N00236.000832
ALAMEDA POINT
SSIC NO. 5090.3

June 1992 86-018-1810

# REVISED
# PHASE 1 AND 2A ANALYTICAL RESULTS FOR SITE 13, OIL REFINERY SITE REMEDIAL INVESTIGATION/FEASIBILITY STUDY NAVAL AIR STATION ALAMEDA ALAMEDA, CALIFORNIA VOLUME 1

Prepared for: Naval Air Station Alameda

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December 4, 1990

86-018-1810

Ms. Bella Dizon (Code 1813BD)
Western Division Naval Facilities
Engineering Command
PO Box 727
San Bruno, CA 94066-0727

Phase 2A Analytical Results for Site 13, Oil Refinery Site
Remedial Investigation/Feasibility Study
Naval Air Station Alameda
Alameda, California

Dear Ms. Dizon:

This report presents the Phase 2A analytical results for Site 13, Oil Refinery Site, that were obtained as part of the Remedial Investigation/ Feasibility Study at Naval Air Station Alameda. Pertinent information provided with this report include a site plan showing the boring and well locations, summary tables of the analytical results, a table showing the comparison of action levels for various chemical groups, and certified analytical reports.

The summary tables (Tables 1A, 1B, and 2) are prepared as part of the Data Management Plan to provide an efficient method of screening large amounts of analytical data that highlight site-specific areas of potential concern. Chemical concentrations exceeding various established action levels (referenced from Table 3) are highlighted on these tables. Certified analytical reports are provided in Appendix A and include the raw laboratory data and detection limits for each chemical group analyzed.

If you have any questions regarding these results, please call me at (415) 573-8012.

Very truly yours,

Timothy G. Bodkin, R.G.
Senior Project Scientist

TGB/gd

Enclosures

cc: J. Babcock, Canonie Environmental Services Corp.
R. Duffield, Canonie Environmental Services Corp.

N00236.000832
ALAMEDA POINT
SSIC NO. 5090.3

# PHASE 2A ANALYTICAL RESULTS FOR SITE 13, OIL REFINERY SITE REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 01 DECEMBER 1990

IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000798** AND **N00236.000799**

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TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | MWOR-1 2.5 - 3.0 | MWOR-1 7.0 - 7.5 | MWOR-1 11.5 - 12.0 | MWOR-1 14.5 - 15.0 | MWOR-2 2.5 - 3.0 | MWOR-2 7.0 - 7.5 | MWOR-2 10.0 - 10.5 | MWOR-3 2.5 - 3.0 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | | | |
| Acetone | | 16. | | 13. | | 16. | 16. | |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methylene Chloride | | 14. | 14. | 11. | 6. | 25. | 22. | |
| Tetrachloroethene | | | | | | | | |
| Toluene | 450. | 13. | 10. | 12. | | 8. | | 46. |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | MWOR-3 7.0 - 7.5 | MWOR-3 10.0 - 10.5 | MWOR-3 11.5 - 12.0 | MWOR-4 2.5 - 3.0 | MWOR-4 6.5 - 7.0 | MWOR-4 10.0 - 10.5 | MWOR-4 14.0 - 14.5 | MWOR-5 7.0 - 7.5 |
| **Volatile Organics** | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | | | |
| Acetone | 28. | 24. | 42. | 22. | 48. | 30. | 21. | 18. |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methylene Chloride | 14. | 15. | 13. | 7. | 34. | 11. | 18. | 10. |
| Tetrachloroethene | | | | | | | | |
| Toluene | 32. | 8. | 12. | 43. | | | | 11. |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | MWOR-5 | MWOR 5 | MWOR 5 | BOR 6 | BOR 6 | BOR 6 | BOR 6 | BOR 7 |
| Chemical Group/Analyte | 10.0 - 10.5 | 12.5 13.0 | 14.5 15.0 | 5.5 6.0 | 8.0 8.5 | 11.0 11.5 | 14.0 14.5 | 2.5 3.0 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | | | |
| Acetone | 21. | | 27. | | | | 29. | |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methylene Chloride | 10. | 13. | 13. | 21. | 19. | 22. | 11. | 31. |
| Tetrachloroethene | | | | | | | | |
| Toluene | | | | 8. | 18. | 54. | 13. | 260. |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-7 4.0 - 4.5 | BOR 7 8.5 - 9.0 | BOR 7 13.5 - 14.0 | BOR 8 4.0 - 4.5 | BOR 8 7.0 - 7.5 | BOR 8 11.0 - 11.5 | BOR 8 14.0 - 14.5 | BOR 9 2.0 - 2.5 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | | | |
| Acetone | | | | 23. | 14. | 21. | 32. | |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methylene Chloride | 12. | 14. | 14. | 15. | 15. | 11. | 8. | 14. |
| Tetrachloroethene | | | | | | | | |
| Toluene | 9. | 14. | 36. | 25. | | | 7. | |
| Xylene (total) | | | | | | | | |

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Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-9 6.5 - 7.0 | BOR-9 11.0 - 11.5 | BOR-9 14.0 - 14.5 | BOR-10 3.5 - 4.0 | BOR-10 7.0 - 7.5 | BOR-10 11.0 - 11.5 | BOR-10 14.0 - 14.5 | BOR-11 2.5 - 3.0 |
| **Volatile Organics** | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | 20. | | |
| Acetone | | | | 18. | 38. | 71. | 18. | 18. |
| Benzene | 1000. | 960. | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | 14. | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | 1800. | | | | | | |
| Methylene Chloride | 2800. | 2000. | 3300. | 10. | 11. | 19. | 10. | 10. |
| Tetrachloroethene | | | | | | | | |
| Toluene | | | | | 16. | 110. | | 38. |
| Xylene (total) | | 4100. | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-11 6.5 - 7.0 | BOR-11 14.0 - 14.5 | BOR-11 11.0 - 11.5 | BOR-12 3.5 - 4.0 | BOR-12 8.5 - 9.0 | BOR-12 11.0 - 11.5 | BOR-12 14.0 - 14.5 | BOR-13 2.0 - 2.5 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | 21. | | |
| Acetone | | | 43. | 17. | 37. | 110. | 58. | |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | 13. | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methylene Chloride | 31. | 17. | 49. | 10. | 45. | 160. | 63. | 15. |
| Tetrachloroethene | | | | | | | | |
| Toluene | | 10. | 100. | 16. | 13. | 230. | 9. | 21. |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-13 6.5 - 7.0 | BOR 13 11.0 - 11.5 | BOR 13 14.0 14.5 | BOR 14 6.0 6.5 | BOR 14 8.0 8.5 | BOR 14 13.0 13.5 | BOR 15 2.0 2.5 | BOR 15 6.5 7.0 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | | | |
| Acetone | 17. | 25. | | | | | | 26. |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methylene Chloride | 17. | 27. | 29. | 18. | 13. | 14. | | 40. |
| Tetrachloroethene | | | | | | | | |
| Toluene | 26. | 37. | 29. | | | | 1600. | 13. |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-15 11.0 - 11.5 | BOR-15 14.0 - 14.5 | BOR-16 2.0 - 2.5 | BOR-16 11.0 - 11.5 | BOR-16 14.0 - 14.5 | BOR-16 6.5 - 7.0 | BOR-17 2.5 - 3.0 | BOR-17 7.0 - 7.5 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | | | 7. |
| Acetone | 39. | 28. | | | | 18. | 15. | 50. |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | 2. | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | 10. | | | | | | | |
| Methylene Chloride | 31. | 26. | 12. | 11. | 14. | 16. | 11. | 20. |
| Tetrachloroethene | | | | | | | | |
| Toluene | 14. | | 57. | 27. | 12. | 15. | 300. | 15. |
| Xylene (total) | 27. | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-17 10.0 - 10.5 | BOR 17 11.5 - 12.0 | BOR 18 3.5 4.0 | BOR 18 7.0 7.5 | BOR 18 11.0 11.5 | BOR 18 14.0 14.5 | BOR 19 2.5 3.0 | BOR 19 7.0 7.5 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | | | |
| Acetone | | 70. | 25. | | | 12. | 29. | 79. |
| Benzene | | 10. | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | 1400. | 5. | | | | | | |
| Methylene Chloride | | 15. | 16. | 16. | 11. | 15. | 12. | 25. |
| Tetrachloroethene | | | | | | | | |
| Toluene | | 13. | 62. | 36. | 26. | 38. | | 40. |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-19 11.0 - 11.5 | BOR-19 14.0 - 14.5 | BOR-20 3.0 - 3.5 | BOR-20 6.0 - 6.5 | BOR-20 10.0 - 10.5 | BOR-20 11.5 - 12.0 | BOR-21 2.5 - 3.0 | BOR-21 7.0 - 7.5 |
| **Volatile Organics** | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | 2. | | | | | |
| Acetone | | 45. | 13. | 12. | 15. | 13. | 53. | 35. |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | 2. | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | 1500. | | | | | | | |
| Methylene Chloride | | 8. | 8. | 19. | 20. | 15. | | 12. |
| Tetrachloroethene | | | | | 2. | | | |
| Toluene | | 6. | 15. | 4. | 2. | 2. | 18. | |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-21 11.5 - 12.0 | BOR-21 14.0 - 14.5 | BOR-22 2.5 - 3.0 | BOR-22 7.5 - 8.0 | BOR-22 11.0 - 11.5 | BOR-22 14.0 - 14.5 | BOR-23 3.0 - 3.5 | BOR-23 8.5 - 9.0 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | | | |
| Acetone | | 19. | | | | | 11. | 45. |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methylene Chloride | | 18. | 19. | 14. | 28. | 15. | 7. | 7. |
| Tetrachloroethene | | | | | | | | |
| Toluene | | | 17. | 21. | 140. | 6. | 41. | 12. |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | BOR-23 | BOR-23 | BOR-24 | BOR-24 | BOR-24 | BOR-24 | BOR-25 | BOR-25 |
| Chemical Group/Analyte | 11.0 - 11.5 | 14.5 - 15.0 | 2.5 - 3.0 | 7.0 - 7.5 | 11.0 - 11.5 | 14.0 - 14.5 | 2.5 - 3.0 | 6.5 - 7.0 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | 26. | | | | | | | |
| Acetone | 85. | 17. | | 33. | 36. | | 63. | 38. |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | 11. | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methylene Chloride | 22. | 12. | 14. | 6. | 7. | 17. | 14. | 8. |
| Tetrachloroethene | | | | | | | | |
| Toluene | 130. | 10. | | | | | 34. | 17. |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-25 11.0 - 11.5 | BOR-25 14.0 - 14.5 | BOR-26 10.0 - 10.5 | BOR-26 13.0 - 13.5 | BOR-27 2.5 - 3.0 | BOR-27 7.0 - 7.5 | BOR-27 10.0 - 10.5 | BOR-27 12.5 - 13.0 |
| Volatile Organics | | | | | | | | |
| 1,2-Dichloroethene (total) | | | | | | | | |
| 2-Butanone (MEK) | | | | | | | | |
| Acetone | 15. | 24. | 27. | 19. | 18. | 21. | 32. | 140. |
| Benzene | | | | | | | | |
| Bromodichloromethane | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methylene Chloride | 9. | 14. | | | 10. | 13. | 15. | 32. |
| Tetrachloroethene | | | | | | | | |
| Toluene | 20. | 11. | | 9. | 95. | 8. | | 74. |
| Xylene (total) | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | MWOR-2 12.0 - 12.5 | MWOR-5 7.0 - 7.5 | BOR 7 0.5 - 1.0 | BOR 7 2.5 - 3.0 | BOR 7 4.0 - 4.5 | BOR 8 11.0 - 11.5 | BOR 9 14.0 - 14.5 | BOR 10 0.5 - 1.0 |
| Semivolatile Organics | | | | | | | | |
| 2-Methylnaphthalene | | | | | | | 13000. | |
| Benzo(a)pyrene | 520. | | | | | | | |
| Benzo(b)fluoranthene | | | | | | 1100. | | |
| Benzo(g,h,i)perylene | | | | | | 1400. | | |
| Benzo(k)fluoranthene | 510. | | | | | | | |
| Butylbenzylphthalate | | | | | | | | |
| Chrysene | | | | | | 480. | | |
| Di-n-Butylphthalate | | | | | | | | 340. |
| Diethylphthalate | | | | 570. | | | | |
| Fluoranthene | 520. | 650. | | | | 800. | | |
| Indeno(1,2,3-cd)pyrene | | | | | | 690. | | |
| Naphthalene | | | | | | | 5300. | |
| Phenanthrene | | | | | | | 1800. | |
| Pyrene | 810. | 670. | | | | 1900. | | |
| bis(2-Ethylhexyl)phthalate | | | 870. | | 1100. | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

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TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-10 3.5 - 4.0 | BOR-10 11.0 11.5 | BOR-10 14.0 14.5 | BOR-11 11.0 11.5 | BOR-13 0.5 1.0 | BOR-13 11.0 11.5 | BOR-13 14.0 14.5 | BOR-17 10.0 10.5 |
| **Semivolatile Organics** | | | | | | | | |
| 2-Methylnaphthalene | | | | | | | | 8500. |
| Benzo(a)pyrene | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | |
| Benzo(g,h,i)perylene | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | |
| Butylbenzylphthalate | | | | | | | | |
| Chrysene | | | | | | | | |
| Di-n-Butylphthalate | 350. | 610. | 400. | | 12000. | 1000. | 600. | |
| Diethylphthalate | | | | | | | | |
| Fluoranthene | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | |
| Naphthalene | | | | | | | | 4100. |
| Phenanthrene | | | | | | | | |
| Pyrene | | | | 690. | | | | |
| bis(2-Ethylhexyl)phthalate | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-17R 10.5 - 11.0 | BOR-18 0.5 - 1.0 | BOR-18 3.5 - 4.0 | BOR-18 7.0 - 7.5 | BOR-19 11.0 - 11.5 | BOR-21 0.5 - 1.0 | BOR-22 0.5 - 1.0 | BOR-22 2.5 - 3.0 |
| **Semivolatile Organics** | | | | | | | | |
| 2-Methylnaphthalene | 3100. | | | | 17000. | | | |
| Benzo(a)pyrene | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | |
| Benzo(g,h,i)perylene | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | |
| Butylbenzylphthalate | | 4600. | | | | | 4400. | |
| Chrysene | | | | | | | | |
| Di-n-Butylphthalate | | 970. | 2000. | 450. | | | 940. | 980. |
| Diethylphthalate | | | | | | | | |
| Fluoranthene | | | | | | 440. | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | |
| Naphthalene | 800. | | | | 5400. | | | |
| Phenanthrene | | | | | | | | |
| Pyrene | | | | | | 380. | | |
| bis(2-Ethylhexyl)phthalate | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | |
|---|---|---|---|---|
| | BOR-22 | BOR-22 | BOR-23 | BOR-26 |
| Chemical Group/Analyte | 7.5 - 8.0 | 14.0 - 14.5 | 11.0 - 11.5 | 13.0 - 13.5 |
| Semivolatile Organics | | | | |
| 2-Methylnaphthalene | | | | |
| Benzo(a)pyrene | | | | |
| Benzo(b)fluoranthene | | | | |
| Benzo(g,h,i)perylene | | | | |
| Benzo(k)fluoranthene | | | | |
| Butylbenzylphthalate | | | | |
| Chrysene | | | | |
| Di-n-Butylphthalate | 1000. | 890. | | 510. |
| Diethylphthalate | | | | |
| Fluoranthene | | | | |
| Indeno(1,2,3-cd)pyrene | | | | |
| Naphthalene | | | | |
| Phenanthrene | | | | |
| Pyrene | | | 650. | |
| bis(2-Ethylhexyl)phthalate | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | MWOR-1 | MWOR-2 | MWOR-2 | BOR 8 | BOR 8 | BOR 9 | BOR 16 | BOR 16 |
| Chemical Group/Analyte | 7.5 - 8.0 | 12.5 - 13.0 | 13.0 - 13.5 | 10.5 - 11.0 | 12.5 - 13.0 | 0.5 - 1.0 | 0.5 - 1.0 | 2.5 - 3.0 |
| Pesticides | | | | | | | | |
| 4,4'-DDD | | | | 9. | 5. | | | |
| 4,4'-DDE | 17. | | | 35. | 31. | | 31. | 4. |
| 4,4'-DDT | 14. | 7. | 3. | 12. | 11. | 2. | 160. | |
| Toxaphene | | | | | | | | |
| beta-BHC | | | | 4. | | | | |
| Heptachlor epoxide | | | | | | | 5. | |
| gamma-BHC | | | | | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

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TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | |
|---|---|---|---|---|---|---|---|
| | BOR-17 | BOR 18 | BOR 19 | BOR 22 | BOR 26 | BOR 26 | BOR 26 |
| Chemical Group/Analyte | 4.0 - 4.5 | 14.5 - 15.0 | 8.0 - 8.5 | 3.5 - 4.0 | 6.0 - 6.5 | 10.5 - 11.0 | 13.5 - 14.0 |
| Pesticides | | | | | | | |
| 4,4'-DDD | | | | | | | 14. |
| 4,4'-DDE | | | | | | | 7. |
| 4,4'-DDT | 7. | | | 3. | | | 72. |
| Toxaphene | | | | | 1400. | 2500. | 400. |
| beta-BHC | | 2. | | | | | |
| Heptachlor epoxide | | | | | | | |
| gamma-BHC | | | 3. | | | | |

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | MWOR-1 1.0 - 1.5 | MWOR-1 3.0 - 3.5 | MWOR-1 7.5 - 8.0 | MWOR-1 12.0 - 12.5 | MWOR-1 15.0 - 15.5 | MWOR-2 2.0 - 2.5 | MWOR-2 4.0 - 4.5 | MWOR-2 8.0 - 8.5 |
| **Metals** | | | | | | | | |
| Aluminum | 3610.0 | 4160.0 | 4770.0 | 12000.0 | 7500.0 | 8070.0 | 3080.0 | 3760.0 |
| Antimony | | | | | | 3.5 | | |
| Arsenic | | | | | | | 2.6 | |
| Barium | 35.0 | | 30.0 | 140.0 | 57.0 | 47.7 | 17.6 | 19.3 |
| Cadmium | | | | | | | | |
| Calcium | 2600.0 | 2100.0 | 1500.0 | 1900.0 | 1700.0 | 3550.0 | 1550.0 | 1840.0 |
| Chromium | 22.0 | 22.0 | 29.0 | 63.0 | 37.0 | 3.6 | 27.2 | 25.2 |
| Cobalt | | | | | | 5.8 | 3.6 | 3.9 |
| Copper | 9.2 | 11.0 | 6.7 | 17.0 | 8.6 | 59.6 | 12.2 | 8.5 |
| Iron | 6230.0 | 6920.0 | 8560.0 | 15400.0 | 10800.0 | 26600.0 | 6160.0 | 6940.0 |
| Lead | | | | | | | | |
| Magnesium | 1900.0 | 2100.0 | 1800.0 | 3900.0 | 3000.0 | 3310.0 | 1860.0 | 2110.0 |
| Manganese | 93.0 | 88.0 | 120.0 | 95.0 | 100.0 | 702.0 | 69.5 | 80.1 |
| Nickel | 21.0 | 22.0 | 23.0 | 55.0 | 36.0 | 2.6 | 20.9 | 21.6 |
| Potassium | 540.0 | 620.0 | | 620.0 | 710.0 | 270.0 | 410.0 | 510.0 |
| Selenium | | | | | | | | |
| Sodium | | | | 800.0 | | 270.0 | 102.0 | 121.0 |
| Thallium | | | | | | | | |
| Titanium | 330.0 | 360.0 | 300.0 | 440.0 | 430.0 | 632.0 | 276.0 | 328.0 |
| Vanadium | 16.0 | 17.0 | 22.0 | 29.0 | 22.0 | 27.6 | 13.1 | 14.4 |
| Zinc | 18.0 | 19.0 | 14.0 | 37.0 | 26.0 | 95.8 | 22.5 | 22.2 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | MWOR-2 | MWOR 2 | MWOR 2 | MWOR 3 | MWOR 3 | MWOR 3 | MWOR 3 | MWOR 3 |
| Chemical Group/Analyte | 11.0 - 11.5 | 12.5 - 13.0 | 13.0 - 13.5 | 2.0 - 2.5 | 4.0 - 4.5 | 8.0 - 8.5 | 10.5 - 11.0 | 11.0 - 11.5 |
| **Metals** | | | | | | | | |
| Aluminum | 94.1 | 7570.0 | 8020.0 | 3580.0 | 3560.0 | 5670.0 | 12300.0 | 11600.0 |
| Antimony | | | | | | | | |
| Arsenic | 6.1 | 4.3 | | | | | 5.3 | 5.7 |
| Barium | 47.6 | 61.5 | 71.8 | 18.9 | 22.1 | 42.0 | 68.2 | 60.0 |
| Cadmium | | | | | | | | |
| Calcium | 2370.0 | 2100.0 | 2060.0 | 2190.0 | 1730.0 | 1880.0 | 2200.0 | 2110.0 |
| Chromium | 45.8 | 41.7 | 39.3 | 27.7 | 23.0 | 31.8 | 54.1 | 55.3 |
| Cobalt | 9.9 | 6.4 | 7.0 | 4.0 | 4.8 | 3.6 | 7.7 | 7.0 |
| Copper | 92.0 | 11.9 | 15.4 | 8.1 | 10.5 | 8.5 | 16.2 | 13.4 |
| Iron | 18800.0 | 14100.0 | 13600.0 | 6910.0 | 6840.0 | 7560.0 | 17800.0 | 19200.0 |
| Lead | 8.6 | | | | | | 6.2 | |
| Magnesium | 5790.0 | 3390.0 | 3540.0 | 2010.0 | 2200.0 | 2140.0 | 3810.0 | 3800.0 |
| Manganese | 274.0 | 146.0 | 134.0 | 79.9 | 78.2 | 107.0 | 155.0 | 166.0 |
| Nickel | 54.2 | 45.6 | 44.3 | 21.6 | 24.0 | 22.6 | 58.3 | 61.0 |
| Potassium | 1800.0 | 1100.0 | 1300.0 | 480.0 | 620.0 | 410.0 | 890.0 | 800.0 |
| Selenium | | | | | | | | |
| Sodium | 2550.0 | 1370.0 | 1350.0 | 129.0 | 178.0 | 766.0 | 1160.0 | 1090.0 |
| Thallium | | | | | | | | |
| Titanium | 291.0 | 437.0 | 453.0 | 339.0 | 278.0 | 403.0 | 580.0 | 554.0 |
| Vanadium | 30.2 | 24.0 | 22.7 | 15.3 | 13.8 | 15.7 | 31.8 | 33.3 |
| Zinc | 91.7 | 35.7 | 34.9 | 22.7 | 30.2 | 24.4 | 52.8 | 35.7 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

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TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | MWOR-3 13.0 - 13.5 | MWOR-4 1.5 - 2.0 | MWOR-4 5.0 - 5.5 | MWOR-4 7.0 - 7.5 | MWOR-4 10.5 - 11.0 | MWOR-4 14.5 - 15.0 | MWOR-5 1.0 - 1.5 | MWOR-5 8.5 - 9.0 |
| **Metals** | | | | | | | | |
| Aluminum | 7790.0 | 4130.0 | 8790.0 | 17000.0 | 6620.0 | 7870.0 | 21900.0 | 14800.0 |
| Antimony | | | | 2.7 | | 3.9 | 4.6 | 4.9 |
| Arsenic | 3.1 | 4.5 | 3.0 | 3.3 | | 5.6 | | 8.2 |
| Barium | 58.6 | 84.7 | 61.4 | 128.0 | 58.7 | 63.7 | 20.6 | 142.0 |
| Cadmium | | | | | | | | |
| Calcium | 1880.0 | 1500.0 | 1230.0 | 3150.0 | 1560.0 | 2490.0 | 14800.0 | 1110.0 |
| Chromium | 37.5 | 23.2 | 23.3 | 75.0 | 33.7 | 44.3 | 7.3 | 48.4 |
| Cobalt | 7.6 | 13.5 | 3.6 | 2.7 | 6.2 | 6.8 | 13.3 | 13.2 |
| Copper | 10.6 | 13.0 | 16.0 | 13.0 | 10.1 | 15.1 | 113.0 | 44.1 |
| Iron | 14800.0 | 7440.0 | 7080.0 | 13200.0 | 10800.0 | 13700.0 | 25900.0 | 27300.0 |
| Lead | 7.6 | 8.1 | 10.0 | 15.2 | 7.9 | 6.5 | | 22.1 |
| Magnesium | 3660.0 | 1490.0 | 1390.0 | 2940.0 | 2730.0 | 3440.0 | 9750.0 | 6680.0 |
| Manganese | 210.0 | 227.0 | 195.0 | 105.0 | 130.0 | 178.0 | 414.0 | 759.0 |
| Nickel | 55.6 | 16.0 | 17.7 | 46.5 | 39.4 | 45.7 | 4.7 | 55.4 |
| Potassium | 680.0 | 680.0 | 640.0 | 550.0 | 520.0 | 860.0 | 590.0 | 2500.0 |
| Selenium | | | | | | | | |
| Sodium | 755.0 | 152.0 | 144.0 | 346.0 | 219.0 | 213.0 | 1830.0 | 1340.0 |
| Thallium | | | | | | | | |
| Titanium | 376.0 | 264.0 | 260.0 | 139.0 | 220.0 | 542.0 | 581.0 | 292.0 |
| Vanadium | 23.7 | 15.7 | 15.8 | 1780.0 | 19.4 | 25.1 | 82.0 | 37.6 |
| Zinc | 32.1 | 25.9 | 23.8 | 31.9 | 29.8 | 36.2 | 56.6 | 78.0 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

Canonie Environmental

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | MWOR-5 10.5 - 11.0 | MWOR-5 13.0 - 13.5 | MWOR-5 15.0 - 15.5 | BOR-6 0.5 - 1.0 | BOR-6 6.0 - 6.5 | BOR-6 8.5 - 9.0 | BOR-6 11.5 - 12.0 | BOR-6 14.5 - 15.0 |
| **Metals** | | | | | | | | |
| Aluminum | 9820.0 | 8740.0 | 5660.0 | 3460.0 | 3960.0 | 9840.0 | 11100.0 | 10200.0 |
| Antimony | | | | | | | | |
| Arsenic | 7.2 | 3.9 | 4.5 | | | | | |
| Barium | 86.5 | 71.0 | 48.8 | 27.0 | 31.0 | 67.0 | 42.0 | 45.0 |
| Cadmium | | | | | | | | |
| Calcium | 1200.0 | 1480.0 | 1640.0 | 4600.0 | 870.0 | 1400.0 | 1700.0 | 2200.0 |
| Chromium | 34.8 | 62.1 | 34.9 | 22.0 | 22.0 | 41.0 | 40.0 | 42.0 |
| Cobalt | 7.7 | 14.4 | 5.5 | | | 6.1 | 7.4 | 7.1 |
| Copper | 23.2 | 24.7 | 9.0 | 22.0 | 48.0 | 34.0 | 17.0 | 12.0 |
| Iron | 18000.0 | 13900.0 | 10600.0 | 5920.0 | 7570.0 | 14400.0 | 18200.0 | 14300.0 |
| Lead | 22.8 | 8.7 | 9.1 | | | 6.1 | | |
| Magnesium | 4460.0 | 3520.0 | 2720.0 | 1800.0 | 1200.0 | 2400.0 | 4100.0 | 3500.0 |
| Manganese | 342.0 | 123.0 | 125.0 | 75.0 | 130.0 | 150.0 | 220.0 | 160.0 |
| Nickel | 38.1 | 45.9 | 33.1 | 23.0 | 16.0 | 38.0 | 61.0 | 50.0 |
| Potassium | 1900.0 | 1200.0 | 950.0 | | 620.0 | 850.0 | 780.0 | 780.0 |
| Selenium | | | | | | | | |
| Sodium | 1010.0 | 287.0 | 249.0 | | | 910.0 | | |
| Thallium | | | | | | | | |
| Titanium | 363.0 | 343.0 | 386.0 | 290.0 | 280.0 | 290.0 | 480.0 | 430.0 |
| Vanadium | 28.2 | 24.2 | 20.2 | 15.0 | 18.0 | 32.0 | 33.0 | 25.0 |
| Zinc | 49.3 | 41.1 | 33.2 | 21.0 | 47.0 | 30.0 | 35.0 | 30.0 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

CanonieEnvironmental

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-7 0.5 - 1.0 | BOR 7 2.0 - 2.5 | BOR 7 3.5 - 4.0 | BOR 7 9.0 - 9.5 | BOR 7 14.5 - 15.0 | BOR 8 1.0 - 1.5 | BOR 8 3.5 - 4.0 | BOR 8 6.5 - 7.0 |
| **Metals** | | | | | | | | |
| Aluminum | 5040.0 | 4060.0 | 4310.0 | 18800.0 | 12400.0 | 3150.0 | 3700.0 | 4130.0 |
| Antimony | | | | | | | | |
| Arsenic | | | | | | | | |
| Barium | 35.0 | 24.0 | 57.0 | 110.0 | 76.0 | | | |
| Cadmium | | | | | | | | |
| Calcium | 3000.0 | 1900.0 | 1200.0 | 2100.0 | 2100.0 | 2400.0 | 2100.0 | 1800.0 |
| Chromium | 28.0 | 22.0 | 23.0 | 72.0 | 40.0 | 20.0 | 26.0 | 23.0 |
| Cobalt | | | | 7.2 | | | | |
| Copper | 13.0 | 12.0 | 7.4 | 26.0 | 20.0 | 15.0 | 9.1 | 6.7 |
| Iron | 7900.0 | 6780.0 | 7760.0 | 22100.0 | 14000.0 | 5810.0 | 6350.0 | 7190.0 |
| Lead | | | | 9.6 | 6.5 | | | |
| Magnesium | 2000.0 | 2400.0 | 1500.0 | 3600.0 | 3000.0 | 1800.0 | 1800.0 | 2300.0 |
| Manganese | 93.0 | 85.0 | 76.0 | 190.0 | 150.0 | 69.0 | 79.0 | 88.0 |
| Nickel | 23.0 | 24.0 | 16.0 | 61.0 | 45.0 | 20.0 | 19.0 | 24.0 |
| Potassium | 640.0 | 640.0 | 790.0 | 2300.0 | 1100.0 | | | 720.0 |
| Selenium | | | | | | | | |
| Sodium | | | | 990.0 | | | | |
| Thallium | | | | | | | | |
| Titanium | 470.0 | 320.0 | 290.0 | 653.0 | 590.0 | 300.0 | 410.0 | 360.0 |
| Vanadium | 20.0 | 15.0 | 18.0 | 46.0 | 27.0 | 14.0 | 17.0 | 17.0 |
| Zinc | 18.0 | 19.0 | 16.0 | 42.0 | 38.0 | 18.0 | 16.0 | 17.0 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-8 10.5 - 11.0 | BOR-8 12.5 - 13.0 | BOR-9 0.5 - 1.0 | BOR-9 2.5 - 3.0 | BOR-9 7.0 - 7.5 | BOR-9 11.5 - 12.0 | BOR-9 14.5 - 15.0 | BOR-10 0.5 - 1.0 |
| **Metals** | | | | | | | | |
| Aluminum | 9560.0 | 10100.0 | 2820.0 | 5850.0 | 7430.0 | 12500.0 | 9490.0 | 4400.0 |
| Antimony | | | | | | | | |
| Arsenic | | | | | | | | 3.8 |
| Barium | 58.0 | 130.0 | | 28.0 | 41.0 | 81.0 | 67.0 | 84.9 |
| Cadmium | | | | | | | | |
| Calcium | 3500.0 | 1800.0 | 3300.0 | 4100.0 | 1900.0 | 2400.0 | 2700.0 | 2980.0 |
| Chromium | 39.0 | 70.0 | 20.0 | 30.0 | 34.0 | 40.0 | 39.0 | 38.6 |
| Cobalt | 8.7 | 6.2 | | | | 6.8 | 6.8 | 4.0 |
| Copper | 45.0 | 14.0 | 16.0 | 8.3 | | 10.0 | 8.5 | 6.4 |
| Iron | 14700.0 | 16100.0 | 5450.0 | 8580.0 | 10000.0 | 16000.0 | 12500.0 | 7000.0 |
| Lead | | | | | | | | |
| Magnesium | 3900.0 | 4400.0 | 1600.0 | 2700.0 | 2300.0 | 4000.0 | 3400.0 | 1920.0 |
| Manganese | 170.0 | 130.0 | 64.0 | 94.0 | 100.0 | 180.0 | 150.0 | 87.9 |
| Nickel | 52.0 | 54.0 | 18.0 | 27.0 | 25.0 | 52.0 | 40.0 | 19.0 |
| Potassium | 1600.0 | 1700.0 | | 870.0 | 670.0 | 1000.0 | 1000.0 | 500.0 |
| Selenium | | | | | | 12.0 | | |
| Sodium | 1200.0 | 1400.0 | | | | | | 174.0 |
| Thallium | | | | | | | | |
| Titanium | 480.0 | 570.0 | 250.0 | 480.0 | 450.0 | 533.0 | 641.0 | |
| Vanadium | 30.0 | 33.0 | 13.0 | 21.0 | 26.0 | 32.0 | 30.0 | 19.2 |
| Zinc | 53.0 | 36.0 | 18.0 | 19.0 | 15.0 | 27.0 | 24.0 | 19.8 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-10 4.0 - 4.5 | BOR-10 8.0 - 8.5 | BOR-10 11.5 - 12.0 | BOR-10 14.5 - 15.0 | BOR-11 0.5 - 1.0 | BOR-11 3.5 - 4.0 | BOR-11 7.0 - 7.5 | BOR-11 11.5 - 12.0 |
| **Metals** | | | | | | | | |
| Aluminum | 4280.0 | 4290.0 | 5530.0 | 7530.0 | 8960.0 | 4518 | 3380.0 | 5690.0 |
| Antimony | | | | | 6.0 | 4.3 | 4.2 | 6.0 |
| Arsenic | | | 4.9 | 4.8 | | | | 5.0 |
| Barium | 21.2 | 48.7 | 51.3 | 67.5 | 103.0 | 23.6 | 20.4 | 61.5 |
| Cadmium | | | | | | | | |
| Calcium | 2230.0 | 5140.0 | 5900.0 | 1760.0 | 8020.0 | 3610.0 | 1630.0 | 26500.0 |
| Chromium | 32.1 | 27.1 | 35.7 | 40.3 | 29.1 | 34.4 | 24.5 | 27.9 |
| Cobalt | 4.2 | 4.5 | 7.4 | 7.4 | 7.8 | 4.0 | 3.9 | 9.5 |
| Copper | 7.3 | 22.8 | 11.5 | 12.8 | 42.5 | 4.7 | 6.8 | 18.9 |
| Iron | 7050.0 | 7040.0 | 10600.0 | 12700.0 | 13700.0 | 7260.0 | 5770.0 | 9810.0 |
| Lead | | | 58.5 | | 64.2 | | | 59.2 |
| Magnesium | 2160.0 | 2040.0 | 3640.0 | 3100.0 | 5600.0 | 2090.0 | 1890.0 | 2660.0 |
| Manganese | 90.6 | 94.3 | 158.0 | 169.0 | 548.0 | 89.8 | 70.2 | 202.0 |
| Nickel | 21.7 | 22.1 | 36.0 | 41.8 | 46.0 | 23.6 | 22.2 | 58.9 |
| Potassium | 620.0 | 540.0 | 1100.0 | 1100.0 | 850.0 | 590.0 | 580.0 | 960.0 |
| Selenium | | | | | | | | |
| Sodium | 264.0 | 423.0 | 1620.0 | 1360.0 | 493.0 | 191.0 | 270.0 | 1350.0 |
| Thallium | | | | | | | | |
| Titanium | 400.0 | 287.0 | 418.0 | 442.0 | 257.0 | 444.0 | 296.0 | 286.0 |
| Vanadium | 17.6 | 17.0 | 22.4 | 23.7 | 27.6 | 18.5 | 14.2 | 21.0 |
| Zinc | 22.2 | 34.4 | 92.5 | 36.4 | 64.7 | 23.9 | 22.4 | 79.8 |

Notes:

1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

Canonie Environmental

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-11 14.5 - 15.0 | BOR-12 0.5 - 1.0 | BOR-12 4.0 - 4.5 | BOR-12 10.0 - 10.5 | BOR-12 11.5 - 12.0 | BOR-12 14.5 - 15.0 | BOR-13 0.5 - 1.0 | BOR-13 2.5 - 3.0 |
| **Metals** | | | | | | | | |
| Aluminum | 9190.0 | 4190.0 | 4190.0 | 11400.0 | 8710.0 | 7440.0 | 4470.0 | 5030.0 |
| Antimony | 6.0 | 4.8 | 4.5 | 7.4 | 6.0 | 4.6 | | |
| Arsenic | 3.1 | | 2.6 | | 6.1 | | | |
| Barium | 78.7 | 82.5 | 39.4 | 77.0 | 46.8 | 56.4 | 31.0 | 53.0 |
| Cadmium | | | | | | | | |
| Calcium | 1820.0 | 9970.0 | 3610.0 | 2870.0 | 5840.0 | 1560.0 | 4400.0 | 3200.0 |
| Chromium | 41.7 | 28.4 | 30.9 | 53.9 | 40.7 | 37.4 | 29.0 | 31.0 |
| Cobalt | 5.3 | 4.1 | 3.8 | 7.6 | 10.9 | 3.7 | | |
| Copper | 10.7 | 39.1 | 11.6 | 36.0 | 30.1 | 20.6 | 9.5 | 5.6 |
| Iron | 13900.0 | 7290.0 | 6840.0 | 15200.0 | 14500.0 | 10800.0 | 8020.0 | 7600.0 |
| Lead | | 6.7 | | 9.1 | 31.0 | | 8.8 | |
| Magnesium | 3390.0 | 26.6 | 2250.0 | 4850.0 | 3940.0 | 2620.0 | 1800.0 | 2100.0 |
| Manganese | 130.0 | 159.0 | 81.3 | 158.0 | 184.0 | 86.0 | 96.0 | 91.0 |
| Nickel | 49.6 | 25.9 | 24.7 | 43.6 | 51.4 | 37.1 | 26.0 | 23.0 |
| Potassium | 1300.0 | 910.0 | 690.0 | 1600.0 | 1400.0 | 980.0 | 620.0 | 670.0 |
| Selenium | | | | | | | | |
| Sodium | 1240.0 | 392.0 | 494.0 | 2060.0 | 1320.0 | 519.0 | | |
| Thallium | | | | | | | | |
| Titanium | 452.0 | 268.0 | 383.0 | 557.0 | 377.0 | 450.0 | 470.0 | 490.0 |
| Vanadium | 23.8 | 15.7 | 16.6 | 32.4 | 27.7 | 21.7 | 22.0 | 20.0 |
| Zinc | 42.0 | 41.9 | 25.5 | 53.0 | 73.8 | 36.7 | 20.0 | 16.0 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 15, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-13 7.0 - 7.5 | BOR-13 11.5 - 12.0 | BOR-13 14.5 - 15.0 | BOR-14 0.0 - 0.5 | BOR-14 4.0 - 4.5 | BOR-14 8.5 - 9.0 | BOR-14 14.0 - 14.5 | BOR-15 0.5 - 1.0 |
| **Metals** | | | | | | | | |
| Aluminum | 11400.0 | 12300.0 | 12400.0 | 4710.0 | 5210.0 | 8900.0 | 13100.0 | 18200.0 |
| Antimony | | | | | | | | 8.2 |
| Arsenic | | | | | | | | 2.5 |
| Barium | 42.0 | 78.0 | 84.0 | 34.0 | 28.0 | 52.0 | 110.0 | 23.0 |
| Cadmium | | | | | | | | |
| Calcium | 2900.0 | 2200.0 | 2000.0 | 2900.0 | 2200.0 | 2000.0 | 2600.0 | 9100.0 |
| Chromium | 53.0 | 44.0 | 40.0 | 28.0 | 28.0 | 40.0 | 50.0 | 22.8 |
| Cobalt | 7.5 | | | | | | 7.2 | 15.[illegible] |
| Copper | 10.0 | 9.3 | 11.0 | 36.0 | 23.0 | 22.0 | 17.0 | 160.0 |
| Iron | 16500.0 | 16200.0 | 15000.0 | 7770.0 | 8420.0 | 12500.0 | 19400.0 | 28500.0 |
| Lead | | | | | | | | 14.1 |
| Magnesium | 4400.0 | 3300.0 | 3300.0 | 2200.0 | 2600.0 | 2800.0 | 4000.0 | 12000.0 |
| Manganese | 160.0 | 120.0 | 140.0 | 92.0 | 90.0 | 140.0 | 250.0 | 456.0 |
| Nickel | 46.0 | 45.0 | 48.0 | 24.0 | 26.0 | 35.0 | 62.0 | 20.1 |
| Potassium | 1400.0 | 1500.0 | 1500.0 | 730.0 | 930.0 | 740.0 | 1000.0 | 780.0 |
| Selenium | | | | | | | | |
| Sodium | 1900.0 | 920.0 | 710.0 | | | | 900.0 | 560.0 |
| Thallium | | | | | | | | |
| Titanium | 610.0 | 554.0 | 590.0 | 440.0 | 460.0 | 520.0 | 550.0 | 544.0 |
| Vanadium | 34.0 | 31.0 | 31.0 | 19.0 | 19.0 | 30.0 | 35.0 | 76.8 |
| Zinc | 33.0 | 29.0 | 30.0 | 27.0 | 24.0 | 30.0 | 36.0 | 66.8 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

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TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-15 2.5 - 3.0 | BOR 15 7.0 7.5 | BOR 15 11.5 12.0 | BOR 15 14.5 15.0 | BOR 16 0.5 1.0 | BOR 16 2.5 3.0 | BOR 16 7.0 7.5 | BOR 16 11.5 12.0 |
| **Metals** | | | | | | | | |
| Aluminum | 4840.0 | 5890.0 | 11700.0 | 10900.0 | 16200.0 | 7040.0 | 12600.0 | 14400.0 |
| Antimony | 5.5 | 5.8 | 4.4 | 6.7 | | | | |
| Arsenic | | 3.5 | 5.3 | | | | | |
| Barium | 30.6 | 48.6 | 61.6 | 72.4 | 290.0 | 68.0 | 99.0 | 98.0 |
| Cadmium | | | | | 3.5 | | | |
| Calcium | 2390.0 | 2730.0 | 1840.0 | 1670.0 | 5600.0 | 1900.0 | 2100.0 | 2900.0 |
| Chromium | 31.1 | 36.7 | 49.8 | 59.8 | 47.0 | 30.0 | 44.0 | 51.0 |
| Cobalt | 4.7 | 6.0 | 8.8 | 4.5 | 10.0 | | 6.8 | 9.0 |
| Copper | 7.0 | 10.8 | 11.9 | 11.8 | 74.0 | 8.1 | 11.0 | 12.0 |
| Iron | 8480.0 | 10300.0 | 15400.0 | 13400.0 | 20300.0 | 9060.0 | 15500.0 | 17900.0 |
| Lead | | 8.3 | | | 260.0 | 5.7 | | |
| Magnesium | 2660.0 | 3300.0 | 3880.0 | 3040.0 | 5100.0 | 1600.0 | 4000.0 | 5000.0 |
| Manganese | 113.0 | 127.0 | 147.0 | 140.0 | 450.0 | 210.0 | 210.0 | 250.0 |
| Nickel | 30.2 | 37.5 | 69.1 | 51.3 | 50.0 | 28.0 | 47.0 | 60.0 |
| Potassium | 740.0 | 1200.0 | 1100.0 | 850.0 | 2700.0 | 800.0 | 800.0 | 1300.0 |
| Selenium | | | | | 12.0 | | | 14.0 |
| Sodium | 176.0 | 488.0 | 2060.0 | 1840.0 | | | | |
| Thallium | | | | | | | | |
| Titanium | 351.0 | 431.0 | 524.0 | 293.0 | 567.0 | 390.0 | 490.0 | 644.0 |
| Vanadium | 17.9 | 20.6 | 29.8 | 24.7 | 48.0 | 22.0 | 33.0 | 36.0 |
| Zinc | 32.8 | 33.6 | 37.4 | 32.2 | 1280.0 | 25.0 | 30.0 | 35.0 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

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TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | BOR-16 14.5 - 15.0 | BOR-17 2.0 - 2.5 | BOR-17 4.0 - 4.5 | BOR-17 8.0 - 8.5 | BOR-17 10.5 - 11.0 | BOR-17 11.0 - 11.5 | BOR-17 14.5 - 15.0 | BOR-18 0.5 - 1.0 |
| **Metals** | | | | | | | | |
| Aluminum | 12500.0 | 2990.0 | 4710.0 | 9930.0 | 7970.0 | 11400.0 | 8990.0 | 9550.0 |
| Antimony | | | | 4.4 | 4.3 | 5.8 | 4.6 | |
| Arsenic | | | | | | 5.0 | 5.2 | 20.0 |
| Barium | 84.0 | 76.2 | 44.9 | 77.5 | 79.9 | 95.0 | 84.9 | 76.0 |
| Cadmium | | | | | | | | |
| Calcium | 3300.0 | 2300.0 | 2220.0 | 1630.0 | 2020.0 | 2400.0 | 2080.0 | 3600.0 |
| Chromium | 53.0 | 23.0 | 28.2 | 36.5 | 44.3 | 56.2 | 47.8 | 54.0 |
| Cobalt | 7.9 | 3.8 | 6.1 | 6.5 | 6.8 | 7.6 | 8.9 | 7.8 |
| Copper | 10.0 | 15.2 | 12.9 | 15.3 | 19.6 | 22.0 | 13.0 | 65.0 |
| Iron | 16800.0 | 6060.0 | 8820.0 | 14900.0 | 13900.0 | 17800.0 | 15400.0 | 19400.0 |
| Lead | | | 18.6 | 7.1 | | 7.4 | 8.1 | 50.0 |
| Magnesium | 4500.0 | 1740.0 | 2190.0 | 3890.0 | 3190.0 | 3980.0 | 4080.0 | 6500.0 |
| Manganese | 240.0 | 72.1 | 96.2 | 109.0 | 196.0 | 155.0 | 254.0 | 280.0 |
| Nickel | 55.0 | 20.8 | 27.5 | 44.1 | 48.6 | 59.4 | 58.1 | 43.0 |
| Potassium | 1300.0 | 430.0 | 770.0 | 820.0 | 623.0 | 790.0 | 990.0 | 1000.0 |
| Selenium | | | | | | | | 12.0 |
| Sodium | | 137.0 | 135.0 | 334.0 | 370.0 | 377.0 | 361.0 | |
| Thallium | | | | | | | | |
| Titanium | 627.0 | 245.0 | 343.0 | 528.0 | 435.0 | 610.0 | 42.6 | 360.0 |
| Vanadium | 33.0 | 12.5 | 18.5 | 27.6 | 25.3 | 31.5 | 26.2 | 32.0 |
| Zinc | 32.0 | 27.5 | 25.5 | 39.2 | 39.2 | 59.2 | 37.4 | 91.0 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-18 4.0 - 4.5 | BOR-18 7.5 - 8.0 | BOR-18 11.5 - 12.0 | BOR-18 14.5 - 15.0 | BOR-19 0.5 - 1.0 | BOR-19 3.5 - 4.0 | BOR-19 8.0 - 8.5 | BOR-19 11.5 - 12.0 |
| **Metals** | | | | | | | | |
| Aluminum | 5950.0 | 12400.0 | 10700.0 | 14200.0 | 4140.0 | 4390.0 | 10800.0 | 11200.0 |
| Antimony | | | | | 5.8 | 5.7 | 4.8 | 7.5 |
| Arsenic | | | | | 2.6 | | 3.5 | |
| Barium | 68.0 | 66.0 | 81.0 | 94.0 | 46.4 | 26.8 | 109.0 | 85.9 |
| Cadmium | | | | | | | | |
| Calcium | 2000.0 | 1900.0 | 2300.0 | 3100.0 | 22300.0 | 1990.0 | 1960.0 | 2260.0 |
| Chromium | 23.0 | 50.0 | 39.0 | 54.0 | 34.0 | 29.9 | 41.4 | 45.9 |
| Cobalt | | | 7.1 | 9.1 | 3.5 | 4.2 | 9.4 | 8.1 |
| Copper | 7.1 | 9.1 | 8.4 | 14.0 | 10.7 | 7.0 | 12.1 | 23.5 |
| Iron | 7820.0 | 13600.0 | 12900.0 | 18600.0 | 6980.0 | 7390.0 | 14600.0 | 16600.0 |
| Lead | | | | | | | 6.7 | |
| Magnesium | 1500.0 | 3400.0 | 3500.0 | 4900.0 | 2040.0 | 2460.0 | 4140.0 | 3940.0 |
| Manganese | 180.0 | 120.0 | 320.0 | 230.0 | 101.0 | 80.2 | 192.0 | 200.0 |
| Nickel | 14.0 | 39.0 | 48.0 | 63.0 | 27.1 | 26.8 | 56.6 | 58.6 |
| Potassium | | 690.0 | 1100.0 | 1500.0 | 670.0 | 850.0 | 770.0 | 916.0 |
| Selenium | | | | 15.0 | | | | |
| Sodium | | | | | 467.0 | 238.0 | 431.0 | 612.0 |
| Thallium | | | | | | | | |
| Titanium | 380.0 | 513.0 | 516.0 | 655.0 | 382.0 | 389.0 | 485.0 | 595.0 |
| Vanadium | 17.0 | 30.0 | 25.0 | 33.0 | 17.9 | 16.9 | 30.7 | 27.9 |
| Zinc | 17.0 | 23.0 | 25.0 | 35.0 | 30.2 | 20.9 | 38.7 | 54.6 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-19 14.5 - 15.0 | BOR-20 2.5 - 3.0 | BOR 20 5.0 5.5 | BOR-20 5.5 6.0 | BOR 20 7.0 7.5 | BOR 20 10.5 11.0 | BOR 20 14.5 15.0 | BOR 21 0.5 1.0 |
| **Metals** | | | | | | | | |
| Aluminum | 6290.0 | 4150.0 | 4300.0 | 3480.0 | 4570.0 | 3190.0 | 4170.0 | 47.9 |
| Antimony | 4.5 | 2.6 | 3.0 | 2.8 | 4.8 | 3.1 | 3.7 | |
| Arsenic | 3.8 | | | | | | 4.8 | |
| Barium | 62.8 | 23.9 | 31.9 | 26.9 | 22.1 | 15.2 | 17.9 | 26.2 |
| Cadmium | | | | | | | | |
| Calcium | 1960.0 | 5370.0 | 3300.0 | 2100.0 | 2120.0 | 1330.0 | 3570.0 | 3090.0 |
| Chromium | 40.1 | 38.3 | 29.7 | 25.8 | 30.3 | 24.1 | 23.5 | 52.2 |
| Cobalt | 7.1 | 3.1 | 4.1 | 3.2 | 3.9 | 4.0 | 4.6 | 3.7 |
| Copper | 9.8 | 16.0 | 15.7 | 11.6 | 5.5 | 5.5 | 12.4 | 25.7 |
| Iron | 11600.0 | 7440.0 | 7790.0 | 6760.0 | 7580.0 | 6580.0 | 8270.0 | 7920.0 |
| Lead | | 7.6 | | | | | 8.6 | 8.8 |
| Magnesium | 3010.0 | 1610.0 | 2230.0 | 1940.0 | 2150.0 | 1980.0 | 2230.0 | 2270.0 |
| Manganese | 245.0 | 90.7 | 97.6 | 77.0 | 84.4 | 78.5 | 94.0 | 108.0 |
| Nickel | 45.1 | 20.0 | 23.2 | 22.3 | 23.7 | 25.5 | 23.9 | 28.6 |
| Potassium | 800.0 | 570.0 | 700.0 | 547.0 | 760.0 | 580.0 | 970.0 | 660.0 |
| Selenium | | | | | | | | |
| Sodium | 380.0 | 212.0 | 317.0 | 359.0 | 531.0 | 461.0 | 715.0 | 237.0 |
| Thallium | | | | | | | | 2.7 |
| Titanium | 311.0 | 462.0 | 416.0 | 322.0 | 429.0 | 244.0 | 229.0 | 431.0 |
| Vanadium | 21.0 | 18.6 | 17.3 | 14.8 | 17.1 | 14.1 | 15.5 | 19.3 |
| Zinc | 34.3 | 25.3 | 30.4 | 24.2 | 22.1 | 21.5 | 29.2 | 33.2 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

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TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-21 3.0 - 3.5 | BOR-21 7.5 - 8.0 | BOR-21 12.0 - 12.5 | BOR-21 15.0 - 15.5 | BOR-22 0.5 - 1.0 | BOR-22 3.5 - 4.0 | BOR-22 8.0 - 8.5 | BOR-22 11.5 - 12.0 |
| **Metals** | | | | | | | | |
| Aluminum | 3400.0 | 4790.0 | 6350.0 | 7830.0 | 12300.0 | 5720.0 | 5810.0 | 28800.0 |
| Antimony | | | | 4.6 | | | | |
| Arsenic | 2.7 | | 2.9 | 3.3 | | | | |
| Barium | 22.2 | 28.0 | 53.6 | 38.1 | 200.0 | 31.0 | 29.0 | 81.0 |
| Cadmium | | | | | | | | |
| Calcium | 4140.0 | 2350.0 | 1620.0 | 2230.0 | 9000.0 | 3600.0 | 3100.0 | 7100.0 |
| Chromium | 23.0 | 32.7 | 55.7 | 40.7 | 28.0 | 31.0 | 30.0 | 89.0 |
| Cobalt | 3.1 | 2.9 | 4.1 | 5.3 | 6.4 | | | 15.0 |
| Copper | 9.3 | 8.9 | 13.4 | 12.2 | 110.0 | 5.4 | 13.0 | 36.0 |
| Iron | 6030.0 | 7500.0 | 13300.0 | 13000.0 | 14400.0 | 8070.0 | 8190.0 | 37000.0 |
| Lead | 6.8 | 8.8 | 6.2 | 8.3 | 7.4 | | 22.0 | 19.0 |
| Magnesium | 2100.0 | 2250.0 | 2980.0 | 3200.0 | 3900.0 | 2400.0 | 2400.0 | 10000.0 |
| Manganese | 89.0 | 91.2 | 146.0 | 132.0 | 230.0 | 93.0 | 94.0 | 500.0 |
| Nickel | 23.5 | 24.3 | 39.4 | 39.7 | 25.0 | 23.0 | 23.0 | 91.0 |
| Potassium | 550.0 | 730.0 | 910.0 | 1000.0 | 2400.0 | 850.0 | 910.0 | 3700.0 |
| Selenium | | | | | | | | 26.0 |
| Sodium | 184.0 | 202.0 | 500.0 | 460.0 | | | | 3300.0 |
| Thallium | | 3.1 | | | | | | |
| Titanium | 284.0 | 441.0 | 350.0 | 504.0 | 879.0 | 627.0 | 580.0 | 964.0 |
| Vanadium | 13.3 | 17.7 | 23.2 | 24.0 | 32.0 | 22.0 | 22.0 | 70.0 |
| Zinc | 18.7 | 26.5 | 28.5 | 32.0 | 72.0 | 17.0 | 21.0 | 94.0 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-22 14.5 - 15.0 | BOR-23 1.0 - 1.5 | BOR-23 3.5 - 4.0 | BOR-23 9.0 - 9.5 | BOR-23 11.5 - 12.0 | BOR-23 15.0 - 15.5 | BOR-24 1.0 - 1.5 | BOR-24 3.0 - 3.5 |
| **Metals** | | | | | | | | |
| Aluminum | 10400.0 | 3080.0 | 5520.0 | 6440.0 | 12400.0 | 7550.0 | 4910.0 | 3780.0 |
| Antimony | | 2.4 | | 2.5 | 5.8 | 2.6 | | |
| Arsenic | | | 3.1 | 5.6 | 4.9 | | 4.9 | 3.3 |
| Barium | 83.0 | 24.1 | 77.7 | 48.1 | 63.1 | 68.0 | 43.7 | 64.7 |
| Cadmium | | | | | | | | |
| Calcium | 2400.0 | 1720.0 | 28800.0 | 2740.0 | 3820.0 | 2190.0 | 2440.0 | 1560.0 |
| Chromium | 47.0 | 23.4 | 35.5 | 38.5 | 59.2 | 46.3 | 25.9 | 24.5 |
| Cobalt | 6.8 | 3.1 | 5.1 | 7.5 | 11.0 | 7.0 | 4.7 | 3.6 |
| Copper | 9.5 | 8.6 | 18.6 | 14.2 | 29.7 | 11.3 | 23.2 | 13.3 |
| Iron | 14400.0 | 6010.0 | 9630.0 | 12500.0 | 22400.0 | 14100.0 | 8930.0 | 7020.0 |
| Lead | | | 15.3 | | 18.6 | | 36.3 | |
| Magnesium | 3700.0 | 1560.0 | 2880.0 | 4050.0 | 6130.0 | 3700.0 | 2740.0 | 1290.0 |
| Manganese | 230.0 | 95.8 | 213.0 | 180.0 | 310.0 | 210.0 | 140.0 | 150.0 |
| Nickel | 48.0 | 21.3 | 32.0 | 40.4 | 64.6 | 47.9 | 26.2 | 17.5 |
| Potassium | 1600.0 | 390.0 | 830.0 | 1100.0 | 2000.0 | 1100.0 | 760.0 | 710.0 |
| Selenium | | | | | | | | |
| Sodium | 1200.0 | 130.0 | 477.0 | 647.0 | 1670.0 | 768.0 | 176.0 | 143.0 |
| Thallium | | | | | | | | |
| Titanium | 534.0 | 256.0 | 298.0 | 328.0 | 420.0 | 440.0 | 209.0 | 250.0 |
| Vanadium | 28.0 | 14.8 | 21.2 | 22.1 | 36.1 | 24.3 | 16.6 | 16.2 |
| Zinc | 28.0 | 24.1 | 38.6 | 45.2 | 70.2 | 38.0 | 40.6 | 26.5 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-24 7.5 - 8.0 | BOR-24 11.5 - 12.0 | BOR-24 14.5 - 15.0 | BOR-25 0.5 - 1.0 | BOR-25 3.5 - 4.0 | BOR-25 7.0 - 7.5 | BOR-25 11.5 - 12.0 | BOR-25 14.5 - 15.0 |
| **Metals** | | | | | | | | |
| Aluminum | 12300.0 | 8100.0 | 8820.0 | 5470.0 | 5470.0 | 4200.0 | 4700.0 | 7860.0 |
| Antimony | 4.4 | 4.0 | | | | 2.5 | | |
| Arsenic | 7.1 | 8.1 | 5.9 | | | 3.3 | | 3.6 |
| Barium | 114.0 | 87.6 | 77.9 | 10.6 | 39.3 | 24.8 | 37.0 | 65.2 |
| Cadmium | | | | | | | | |
| Calcium | 2290.0 | 1720.0 | 2580.0 | 2010.0 | 1720.0 | 9270.0 | 1900.0 | 1940.0 |
| Chromium | 45.1 | 41.6 | 44.3 | 29.3 | 29.1 | 33.1 | 31.3 | 39.9 |
| Cobalt | 9.5 | 6.5 | 6.9 | 2.8 | 3.2 | 3.8 | 4.2 | 5.8 |
| Copper | 15.2 | 15.3 | 14.1 | 8.5 | 65.4 | 7.1 | 13.5 | 13.3 |
| Iron | 19400.0 | 14100.0 | 14300.0 | 6550.0 | 6540.0 | 7560.0 | 8700.0 | 15800.0 |
| Lead | 12.4 | 7.5 | 9.8 | | | 2180.0 | 8.9 | |
| Magnesium | 4620.0 | 3550.0 | 3870.0 | 1900.0 | 1710.0 | 2180.0 | 2480.0 | 3760.0 |
| Manganese | 227.0 | 184.0 | 169.0 | 96.6 | 102.0 | 89.8 | 102.0 | 109.0 |
| Nickel | 60.5 | 50.4 | 50.7 | 22.5 | 22.6 | 22.8 | 28.0 | 45.6 |
| Potassium | 800.0 | 590.0 | 942.0 | 460.0 | 480.0 | 590.0 | 870.0 | 1400.0 |
| Selenium | | | | | | | | |
| Sodium | 429.0 | 331.0 | 275.0 | 305.0 | 456.0 | 426.0 | 618.0 | 1350.0 |
| Thallium | | | | | | | | |
| Titanium | 556.0 | 325.0 | 479.0 | 295.0 | 273.0 | 451.0 | 386.0 | 446.0 |
| Vanadium | 34.0 | 24.6 | 25.4 | 16.0 | 15.3 | 18.8 | 17.7 | 23.8 |
| Zinc | 37.7 | 32.4 | 36.4 | 20.7 | 46.6 | 24.6 | 28.2 | 37.2 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| | Boring Number/Sample Depth (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chemical Group/Analyte | BOR-26 1.0 - 1.5 | BOR 26 2.5 - 3.0 | BOR 26 6.0 - 6.5 | BOR 26 10.5 - 11.0 | BOR 26 13.5 - 14.0 | BOR 27 1.0 - 1.5 | BOR 27 3.0 - 3.5 | BOR 27 7.5 - 8.0 |
| **Metals** | | | | | | | | |
| Aluminum | 4210.0 | 4720.0 | 4150.0 | 4310.0 | 9520.0 | 5810.0 | 5770.0 | 4230.0 |
| Antimony | | | | | | | | |
| Arsenic | | | | | | 3.7 | | |
| Barium | 32.0 | 49.0 | | | 66.0 | 46.7 | 51.9 | 27.8 |
| Cadmium | | 4.1 | | | | | | |
| Calcium | 1900.0 | 2900.0 | 1900.0 | 1500.0 | 2000.0 | 2600.0 | | 2410.0 |
| Chromium | 27.0 | 46.0 | 24.0 | 24.0 | 39.0 | 27.9 | 32.6 | 34.6 |
| Cobalt | | | | | | 4.0 | 3.2 | 3.9 |
| Copper | | 17.0 | 8.3 | 6.9 | 22.0 | 25.5 | 8.8 | 9.0 |
| Iron | 6890.0 | 15700.0 | 7300.0 | 7140.0 | 16600.0 | 6960.0 | 6750.0 | 7490.0 |
| Lead | | 120.0 | | | | | | |
| Magnesium | 2100.0 | 2300.0 | 2000.0 | 2000.0 | 4200.0 | 2100.0 | 1950.0 | 2000.0 |
| Manganese | 88.0 | 220.0 | 120.0 | 82.0 | 130.0 | 92.8 | 90.1 | 95.9 |
| Nickel | 22.0 | 29.0 | 24.0 | 22.0 | 48.0 | 22.5 | 21.0 | 23.9 |
| Potassium | 630.0 | 790.0 | 630.0 | 630.0 | 1600.0 | 640.0 | 470.0 | 630.0 |
| Selenium | | | | | | | | |
| Sodium | | | | | 1200.0 | 340.0 | 314.0 | 361.0 |
| Thallium | | | | | | | 2.9 | |
| Titanium | 360.0 | 300.0 | 340.0 | 280.0 | 470.0 | 381.0 | 377.0 | 380.0 |
| Vanadium | 16.0 | 17.0 | 17.0 | 16.0 | 27.0 | 15.9 | 15.7 | 20.0 |
| Zinc | 17.0 | 59.0 | 19.0 | 18.0 | 39.0 | 30.2 | 23.1 | 25.2 |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

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TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | Boring Number/Sample Depth (feet) BOR 27 10.5 | BOR 27 11.0 | BOR 27 13.0 | BOR 27 13.5 |
|---|---|---|---|---|
| **Metals** | | | | |
| Aluminum | 4090.0 | | 14000.0 | |
| Antimony | | | 5.0 | |
| Arsenic | | | 9.5 | |
| Barium | 25.4 | | 61.4 | |
| Cadmium | | | 1.0 | |
| Calcium | 1920.0 | | 5240.0 | |
| Chromium | 29.3 | | 64.3 | |
| Cobalt | 3.7 | | 12.4 | |
| Copper | 10.9 | | 85.5 | |
| Iron | 7250.0 | | 25000.0 | |
| Lead | | | 14.7 | |
| Magnesium | 2260.0 | | 7620.0 | |
| Manganese | 88.3 | | 327.0 | |
| Nickel | 24.0 | | 76.0 | |
| Potassium | 750.0 | | 2400.0 | |
| Selenium | | | | |
| Sodium | 555.0 | | 2420.0 | |
| Thallium | | | | |
| Titanium | 350.0 | | 366.0 | |
| Vanadium | 15.5 | | 37.9 | |
| Zinc | 22.9 | | 101.0 | |

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS - OIL
SITE 15, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

| Boring Location/Depth | Total Petroleum Hydrocarbons (mg/kg) | pH | TOC (mg/kg) | Ash (%) | Nitrate as N (mg/kg) |
|---|---|---|---|---|---|
| MWOR-1 2.5'-3.0' | 11.5 | | | | |
| MWOR-1 3.0'-3.5' | | 8.9 | | | |
| MWOR-1 4.0'-4.5' | | | 316 | 99.0 | |
| MWOR-2 4.0'-4.5' | | 9.2 | | | |
| MWOR-2 5.0'-5.5' | | | 416 | 99.2 | 0.21 |
| MWOR-2 12.0'-12.5' | 6.4 | | | | |
| MWOR-3 4.0'-4.5' | | 8.9 | | | |
| MWOR-3 5.0'-5.5' | | 9.6 | 364 | 98.7 | |
| MWOR-3 7.0'-7.5' | 2.4 | | | | |
| MWOR-3 10.0'-10.5' | 15.8 | | | | |
| MWOR-4 2.5'-3.0' | 149.0 | | | | |
| MWOR-4 3.0'-3.5' | | 7.7 | | | |
| MWOR-4 4.0'-4.5' | | | 727 | 99 | 1.26 |
| MWOR-5 1.5'-2.0' | | | 1820 | 98.3 | 0.21 |
| MWOR-5 7.0'-7.5' | 5.5 | | | | |
| MWOR-5 8.5'-9.0' | | 9.2 | | | |
| BOR-6 2.0'-2.5' | | | 364 | 99.1 | 1.12 |
| BOR-6 11.5'-12.0' | | 7.4 | | | |
| BOR-7 2.0'-2.5' | 168.0 | 9.5 | | | |
| BOR-7 6.0'-6.5' | | | 505 | 98.9 | 0.36 |
| BOR-8 2.5'-3.0' | | | 263 | 99.3 | |
| BOR-8 3.0'-3.5' | | | 631 | 99.3 | |
| BOR-8 3.5'-4.0' | | 9.9 | | | |
| BOR-8 11.0'-11.5' | 57.9 | | | | |
| BOR-9 2.0'-2.5' | 26.8 | | | | |
| BOR-9 2.5'-3.0' | | 8.7 | | | |
| BOR-9 4.0'-4.5' | | | 16800 | 94.4 | |
| BOR-9 6.5'-7.0' | 4360.0 | | | | |
| BOR-9 11.0'-11.5' | 2500.0 | | | | |
| BOR-9 14.0'-14.5' | 2370.0 | | | | |
| BOR-10 1.0'-1.5' | | | 316 | 99.3 | |
| BOR-10 4.0'-4.5' | | 9.9 | | | |
| BOR-10 11.0'-11.5' | 17.2 | | | | |

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS
SITE 15, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

| Boring Location/Depth | Total Petroleum Hydrocarbons (mg/kg) | pH | TOC (mg/kg) | Ash (%) | Nitrate as N (mg/kg) |
|---|---|---|---|---|---|
| BOR-11 2.5'-3.0' | 3.5 | | | | |
| BOR-11 3.5'-4.0' | | 9.1 | | | |
| BOR-11 4.0'-4.5' | | | 416 | 99.3 | 0.18 |
| BOR-11 11.0'-11.5' | 22.4 | | | | |
| BOR-12 3.5'-4.0' | 7.5 | | | | |
| BOR-12 4.0'-4.5' | | 10.0 | | | |
| BOR-12 8.0'-8.5' | | | 416 | 99.3 | 0.14 |
| BOR-12 11.0'-11.5' | 24.2 | | | | |
| BOR-13 1.0'-1.5' | | | | 95.9 | |
| BOR-13 2.0'-2.5' | 3.2 | | | | |
| BOR-13 2.5'-3.0' | | 8.8 | | | |
| BOR-13 6.5'-7.0' | 91.8 | | | | |
| BOR-14 0.0'-0.5' | | 9.0 | | | |
| BOR-14 1.0'-1.5' | | | | | |
| BOR-14 4.0'-4.5' | | 9.0 | | | |
| BOR-14 4.5'-5.0' | | | | | |
| BOR-14 8.5'-9.0' | | 7.5 | | | |
| BOR-14 9.0'-9.5' | | | | | |
| BOR-14 14.0'-14.5' | | 7.5 | | | |
| BOR-14 14.5'-15.0' | | | | | |
| BOR-15 2.0'-2.5' | 4690.0 | | | | |
| BOR-15 2.5'-3.0' | | 8.7 | | | |
| BOR-15 4.0'-4.5' | | | 1140 | 98.8 | 3.42 |
| BOR-15 6.5'-7.0' | 9.6 | | | | |
| BOR-15 11.0'-11.5' | 253.0 | | | | |
| BOR-15 14.0'-14.5' | 3.6 | | | | |
| BOR-16 2.0'-2.5' | 56.2 | | | | |
| BOR-16 2.5'-3.0' | | 6.2 | | | |
| BOR-16 3.5'-4.0' | | | 4150 | 98.2 | |
| BOR-17 2.5'-3.0' | 1480.0 | | | | |
| BOR-17 4.0'-4.5' | | 8.2 | | | |
| BOR-17 5.0'-5.5' | | | 3530 | 98.9 | |
| BOR-17 7.0'-7.5' | 227.0 | | | | |

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS FOR
SITE 15, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

| Boring Location/Depth | Total Petroleum Hydrocarbons (mg/kg) | pH | TOC (mg/kg) | Ash (%) | Nitrate as N (mg/kg) |
|---|---|---|---|---|---|
| BOR-17 10.0'-10.5' | 194.0 | | | | |
| BOR-17 10.5'-11.0' | 1430.0 | | | | |
| BOR-17 11.5'-12.0' | 257.0 | | | | |
| BOR-18 2.5'-3.0' | | | 601 | 98.5 | 0.12 |
| BOR-18 3.5'-4.0' | 3.2 | | | | |
| BOR-18 4.0'-4.5' | | 7.0 | | | |
| BOR-19 2.5'-3.0' | 175.0 | | | | |
| BOR-19 3.5'-4.0' | | 9.3 | | | |
| BOR-19 4.0'-4.5' | | | 416 | 99.3 | 0.38 |
| BOR-19 11.0'-11.5' | 3660.0 | | | | |
| BOR-20 4.5'-5.0' | | | 156 | 99.2 | 0.37 |
| BOR-20 5.0'-5.5' | | 9.4 | | | |
| BOR-20 5.5'-6.0' | | 9.6 | | | |
| BOR-21 2.5'-3.0' | 2.6 | | | | |
| BOR-21 3.0'-3.5' | | 9.8 | | | |
| BOR-21 4.0'-4.5' | | | 364 | 99.2 | 1.32 |
| BOR-21 7.0'-7.5' | 8.6 | | | | |
| BOR-21 11.5'-12.0' | 46.8 | | | | |
| BOR-22 3.5'-4.0' | | 9.6 | | | |
| BOR-22 4.0'-4.5' | | | 273 | 98.4 | 0.98 |
| BOR-22 7.5'-8.0' | 9.0 | | | | |
| BOR-22 11.0'-11.5' | 16.1 | | | | |
| BOR-23 3.0'-3.5' | 3.2 | | | | |
| BOR-23 3.5'-4.0' | | 9.3 | | | |
| BOR-23 4.0'-4.5' | | | 819 | 98.7 | 0.23 |
| BOR-23 11.0'-11.5' | 24.6 | | | | |
| BOR-24 3.0'-3.5' | | 8.6 | | | |
| BOR-24 4.0'-4.5' | | | 416 | 98.8 | 1.79 |
| BOR-25 3.5'-4.0' | | 9.4 | | | |
| BOR-25 4.0'-4.5' | | | 109 | 99.3 | 0.15 |
| BOR-25 11.0'-11.5' | 2.9 | | | | |
| BOR-26 1.5'-2.0' | 7.3 | | | | |
| BOR-26 2.5'-3.0' | | 6.4 | | | |

TABLE 18

SUMMARY TABLE OF ANALYTICAL RESULTS FOR SOIL
SITE 15, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

| Boring Location/Depth | Total Petroleum Hydrocarbons (mg/kg) | pH | TOC (mg/kg) | Ash (%) | Nitrate as N (mg/kg) |
|---|---|---|---|---|---|
| BOR-26 4.0'-4.5' | | | 271 | 99.3 | |
| BOR-26 13.0'-13.5' | 13.9 | | | | |
| BOR-27 2.5'-3.0' | 251.0 | | | | |
| BOR-27 3.0'-3.5' | | 9.2 | | | |
| BOR-27 4.0'-4.5' | | | 218 | 99.4 | 0.18 |
| BOR-27 7.0'-7.5' | 11.4 | | | | |
| BOR-27 10.0'-10.5' | 2.1 | | | | |
| BOR-27 12.5'-13.0' | 22.2 | | | | |

Notes:

1. Analytical results are presented in units as shown.

2. Sample depths are presented in feet.

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 15, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

| Boring Location/Depth | Total Phosphorus (mg/kg) | Total Kjeldahl Nitrogen (mg/kg) | Chloride (mg/kg) | Sulfate (mg/kg) |
|---|---|---|---|---|
| MWOR-1 2.5'-3.0' | | | | |
| MWOR-1 3.0'-3.5' | | | | |
| MWOR-1 4.0'-4.5' | 340 | 129.0 | 8.5 | 13.8 |
| MWOR-2 4.0'-4.5' | | | | |
| MWOR-2 5.0'-5.5' | 372 | 95.0 | 3.9 | 10.9 |
| MWOR-2 12.0'-12.5' | | | | |
| MWOR-3 4.0'-4.5' | | | | |
| MWOR-3 5.0'-5.5' | 480 | 174.0 | 51.2 | 30.8 |
| MWOR-3 7.0'-7.5' | | | | |
| MWOR-3 10.0'-10.5' | | | | |
| MWOR-4 2.5'-3.0' | | | | |
| MWOR-4 3.0'-3.5' | | | | |
| MWOR-4 4.0'-4.5' | 785 | 168.0 | 6.0 | 6.5 |
| MWOR-5 1.5'-2.0' | 538 | 202.0 | 41.0 | 1040.0 |
| MWOR-5 7.0'-7.5' | | | | |
| MWOR-5 8.5'-9.0' | | | | |
| BOR-6 2.0'-2.5' | 301 | 78.4 | 5.6 | |
| BOR-6 11.5'-12.0' | | | | |
| BOR-7 2.0'-2.5' | | | | |
| BOR-7 6.0'-6.5' | 467 | 218.0 | 15.6 | 35.9 |
| BOR-8 2.5'-3.0' | 455 | 151.0 | 5.2 | |
| BOR-8 3.0'-3.5' | 143 | 151.0 | 6.2 | |
| BOR-8 3.5'-4.0' | | | | |
| BOR-8 11.0'-11.5' | | | | |
| BOR-9 2.0'-2.5' | | | | |
| BOR-9 2.5'-3.0' | | | | |
| BOR-9 4.0'-4.5' | 2000 | 1270.0 | 20.9 | 123.0 |
| BOR-9 6.5'-7.0' | | | | |
| BOR-9 11.0'-11.5' | | | | |
| BOR-9 14.0'-14.5' | | | | |
| BOR-10 1.0'-1.5' | 180 | 72.8 | 6.5 | 8.2 |
| BOR-10 4.0'-4.5' | | | | |
| BOR-10 11.0'-11.5' | | | | |

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS FOR
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

| Boring Location/Depth | Total Phosphorus (mg/kg) | Total Kjeldahl Nitrogen (mg/kg) | Chloride (mg/kg) | Sulfate (mg/kg) |
|---|---|---|---|---|
| BOR-11 2.5'-3.0' | | | | |
| BOR-11 3.5'-4.0' | | | | |
| BOR-11 4.0'-4.5' | 232 | 146.0 | 5.5 | 10.9 |
| BOR-11 11.0'-11.5' | | | | |
| BOR-12 3.5'-4.0' | | | | |
| BOR-12 4.0'-4.5' | | | | |
| BOR-12 8.0'-8.5' | 472 | 162.0 | 69.9 | 48.4 |
| BOR-12 11.0'-11.5' | | | | |
| BOR-13 1.0'-1.5' | | | | |
| BOR-13 2.0'-2.5' | | | | |
| BOR-13 2.5'-3.0' | | | | |
| BOR-13 6.5'-7.0' | | | | |
| BOR-14 0.0'-0.5' | | | | |
| BOR-14 1.0'-1.5' | | 350.0 | | 1.5 |
| BOR-14 4.0'-4.5' | | | | |
| BOR-14 4.5'-5.0' | | 250.0 | | 4.3 |
| BOR-14 8.5'-9.0' | | | | |
| BOR-14 9.0'-9.5' | | 160.0 | 4.4 | 6.6 |
| BOR-14 14.0'-14.5' | | | | |
| BOR-14 14.5'-15.0' | | 120.0 | 8.1 | 6.7 |
| BOR-15 2.0'-2.5' | | | | |
| BOR-15 2.5'-3.0' | | | | |
| BOR-15 4.0'-4.5' | 736 | 174.0 | 185.0 | 28.2 |
| BOR-15 6.5'-7.0' | | | | |
| BOR-15 11.0'-11.5' | | | | |
| BOR-15 14.0'-14.5' | | | | |
| BOR-16 2.0'-2.5' | | | | |
| BOR-16 2.5'-3.0' | | | | |
| BOR-16 3.5'-4.0' | 1300 | 465.0 | 17.5 | 45.2 |
| BOR-17 2.5'-3.0' | | | | |
| BOR-17 4.0'-4.5' | | | | |
| BOR-17 5.0'-5.5' | 340 | 297.0 | 3.8 | 55.1 |
| BOR-17 7.0'-7.5' | | | | |

TABLE 13

SUMMARY TABLE OF ANALYTICAL RESULTS FOR
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

| Boring Location/Depth | Total Phosphorus (mg/kg) | Total Kjeldahl Nitrogen (mg/kg) | Chloride (mg/kg) | Sulfate (mg/kg) |
|---|---|---|---|---|
| BOR-17 10.0'-10.5' | | | | |
| BOR-17 [illegible] 11.0' | | | | |
| BOR-17 [illegible] 12.0' | | | | |
| BOR-18 2.5'-3.0' | 1030 | 202.0 | 11.3 | 5.0 |
| BOR-18 3.5'-4.0' | | | | |
| BOR-18 4.0'-4.5' | | | | |
| BOR-19 2.5'-3.0' | | | | |
| BOR-19 3.5'-4.0' | | | | |
| BOR-19 4.0'-4.5' | 571 | 90.0 | 16.4 | 54.9 |
| BOR-19 11.0'-11.5' | | | | |
| BOR-20 4.5'-5.0' | 232 | 146.0 | 4.6 | 15.7 |
| BOR-20 5.0'-5.5' | | | | |
| BOR-20 5.5'-6.0' | | | | |
| BOR-21 2.5'-3.0' | | | | |
| BOR-21 3.0'-3.5' | | | | |
| BOR-21 4.0'-4.5' | 232 | 101.0 | 6.6 | 30.2 |
| BOR-21 7.0'-7.5' | | | | |
| BOR-21 11.5'-12.0' | | | | |
| BOR-22 3.5'-4.0' | | | | |
| BOR-22 4.0'-4.5' | 489 | 84.0 | 16.6 | 17.1 |
| BOR-22 7.5'-8.0' | | | | |
| BOR-22 11.0'-11.5' | | | | |
| BOR-23 3.0'-3.5' | | | | |
| BOR-23 3.5'-4.0' | | | | |
| BOR-23 4.0'-4.5' | 436 | 207.0 | 14.4 | 31.9 |
| BOR-23 11.0'-11.5' | | | | |
| BOR-24 3.0'-3.5' | | | | |
| BOR-24 4.0'-4.5' | 679 | 207.0 | 5.8 | 13.9 |
| BOR-25 3.5'-4.0' | | | | |
| BOR-25 4.0'-4.5' | 241 | 78.0 | 5.8 | 6.4 |
| BOR-25 11.0'-11.5' | | | | |
| BOR-26 1.5'-2.0' | | | | |
| BOR-26 2.5'-3.0' | | | | |

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS - SOIL
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

| Boring Location/Depth | Total Phosphorus (mg/kg) | Total Kjeldahl Nitrogen (mg/kg) | Chloride (mg/kg) | Sulfate (mg/kg) |
|---|---|---|---|---|
| BOR-26 4.0'-4.5' | 462 | 72.8 | 4.5 | 4.4 |
| BOR-26 13.0'-13.5' | | | | |
| BOR-27 2.5'-3.0' | | | | |
| BOR-27 3.0'-3.5' | | | | |
| BOR-27 4.0'-4.5' | 555 | 95.0 | 5.7 | 10.5 |
| BOR-27 7.0'-7.5' | | | | |
| BOR-27 10.0'-10.5' | | | | |
| BOR-27 12.5'-13.0' | | | | |

Notes:

1. Analytical results are presented in units as shown.

2. Sample depths are presented in feet.

TABLE 2

SUMMARY TABLE OF ANALYTICAL RESULTS: WATER
SITE 15, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | Units | Well Number MWOR-1 | MWOR-2 | MWOR-3 | MWOR-4 | MWOR-5 |
|---|---|---|---|---|---|---|
| Volatile Organics | | | | | | |
| Benzene | ug/l | | | | | |
| Ethyl Benzene | ug/l | | | | | |
| Methylene Chloride | ug/l | 10. | | 17. | 5. | |
| Xylene (total) | ug/l | | | | | |
| Semivolatile Organics | | | | | | |
| Naphthalene | ug/l | | | | | |
| 2-Methylnaphthalene | ug/l | | | | | |
| bis(2-ethylhexyl)phthalate | ug/l | | | | | |
| Pesticides | | | | | | |
| 4,4'-DDT | ug/l | 0.08 | | | | |
| Total Petroleum Hydrocarbons | mg/l | | 0.08 | | | |
| Metals | | | | | | |
| Aluminum | mg/l | **46** | **184** | **386** | **244** | **223** |
| Arsenic | mg/l | | **0.077** | | | |
| Barium | mg/l | **0.37** | **0.88** | **1.9** | **1.7** | **1.3** |
| Beryllium | mg/l | | 0.0054 | 0.0084 | 0.0055 | 0.0056 |
| Calcium | mg/l | 359 | 83 | 113 | 61 | 23 |
| Chromium | mg/l | **0.13** | **0.6** | **1.1** | **0.72** | **0.65** |
| Cobalt | mg/l | | 0.14 | 0.25 | 0.17 | 0.13 |
| Copper | mg/l | 0.042 | 0.26 | 0.32 | 0.19 | 0.25 |
| Iron | mg/l | 59 | 266 | 465 | 300 | 296 |
| Lead | mg/l | | **0.18** | **0.054** | | **0.055** |
| Magnesium | mg/l | 98 | 94 | 128 | 80 | 81 |
| Manganese | mg/l | 12 | 3.4 | 11 | 4.8 | 5.4 |
| Nickel | mg/l | 0.19 | **0.71** | **1.7** | **0.92** | **0.8** |
| Potassium | mg/l | 14 | 34 | 43 | 16 | 35 |
| Selenium | mg/l | | **0.097** | **0.18** | **0.12** | **0.12** |
| Sodium | mg/l | 390 | 353 | 172 | 47 | 97 |
| Titanium | mg/l | 1.4 | 4.7 | 7.3 | 5.6 | 5.4 |
| Vanadium | mg/l | 0.11 | 0.55 | 0.76 | 0.55 | 0.51 |
| Zinc | mg/l | 0.12 | 0.68 | 0.86 | 0.56 | 0.63 |

TABLE 7

SUMMARY TABLE OF ANALYTICAL RESULTS, WATER
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | Units | Well Number MWOR-1 | MWOR-2 | MWOR-3 | MWOR-4 | MWOR-[illegible] |
|---|---|---|---|---|---|---|
| Total Organic Carbon | mg/l | 21.3 | 23.2 | 15.1 | 7.5 | 10.0 |
| General Minerals | | | | | | |
| Total Dissolved Solids | mg/l | 3160. | 1380. | 880. | 620. | 780. |
| Specific Conductance | umhos/c | 4020 | 2320 | 1410 | 470 | 540 |
| pH | - | 6.8 | 7.8 | 7.4 | 6.7 | 7.2 |

Notes:

1. Shaded concentrations denote Concentrations in excess of the Maximum Contaminant Level or the Applied Action Level.

TABLE 2

SUMMARY TABLE OF ANALYTICAL RESULTS - WATER
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | Units | Well Number MW-1 (HLA) |
|---|---|---|
| Volatile Organics | | |
| Benzene | ug/l | 400. |
| Ethyl Benzene | ug/l | 34. |
| Methylene Chloride | ug/l | |
| Xylene (total) | ug/l | 32. |
| Semivolatile Organics | | |
| Naphthalene | ug/l | 23. |
| 2-Methylnaphthalene | ug/l | 16. |
| bis(2-ethylhexyl)phthalate | ug/l | 11. |
| Pesticides | | |
| 4,4'-DDT | ug/l | 0.025 |
| Total Petroleum Hydrocarbons | mg/l | 21 |
| Metals | | |
| Aluminum | mg/l | 50 |
| Arsenic | mg/l | |
| Barium | mg/l | 0.66 |
| Beryllium | mg/l | |
| Calcium | mg/l | 82 |
| Chromium | mg/l | 0.15 |
| Cobalt | mg/l | |
| Copper | mg/l | 0.051 |
| Iron | mg/l | 92 |
| Lead | mg/l | |
| Magnesium | mg/l | 81 |
| Manganese | mg/l | 2.7 |
| Nickel | mg/l | 0.19 |
| Potassium | mg/l | 25 |
| Selenium | mg/l | |
| Sodium | mg/l | 506 |
| Titanium | mg/l | 1.3 |
| Vanadium | mg/l | 0.13 |
| Zinc | mg/l | 0.18 |

TABLE 2

SUMMARY TABLE OF ANALYTICAL RESULTS: WATER
SITE 13, OIL REFINERY
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | Units | Well Number MW-1 (HLA) |
|---|---|---|
| Total Organic Carbon | mg/l | 67.6 |
| General Minerals | | |
| Total Dissolved Solids | mg/l | 1820. |
| Specific Conductance | umhos/c | 2580 |
| pH | | 7.0 |

Notes:

1. Shaded concentrations denote Concentrations in excess of the Maximum Contaminant Level or the Applied Action Level.

TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | MCL (mg/l) | SHLC (mg/l) | THLC (mg/kg) | AAL Biological Receptor | AAL Water (ug/l) | AAL Air (ug/m3) | AAL Soil (mg/kg) |
|---|---|---|---|---|---|---|---|
| **Volatile Organics** | | | | | | | |
| 1,1,1-Trichloroethane | 0.2 | | | Human | 300 | 300 | |
| 1,1,2,2-Tetrachloroethane | 0.001 | | | | | | |
| 1,1,2-Trichloroethane | 0.032 | | | | | | |
| 1,1-Dichloroethylene | 0.006 | | | | | | |
| 1,2-Dichloroethane | 0.0005 | | | | | | |
| 1,3-Dichloropropene | 0.0005 | | | | | | |
| 1,4-Dichlorobenzene | 0.005 | | | | | | |
| 2-Butanone | | | | Human | 2,000 | 300 | |
| Benzene | 0.001 | | | Human | 0.2 | 0.07 | |
| Benzene | | | | Freshwater | 1 | | |
| Benzene | | | | Saltwater | 1 | | |
| Carbon Tetrachloride | 0.0005 | | | | | | |
| Chloroform | | | | Human | 6 | 0.6 | |
| Dibromochloropropane | 0.0002 | | | | | | |
| Ethylbenzene | 0.68 | | | Human | 2,000 | 100 | |
| Ethylene Dibromide | 0.00002 | | | | | | |
| Monochlorobenzene | 0.03 | | | | | | |
| n-Hexane | | | | Human | 100 | 200 | |
| Tetrachloroethylene | 0.005 | | | | | | |
| Toluene | | | | Human | 2,000 | 200 | |
| Toluene | | | | Freshwater | 90 | | |
| Toluene | | | | Saltwater | 20 | | |
| Trichloroethylene | 0.005 | 204. | 2,040 | Human | / | / | |
| Vinyl Chloride | 0.0005 | | | Human | 0.5 | 0.1 | |
| Xylene | | | | Freshwater | 40 | | |

TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | MCL (mg/l) | SILC (mg/l) | TILC (mg/kg) | AAI Biological Receptor | AAI Water (ug/l) | AAI Air (ug/m3) | AAI Soil (mg/kg) |
|---|---|---|---|---|---|---|---|
| **Volatile Organics** | | | | | | | |
| Xylene | | | | Saltwater | 70 | | |
| Xylene (all isomers) | 1.75 | | | Human | 2,000 | 400 | 30,000 |
| **Semivolatile Organics** | | | | | | | |
| Acenaphthene | | | | Human | 20 | 2 | |
| Acenaphthylene | | | | Human | 20 | 2 | |
| Anthracene | | | | Human | 20 | 2 | 100 |
| Atrazine | 0.003 | | | | | | |
| Bentazon | 0.018 | | | | | | |
| Benzo(a)pyrene | | | | Human | 0.09 | 0.009 | |
| Fluoranthene | | | | Human | 20 | 2 | |
| Fluorene | | | | Human | 20 | 2 | |
| Naphthalene | | | | Human | 20 | 2 | |
| Naphthalene | | | | Freshwater | 600 | | |
| Naphthalene | | | | Saltwater | 700 | | |
| Pentachlorophenol | | 1.7 | 17 | Human | 2 | 0.2 | |
| Pentachlorophenol | | | | Freshwater | 5 | | |
| Pentachlorophenol | | | | Saltwater | 10 | | |
| Phenanthrene | | | | Human | 20 | 2 | 100 |
| Pyrene | | | | Human | 20 | 2 | |
| **Pesticides/PCBs** | | | | | | | |
| 2,4,5-TP Silvex | 0.01 | 1. | 10 | | | | |
| 2,4-D | 0.1 | 10. | 100 | Human | 40 | 4 | |
| Aldicarb | | | | Human | 20 | 2 | |

TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | MCL (mg/l) | STLC (mg/l) | TTLC (mg/kg) | AAL Biological Receptor | AAL Water (ug/l) | AAL Air (ug/m3) | AAL Soil (mg/kg) |
|---|---|---|---|---|---|---|---|
| **Pesticides/PCBs** | | | | | | | |
| Aldrin | | 0.14 | 1.4 | | | | |
| Chlordan | | 0.25 | 2.5 | | | | |
| DDD,DDE,DDT | | 0.1 | 1.0 | | | | |
| Diazinon | | | | Human | 30 | 3 | |
| Dicofol | | | | Human | 1 | 0.1 | |
| Dieldrin | | 0.8 | 8 | | | | |
| Dioxin (2,3,7,8-TCCD) | | 0.001 | 0.01 | | | | |
| Endrin | 0.0002 | 0.02 | 0.2 | | | | |
| Heptachlor | | 0.47 | 4.7 | Human | 0.1 | 0.01 | |
| Heptachlor Epoxide | | | | Human | 0.02 | 0.002 | |
| Kepone | | 2.1 | 21 | | | | |
| Lead Compounds, Organic | | | 13 | | | | |
| Lindane | 0.004 | 0.4 | 4 | Human | 0.2 | 0.02 | |
| Malathion | | | | Human | 800 | 80 | |
| Methoxychlor | 0.1 | 10. | 100 | | | | |
| Mirex | | 2.1 | 21 | | | | |
| Molinate | 0.02 | | | | | | |
| Paraquat | | | | Human | 200 | 4 | |
| Parathion, Ethyl | | | | Human | 40 | 0.2 | |
| Polychlorinated Biphenyls (PCBs) | | 5. | 50 | | | | |
| Simazine | 0.01 | | | | | | |
| Thiobencarb | 0.07 | | | | | | |
| Toxaphene | 0.005 | 0.5 | 5 | | | | |

TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | MCL (mg/l) | STLC (mg/l) | TTLC (mg/kg) | AAL Biological Receptor | AAL Water (ug/l) | AAL Air (ug/m3) | AAL Soil (mg/kg) |
|---|---|---|---|---|---|---|---|
| **Inorganics** | | | | | | | |
| Aluminum | 1.0 | | | | | | |
| Antimony | | 15. | 500 | | | | |
| Arsenic | 0.05 | 5.0 | 500 | Freshwater | 70 | | |
| Arsenic | | | | Saltwater | 20 | | |
| Asbestos | | | 1.0 | | | | |
| Barium | 1.0 | 100. | 10,000 | Human | 350 | 5 | |
| Beryllium | | 0.75 | 75 | | | | |
| Cadmium | 0.01 | 1.0 | 100 | Freshwater | 0.2 | | |
| Cadmium | | | | Saltwater | 5 | | |
| Chromium | 0.05 | | | Freshwater | 50 | | |
| Chromium | | | | Saltwater | 2 | | |
| Chromium III | | 560. | 2,500 | Human | 50,000 | 50 | |
| Chromium VI | | 5. | 500 | | | | |
| Cobalt | | 80. | 8,000 | | | | |
| Copper | | 25. | 2,500 | Human | 4,000 | 200 | |
| Copper | | | | Freshwater | 4 | | |
| Copper | | | | Saltwater | 6 | | |
| Cyanide | | | | Human | 1,000 | 50 | |
| Fluoride (temperature dependent) | 1.4 to 2.4 | | | | | | |
| Fluoride Salts | | 180. | 18,000 | | | | |
| Lead | 0.05 | 5.0 | 1,000 | Freshwater | 10 | | |
| Lead | | | | Saltwater | 4 | | |
| Mercury (inorganic) | 0.002 | 0.2 | 20 | Human | 70 | 0.07 | |
| Molybdenum | | 350. | 3,500 | | | | |
| Nickel | | 20. | 2,000 | Human | 400 | 0.1 | |

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TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | MCL (mg/l) | SHC (mg/l) | THC (mg/kg) | AAL Biological Receptor | AAL Water (ug/l) | AAL Air (ug/m3) | AAL Soil (mg/kg) |
|---|---|---|---|---|---|---|---|
| **Inorganics** | | | | | | | |
| Nickel | | | | Freshwater | 1 | | |
| Nickel | | | | Saltwater | 8 | | |
| Nitrate | 45.0 | | | Saltwater | 10 | | |
| Selenium | 0.01 | 1.0 | 100 | | | | |
| Silver | 0.05 | 5. | 500 | Human | 200 | 2 | |
| Silver | | | | Freshwater | 1 | | |
| Silver | | | | Saltwater | 6 | | |
| Thallium | | 7.0 | 700 | | | | |
| Vanadium | | 24. | 2,400 | | | | |
| Zinc | | 250. | 5,000 | Human | 8,000 | 800 | |
| Zinc | | | | Freshwater | 30 | | |
| Zinc | | | | Saltwater | 10 | | |
| **Consumer Acceptance Limits** | | | | | | | |
| Color | 15 units | | | | | | |
| Copper | 1.0 | | | | | | |
| Corrosivity | Relatively Low | | | | | | |
| Odor - Threshold | 3 units | | | | | | |
| Foaming Agents (MBAs) | 0.5 | | | | | | |
| Iron | 0.3 | | | | | | |
| Manganese | 0.05 | | | | | | |
| Thiobencarb | 0.001 | | | | | | |
| Turbidity | 5 units | | | | | | |
| Zinc | 5.0 | | | | | | |

TABLE 3

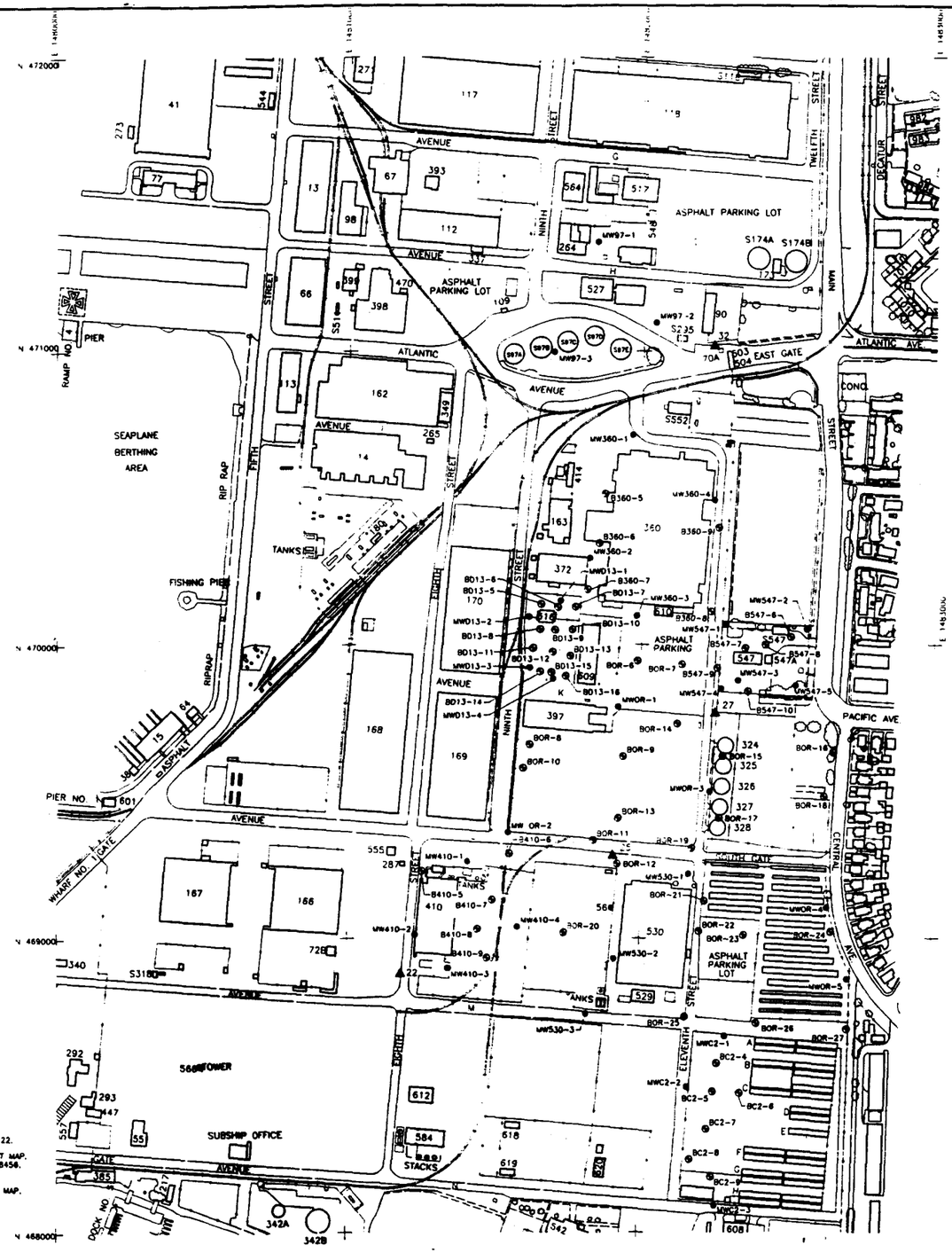
COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

| Chemical Group/Analyte | MCL (mg/l) | STLC (mg/l) | TTLC (mg/kg) | AAL Biological Receptor | AAL Water (ug/l) | AAL Air (ug/m3) | AAL Soil (mg/kg) |
|---|---|---|---|---|---|---|---|
| **Mineralization** | | | | | | | |
| Total Dissolved Solids | 500 | | | | | | |
| or | | | | | | | |
| Specific Conductance | 900 umhos | | | | | | |
| Chloride | 250 | | | | | | |
| Sulfate | 250 | | | | | | |

Notes:

1. MCLs are Maximum Contaminant Levels.
2. AALs are Applied Action Levels.
3. STLCs are Soluble Threshold Limit Concentrations.
4. TTLCs are Total Threshold Limit Concentrations.
5. MCLs, STLCs, and TTLCs were referenced in Barclay's California Code of Regulations, Title 22, Social Security, Division 4, Environmental Health, updated June 22, 1990.
6. AALs were referenced from the California Department of Health Services AAL List 90-1, dated June 29, 1990, which supersedes all previous AAL lists.
7. MCLs for the constituents listed under Consumer Acceptance Limits and Mineralization apply to Secondary Drinking Water Standards.
8. State of California recommended MCLs are listed for Mineralization under the Secondary Drinking Water Standards.
9. Freshwater and saltwater biological receptors for the listed AALs apply to aquatic life.

DRAWING NUMBER 86-018-E87




**LEGEND:**

- ⊗ B360-5 SOIL BORING LOCATION
- ● MW97-2 MONITORING WELL LOCATION
- ▲22 SURVEY MONUMENT

SCALE
200 0 200 400 FEET

**REFERENCES:**

1. NAVAL AIR STATION ALAMEDA GENERAL DEVELOPMENT MAP, SHEETS 18 & 22.
2. NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA GENERAL DEVELOPMENT MAP. STATION MAP WITH SURVEY MONUMENTS ADDED. NAVFAC DRAWING NO. 638459. REVISION 8. DATED SEPTEMBER 15, 1986.
3. NAVAL AIR STATION, ALAMEDA, CALIFORNIA, STATION BENCHMARK LOCATION MAP. PWC DRAWING NO. 25144. DATED JANUARY 1985

| No. | DATE | ISSUE / REVISION | DWN. BY | CK'D BY | AP'D BY |
|---|---|---|---|---|---|
| 2 | 11-9-90 | ISSUED FOR PHASE 2A SURVEY DATA REPORT | VZC | TGB | RJC |
| 1 | 10-17-90 | ISSUED FOR ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT PERMIT NO. 90385 | VZC | TGB | RJC |

PHASE 2A
MONITORING WELL AND
SOIL BORING LOCATIONS
NAVAL AIR STATION
ALAMEDA, CALIFORNIA

PREPARED FOR

WESTERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
SAN BRUNO, CALIFORNIA

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| | | | |
|---|---|---|---|
| DATE: 10-9-90 | FIGURE 1 | DRAWING NUMBER 86-018-E87 | 2 |
| SCALE: AS SHOWN | | | |

# APPENDIX A

# CERTIFIED ANALYTICAL RESULTS

N00236.000832
ALAMEDA POINT
SSIC NO. 5090.3

# APPENDIX A – CERTIFIED ANALYTICAL RESULTS

THIS RECORD CONTAINS ANALYTICAL DATA AND IS NOT REQUIRED TO BE PHYSICALLY LOCATED WITH THE ADMINISTRATIVE RECORD DOCUMENT.

THIS DATA WILL NOT BE IMAGED.

TO VIEW THE DATA, CONTACT:

**DIANE C. SILVA**
**RECORDS MANAGEMENT SPECIALIST**
**NAVAL FACILITIES ENGINEERING COMMAND SOUTHWEST**
**1220 PACIFIC HIGHWAY**
**SAN DIEGO, CA 92132**

**TELEPHONE: (619) 532-3676**

N00236.000832
ALAMEDA POINT
SSIC NO. 5090.3

# REVISED
# PHASE 1 AND 2A ANALYTICAL RESULTS FOR SITE 13, OIL REFINERY SITE REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 01 JUNE 1992

THIS RECORD CONTAINS MULTIPLE VOLUMES WHICH HAVE BEEN ENTERED SEPARATELY

VOLUME II OF II IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000833**