ml | HCl | VOA | |
| HR-10/0921/01 | | 80 ml | HCl | TPH-LO | |
| HR-10/0921/01 | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| HR-10/0921/05 | | 80 ml | HCl | VOA | MATRIX SPIKE |
| HR-10/0921/05 | | 80ml | HCl | TPH-LO | |
| HR-10/0921/05 | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| HR-10/0921/06 | | 80 ml | HCl | VOA | MATRIX SPIKE DUP |
| HR-10/0921/06 | | 80ml | HCl | TPH-LO | |
| HR-10/0921/06 | | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X 7day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab X Archive ____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216940

C/C Control No. 226467, 226468

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 9/21/90

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Crume

SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Dolack

PROJECT CONTACT PHONE NO.: 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| HR-10/0921/04 | Water | 80 ml | HCl | VOA | |
| HR-10/0921/04 | | 80 ml | HCl | TPH-LO | |
| HR-10/0921/04 | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW4-85/0921/01 | | 80 ml | HCl | VOA | |
| CW4-85/0921/01 | | 80 ml | HCl | TPH-LO | |
| CW4-85/0921/01 | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW4-60/0921/01 | | 80 ml | HCl | VOA | |
| CW4-60/0921/01 | | 80 ml | HCl | TPH-LO | |
| CW4-60/0921/01 | | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush X 7day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216943
C/C Control No. 226469, 226470, 226471

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 357 25
PROJECT MANAGER: Bill Thompson
BILL TO:
PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092490
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW8-85/0924/01 | Water | 80ml | HCl | TPH-LO | |
| CW8-85/0924/01 | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW8-55/0924/01 | | 80ml | HCl | VOA | |
| | | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| | | 1 liter | $HNO_3$ | metals + hardness | |
| | | 1 liter | none | wet test | |
| | | 500ml | $H_2SO_4$ | TOC | |
| CW8-110/0924/01 | | 80ml | HCl | VOA | |
| CW8-110/0924/01 | | 80ml | HCl | TPH-LO | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific V

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Y Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab Y Archive ____ (Indicate number of months.)

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20-09-154

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216941
C/C Control No. 226469, 226470, 226471

PROJECT NAME: WPAFB
PROJECT NUMBER: 199819.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:
PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092490
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| P-14/0924/03 | Water | 80ml | HCl | VOA | |
| P-14/0924/01 | | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| P-14/0924/02 | | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| P-57/0924/01 | | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Y Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab Y Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216942

C/C Control No. 226469, 226470, 226471

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092496

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Crume

SEND LAB REPORT TO: Bill Thompson IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Dolach

PROJECT CONTACT PHONE NO.: 873-8041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW8-17/0924/01 | water | 80ml | HCl | VOA | |
| | | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| | | 1 liter | $HNO_3$ | metals + hardness | |
| | | 1 liter | none | wet test | |
| | | 500ml | $H_2SO_4$ | TOC | |
| CW8-55/0924/04 | | 80ml | HCl | VOA | |
| | | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW8-85/0924/01 | | 80ml | HCl | VOA | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush ✓ 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific ✓

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard ✓ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab ✓ Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216944

C/C Control No. 226469, 226470, 226471

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092496

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Grume

SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Black

PROJECT CONTACT PHONE NO.: 8738041

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW8-110/0924/01 | water | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW8-150/0924/01 | " | 80ml | HCl | VOA | |
| | | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| | | 1 liter | $HNO_3$ | metals hardness | |
| | | 1 liter | none | wet test | |
| | | 500ml | $H_2SO_4$ | TOC | |
| | | | | | |
| | | | | | |
| | | | | | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal ____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard Y Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client ____ Disposal by Lab X Archive ____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

XO-09-165

# REQUEST FOR ANALYSIS

R/A Control No. 216945

C/C Control No. 226472

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 92590

LAB DESTINATION: IT-Cincl,

LABORATORY CONTACT: Craig Crume

SEND LAB REPORT TO: Bill Thompson IT Cincl

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Doland

PROJECT CONTACT PHONE NO.: 646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW7-100/0925/03 | water | 80 ml | HCl | VOA | |
| ~~CW7-5~~ CW7-55/0925/01 | | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW7-55/0925/02 | | 80 ml | HCl | VO | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW7-100/0925/01 | | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216946
C/C Control No. 226972

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092590
LAB DESTINATION: IT-Cinn
LABORATORY CONTACT: Craig Crane
SEND LAB REPORT TO: Bill Thompson, IT-Cinn
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Polak
PROJECT CONTACT PHONE NO.: 646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW6-76/0925/01 | Water | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW6-76/0925/04 | | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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126A-10-85

X8-09-181

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216948

C/C Control No. 226474 226475

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092690

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Crume

SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Dolack

PROJECT CONTACT PHONE NO.: 1-696-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| P-56/0926/01 | Water | 80ml | HCl | VOA | |
| ↓ ↓ ↓ | ↓ | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| P-58/0926/01 | | 80ml | HCl | VOA | |
| ↓ ↓ ↓ | | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| P-58/0926/05 | | 80ml | HCl | VOA | MS |
| ↓ ↓ ↓ | | 80ml | HCl | TPH-LO | MS |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | MS |
| P-58/0926/06 | ↓ | 80ml | HCl | VOA | MSD |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard N Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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126A-10-85

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216947

C/C Control No. 226974 226975

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092690

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Crume

SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Delaude

PROJECT CONTACT PHONE NO.: 1-646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| P-15/0926/01 | Water | 80ml | HCl | VOA | |
| ↓ ↓ | ↓ | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| P-30/0926/01 | | 80ml | HCl | VOA | |
| ↓ ↓ | ↓ | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| P-55/0926/01 | | 80ml | HCl | VOA | |
| ↓ ↓ | ↓ | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CWS-55/0926/03 | ↓ | 80ml | HCl | VOA | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216949
C/C Control No. 226474 226475

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092690
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crum
SEND LAB REPORT TO: Bill Thompson, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 1-646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| P-58/0926/06 | water | 80ml | HCl | ~~VOA~~ TPH-LO | MSD |
| P-58/0926/06 | | 1/2 gallon | $H_2SO_4$ | TPH-HI | MSD |
| CW5-55/0926/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ ↓ | | 80 ml | HCl | TPH-LO | |
| | | 1/2 gallon | $H_2SO_4$ | TPH-HI | |
| CW5-85/0926/01 | | 80 ml | HCl | VOA | |
| ↓ ↓ ↓ ↓ | | 80 ml | HCl | TPH-LO | |
| | | 1/2 gallon | $H_2SO_4$ | TPH-HI | |
| CW5-85/0926/04 | | 80 ml | HCl | VOA | |
| CW5-85/0926/04 | ↓ | 80 ml | HCl | TPH-LO | |
| CW5-85/0926/04 | water | 1/2 gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Y Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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X0-09-195

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216950
C/C Control No. 226476

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.0401
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092796
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolucek
PROJECT CONTACT PHONE NO.: 1-646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW3-27/0927/03 | water | 80ml | HCl | VOA | |
| CW3-27/0927/01 | | 80ml | HCl | TPH-LO | |
| CW3-27/0927/01 | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW3-27/0927/01 | | 80ml | HCl | VOA | |
| CW3-27/0927/02 | | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW3-36/0927/01 | | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216951
C/C Control No. 226476

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092796
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crome
SEND LAB REPORT TO: Bill Thompsey, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 1-646-0936

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW3-36/092704 | water | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| | | | | | |
| | | | | | |
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TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 Day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard X Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216955
C/C Control No. 226477

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 9/28/90
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 1-646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| P-25/0928/01 | Water | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| P-37/0928/01 | ↓ | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush 7 DAY (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard ✓ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

XO-09-215

R/A Control No. 216954

C/C Control No. 226477

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.04.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 9-28-90

LAB DESTINATION: IT Cinti

LABORATORY CONTACT: C. Crume

SEND LAB REPORT TO: Bill Thompson, IT Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: R Dozack

PROJECT CONTACT PHONE NO.: 1-646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW3-77/0928/03 | water | 80ml | HCl | VOA | |
| CW3-77/0928/01 | | 80ml | HCl | VOA | |
| ↓ ↓ | ↓ ↓ | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW3-77/0928/04 | | 80ml | HCl | VOA | |
| ↓ ↓ | ↓ ↓ | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| ~~EE~~ P-19/0928/01 | | 80ml | HCl | VOA | |
| ↓ | ↓ ↓ | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush 7 Day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard ✓ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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~~XO-09~~ XO-10-001

**INTERNATIONAL TECHNOLOGY CORPORATION**

# REQUEST FOR ANALYSIS

R/A Control No. 216956

C/C Control No. 226479, 226480

PROJECT NAME: WPAFB

PROJECT NUMBER: 199814.09.01

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092990

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Carne

SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Dolack

PROJECT CONTACT PHONE NO.: 1-696-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW2-27/0929/03 | water | 80ml | HCl | VOA | |
| CW2-27/0929/01 | | 80ml | HCl | VOA | |
| | | 80ml | HCl | TPH-LO | |
| | | ~~80ml~~ ½ gallon | $H_2SO_4$ | TPH-HI | |
| | | 1 liter | $HNO_3$ | metals + hardness | |
| | | 1 liter | None | Wet test | |
| | | ~~80ml~~ 500ml | $H_2SO_4$ | TOC | |
| CW2-90/0929/01 | | 80ml | HCl | VOA | |
| | | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal _____ Rush X 7day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard ✓ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client _____ Disposal by Lab ✓ Archive _____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216958

C/C Control No. 226479, 226480

PROJECT NAME: WPA-B

PROJECT NUMBER: 199814.0401

PROFIT CENTER NUMBER: 3572

PROJECT MANAGER: Bill Thompson

BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 092990

LAB DESTINATION: IT-Cinti

LABORATORY CONTACT: Craig Crume

SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:

PROJECT CONTACT: Rich Dolack

PROJECT CONTACT PHONE NO.: 1-646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW1-27/0929/01 | Water | 80ml | HCl | TPH-LO | |
| CW1-27/0929/01 | | 1/2 gallon | $H_2SO_4$ | TPH-HI | |
| CW1-35/0929/01 | | 80ml | HCl | VOA | |
| ↓ | | 80ml | HCl | TPH-LO | |
| ↓ | | 1/2 gallon | $H_2SO_4$ | TPH-H | |
| CW1-35/0929/02 | | 80ml | HCl | VOA | |
| ↓ | | 80ml | HCl | TPH-LO | |
| ↓ | | 1/2 gallon | $H_2SO_4$ | TPH-HI | |
| CW1-27/0929/04 | | 80ml | HCl | VOA | |
| CW1-27/0929/04 | | 80ml | HCl | TPH-LO | |
| CW1-27/0929/04 | Water | 1/2 gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)

Normal ____ Rush X 7day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)

I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

Non-hazard X Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)

Return to Client ____ Disposal by Lab X Archive ____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216957
C/C Control No. 226479, 226480

PROJECT NAME WPAFB
PROJECT NUMBER 199814.09.01
PROFIT CENTER NUMBER 3572
PROJECT MANAGER Bill Thompson
BILL TO
PURCHASE ORDER NO.

DATE SAMPLES SHIPPED 092990
LAB DESTINATION IT-Cinti
LABORATORY CONTACT Craig Crume
SEND LAB REPORT TO Bill Thompson IT-Cinti
DATE REPORT REQUIRED
PROJECT CONTACT Rich Dolak
PROJECT CONTACT PHONE NO. 1-646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW2-90/0929/01 | Water | 1 liter | $HNO_3$ | metals + hardness | |
| ↓ | ↓ | 1 liter | none | Wet test | |
| ↓ | ↓ | 500 ml | $H_2SO_4$ | TOC | |
| CW2-44/0929/01 | | 80 ml | HCl | VOA | |
| ↓ | ↓ | 80 ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| ↓ | ↓ | 1 liter | $HNO_3$ | metals & hardness | |
| ↓ | ↓ | 1 liter | none | Wet test | |
| ↓ | ↓ | 500 ml | $H_2SO_4$ | TOC | |
| CW1-27/0929/01 | | 80 ml | ~~HOA~~ HCl | VOA | |

XO-10-001

XO-10-002

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal ____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I ____ II ____ III ____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Y Flammable ____ Skin Irritant ____ Highly Toxic ____ Other ____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client ____ Disposal by Lab Y Archive ____ (Indicate number of months.)

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INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216960
C/C Control No. 22648 / 22648

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 100190
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti
DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolack
PROJECT CONTACT PHONE NO.: 1-646[redacted]0 0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW7-148 | 1001/04 water | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |
| P-11 | 1001/01 water | 80ml | HCl | VOA | |
| ↓ | ↓ | 80ml | HCl | TPH-LO | |
| ↓ | ↓ | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7 day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific X

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Y Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab X Archive _____ (Indicate number of months.)

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XO-10-022

INTERNATIONAL TECHNOLOGY CORPORATION

# REQUEST FOR ANALYSIS

R/A Control No. 216959
C/C Control No. 22648/ 226482

PROJECT NAME: WPAFB
PROJECT NUMBER: 199814.04.01
PROFIT CENTER NUMBER: 3572
PROJECT MANAGER: Bill Thompson
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED: 100190
LAB DESTINATION: IT-Cinti
LABORATORY CONTACT: Craig Crume
SEND LAB REPORT TO: Bill Thompson, IT-Cinti

DATE REPORT REQUIRED:
PROJECT CONTACT: Rich Dolacka
PROJECT CONTACT PHONE NO.: 1-646-0930

| Sample No. | Sample Type | Sample Volume | Preservative | Requested Testing Program | Special Instructions |
|---|---|---|---|---|---|
| CW7-148/1001/03 | Water | 80ml | HCl | VOA | |
| CW1-121/0930/01 | | 80ml | HCl | TPH-LO | |
| ↓ ↓ | ↓ ↓ | 80ml | HCl | VOA | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW1-121/0930/04 | | 80ml | HCl | VOA | |
| ↓ ↓ | ↓ ↓ | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |
| CW7-148/[redacted]1001/01 | | 80ml | HCl | VOA | |
| ↓ ↓ | ↓ ↓ | 80ml | HCl | TPH-LO | |
| | | ½ gallon | $H_2SO_4$ | TPH-HI | |

TURNAROUND TIME REQUIRED: (Rush must be approved by the Laboratory Project Manager.)
Normal _____ Rush X 7day (Subject to rush surcharge.)

QC LEVEL: (Levels II and III subject to surcharge; project-specific requirements must be submitted to lab before beginning work.)
I _____ II _____ III _____ Project Specific Ø

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)
Non-hazard Y Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, archive and disposal.)
Return to Client _____ Disposal by Lab Y Archive _____ (Indicate number of months.)

FOR LAB USE ONLY
Received by Lanita Ridge Date/Time 10/1/90 1945

WHITE - Original, to accompany samples
YELLOW - Field copy

126A-10-85

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# END

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8 / 12 / 92