GW- 28

WORK PLANS

1996

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January 31, 1996

Mr. Rich Mayer, Environmental Engineer RCRA Permits Branch U.S. Environmental Protection Agency 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733

Re: Transmittal of Revised Soil Removal Workplan for Three-Mile Ditch

Dear Mr. Mayer:

Enclosed please find the revisions to the "Proposed Workplan for Removal of Surficial Waste Deposits at Three-Mile Ditch". The proposed workplan was originally submitted to EPA as Attachment 2 of the October, 1995 revised RFI Phase III Report for Three-Mile Ditch and Evaporation Ponds. The current workplan submittal has been revised to respond to November 22, 1995 EPA review comments on the original workplan submittal. Our response to the comments are included as an attachment to this letter.

For convenience and consistency, the revised soil removal plan has been prepared so that it may be directly inserted as replacement pages in the January 1996 revised RFI Phase III Report for Three-Mile Ditch and Evaporation Ponds. Please replace Attachment 2 pages 2-1 through 2-5 (dated October 1, 1995) with the revised workplan pages (2-1 through 2-7, dated January 31, 1996) which are included herein. In addition, a version of the revised workplan which indicates deleted text (strike-through) and new text (bolded) has also been included in order to facilitate your review of the document.

If you have any questions, please do not hesitate to contact me at (505) 748-3311.

Sincerely.

Phillip L. Youngblogd

Director of Environmental Affairs

PLY/si

attachments

Mr. Rich Mayer January 31, 1996

Response To EPA Region 6 Review Comments on the Soil Removal Plan for Three Mile Ditch

Comment:

General Comment: Please provide in the revised plan the name, address, and telephone numbers of the property owners in which soil removal may occur. EPA will also require that Navajo notify each property owner by certified mail. The letter should briefly describe the soil removal process and request permission from the property owner.

Response:

The proposed soil removal activities will be conducted along a portion of the ditch that falls within the property boundary of a single private party. The work plan has been revised to provide the identity, address and telephone number for that party, which are presented in the revised work plan at the end of the second paragraph of Section 1.0.

Upon approval of the proposed soil removal work plan by the agency, Navajo will notify the affected landowner of the scheduled date and nature of the planned activities and will subsequently verify his consent to same with a follow-up telephone communication. A copy of the notification letter sent by certified mail to the concerned property owner will also be sent to the attention of the appropriate EPA Region 6 oversight representative.

Comment:

General Comment: Navajo needs to include in the revised plan a section which addresses how the ditch will be "filled in" or leveled after soil removal.

Response:

The work plan has been revised to include a description of site activities associated with post-excavation restoration at the site (Section 2.1, second-to-last paragraph). In brief, shallow excavation zones extending to a depth less than three-feet from surface grade will be contoured to restore the land surface to a smooth surface conformation posing no surface hazard or excessive potential for accumulation and ponding of surface water. Although considered unlikely, in the event that soil excavations exceed a depth of three feet, imported clean fill material will be used to restore any such areas to a suitable grade.

Comment:

Attachment 2-2; Corrective Action Plan: Please include a map in the revised plan which locates the potential soil removal areas of the Three Mile Ditch. Also, please locate/indicate the property owners on the map.

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Response:

The work plan has been revised to include a site map indicating the approximate location of the portion of the ditch targeted for soil delineation and excavation activities, which is presented as Figure A2-1. The approximate boundary lines of the private property in which the ditch segment of interest resides are also indicated in the figure.

Comment:

Attachment 2-2; Sampling and Analysis: Please include the ERT SOP No. 1713 in the revised workplan. Also, please include a more descriptive narrative on the delineation of the soils by the Navajo field team leader. In addition, EPA is assuming that the analyzer has the capability to give concentration levels of other metals such as arsenic, chromium, etc.

Response:

Subsequent to follow-up discussions with technical representatives of the manufacturer of the proposed field analytical device (Spectrace 9000, TN Technologies, Austin, Texas), Navajo has been informed that the manufacturer does not recommend adherence to the rigorous calibration verification procedures specified in EPA document ERT SOP 1713. Manufacturer technical representatives assert that Spectrace 9000 has consistently proven to be a highly reliable portable analytical device, which, in the absence of a major equipment malfunction, is unlikely to require recalibration during the duration of the planned field work. As discussed in Section 2.4 (4th and 5th paragraphs) of the revised work plan, the Spectrace 9000 User Manual accompanying the rental device includes a standard operating check protocol which the manufacturer recommends to be conducted once daily prior to the initiation of field activities. While additional calibration checks may be conducted at the discretion of the Navajo field team leader, the manufacturer asserts that extensive field experience with the Spectrace 9000 has demonstrated that, in the absence of a major equipment malfunction, the device will not require onsite recalibration during the course of the planned field activities. Technical representatives of the manufacturer also consider the procedures presented in ERT SOP 1713 to be unwarranted and redundant. Therefore, Navajo proposes to adhere to the manufacturer-recommended standard operating check procedures rather than the more elaborate and time-consuming procedures specified in ERT SOP No. 1713.

Regarding the reviewer's request to provide a more descriptive narrative on soil delineation, Navajo has endeavored to provide further detail regarding the overall conceptual approach. However, because the surface distribution of waste residuals is expected to be both irregular and sporadic to a degree which is currently unknown, Navajo has not deemed it to be appropriate to attempt to adhere to a rigidly structured protocol for the initial delineation of soils targeted for excavation. As stated in the second paragraph of Section 2.1 of the revised workplan, the Navajo field team leader will use best professional judgment based on the historical knowledge of unit maintenance operations (e.g., side of ditch from which backhoe operated and probable reach of the backhoe bucket relative to its position along the ditch) along with various overt and subtle visual cues (soil discoloration, irregularities, in surface topography, etc.) to accomplish the initial delineation. Because those surface materials that may potentially exceed the excavation criteria can be expected to reside within a relatively narrow corridor located immediately adjacent to the

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ditch, Navajo is confident that target excavation materials can be effectively delineated at the time of onsite activities. Finally, Navajo also notes that the verification sampling protocol detailed in Section 2.1 will also confirm the efficacy of the preceding delineation effort.

In response to the final review comment cited above, the reviewer is correct in assuming that the Spectrace 9000 has the capacity to analyze additional metals. However, technical representatives for the manufacturer state that the device relies upon multiple radio-nuclide excitation sources to cover the spectrum of individual elements. Soil sample through-put time is minimized by focusing on constituents of interest and minimizing count time for other elements. In this manner, appropriately detection levels for a constituent of interest can be obtained along with a minimal analytical through-put time.

Navajo's Field Team Leader will focus on lead in the surface materials. Analysis of additional elements other than lead could result in considerable additional analytical time and effort during the course of the planned field work. Navajo notes that metal constituents present in refinery wastewater residuals have consistently exhibited extremely low solubility and transport characteristics, as assessed by characterization of constituent concentration trends within the soil profile and TCLP analyses. On the basis of the nature of the surficial waste residuals and their relatively discrete localization in a narrow band adjacent to the ditch, Navajo fully anticipates that the removal of those materials exhibiting lead concentrations in excess of the clean-up criteria will also be sufficient to effect the concurrent removal of any potential hot spots for other waste-related contaminants of concern.

Comment:

Attachment 2-4; Section 2.4, 4th Paragraph: Please include in the revised workplan the constituents that will be analyzed in the laboratory.

Response:

The workplan has been revised at Section 2.4 (third paragraph) indicate that duplicate soil samples obtained during the verification sampling phase and which will be directed to the analytical laboratory for QA/QC purposes will be subjected to analysis according to SW-846 methods 3051 (trace metal digestion) and 7421 (total lead analysis), respectively.

ATTACHMENT 2

PROPOSED WORKPLAN FOR REMOVAL OF SURFICIAL WASTE DEPOSITS AT THREE-MILE DITCH (REVISED)

> NAVAJO REFINING COMPANY ARTESIA, NEW MEXICO

1.0 INTRODUCTION

This document presents the proposed workplan for RCRA Corrective Action Program activities associated with the Solid Waste Management Unit (SWMU) identified as Three-Mile Ditch, which was formerly operated by Navajo Refining Company, Artesia, New Mexico.

In EPA's August 22, 1995 deficiency comments to the Navajo Refining RCRA Facility Investigation-for Three-Mile Ditch and Evaporation Ponds Phase III report (RE/SPEC Inc., April 1995), EPA required that Navajo prepare a soil removal plan for those portions of the ditch at which residual deposits of surficial waste materials have been found to exhibit total lead concentrations in excess of 500 mg/kg. In response, Navajo proposes to conduct soil excavation activities along an identified ditch interval of concern which extends eastward from Bolton Road for approximately 0.5 miles. The designated interval of concern is located in its entirety within the boundaries of private property owned by Mr. Mack Chase, Chase Farms, P.O. Box 693, Artesia, NM 88211-0693, telephone number (505) 748-3436. The approximate location of the designated interval of concern and the surrounding private property boundary in which it is contained are presented in Figure A2-1.

Environmental sampling and analysis of surficial dredge spoils material along this segment of the unit yielded sample lead concentrations ranging from 530 to 11,600 mg/kg (Table 3-1, RFI Phase III Report). As discussed in Section 3.1.4 of the RFI Phase III report, the most upgradient interval of concern coincides with a significant decrease in the surface slope along the ditch that resulted in significant deposition of waste solids. Deposition in this area required periodic dredging to maintain a proper flow channel. The dredged deposits were placed on the ditch bank adjacent to the channel sections being cleared.

Details of the soil removal workplan for this identified ditch interval of concern are presented in the following sections. Section 2.0 describes the sampling and analysis strategy to be employed in delineating those soils targeted for excavation and removal, equipment and

procedures to be employed in those excavation operations, disposition of the excavated materials, and post-excavation sampling and analysis used to verify the efficacy of the corrective actions. Discussion of project health and safety requirements are presented in Section 3.0 and details of information to be presented in a post-corrective action report to be submitted to EPA Region 6 are described in Section 4.0.

2.0 CORRECTIVE ACTION PLAN

This section details the workplan approach to identifying and excavating soil contaminants along the unit interval of concern at the Three-Mile Ditch. In brief, soil materials exceeding the acceptance criteria (500 mg/kg) will be characterized and delineated primarily on the basis of onsite sample analyses. A field-portable X-ray fluorescence analyzer will be used to quantify total lead content of soil samples. Delineation of soils targeted for removal will begin immediately (within one to two days) prior to the beginning of soil excavation and removal operations. Subsequent to excavation completion at discrete intervals, verification sampling will be immediately conducted so that any follow-up excavation of residual hot spots can be accomplished while excavation equipment remains in the vicinity.

Excavated soils will be transported to Pond 1 by dump truck, where they will be dumped at intervals across the surface of the pond. Earth moving equipment will then distribute the excavated soils over the Pond 1 unit surface in a thin (3-5 inches) application layer, and the surface-applied materials will then be disced into the receiving soil to complete the incorporation process.

The various features of the workplan are described in further detail in the following sections.

2.1 Sampling and Analysis Strategy

A field-portable X-ray fluorescence analyzer (Spectrace 9000, TN Technologies, Inc.) will be used to obtain on-site measurements of the total lead content of surficial soil materials located adjacent to the unit. The Spectrace 9000 is well-demonstrated to be a reliable analytical tool for on-site applications. It has been employed by organizations such as the USEPA Environmental Response Team (ERT) and numerous state environmental agencies. For the current proposed application, on site equipment operating and decontamination procedures for the Spectrace 9000 unit will follow USEPA ERT Standard Operating Procedure (SOP) No. 1713.

Methods used to delineate soils targeted for excavation will be left to the discretion of the Navajo on-site field team leader, but are expected to be based on a combination of systematic random and biased sampling. The Navajo field team leader will use best professional judgment based on the historical knowledge of unit maintenance operations (e.g., side of

ditch from which backhoe operations were formerly conducted, and probable reach of the backhoe bucket relative to its position along the ditch) along with various overt and subtle visual cues (soil discoloration, irregularities in surface topography, etc.) to accomplish the initial delineation. Because those surface materials that may potentially exceed the excavation criteria can be expected to reside within a relatively narrow corridor located immediately adjacent to the ditch, Navajo is confident that target excavation materials can be effectively delineated at the time of onsite activities.

The effectiveness of the preceding delineation and excavation activities will be confirmed by collection and analysis of soil verification samples which will be in a continuous manner along the entire length of the targeted ditch section, and which will also be conducted according to the formal protocol specified herein. Beginning at the designated terminus of the ditch interval of concern, a series of consecutive 50-foot intervals will be physically defined, and a random number chart will be used to generate two random sample locations occurring between a distance of 5 and 45 feet within the confines of each such interval (this proscribed internal sample interval will ensure that samples obtained from adjacent 50-foot intervals will be separated by a minimum distance of 10 feet).

At each verification sampling location, a composite sample will be obtained by combining three subsamples collected at a sample depth extending from approximately 0-6 inches, as measured from surface grade. The subsamples will be collected along an axis perpendicular to the ditch orientation, and will be separated by a distance of three-feet or less (depending upon the width of the soil excavation corridor). In the event that the excavation width at the sample collection point exceeds a total length of 12 feet, a second independent grab sample will also be collected within one foot of the outer edge of the excavation corridor at either side, with the location to be decided by the field team leader in consultation with on-site EPA oversight personnel (if present).

In the event that a verification sample yields a lead concentration value in excess of the remediation target, the sample location will be flagged and additional samples will be collected at a distance of 10 feet to each side of the identified hot spot, and proceeding outwards thereafter from the initial sample exceedance location until no further exceedances are reported. The field team leader will then rely on the on-site sample analyses together with visual observations to delineate the additional surface area for which excavation will be required. Subsequent to the follow-up excavation, all sample locations that yielded a target concentration exceedance will be resampled to verify the efficacy of the follow-up excavation action. This process will be repeated as necessary until no further target level exceedances are reported.

Following the completion of verification sampling, shallow excavation zones extending to a depth less than three-feet from surface grade will be contoured to restore the land surface to a smooth surface conformation posing no surface hazard or excessive potential for accumulation and ponding of surface water. Although considered unlikely, in the event that soil excavations exceed a depth of three feet, imported clean fill material will be used to restore any such areas to a suitable grade.

In addition to the samples to be collected during the execution of the sampling strategy described above, additional duplicate samples will be collected for purposes of quality assurance and quality control, as described in Section 2.4 of this workplan.

2.2 Soil Excavation and Hauling Equipment

Depending on site access conditions, either a diesel trackhoe or backhoe will be used to excavate the delineated surficial wastes and waste-contaminated soils, and a 12 or 14 cubic-yard capacity dump truck will transport the excavated materials to Pond 1. Should excavation activities result in an excessive amount of airborne dust, an 80-barrel bob-tail water truck will also be available as needed for the purpose of dust suppression.

2.3 Establishment of Remediation Acceptance Criteria

As described above, the proposed verification sampling will identify any residual areas exceeding the cleanup criteria at the time of excavation. Therefore, corrective action activities will be considered complete when all verification sampling is completed and no further samples yield lead concentration values in exceedance of the 500 mg/kg target criteria. Based on a minimum of two samples per 50-feet interval and an approximate length of 0.5 miles for the designated interval of concern, approximately 105 soil samples (minimum) will be documented during the verification sampling process. In order to verify the accuracy of the on-site sample analyses, a number of additional duplicate samples will also be evaluated, as described in the next section.

Assessment of the environmental status of Pond 1 surface soils following the receipt of the materials excavated from Three-Mile Ditch will be undertaken under a separate program in conjunction with formal unit closure activities at Pond 1.

2.4 Data Documentation and Quality Assurance/Quality Control

All sampling intervals, sample locations and associated analytical data will be recorded in the project log book along with the date and time at which each sample was collected. Each of the 50-foot verification sampling intervals will be assigned a unique identifying designator, and each sample collected from within the various intervals will also be assigned a unique designator

according to a hierarchical arrangement. The following nomenclature will be employed: TMD-VSI(x), where TMD, VS and (x) signify Three-Mile Ditch, Verification Sample Interval, and the specific interval, respectively, and specific sample locations within each interval will follow the nomenclature TMD-VSI(x)-x. To the extent possible, verification sampling intervals and specific locations will be related to distinguishing landmarks (adjacent monitoring wells, fence lines, etc.). For the case in which verification samples yield lead target exceedance and secondary excavation and resampling is required, re-samples obtained at previous sample locations will be appended with the designation 'R' to indicate a re-sampling event. Sample locations selected at 10-foot intervals at each side of the sample initially yielding a target exceedance will be designated as TMD-VSI(x)-xR-10E or -10W, where E and W correspond to their orientation from the central sample location (the unit extends along an east-west orientation) and where the numerical assignment represents the distance from the originating central sample.

Precision and repeatability of the on-site analytical measurements will be confirmed by analysis of duplicate samples at sample locations that will be selected at random at a frequency of 5 percent.

The accuracy of on-site analytical measurements will be assessed by the collection of additional duplicate samples (also randomly selected at a frequency of 5 percent), which will be placed in appropriate sample storage containers and shipped to a designated analytical laboratory, accompanied by chain-of-custody documentation.

In accordance with the Spectrace 9000 equipment calibration recommendations presented at Sections 7.3.1 and 7.3.2 of USEPA ERT SOP 1713, an initial energy calibration will be conducted at the initiation of field activities, and subsequent energy calibration checks, resolution checks, and blank sample checks will be conducted on a daily basis prior to the initiation of field activities. Prior to the daily initiation of onsite field activities, the field analytical device will be subject to a standard operating check in accordance with the manufacturer-provided Users Manual. All daily calibration-related activities will be noted in the project log book.

While additional calibration checks may be conducted at the discretion of the Navajo field team leader, technical representatives of the manufacturer assert that the Spectrace 9000 is a highly reliable analytical device, which, in the absence of a major equipment malfunction, is unlikely to require re-calibration during the duration of the planned field work.

In addition to the documentation of field activities, analytical test results and QA/QC procedures and measurements, the total volume of contaminated materials excavated from the

unit and transported to Pond 1 will be tracked by recording the total number of dump truck trips to Pond 1.

3.0 PROJECT HEALTH AND SAFETY PROGRAM

Prior to the initiation of the on-site activities at Three-Mile Ditch described above, a site-specific Project Health and Safety (H&S) Plan will be developed. Primary hazards associated with the proposed field activities involve physical proximity to heavy equipment operations, and potential inhalation exposure to contaminant-bearing dust particulates. The latter concern will be addressed in the project H&S plan through the use of appropriate personal protective equipment (PPE). In particular, respirators equipped with High Efficiency Particulate-Absolute (HEPA) grade cartridge filters will be available for equipment operators directly engaged in excavation activities, and NIOSH-approved disposable dust-respirators will be available for on-site personnel engaged in auxiliary sampling and oversight activities.

The unit is located in an area which is remote from human residences or other areas of intense activities. Therefore, minimal environmental hazard to the general public is anticipated as a result of the proposed remediation activities. Since transport of excavated materials will require its passage on public roads and highways for limited distances, the bed of the dump truck will be tightly secured with a tarp cover in order to ensure that fugitive dusts are not released in public contact areas during transport of contaminated materials to Pond 1. The dump truck will be visually observed on a periodic basis during transit in order to visually confirm the containment integrity of the transported materials.

4.0 REPORTING REQUIREMENTS

A summary report describing remedial activities at the designated ditch interval of concern along the unit will be prepared and submitted to EPA Region 6 within 60 days of the completion of filed activities. The report will describe all activities associated with the execution of the remediation project, including all sample locations and associated analytical data, and total volume of excavated soil materials. A photocopy of the project log book, a photographic log, and analytical laboratory reports will also be included as appendices to the report.

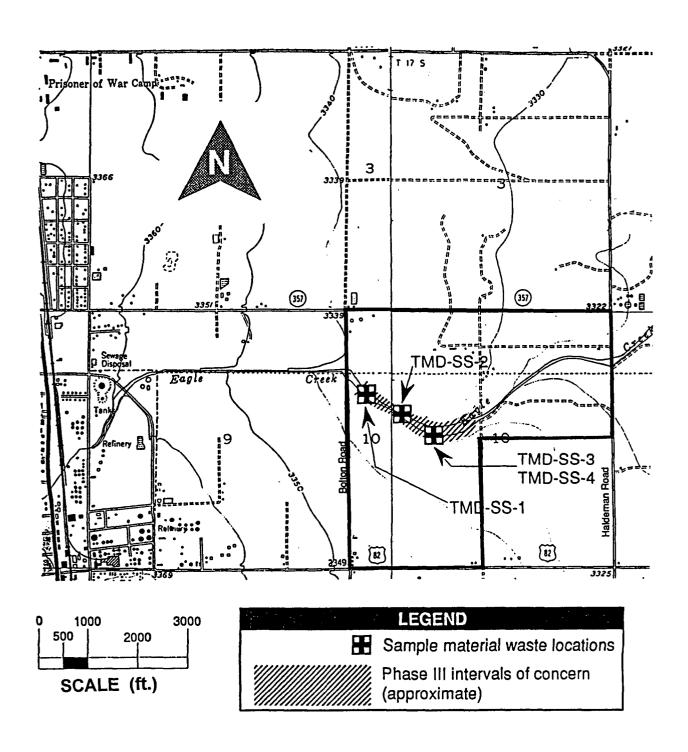


Figure A2-1. Potential Soil Removal Areas, Three-Mile Ditch

ATTACHMENT 2

PROPOSED WORKPLAN FOR REMOVAL OF SURFICIAL WASTE DEPOSITS AT THREE-MILE DITCH (REVISED)

NAVAJO REFINING COMPANY ARTESIA, NEW MEXICO

1.0 INTRODUCTION

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Details of the soil removal workplan for this identified ditch interval of concern are presented in the following sections. Section 2.0 describes the sampling and analysis strategy to be employed in delineating those soils targeted for excavation and removal, equipment and

procedures to be employed in those excavation operations, disposition of the excavated materials, and post-excavation sampling and analysis used to verify the efficacy of the corrective actions. Discussion of project health and safety requirements are presented in Section 3.0 and details of information to be presented in a post-corrective action report to be submitted to EPA Region 6 are described in Section 4.0.

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Excavated soils will be transported to Pond 1 by dump truck, where they will be dumped at intervals across the surface of the pond. Earth moving equipment will then distribute the excavated soils over the Pond 1 unit surface in a thin (3-5 inches) application layer, and the surface-applied materials will then be disced into the receiving soil to complete the incorporation process.

The various features of the workplan are described in further detail in the following sections.

2.1 Sampling and Analysis Strategy

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Methods used to delineate soils targeted for excavation will be left to the discretion of the Navajo on-site field team leader, but are expected to be based on a combination of systematic random and biased sampling. The Navajo field team leader will use best professional judgment based on the historical knowledge of unit maintenance operations (e.g., side of ditch from which backhoe operations were formerly conducted, and probable reach of the backhoe bucket relative to its position along the ditch) along with various overt and subtle visual cues (soil discoloration,

irregularities in surface topography, etc.) to accomplish the initial delineation. Because those surface materials that may potentially exceed the excavation criteria can be expected to reside within a relatively narrow corridor located immediately adjacent to the ditch, Navajo is confident that target excavation materials can be effectively delineated at the time of onsite activities.

The effectiveness of the preceding delineation and excavation activities will be confirmed by collection and analysis of soil verification samples which will be in a continuous manner along the entire length of the targeted ditch section, and which will also be conducted according to the formal protocol specified herein. Beginning at the designated terminus of the ditch interval of concern, a series of consecutive 50-foot intervals will be physically defined, and a random number chart will be used to generate two random sample locations occurring between a distance of 5 and 45 feet within the confines of each such interval (this proscribed internal sample interval will ensure that samples obtained from adjacent 50-foot intervals will be separated by a minimum distance of 10 feet).

At each verification sampling location, a composite sample will be obtained by combining three subsamples collected at a sample depth extending from approximately 0-6 inches, as measured from surface grade. The subsamples will be collected along an axis perpendicular to the ditch orientation, and will be separated by a distance of three-feet or less (depending upon the width of the soil excavation corridor). In the event that the excavation width at the sample collection point exceeds a total length of 12 feet, a second independent grab sample will also be collected within one foot of the outer edge of the excavation corridor at either side, with the location to be decided by the field team leader in consultation with on-site EPA oversight personnel (if present).

In the event that a verification sample yields a lead concentration value in excess of the remediation target, the sample location will be flagged and additional samples will be collected at a distance of 10 feet to each side of the identified hot spot, and proceeding outwards thereafter from the initial sample exceedance location until no further exceedances are reported. The field team leader will then rely on the on-site sample analyses together with visual observations to delineate the additional surface area for which excavation will be required. Subsequent to the follow-up excavation, all sample locations that yielded a target concentration exceedance will be resampled to verify the efficacy of the follow-up excavation action. This process will be repeated as necessary until no further target level exceedances are reported.

Following the completion of verification sampling, shallow excavation zones extending to a depth less than three-feet from surface grade will be contoured to restore the land surface to a smooth surface conformation posing no surface hazard or excessive potential for accumulation

and ponding of surface water. Although considered unlikely, in the event that soil excavations exceed a depth of three feet, imported clean fill material will be used to restore any such areas to a suitable grade.

In addition to the samples to be collected during the execution of the sampling strategy described above, additional duplicate samples will be collected for purposes of quality assurance and quality control, as described in Section 2.4 of this workplan.

2.2 Soil Excavation and Hauling Equipment

Depending on site access conditions, either a diesel trackhoe or backhoe will be used to excavate the delineated surficial wastes and waste-contaminated soils, and a 12 or 14 cubic-yard capacity dump truck will transport the excavated materials to Pond 1. Should excavation activities result in an excessive amount of airborne dust, an 80-barrel bob-tail water truck will also be available as needed for the purpose of dust suppression.

2.3 Establishment of Remediation Acceptance Criteria

As described above, the proposed verification sampling will identify any residual areas exceeding the cleanup criteria at the time of excavation. Therefore, corrective action activities will be considered complete when all verification sampling is completed and no further samples yield lead concentration values in exceedance of the 500 mg/kg target criteria. Based on a minimum of two samples per 50-feet interval and an approximate length of 0.5 miles for the designated interval of concern, approximately 105 soil samples (minimum) will be documented during the verification sampling process. In order to verify the accuracy of the on-site sample analyses, a number of additional duplicate samples will also be evaluated, as described in the next section.

Assessment of the environmental status of Pond 1 surface soils following the receipt of the materials excavated from Three-Mile Ditch will be undertaken under a separate program in conjunction with formal unit closure activities at Pond 1.

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All sampling intervals, sample locations and associated analytical data will be recorded in the project log book along with the date and time at which each sample was collected. Each of the 50-foot verification sampling intervals will be assigned a unique identifying designator, and each sample collected from within the various intervals will also be assigned a unique designator according to a hierarchical arrangement. The following nomenclature will be employed: TMD-VSI(x), where TMD, VS and (x) signify Three-Mile Ditch, Verification Sample Interval, and the specific interval, respectively, and specific sample locations within each interval will follow the

nomenclature TMD-VSI(x)-x. To the extent possible, verification sampling intervals and specific locations will be related to distinguishing landmarks (adjacent monitoring wells, fence lines, etc.). For the case in which verification samples yield lead target exceedance and secondary excavation and resampling is required, re-samples obtained at previous sample locations will be appended with the designation 'R' to indicate a re-sampling event. Sample locations selected at 10-foot intervals at each side of the sample initially yielding a target exceedance will be designated as TMD-VSI(x)-xR-10E or -10W, where E and W correspond to their orientation from the central sample location (the unit extends along an east-west orientation) and where the numerical assignment represents the distance from the originating central sample.

Precision and repeatability of the on-site analytical measurements will be confirmed by analysis of duplicate samples at sample locations that will be selected at random at a frequency of 5 percent.

The accuracy of on-site analytical measurements will be assessed by the collection of additional duplicate samples (also randomly selected at a frequency of 5 percent), which will be placed in appropriate sample storage containers and shipped to a designated analytical laboratory, accompanied by chain-of-custody documentation.

Prior to the daily initiation of onsite field activities, the field analytical device will be subject to a standard operating check in accordance with the manufacturer-provided Users Manual. All daily calibration-related activities will be noted in the project log book.

While additional calibration checks may be conducted at the discretion of the Navajo field team leader, technical representatives of the manufacturer assert that the Spectrace 9000 is a highly reliable analytical device, which, in the absence of a major equipment malfunction, is unlikely to require re-calibration during the duration of the planned field work.

In addition to the documentation of field activities, analytical test results and QA/QC procedures and measurements, the total volume of contaminated materials excavated from the unit and transported to Pond 1 will be tracked by recording the total number of dump truck trips to Pond 1.

3.0 PROJECT HEALTH AND SAFETY PROGRAM

Prior to the initiation of the on-site activities at Three-Mile Ditch described above, a site-specific Project Health and Safety (H&S) Plan will be developed. Primary hazards associated with the proposed field activities involve physical proximity to heavy equipment operations, and potential inhalation exposure to contaminant-bearing dust particulates. The latter concern will be addressed in the project H&S plan through the use of appropriate personal protective equipment (PPE). In particular, respirators equipped with High Efficiency Particulate-Absolute (HEPA) grade cartridge filters will be available for equipment operators directly engaged in excavation activities, and NIOSH-approved disposable dust-respirators will be available for on-site personnel engaged in auxiliary sampling and oversight activities.

The unit is located in an area which is remote from human residences or other areas of intense activities. Therefore, minimal environmental hazard to the general public is anticipated as a result of the proposed remediation activities. Since transport of excavated materials will require its passage on public roads and highways for limited distances, the bed of the dump truck will be tightly secured with a tarp cover in order to ensure that fugitive dusts are not released in public contact areas during transport of contaminated materials to Pond 1. The dump truck will be visually observed on a periodic basis during transit in order to visually confirm the containment integrity of the transported materials.

4.0 REPORTING REQUIREMENTS

A summary report describing remedial activities at the designated ditch interval of concern along the unit will be prepared and submitted to EPA Region 6 within 60 days of the completion of filed activities. The report will describe all activities associated with the execution of the remediation project, including all sample locations and associated analytical data, and total volume of excavated soil materials. A photocopy of the project log book, a photographic log, and analytical laboratory reports will also be included as appendices to the report.

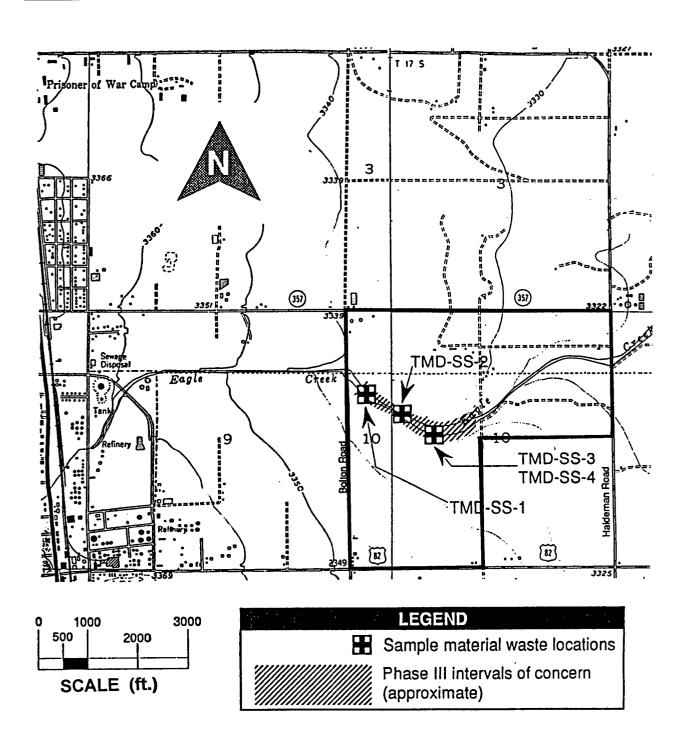


Figure A2-1. Potential Soil Removal Areas, Three-Mile Ditch

TELEPHONE (505) 748-3311

EASYLINK 62905278



REFINING COMPANY

(505) 746-6410 ACCTG (505) 746-6155 EXEC (505) 748-9077 ENGR (505) 746-4438 P/L

FAX

501 EAST MAIN STREET • P. O. BOX 159 ARTESIA, NEW MEXICO 88211-0159

January 31, 1996

RECEIVED

FEB 081996

Mr. Rich Mayer, Environmental Engineer RCRA Permits Branch U.S. Environmental Protection Agency 1445 Ross Avenue, Suite 1200 Dallas, Texas 75202-2733

Environmental Bureau Oil Conservation Division

Re:

Transmittal of Supplemental Pond 1 Soil Sampling Data

Dear Mr. Mayer:

Please find the enclosed as Attachment I the analytical laboratory report package for environmental soil samples collected at Pond 1. The soil sampling was conducted in response to a requirement for additional Pond 1 soils data, as specified in the October 18, 1995 EPA Region 6 review comments on the revised Corrective Measures (CMS) workplan for Pond 1.

The requested Pond 1 soil sampling was subsequently conducted by Navajo on December 13, 1995. As shown in the attached figure, soil samples were collected at three locations within the peripheral "ring areas" of the unit. The collection of the soil samples was conducted according to the procedures employed at the time of the RFI Phase II soil sampling that was previously conducted at the unit. In brief, a trackhoe was used to create trenches from which samples were collected directly from the trench (3-foot sample interval depth) of from the trackhoe bucket (six and nine-foot sample intervals).

The soil samples were analyzed for the following constituents:

Volatile organics (SW-846 Method 8240) Semivolatile organics (SW-846 Method 8270) TCLP volatiles and semivolatiles and metals (Method 1311).

The laboratory analyses of these most recent Pond 1 soil samples yielded results that are consistent with the preceding evaluation of Pond 1 soil samples performed during the RFI Phase II (presented as Attachment 2 to this transmittal). No TC Rule constituents (organics or metals) were reported at levels above specified TC Rule limits. A summary of those hazardous organic constituents for which analytical detection events were reported is presented in Table 1 enclosed with this letter.

Soil samples collected at the time of the December 13, 1995 sampling event were not analyzed according to the diesel range-crude oil range fractionation method previously employed as an analytical technique for Pond 1 soils (Revised Pond 1 Corrective Measures Study Workplan, August 1995). Navajo is currently planning the additional sampling and analytical work necessary to acquire these analyses for the target Pond 1 soil sample locations. The remaining analytical data will be submitted to you on or before April 1. 1996.

Please contact me at (505) 748-3311 if you have any questions regarding this matter.

Sincerely,

David G. Griffin

Manager of Environmental Affairs for Water & Waste

DGG/te

encl.

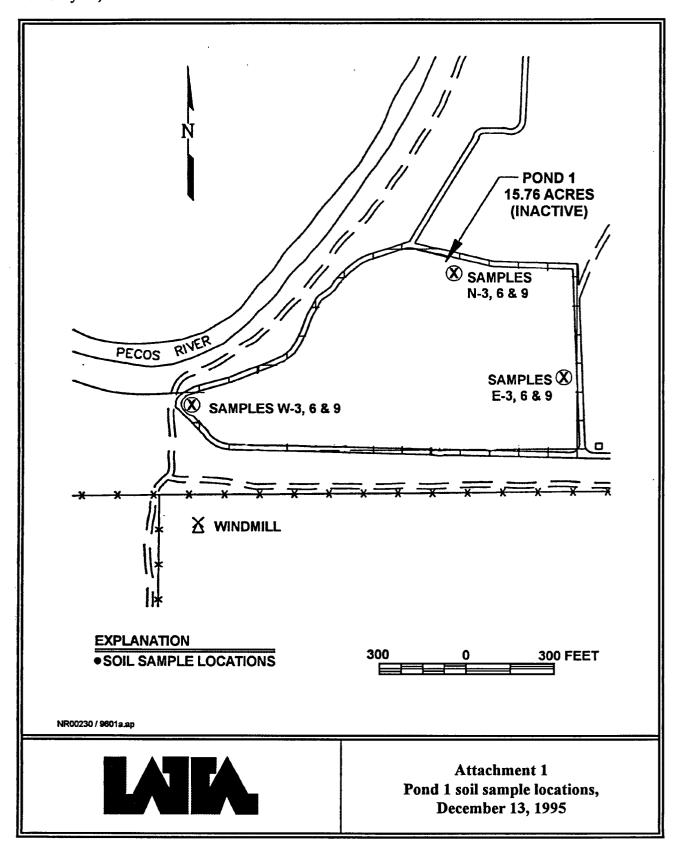
cc: Phil Youngblood Navajo Director of Environmental Affairs

Table 1. Summary of Analytical Results for December 13, 1995 Soil Sampling Event at Pond 1

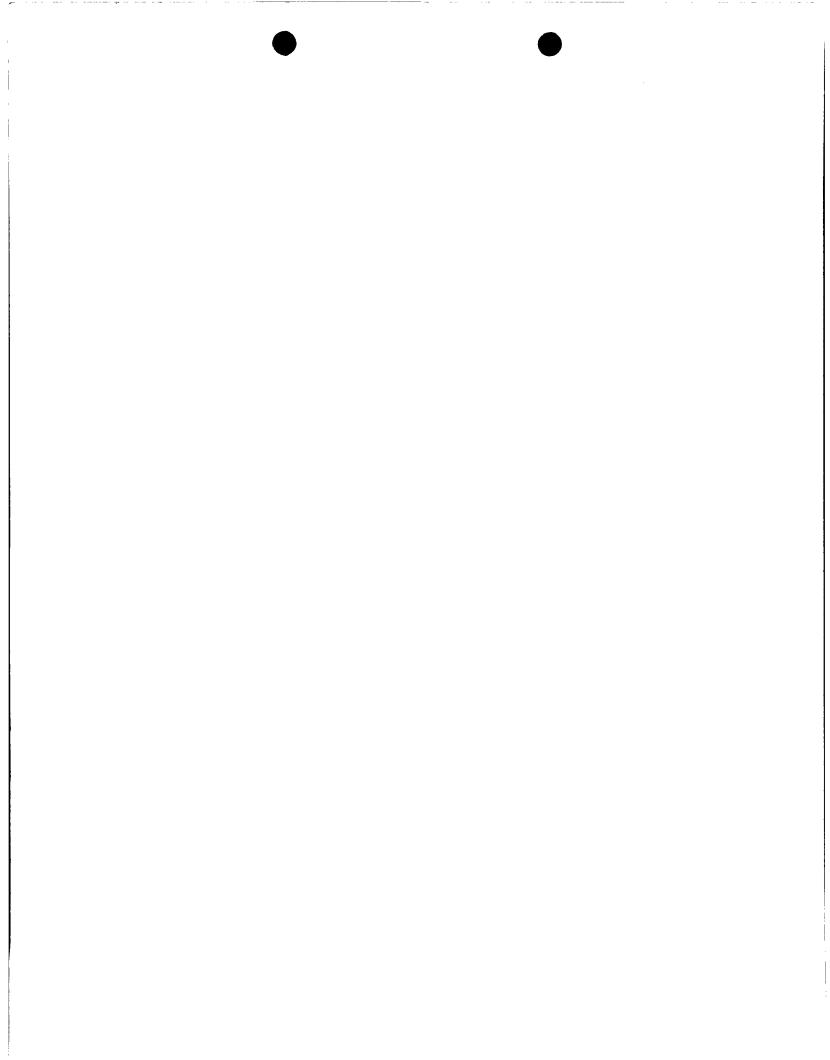
				Sam	ple Loca	ation			
Constituent	E-3	E-6	E-9	W-3	W-6	W-9	N-3	N-6	N-9
Volatiles (mg/kg)							<u>.</u>		
benzene	<0.025	<0.025	<0.025	<0.250	<0.250	< 0.025	< 0.025	< 0.025	< 0.025
toluene	<0.025	<0.025	0.077	<0.250	<0.250	< 0.025	< 0.025	< 0.025	0.046
ethylbenzene	<0.025	<0.025	<0.025	1.57	0.284	< 0.025	< 0.025	< 0.025	< 0.025
xylenes	<0.025	<0.025	<0.025	1.07	<0.250	< 0.025	< 0.025	< 0.025	< 0.025
Semivolatiles (mg/kg)									
anthracene	<25	<25	<25	133	26.6	<2.5	<2.5	<2.5	<2.5
fluorene	<25	<25	<25	38.6	<25	<2.5	<2.5	<2.5	<2.5
2-methyl-naphthalene	<25	<25	<25	50.9	<25	<2.5	<2.5	<2.5	<2.5
pyrene	<25	<25	<25	36.1	<25	<2.5	<2.5	<2.5	<2.5

Attachment 1

Evaporation Pond 1 Soil Sampling Data December 13, 1995



The Marker The Mark The Mar		Trace	TraceAnalysis, In	, II	00	•	701 / Tel (8	6701 Aberdeen Avenue Tel (806) 794 1296 1 (800) 3	en Avi 24 125 1 (8	enue 96 00) 3	Lubbo Fax (78 129	1 Avenue Lubbock, Texas 79424 1 1296 Fax (806) 794 1298 1 (800) 378 1296	79424 1298	₩	TNT TIN	OF-C	USTC	ĎY R	ECOF	CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST	ANA C	LYSIS	; REQ	UEST		
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ALYSIS, INC. MUNICHUM MUNICULUM MUNI	FAX 806 • 794 • 1298
SIS, INC.	806 • 794 • 1296
PRACEAN	Lubbock, Texas 79424
	6701 Aberdeen Avenue

4 Z 4 10 4		
X 4 10 4	NALYTICAL RESULTS FOR	
៩ ហេ ៩	FINING	
December 29, 1995 501 E. Mai	ttention: Darrell Moore	
A	in	Extraction Date: 12/15/95
3	NM 88210	Analysis Date: 12/20/95
Sample Type: Soil		Sampling Date: 12/13/95
Project No: NA		Sample Condition: Intact & Cool
Project Location: Artesia, NM 88211		Sample Received by: ML
		Project Name: NA

TCLP METALS (mg/L)

TA#	Field Code	As	សួ	J C	CG	da	Ва	Ag	Hg
T45665 QC	EPA LIMIT = EVA-POND 1-E3 Hole #1 Quality Control	5.0	1.0	5.0	1.0 0.11 6.1	5.0	100.0	5.0	0.20 <0.01 0.050
Reporti	Reporting Limit	0.1	0.1	0.05	0.02	0.1	0.2	0.01	0.01
RPD % Extra % Instr	RPD % Extraction Accuracy % Instrument Accuracy	4 131 117	2 142 116	2 127 118	. 2 126 122	2 103 113	2 128 119	0 111 115	0 102 100

TCLP METALS SPIKE: 8.0 mg/L As, Se, Ba; 0.8 mg/L Cr; 0.2 mg/L Cd, Ag; 2.0 mg/L Pb; and 0.050 mg/L Hg. TCLP METALS QC: 5.0 mg/L As, Se, Cr, Cd, Pb, Ba; 1.0 mg/L Ag; 0.050 mg/L Hg. METHODS: EPA SW 846-1311, 6010, 7470.

Date

Director, Dr. Blair Leftwich

LTRACEANALYSIS, INC. MUNICHUM MUNICULUM MINICIPALITY

FAX 806 • 794 • 1298 ANALYTICAL RESULTS FOR Lubbock, Texas 79424 NAVAJO REFINING

NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Extraction Date: 12/15/95
Analysis Date: 12/20/95
Sampling Date: 12/13/95
Sample Condition: Intact & Cool
Sample Received by: ML
Project Name: NA

TCLP METALS (mg/L)

Project Location: Artesia, NM

Project No: NA

Sample Type:

Receiving Date: 12/14/95

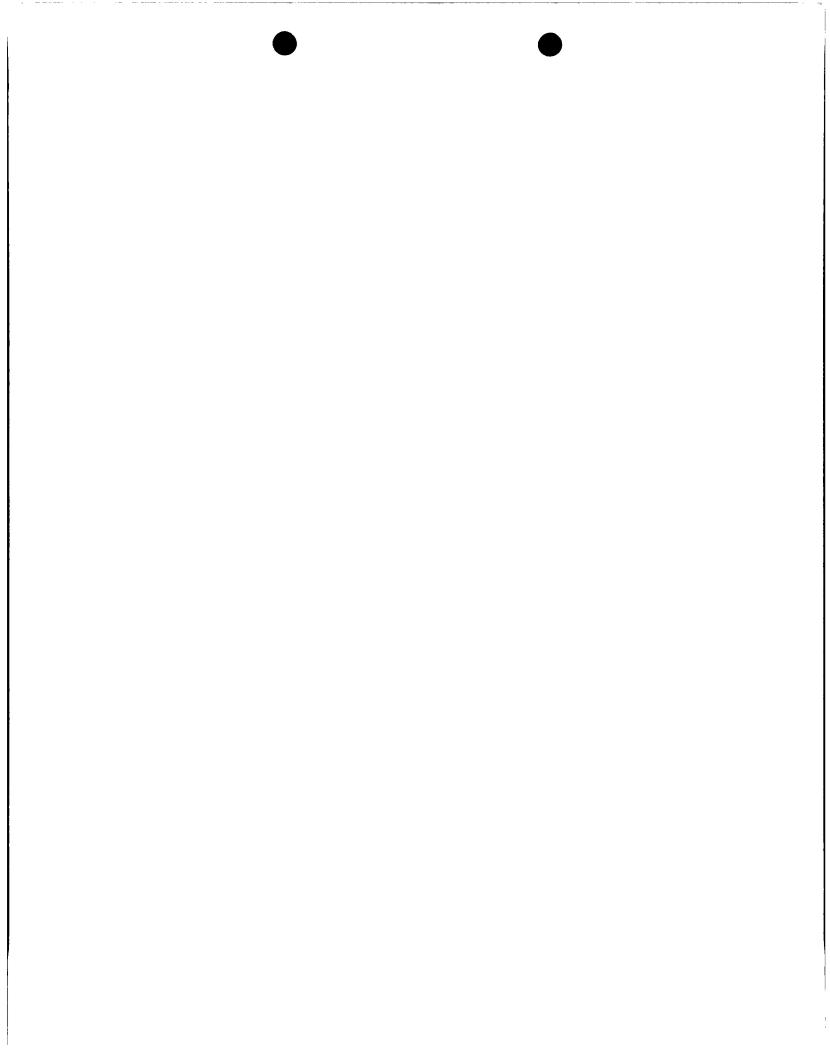
December 29, 1995

TA#	Field Code			As	SS eb	, Cr	CG	qa	Ва	Ag	Нд
	EPA LIMIT =		-	5.0	1.0	5.0	1.0	5.0	100.0	5.0	0.20
T45666	EVA-POND 1-E6	Hole #1		<0.1	0.1	0.61	<0.02	<0.1	9.0	<0.01	<0.01
T45667	EVA-POND 1-E9	Hole #1	:	<0.1	<0.1	0.14	<0.02	<0.1	0.7	<0.01	<0.01
T45668	EVA-POND 1-W3	Hole #3		<0.1	<0.1	0.21	<0.02	0.2	1.5	<0.01	<0.01
T45669	EVA-POND 1-W6	Hole #3	-	<0.1	<0.1	0.15	<0.02	<0.1	0.3	<0.01	<0.01
T45670	EVA-POND 1-W9	Hole #3		<0.1	<0.1	0.09	<0.02	<0.1	1.0	<0.01	<0.01
T45671	EVA-POND 1-N3	Hole #2		<0.1	0.2	0.26	<0.02	<0.1	6.0	<0.01	<0.01
T45672	EVA-POND 1-N6	Hole #2		<0.1	0.2	0.15	<0.02	<0.1	. 6.0	<0.01	<0.01
T45673	EVA-POND 1-N9	Hole #2	-	<0.1	0.1	0.13	<0.02	<0.1	0.7	<0.01	<0.01
ည	Quality Control	י		6.3	6.5	6.1	6.3	5.7	6.2	1.2	0.050
Reporti	Reporting Limit			0.1	0.1	0.05	0.02	0.1	0.2	0.01	0.01
RPD				7	9	0	7	8	8	4	0
% Extra	% Extraction Accuracy			117	128	66	93	91	97	94	102
% Instr	% Instrument Accuracy			126	130	122	125	114	123	116	100

TCLP METALS SPIKE: 8.0 mg/L As, Se, Ba; 0.8 mg/L Cr; 0.2 mg/L Cd, Ag; 2.0 mg/L Pb; and 0.050 mg/L Hg. 5.0 mg/L As, Se, Cr, Cd, Pb, Ba; 1.0 mg/L Ag; 0.050 mg/L Hg. METHODS: EPA SW 846-1311, 6010, 7470. TCLP METALS QC:

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

Date



6701 Aberdeen Avenue Lubbock, Texas 79424

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/19/95

Analysis Date: 12/21/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

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_	7	_	v	v	~	

TCLP VOLATILES (mg/L)	EPA LIMIT	Reporting Limit	EVA-POND 1-E3 Hole #1	QC	RPD	ŧЕА	%IA
Vinyl chloride	0.20	0.05	ND	0.117	3	121	117
1,1-Dichloroethene	0.70	0.05	ND	0.086	4	110	86
Methyl Ethyl Ketone	200.0	0.5	ND	0.097	12	162	97
Chloroform	6.00	0.05	ND	0.091	3	94	91
1,2-Dichloroethane	0.50	0.05	ND	0.096	3	78	96
Benzene	0.50	0.05	ND	0.091	5	93	91
Carbon Tetrachloride	0.50	0.05	ND	0.088	3	105	88
Trichloroethene	0.50	0.05	· ND	0.083	5	90	83
Tetrachloroethene	0.70	0.05	·- ND	0.086	3	103	86
Chlorobenzene	100.00	0.05	ND	0.095	4	92	95
1,4-Dichlorobenzene	7.50	0.05	ND.	0.094	3	94	94

SURROGATES	% Recovery
Dibromofluoromethane	114
Toluene-d8	107
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-1311, 8260.

Director . Blair Leftwich Director, Dr. Bruce McDonell

6701 Aberdeen Avenue Lubbock, Texas 79424

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ANALYTICAL RESULTS FOR.

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/19/95

Analysis Date: 12/21/95
Sampling Date: 12/13/95
Sample Condition: I & C
Sample Received by: ML

Project Name: NA

145666

	EPA		EVA-POND 1-E6	- QC	RPD	%EA	%IA
TCLP VOLATILES (mg/L)	LIMIT	Limit	Hole #1				
/inyl chloride	0.20	0.05	ND	0.117	3	121	117
l,1-Dichloroethene	0.70	0.05	ND	0.086	4	110	86
Methyl Ethyl Ketone	200.0	0.5	ND	0.097	12	162	97
Chloroform	6.00	0.05	ND	0.091	3	94	91
,2-Dichloroethane	0.50	0.05	ND	0.096	3	78	96
Benzene	0.50	0.05	ND	0.091	5	93	91
Carbon Tetrachloride	0.50	0.05	ND	0.088	3	105	88
Prichloroethene	0.50	0.05	ND	0.083	5	90	83
Tetrachloroethene	0.70	0.05	ND	0.086	3	103	86
Chlorobenzene	100.00	0.05	ND	0.095	4	92	95
1,4-Dichlorobenzene	7.50	0.05	ND .	0.094	3	94	94

SURROGATES	% Recovery
Dibromofluoromethane	112
Toluene-d8	106
4-Bromofluorobenzene	97

ND = Not Detected

METHODS: EPA SW 846-1311, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell 1/4/96 DATE



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FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR NAVAJO REFINING Attention: Darrell Moore 501 East Main Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/20/95

Analysis Date: 12/21/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

94

94

Project Name: NA

TCLP VOLATILES (mg/L)	EPA LIMIT	Reporting Limit	EVA-POND 1-E9 Hole #1	QC	ŔPĎ	%EA	%IA
Vinyl chloride	0.20	0.05	ND	0.117	.3	- 121	117
1,1-Dichloroethene	0.70	0.05	ND	0.086	4	110	86
Methyl Ethyl Ketone	200.0	0.5	ND	0.097	12	162	97
Chloroform	6.00	0.05	ND ND	0.091	3	94	91
1,2-Dichloroethane	0.50	0.05	ND	0.096	3	78	96
Benzene	0.50	0.05	ND	0.091	5	93	91
Carbon Tetrachloride	0.50	0.05	ND	0.088	3	105	88
Trichloroethene	0.50	0.05	ND	0.083	5 .	90	83
Tetrachloroethene	0.70	0.05	ND	0.086	3	103	86
Chlorobenzene	100.00	0.05	ND	0.095	4	92	95

0.05

SURROGATES	% Recovery
Dibromofluoromethane	114
Toluene-d8	106
4-Bromofluorobenzene	98

ND = Not Detected

1,4-Dichlorobenzene

METHODS: EPA SW 846-1311, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

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0.094

ND

6701 Aberdeen Avenue Lubbock, Texas 79424

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FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/20/95

Analysis Date: 12/21/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

T45668

TCLP VOLATILES (mg/L)	EPA LIMIT	Reporting Limit	EVA-POND 1-W3 Hole #3	QC -	RPD	ŧЕА	%IA .*
Vinyl chloride	0.20	0.05	ND	0.117	.3	121	117
1,1-Dichloroethene	0.70	0.05	ND	0.086	4	110	86
Methyl Ethyl Ketone	200.0	0.5	ND	0.097	12	162	97
Chloroform	6.00	0.05	ND	0.091	3	94	91
,2-Dichloroethane	0.50	0.05	ND	0.096	3	78	96
senzene	0.50	0.05	ND	0.091	5	93	91
Carbon Tetrachloride	0.50	0.05	ND	0.088	3	105	88
Trichloroethene	0.50	0.05	- ND	0.083	5	90	83
Tetrachloroethene	0.70	0.05	ND	0.086	3	103	86
hlorobenzene	100.00	0.05	ND	0.095	4	92	95
1,4-Dichlorobenzene	7.50	0.05	ND	0.094	3	94	94

SURROGATES	% Recovery
Dibromofluoromethane	110
Toluene-d8	107
4-Bromofluorobenzene	100

ND = Not Detected

METHODS: EPA SW 846-1311, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell DATE



6701 Aberdeen Avenue Lubbock, Texas 79424

 $806 \bullet 794 \bullet 1296$

FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/20/95

Analysis Date: 12/21/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

T45669

		143009				
EPA	Reporting	EVA-POND 1-W6	QC	RPD	%EA	%IA
LIMIT	Limit.	Limit Hole #3				
0.20	0.05	ND	0.117	3	121	117
0.70	0.05	ND	0.086	4	110	86
200.0	0.5	ND	0.097	12	162	97
6.00	0.05	ND	0.091	3	94	91
0.50	0.05	ND	0.096	. 3	78	96
0.50	0.05	ND	0.091	5	93	91
0.50	0.05	ND	0.088	3	105	88
0.50	0.05	ND	0.083	5	90	83
0.70	0.05	ND .	0.086	3	103	86
100.00	0.05	ND ·	0.095	4	92	95
7.50	0.05	ND	0.094	3	94	94
	0.20 0.70 200.0 6.00 0.50 0.50 0.50 0.70 100.00	LIMIT Limit 0.20 0.05 0.70 0.05 200.0 0.5 6.00 0.05 0.50 0.05 0.50 0.05 0.50 0.05 0.50 0.05 0.70 0.05 100.00 0.05	LIMIT Limit Hole #3 0.20 0.05 ND 0.70 0.05 ND 200.0 0.5 ND 6.00 0.05 ND 0.50 0.05 ND 0.50 0.05 ND 0.50 0.05 ND 0.50 0.05 ND 0.70 0.05 ND 100.00 0.05 ND	LIMIT Limit Hole #3 0.20 0.05 ND 0.117 0.70 0.05 ND 0.086 200.0 0.5 ND 0.097 6.00 0.05 ND 0.091 0.50 0.05 ND 0.096 0.50 0.05 ND 0.091 0.50 0.05 ND 0.088 0.50 0.05 ND 0.083 0.70 0.05 ND 0.086 100.00 0.05 ND 0.095	LIMIT Limit Hole #3 0.20 0.05 ND 0.117 3 0.70 0.05 ND 0.086 4 200.0 0.5 ND 0.097 12 6.00 0.05 ND 0.091 3 0.50 0.05 ND 0.096 3 0.50 0.05 ND 0.091 5 0.50 0.05 ND 0.088 3 0.50 0.05 ND 0.083 5 0.70 0.05 ND 0.086 3 100.00 0.05 ND 0.095 4	LIMIT Limit Hole #3 0.20 0.05 ND 0.117 3 121 0.70 0.05 ND 0.086 4 110 200.0 0.5 ND 0.097 12 162 6.00 0.05 ND 0.091 3 94 0.50 0.05 ND 0.096 3 78 0.50 0.05 ND 0.091 5 93 0.50 0.05 ND 0.088 3 105 0.50 0.05 ND 0.083 5 90 0.70 0.05 ND 0.086 3 103 100.00 0.05 ND 0.095 4 92

SURROGATES	% Recovery
Dibromofluoromethane	115
Toluene-d8	105
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-1311, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell 14/96 DATE 6701 Aberdeen Avenue Lubbock, Texas 79424 806 • 794 • 1296

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ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/20/95 Analysis Date: 12/23/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

mot b vol amil Es (/t)	EPA LIMIT	Reporting Limit	T45670 EVA-POND 1-W9 Hole #3	QC	RPD	%EA	%IA
TCLP VOLATILES (mg/L)	LIMIT	Limit	HOTE #3				,
Vinyl chloride	0.20	0.05	ND	0.103	3	121	103
1,1-Dichloroethene	0.70	0.05	ND	0.086	4 .	110	86
Methyl Ethyl Ketone	200.0	0.5	ND	0.100	12	162	100
Chloroform	6.00	0.05	ND	0.087	3	94 .	87
1,2-Dichloroethane	0.50	0.05	ND	0.096	3	78	96
Benzene	0.50	0.05	ND	0.086	5	93	86
Carbon Tetrachloride	0.50	0.05	ND	0.082	3	105	82
Trichloroethene	0.50	0.05	ND	0.081	5	90	81
Tetrachloroethene	0.70	0.05	. ND	0.081	3	103	81
Chlorobenzene	100.00	0.05	ND	0.088	4	92	88
1,4-Dichlorobenzene	7.50	0.05	ND	0.108	3	94	108
SURROGATES	% Recover	₩ .					

ND = Not Detected

Toluene-d8

Dibromofluoromethane

4-Bromofluorobenzene

METHODS: EPA SW 846-1311, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

108

104

99

DATE

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/21/95

Analysis Date: 12/23/95
Sampling Date: 12/13/95
Sample Condition: I & C
Sample Received by: ML

Project Name: NA

T	Δ	5	6	7	1	

TCLP VOLATILES (mg/L)	EPA LIMIT	Reporting Limit	EVA-POND 1-N3 Hole #2	ÕC	RPD	%EA	%IA /
Vinyl chloride	0.20	0.05-	ND	0.103	3	121	103
1,1-Dichloroethene	0.70	0.05	ND	0.086	4	110	86
Methyl Ethyl Ketone	200.0	0.5	ND	0.100	12	162	100
Chloroform	6.00	0.05	ND	0.087	-3	94	87
1,2-Dichloroethane	0.50	0.05	ND	0.096	3	78	96
Benzene	0.50	0.05	ND	0.086	5	93	86
Carbon Tetrachloride	0.50	0.05	ND	0.082	3	105	82
Trichloroethene	0.50	0.05	ND	0.081	5	90	81
Tetrachloroethene	0.70	0.05	ND .	0.081	3	103	81
Chlorobenzene	100.00	0.05	, ND	0.088	4	92	88
1,4-Dichlorobenzene	7.50	0.05	ND	0.108	3	94	108

SURROGATES	% Recovery
Dibromofluoromethane	108
Toluene-d8	104
4-Bromofluorobenzene	96

ND = Not Detected

METHODS: EPA SW 846-1311, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell DATE

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/21/95

Analysis Date: 12/23/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

430/	2		
OND	1-N6	oc	RPD

TCLP VOLATILES (mg/L)	EPA LIMIT	Reporting Limit	EVA-POND 1-N6 Hole #2	QC	RPD	%EA	¥IА
Vinyl chloride	0.20	0.05	. ND	0.103	3	121	103
1,1-Dichloroethene	0.70	0.05	ND	0.086	. 4	110	86
Methyl Ethyl Ketone	200.0	0.5	ND	0.100	12	162	100
Chloroform	6.00	0.05	ND	0.087	3	94	87
1,2-Dichloroethane	0.50	0.05	ND	0.096	3	78	96
Benzene	0.50	0.05	ND	0.086	5	93	86
Carbon Tetrachloride	0.50	0.05	ND	0.082	3	105	82
Trichloroethene	0.50	0.05	ND	0.081	5	90	81
Tetrachloroethene	0.70	0.05	ND	0.081	3	103	81
Chlorobenzene	100.00	0.05	ND	0.088	4	92	88
1,4-Dichlorobenzene	7.50	0.05	ND	0.108	3.	94	108

SURROGATES	% Recovery
Dibromofluoromethane	103
Toluene-d8	105
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-1311, 8260.

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/21/95

Analysis Date: 12/23/95
Sampling Date: 12/13/95
Sample Condition: I & C
Sample Received by: ML

Project Name: NA

T45673

TCLP VOLATILES (mg/L)	EPA LIMIT	Reporting Limit	EVA-POND 1-N9 Hole #2	QC	RPD	ŧЕА	۴IA
Vinyl chloride	0.20	0.05	ND	0.103	3	121	103
1,1-Dichloroethene	0.70	0.05	ND	0.086	4	110	86
Methyl Ethyl Ketone	200.0	0.5	ND	0.100	12	162	100
Chloroform	6.00	0.05	ND	0.087	3	94	87
1,2-Dichloroethane	0.50	0.05	ND	0.096	3	78	96
Benzene	0.50	0.05	ND	0.086	5	93	86
Carbon Tetrachloride	0.50	0.05	ND	0.082	3	105	82
Trichloroethene	0.50	0.05	ND	0.081	5	90	81
Tetrachloroethene	0.70	0.05	ND	0.081	3	103	81
Chlorobenzene	100.00	0.05	ND	0.088	4	92	88
1,4-Dichlorobenzene	7.50	0.05	ND	0.108	3	94	108

SURROGATES	% Recover
Dibromofluoromethane	110
Toluene-d8	106
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-1311, 8260.

Director, Dr. Brair Leftwich Director, Dr. Bruce McDonell DATE

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/15/95

Analysis Date: 12/18/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

T45665 EVA-

		 *** 	PAY-				
TCLP Semi-Volatiles	EPA	Reporting	POND 1-E3	QC	RPD	%EA	%IA
(mg/L)	Limit	Limit	Hole #1				
	-					14 68 10 91 13 106 3 130 9 94 10 91 10 96 15 99 21 109 14 106 30 19 10 101 27 29 14 98 6 98 36 101 4 104 8 108 58 108	
Pyridine	5.0	0.5	ND	114	14	68	114
1,4-Dichlorobenzene	7.5	0.5	ND	100	10	91	100
o-Cresol	200.0	0.5	ND	102	13	106	102
m,p-Cresol	200.0	0.5	ND	96	3	130	96
Total Cresol	200.0	,0.5	ND				
Hexachloroethane	3.0	0.5	ND	100	9	. 94	100
Nitrobenzene	2.0	0.5	ND -	99	10	91	99
Hexachlorobutadiene	0.5	0.1	ND ·	106	10	96	106
2,4,6-Trichlorophenol	2.0	0.5	ND	106	15	99	106
2,4,5-Trichlorophenol	400.0	0.5	ND	104	21	109	104
2,4-Dinitrotoluene	0.13	0.1	ND	102	14	106	102
2,4-D	10.0	0.5	. ND	120	30	19	120
Hexachlorobenzene	0.13	0.1	ND	105	10	101	105
2,4,5-TP	1.0	0.5	ND	111	27	29	111
Pentachlorophenol	100.0	0.5	ND	103	14	98	103
Chlordane	0.03	0.001	ND	0.052	6	98	104
Toxaphene	0.5	0.05	ND	2.11	36	101	105
Lindane	0.4	0.001	ND	0.024	4	104	96
Heptachlor	0.008	0.001	ND	0.025	8	108	100
Heptachlor epoxide	0.008	0.001	ND	0.026	58	108	104
Total Heptachlor	0.008	0.001-	ND				
Endrin	0.02	0.001	ND	0.053	0	118	106
Methoxychlor	10.0	0.1	ND	0.268	19	108	107
Surrogates	% RECOVERY		-				
2-Fluorophenol	84		• . •	•			
Phenol-d6	78	- " 					
Nitrobenzene-d5	94						
2-Fluorobiphenyl	120						
2,4,6-Tribromophenol	72	• •		-			

Methods: EPA SW 846-1311, 8270, 8080.

ND - Not Detected

Terphenyl-d14

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/15/95

Analysis Date: 12/18/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

T45666

			EVA-					
TCLP Semi-Volatiles	EPA	Reporting	POND 1-E6	QC	RPD	%EA	%IA	
(mg/L)	Limit	Limit	Hole #1					
Pyridine	5.0	0.5	ND	114	14	68	114	
1,4-Dichlorobenzene	7.5	0.5	. ND	100	10	91	100	
o-Cresol	200.0	0.5	ND	102	13	106	102	
m,p-Cresol	200.0	0.5	ND	96	3	130	96	
Total Cresol	200.0	0.5	ND					
Hexachloroethane	3.0	0.5	ND	100	9	94	100	
Nitrobenzene	2.0	0.5	ND	99	10	91	99	
Hexachlorobutadiene	0.5	0.1	ND	106	10	96	106	
2,4,6-Trichlorophenol	2.0	0.5	ND	106	15	99	106	
2,4,5-Trichlorophenol	400.0	0.5	ND	104	21	109	104	
2,4-Dinitrotoluene	0.13	0.1	ND	102	14	106	102	
2,4-D	10.0	0.5	ND	120	30	19	120	
Hexachlorobenzene	0.13	0.1	ND	105	10	101	105	
2,4,5-TP	1.0	0.5	ND	111	27	29	111	
Pentachlorophenol	100.0	0.5	ND	103	14	98	103	
Chlordane	0.03	0.001	ND	0.052	6	98	104	
Toxaphene	0.5	0.05	ND	2.11	36	101	105	
Lindane	0.4	0.001	ND	0.024	4	104	96	
Heptachlor	0.008	0.001	ND	0.025	8	108	100	
Heptachlor epoxide	0.008	0.001	ND	0.026	58	108	104	
Total Heptachlor	0.008	0.001	ND					
Endrin	0.02	0.001	ND	0.053	0	118	106	
Methoxychlor	10.0	0.1	ND	0.268	19	108	107	
Surrogates	% RECOVERY		-					
2-Fluorophenol	86							
Phenol-d6	82							
Nitrobenzene-d5	98							
2-Fluorobiphenyl	128	-						
2,4,6-Tribromophenol	78							
Terphenyl-d14	114							

Methods: EPA SW 846-1311, 8270, 8080 ND - Not Detected

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Project No: NA

Project Location: Artesia, NM 88211 Extraction Date: 12/15/95

Analysis Date: 12/18/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

EVA-

		• • •	EVA-				
TCLP Semi-Volatiles	EPA	Reporting	POND 1-E9	QC	RPD	%EA	%IA
(mg/L)	Limit .	Limit	Hole #1				
			-				
Pyridine	5.0	0.5	ND	114	14	68	114
1,4-Dichlorobenzene	7.5	0.5	ND	100	10	91	100
o-Cresol	200.0	0.5	ND	102	13	106	102
m,p-Cresol	200.0	0.5	- ND	96	. 3	130	96
Total Cresol	200.0	0.5	. ND				
Hexachloroethane	3.0	0.5	ND	100	9	94	100
Nitrobenzene	2.0	0.5	ND	99	10	91	99
Hexachlorobutadiene	0.5	0.1	ND	106	10	96	106
2,4,6-Trichlorophenol	2.0	0.5	- ND	106	15	99	106
2,4,5-Trichlorophenol	400.0	0.5	ND	104	21	109	104
2,4-Dinitrotoluene	0.13	0.1	ND	102	14	106	102
2,4-D	10.0	0.5	ND	. 120	30	19	120
Hexachlorobenzene	0.13	0.1	ND	105	10	101	105
2,4,5-TP	1.0	0.5	ND	111	27	29	111
Pentachlorophenol	100.0	0.5	. ND	103	14	98	103
Chlordane	0.03	0.001	ND	0.052	. 6	98	104
Toxaphene	0.5	0.05	ND	2.11	. 36	101	105
Lindane	0.4	0.001	ND	0.024	4	104	96
Heptachlor	0.008	0.001	ND	0.025	. 8	108	100
Heptachlor epoxide	0.008	0.001	ND	0.026	- 58	108	104
Total Heptachlor	0.008	0.001	ND				
Endrin	0.02	0.001	ND	0.053	0	118	106
Methoxychlor	10.0	0.1	ND	0.268	19	108	107
Surrogates	% RECOVERY	1					
2-Fluorophenol	82						
Phenol-d6	78						
Nitrobenzene-d5	98						
2-Fluorobiphenyl	128						
2,4,6-Tribromophenol	62						
Terphenyl-d14	116						

Methods: EPA SW 846-1311, 8270, 8080.

ND - Not Detected

Director, Dr. Blair Leftwich

Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/15/95

Analysis Date: 12/18/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

T45668

	•		EVA-				
TCLP Semi-Volatiles	EPA	Reporting	POND 1-W3	QC	RPD	%EA	%IA
(mg/L)	Limit	Limit	Hole #3				
Pyridine	5.0	0.5	ND	114	14	68	114
1,4-Dichlorobenzene	7.5	0.5	ND	100	10	91	100
o-Cresol	200.0	0.5	- ND	102	13	106	102
m,p-Cresol	200.0	0.5	ND _	96	3	130	96
Total Cresol	200.0	0.5	ND				
Hexachloroethane	3.0	0.5	ND	100	9	94	100
Nitrobenzene	2.0	0.5	ND	99	10	91	99
Hexachlorobutadiene	0.5	0.1	ND	106	10	96	106
2,4,6-Trichlorophenol	2.0	0.5	ND	106	15	99	106
2,4,5-Trichlorophenol	400.0	0.5	ND	104	21	109	104
2,4-Dinitrotoluene	0.13	0.1	ND	102	14	106	102
2,4-D	10.0	0.5	ND	120	30	19	120
Hexachlorobenzene	0.13	0.1	ND	105	10	101	105
2,4,5-TP	1.0	0.5	ND	111	27	29	111
Pentachlorophenol	100.0	0.5	ND	103	14	98	103
Chlordane	0.03	0.001	ND	0.052	6	98	104
Toxaphene	0.5	0.05	ND	2.11	36	101	105
Lindane	0.4	0.001	ND	0.024	4	104	96
Heptachlor	0.008	0.001	ND	0.025	8	108	100
Heptachlor epoxide	0.008	0.001	ND	0.026	58	108	104
Total Heptachlor	0.008	0.001	ND				
Endrin	0.02	0.001	ND	0.053	0	118	106
Methoxychlor	10.0	0.1	ND	0.268	19	108	107
Surrogates	% RECOVERY						
2-Fluorophenol	82						
Phenol-d6	80	•					
Nitrobenzene-d5	98	• • • • • • • • • • • • • • • • • • • •					
2-Fluorobiphenyl	108						
2,4,6-Tribromophenol	70						
Terphenyl-d14	114						

Methods: EPA SW 846-1311, 8270, 8080

ND - Not Detected

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Pentachlorophenol

Terphenyl-d14

Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/15/95

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Analysis Date: 12/18/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

ND.

	•		EVA-				
TCLP Semi-Volatiles (mg/L)	EPA Limit	Reporting Limit	POND 1-W6 Hole #3	QC	RPD	%EA	%IA
Pyridine	5.0	0.25	ND	114	14	68	114
1,4-Dichlorobenzene	7.5	0.25	ND	100	10	91	100
o-Cresol	200.0	0.25	ND	102	13	106	102
m,p-Cresol	200.0	0.25	ND	96	3	130	96
Total Cresol	200.0	0.25	· ND				~

m,p-Cresol	200.0	0.25	ND	96	3	130	96
Total Cresol	200.0	0.25	ND				
Hexachloroethane	3.0	0.25	ND	100	9	94	100
Nitrobenzene	2.0	0.25	ND	99	10	91	99
Hexachlorobutadiene	0.5	0.05	ND	106	10	96	106
2,4,6-Trichlorophenol	2.0	0.25	ND	106	15	99	106
2,4,5-Trichlorophenol	400.0	0.25	ND	104	21	109	104
2,4-Dinitrotoluene	0.13	0.05	ND	102	14	106	102
2,4-D	10.0	0.25	ND	120	30	19	120
Hexachlorobenzene	0.13	0.05	ND	105	10	101	105
2,4,5-TP	1.0	0.25	ND	111	27	29	111

Total Heptachlor	0.008	0.001	ND				
Heptachlor epoxide	0.008	0.001	ND	0.026	58	108	104
Heptachlor	0.008	0.001	ND	0.025	8	108	100
Lindane	0.4	0.001	ND	0.024	4	104	96
Toxaphene	0.5	0.05	ND	2.11	36	101	105
Chlordane	0.03	0.001	ND	0.052	6	98	104

0.001 0.053 Endrin 0.02 ND 106 0 118 10.0 0.1 0.268 108 107 Methoxychlor ND 19 Surrogates % RECOVERY -

2-Fluorophenol 82 Phenol-d6 68 . Nitrobenzene-d5 90 2-Fluorobiphenyl 95 2,4,6-Tribromophenol 75

Methods: EPA SW 846-1311, 8270, 8080-ND - Not Detected

Director, Dr. Blair Leftwich

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Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/15/95

Analysis Date: 12/18/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

T45670 EVA-

Pyridine 1,4-Dichlorobenzene o-Cresol m,p-Cresol Total Cresol Hexachloroethane Nitrobenzene Hexachlorobutadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene	5.0 7.5 200.0	0.25 0.25	Hole #3	114			
1,4-Dichlorobenzene o-Cresol m,p-Cresol Total Cresol Hexachloroethane Nitrobenzene Hexachlorobutadiene 2,4,6-Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene	7.5			114			
o-Cresol m,p-Cresol Total Cresol Hexachloroethane Nitrobenzene Hexachlorobutadiene 2,4,6-Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene		0.25			14	68	114
m,p-Cresol Total Cresol Hexachloroethane Nitrobenzene Hexachlorobutadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene	200.0		ND	100	10	91	100
Total Cresol Hexachloroethane Nitrobenzene Hexachlorobutadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene		0.25	ND	102	13	106	102
Hexachloroethane Nitrobenzene Hexachlorobutadiene 2,4,6~Trichlorophenol 2,4,5~Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene	200.0	0.25	ND	96	3	130	96
Nitrobenzene Hexachlorobutadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene	200.0	0.25	ND				
Hexachlorobutadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene	3.0	0.25	ND	100	9	94	100
2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene	2.0	0.25	ND	99	10	91	99
2,4,5-Trichlorophenol 2,4-Dinitrotoluene 2,4-D Hexachlorobenzene	0.5	0.05	ND	106	10	96	106
2,4-Dinitrotoluene 2,4-D Hexachlorobenzene	2.0	0.25	ND	106	15	99	106
2,4-D Hexachlorobenzene	400.0	0.25	ND	104	21	109	104
Hexachlorobenzene	0.13	0.05	ND	102	14	106	102
	10.0	0.25	ND	120	30	19	120
- ·	0.13	0.05	ND	105	10	101	105
2,4,5~TP	1.0	0.25	ND	111	27	29	111
Pentachlorophenol	100.0	0.25	ND	103	14	98	103
Chlordane	0.03	0.001	ND	0.052	6	98	104
Toxaphene	0.5	0.05	ND	2.11	36	101	105
Lindane	0.4	0.001	ND	0.024	4	104	96
Heptachlor	0.008	- 0.001	ND	0.025	8	108	100
Heptachlor epoxide	0.008	0.001	ND	0.026	58	108	104
Total Heptachlor	0.008	0.001	ND				
Endrin	0.02	0.001	ND	0.053	0	118	106
Methoxychlor	10.0	0.1	ND	0.268	19	108	107
Surrogates %	RECOVERY						
2-Fluorophenol	87		-				
Phenol-d6	77		-				
Nitrobenzene-d5	83						
2-Fluorobiphenyl	100	•					
2,4,6-Tribromophenol	73						

Methods: EPA SW 846-1311, 8270, 8080. ND - Not Detected

Terphenyl-d14

Director, Dr. Blair Leftwich

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irector, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East: Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/15/95

Analysis Date: 12/18/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

T45671 EVA-

			EVA-				
TCLP Semi-Volatiles	EPA	Reporting	POND 1-N3	QC	RPD	%EA	%ΙΑ
(mg/L)	Limit	Limit	Hole #2				
		<u> </u>					
Pyridine	5.0	0.5	" ND	114	14	68	114
1,4-Dichlorobenzene	7.5	0.5	ND	100	10	91	100
o-Cresol	200.0	0.5	ND	102	13	106	102
m,p-Cresol	200.0	0.5	ND	96	3	130	96
Total Cresol	200.0	0.5	. ND				
Hexachloroethane	3.0	. 0.5	ND	100	9	94	100
Nitrobenzene	2.0	0.5	ND	99	10	91	99
Hexachlorobutadiene	0.5	0.1	ND	106	10	96	106
2,4,6-Trichlorophenol	2.0	0.5	ND	106	15	99	106
2,4,5-Trichlorophenol	400.0	0.5	. ND	104	21	109	104
2,4-Dinitrotoluene	0.13	0.1	ND	102	14	106	102
2,4-D	10.0	0.5	ND	120	30	19	120
Hexachlorobenzene	0.13	0.1	ND	105	10	101	105
2,4,5-TP	1.0	0.5	ND	111	27	29	111
Pentachlorophenol	100.0	0.5	ND	103	14	98	103
Chlordane	0.03	0.001	ND	0.052	6	98	104
Toxaphene	0.5	0.05	ND	2.11	36	101	105
Lindane	0.4	0.001	ND	0.024	4	104	96
Heptachlor	0.008	0.001	ND	0.025	8	108	100
Heptachlor epoxide	0.008	0.001	- ND	0.026	58	108	104
Total Heptachlor	0.008	0.001	ND				
Endrin	0.02	0.001	ND	0.053	. 0	118	106
Methoxychlor	10.0	0.1	NĎ	0.268	19	108	107
Surrogates	% RECOVERY	7					
2-Fluorophenol	84	•					
Phenol-d6	80		•				
Nitrobenzene-d5	98						
2-Fluorobiphenyl	112		-				
2,4,6-Tribromophenol	66						
Terphenyl-d14	114						

Methods: EPA SW 846-1311, 8270, 8080.

ND - Not Detected

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/15/95

Analysis Date: 12/18/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

T45672

			EVA-				
TCLP Semi-Volatiles	EPA	Reporting	POND 1-N6	QC	RPD	%EA	%IA
(mg/L)	Limit	Limit	Hole #2				
Pyridine	5.0	0.5	ND	114	14	68	114
1,4-Dichlorobenzene	7.5	0.5	- ND	100	10	91	100
o-Cresol	200.0	0.5	ND	102	13	106	102
m,p-Cresol	200.0	0.5	ND	96	3	130	96
Total Cresol	200.0	0.5	ND				
Hexachloroethane	3.0	0.5	ND	100	9	94	100
Nitrobenzene	2.0	0.5	ND	99	10	91	99
Hexachlorobutadiene	0.5	0.1	ND	106	10	96	106
2,4,6-Trichlorophenol	2.0	0.5	ND	106	15	99	106
2,4,5-Trichlorophenol	400.0	0.5	ND	104	21	109	104
2,4-Dinitrotoluene	0.13	0.1	ND ·	102	14	106	102
2,4-D	10.0	0.5	ND	120	30	19	120
Hexachlorobenzene	0.13	0.1	ND	105	10	101	105
2,4,5-TP	1.0	0.5	ND	111	27	29	111
Pentachlorophenol	100.0	0.5	ND	103	14	98	103
Chlordane	0.03	0.001	ND	0.052	6	98	104
Toxaphene	0.5	0.05	ND	2.11	36	101	105
Lindane	0.4	0.001	- ND	0.024	4	104	96
Heptachlor	0.008	0.001	ND	0.025	8	108	100
Heptachlor epoxide	0.008	0.001	- ND	0.026	58	108	104
Total Heptachlor	0.008	0.001	ND				
Endrin	0.02	0.001	ND	0.053	0	118	106
Methoxychlor	10.0	0.1	ND	0.268	19	108	107
Surrogates	% RECOVERY		-				
2-Fluorophenol	84						
Phenol-d6	80	- 4 . · · · · · · ·					
Nitrobenzene-d5	96						
2-Fluorobiphenyl	110						
2,4,6-Tribromophenol	66		·				
Terphenyl-d14	116	•					

Methods: EPA SW 846-1311, 8270, 8080.

ND - Not Detected

Director, Dr. Blair Leftwich

pirector, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 East Main

Artesia, NM 88210

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Extraction Date: 12/15/95

Analysis Date: 12/18/95 Sampling Date: 12/13/95 Sample Condition: I & C Sample Received by: ML

Project Name: NA

T45673 EVA-

		. EVA-				
EPA	Reporting	POND 1-N9	QC	RPD	%EA	ъIА
Limit	Limit	Hole #2				
5.0	0.5	. ND.	114	14	68	114
7.5	0.5	ND	100	10	91	100
200.0	0.5	ND .	102	13	106	102
200.0	0.5	ND	96	3	130	96
200.0	0.5	ND				
3.0	0.5	ND	100	9	94	100
2.0	0.5	ND	99	10	91	99
0.5	0.1	. ND	106	10	96	106
2.0	0.5	ЙD	106	15	99	106
400.0	0.5	ND	104	21	109	104
0.13	0.1	ND	102	14	106	102
10.0	0.5	ND	120	30	19	120
0.13	0.1	ND	105	10	101	105
1.0	0.5	ND	111	27	29	111
100.0	0.5	ND	103	14	98	103
0.03	0.001	ND	0.052	6	98	104
0.5	0.05	ND	2.11	3,6	101	105
0.4	0.001	ND -	0.024	4	104	96
0.008	0.001	ND	0.025	8	108	100
0.008	0.001	ND	0.026	58	108	104
0.008	0.001	ND				
0.02	0.001	- ND	0.053	0	118	106
10.0	0.1	- ND	0.268	19	108	107
% RECOVERY						
84						
80	•					
98		•.				
116						
64						
118	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		·			
	5.0 7.5 200.0 200.0 200.0 3.0 2.0 0.5 2.0 400.0 0.13 10.0 0.13 1.0 100.0 0.03 0.5 0.4 0.008	Limit Limit	EPA Reporting POND 1-N9 Limit Limit Hole #2 5.0 0.5 ND 7.5 0.5 ND 200.0 0.5 ND 3.0 0.5 ND 2.0 0.5 ND 0.5 0.1 ND 400.0 0.5 ND 0.13 0.1 ND 10.0 0.5 ND 0.13 0.1 ND 1.0 0.5 ND 0.13 0.1 ND 1.0 0.5 ND 0.03 0.01 ND 0.003 0.001 ND 0.05 0.05 ND 0.4 0.001 ND 0.008 0.001 ND 0.009 0.001 ND 0.009 0.001 ND 0.000 0.1 ND	EPA Limit Limit Hole #2 5.0 0.5 ND 114 7.5 0.5 ND 100 200.0 0.5 ND 96 200.0 0.5 ND 96 200.0 0.5 ND 100 2.0 0.5 ND 100 2.0 0.5 ND 99 0.5 0.1 ND 106 2.0 0.5 ND 106 400.0 0.5 ND 104 0.13 0.1 ND 102 10.0 0.5 ND 120 0.13 0.1 ND 105 1.0 0.5 ND 111 100.0 0.5 ND 111 100.0 0.5 ND 111 100.0 0.5 ND 103 0.03 0.001 ND 0.052 0.5 0.05 ND 2.11 0.4 0.001 ND 0.025 0.008 0.001 ND 0.026 0.008 0.001 ND 0.026 0.008 0.001 ND 0.026 8 RECOVERY 84 80 98 116 64	EPA Limit Limit Hole #2 5.0 0.5 ND 114 14 7.5 0.5 ND 100 10 200.0 0.5 ND 96 3 200.0 0.5 ND 96 3 200.0 0.5 ND 100 9 3.0 0.5 ND 100 9 2.0 0.5 ND 100 9 2.0 0.5 ND 99 10 0.5 0.1 ND 106 10 2.0 0.5 ND 106 15 400.0 0.5 ND 104 21 0.13 0.1 ND 102 14 10.0 0.5 ND 102 14 10.0 0.5 ND 103 104 1.0 0.5 ND 120 30 0.13 0.1 ND 105 10 1.0 0.5 ND 111 27 100.0 0.5 ND 111 27 100.0 0.5 ND 101 11 27 100.0 0.5 ND 103 14 0.03 0.001 ND 0.052 6 0.5 0.05 ND 2.11 36 0.4 0.001 ND 0.024 4 0.008 0.001 ND 0.025 8 0.008 0.001 ND 0.025 8 0.008 0.001 ND 0.025 8 0.008 0.001 ND 0.026 58 0.008 0.001 ND 0.026 58 0.008 0.001 ND 0.053 0 10.0 0.1 ND 0.053 19 **RECOVERY**	EPA Limit Limit Hole #2 5.0 0.5 ND 114 14 68 7.5 0.5 ND 100 10 91 200.0 0.5 ND 96 3 130 200.0 0.5 ND 100 99 40 2.0 0.5 ND 100 99 94 2.0 0.5 ND 106 10 99 10 91 0.5 0.1 ND 106 15 99 400.0 0.5 ND 106 15 99 400.0 0.5 ND 104 21 109 0.13 0.1 ND 102 14 106 10.0 0.5 ND 120 30 19 0.13 0.1 ND 102 14 106 10.0 0.5 ND 120 30 19 0.13 0.1 ND 105 10 101 1.0 0.5 ND 120 30 19 0.13 0.1 ND 105 10 101 1.0 0.5 ND 111 27 29 100.0 0.5 ND 103 14 98 0.03 0.001 ND 0.052 6 98 0.5 0.05 ND 2.11 36 101 0.4 0.001 ND 0.025 8 108 0.008 0.001 ND 0.025 8 108 0.008 0.001 ND 0.026 58 108 0.008 0.001 ND 0.026 58 108 0.008 0.001 ND 0.026 58 108 0.008 0.001 ND 0.026 19 108 **RECOVERY** 84 80 98 116 64

Methods: EPA SW 846-1311, 8270, 8080.

ND - Not Detected

Director, Dr. Blair Leftwich

Director, Dr. Bruce McDonell

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main .

Artesia, NM 88210

PAGE 1 of 2

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Project No: NA

Project Location: Artesia, NM 88211

Prep Date: 12/19/95
Analysis Date: 12/19/95
Sampling Date: 12/13/95

Sample Condition: Intact & Cool

Sample Received by: ML

Project Name: NA

T45665

EVA-	
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	POND 1-E3	Reporting
8240 Compounds (ug/kg)	Hole #1	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ND	25
Bromomethane	ND	125
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ND	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	. ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ИД	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	. ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250

NAVAJO REFINING Project Location: Artesia, NM 88211

T45665 EVA-

3240 Compounds		POND 1-E3	Reporting
(ug/kg)		Hole #1	Limit
Dibromochloromethane		ND	25
Tetrachloroethene		ND	25
chlorobenzene		ND	25
Ethylbenzene	•	ND	25
n & p-Xylene		ND	25
Bromoform		ND	25
Styrene		ND	25
-Xylene		ND	. 25
,1,2,2-Tetrachloroethane		ND	25
rans 1,4-Dichloro-2-butene		_ ND _	125
is 1,4-Dichloro-2-butene		ND	125
.,4-Dichlorobenzene		ND	50
,3-Dichlorobenzene		ND	. 50
,2-Dichlorobenzene		ND	50

(1)	Unknown	512
(2)	Unknown	354
(3)	Unknown	174
(4)	Unknown	134
(5)	Unknown	229

SURROGATES	% RECOVERY
Dibromofluoromethane	90
Toluene-d8	92
4-Bromofluorobenzene	97

*ND = Not Detected

METHODS: EPA SW 846-5030, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell Date

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ANALYTICAL RESULTS FOR NAVAJO REFINING Attention: Darrell Moore 501 E. Main Artesia, NM 88210

PAGE 1 of 2

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Project No: NA

Project Location: Artesia, NM 88211

Prep Date: 12/19/95
Analysis Date: 12/19/95
Sampling Date: 12/13/95

Sample Condition: Intact & Cool

Sample Received by: ML

Project Name: NA

T45666

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	POND 1-E6	Reporting
8240 Compounds (ug/kg)	Hole #1	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ИД	25
Bromomethane	ND	125
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	- 25
Iodomethane	ND .	125
Carbon disulfide	ND	. 25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ИД	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	. 25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250

NAVAJO REFINING Project Location: Artesia, NM 88211

T45666 EVA-

		 ·	
8240 Compounds		POND 1-E6	Reporting
(ug/kg)		Hole #1	Limit
Dibromochloromethane		ND	25
Tetrachloroethene		ND	25
Chlorobenzene	:	" - ND .	25
Ethylbenzene		ND	25
m & p-Xylene		ND	. 25
Bromoform		ND	25
Styrene		ND	25
o-Xylene		ND	25
1,1,2,2-Tetrachloroethane		ЙD	25
trans 1,4-Dichloro-2-butene	,	ND .	. 125
cis 1,4-Dichloro-2-butene		ND	125
1,4-Dichlorobenzene		ND	50
1,3-Dichlorobenzene		ND	50
1,2-Dichlorobenzene		ND	50
		•	•

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

(1)	Unknown	. "		492
(2)	Unknown	-		416
(3)	Unknown	100		198
(4)	Unknown			133
(5)	Unknown			297

SURROGATES

Dibromofluoromethane		96
Toluene-d8	÷ .	98
4-Bromofluorobenzene	•	104

*ND = Not Detected

METHODS: EPA SW 846-5030, 8260.

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

PAGE 1 of 2

Prep Date: 12/19/95 Analysis Date: 12/19/95

Sampling Date: 12/13/95

Sample Condition: Intact & Cool

Sample Received by: ML

Project Name: NA

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Project No: NA

Project Location: Artesia, NM 88211

EVA-POND 1-E9 Reporting 8240 Compounds (ug/kg) Hole #1 Limit Dichlorodifluoromethane ND 25 25 Chloromethane ND 25 Vinyl chloride ND 125 Bromomethane ND

T45667

Chloroethane ND 25 Tri/chlorofluoromethane ND 25 25 ND 1,1-Dichloroethene 125 ND Iodomethane 25 Carbon disulfide ND Methylene chloride ND 125

trans-1,2-Dichloroethene ND 25
1,1-Dichloroethane ND 25
Vinyl acetate ND 25
2-Butanone ND 1,250

Chloroform ND 25
1,1,1-Trichloroethane ND 25
1,2-Dichloroethane ND 25

Benzene ND 25
Carbon Tetrachloride ND 25
1,2-Dichloropropane ND 25
Trichloroethene ND 25

Trichloropthene ND 25
Bromodichloromethane ND 25
cis-1,3-Dichloropropene ND 25

cis-1,3-DichloropropeneND254-Methyl-2-pentanoneND1,250trans-1,3-DichloropropeneND25Toluene7725

1,1,2-Trichloroethane ND 25
2-Hexanone ND 1,250

NAVAJO REFINING Project Location: Artesia, NM 88211

T45667 EVA-

8240 Compounds		POND 1-E9	Reporting
(ug/kg)		Hole #1	Limit
Dibromochloromethane		ND	25
Tetrachloroethene		ND	25
Chlorobenzene		ND	. 25
Ethylbenzene		ND	25
n & p-Xylene		ND	25
Bromoform		ND	25
Styrene		ND	25
- -Xylene	•	ND	25
1,1,2,2-Tetrachloroethane		. ND	25
rans 1,4-Dichloro-2-butene		ND	125
cis 1,4-Dichloro-2-butene		- ND -	125
1,4-Dichlorobenzene		ND	50
1,3-Dichlorobenzene		ND	50
1,2-Dichlorobenzene		ND	50

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

(1)	Cyclohexane	47
(2)	Unknown	48
(3)	Unknown	64
(4)	Unknown	65
(5)	Unknown	. 51

SURROGATES	% RECOVERY
Dibromofluoromethane	97
Toluene-d8	100
4-Bromofluorobenzene	107

*ND = Not Detected

METHODS: EPA SW 846-5030, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell 1/4/96 Date

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

PAGE 1 of 2

Prep Date: 12/19/95 Analysis Date: 12/19/95

Sampling Date: 12/13/95

Sample Condition: Intact & Cool

Sample Received by: ML

Project Name: NA

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Project No: NA

Project Location: Artesia, NM 88211

T45668

EVA-

	POND 1-W3	Reporting
8240 Compounds (ug/kg)	Hole #3	Limit
Dichlorodifluoromethane	ND	250
Chloromethane	ND	250
Vinyl chloride	ND	250
Bromomethane	ND	1,250
Chloroethane	ND	250 ·
Trichlorofluoromethane	ND	250
1,1-Dichloroethene	ND	250
Iodomethane	ND	1,250
Carbon disulfide	ND	250
Methylene chloride	ND	1,250
trans-1,2-Dichloroethene	-ND	250
1,1-Dichloroethane	ND	250
Vinyl acetate	ND _	250
2-Butanone	ND	12,500
Chloroform	ND -	250
1,1,1-Trichloroethane	ND	250
1,2-Dichloroethane	ND	250
Benzene	ND	250
Carbon Tetrachloride	ND	250
1,2-Dichloropropane	ND	250
Trichloroethene	ND	250
Bromodichloromethane	· ND	250
cis-1,3-Dichloropropene	ND	250
4-Methyl-2-pentanone	ND	12,500
trans-1,3-Dichloropropene	, ND	250
Toluene	ND	250
1,1,2-Trichloroethane	ND	250
2-Hexanone	ND	12,500

NAVAJO REFINING

Project Location: Artesia, NM 88211

T45668 EVA-

		EVAT		
240 Compounds	.*	POND 1-W3	Reporting	
(ug/kg)		Hole #3	Limit	
		•		
Dibromochloromethane		- ND	250	
Tetrachloroethene		ND T	250	
Chlorobenzene		ND .	250	
Sthylbenzene	•	1,570	250	
n & p-Xylene	•	ND	250	
Bromoform		ND	250	
Styrene		ND	250	
-Xylene	** 	1,070	250	
1,1,2,2-Tetrachloroethane		ND	250	
rans 1,4-Dichloro-2-butene	:	ND	1,250	
is 1,4-Dichloro-2-butene		ND	1,250	
,4-Dichlorobenzene		ND	. 500	
,3-Dichlorobenzene		ND	500	
1,2-Dichlorobenzene		ND	500	

TENTATIVELY	IDENTIFIED	COMPOUNDS	AND - ESTIMATED	CONCENTRATIONS	(ug/kg)
•		=			

(1)	methyl-cyclohexane		2,830
(2)	ethyl-cyclohexane	-	2,350
(3)	Nonane	. :	2,100
(4)	1-ethyl-2-methyl-benzene	· • .	3,300
(5)	1,2,4-trimethylbenzene	:	2,120

SURROGATES

% RECOVERY

Dibromofluoromethane	· · · ·	102
Toluene-d8		106
4-Bromofluorobenzene		110

*ND = Not Detected

METHODS: EPA SW 846-5030, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell // 4/96 Date

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

PAGE 1 of 2

Prep Date: 12/21/95 Analysis Date: 12/21/95

Sampling Date: 12/13/95

Sample Condition: Intact & Cool

Reporting

Sample Received by: ML

Project Name: NA

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

T45669 EVA-POND 1-W6

	20115 1 110	reportating
8240 Compounds (ug/kg)	Hole #3	Limit
Dichlorodifluoromethane	ND	250
Chloromethane	ND	250
Vinyl chloride	ND	250
Bromomethane	ND	1,250
Chloroethane	ND	250
Trichlorofluoromethane	ND	250
1,1-Dichloroethene	ND	250
Iodomethane	. ND	1,250
Carbon disulfide	ND	250
Methylene chloride	ND	1,250
trans-1,2-Dichloroethene	ND	250
1,1-Dichloroethane	ND	250
Vinyl acetate	ND	250
2-Butanone	ND	12,500
Chloroform	ND	250
1,1,1-Trichloroethane	ND	250
1,2-Dichloroethane	ND	250
Benzene	ND	250
Carbon Tetrachloride	ND	250
1,2-Dichloropropane	ND	250
Trichloroethene	ND	250
Bromodichloromethane	ND	. 250
cis-1,3-Dichloropropene	ND	250
4-Methyl-2-pentanone	ND	12,500
trans-1,3-Dichloropropene	ND	250
Toluene	ND	250
1,1,2-Trichloroethane	. ND	250
2-Hexanone	ND	12,500

500

NAVAJO REFINING Project Location: Artesia, NM 88211

		T45669 EVA-	
8240 Compounds		POND 1-W6	Reporting
(ug/kg)		Hole #3	Limit
Dibromochloromethane		ND	250
Tetrachloroethene	-	ND	250
Chlorobenzene		ND	250
Ethylbenzene		284	250
m & p-Xylene		ND	250
Bromoform		ND	250
Styrene		ND	250
o-Xylene		ND	250
1,1,2,2-Tetrachloroethane		. ND	250
trans 1,4-Dichloro-2-butene		ND	1,250
cis 1,4-Dichloro-2-butene		ND	1,250
1,4-Dichlorobenzene	•_	ND	500
1,3-Dichlorobenzene		ND	500

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

(1)	ethyl-cyclohe	2220	,	43.
(+)	- , -			.43
(2)	Unidentified	hydrocarbon	1	14
(3)	Unidentified	hydrocarbon	· 1	72
(4)	Unidentified	hydrocarbon	· i	L37
(5)	Unidentified	hydrocarbon	_ 1	73
(6)	Unidentified	hydrocarbon	. 1	126
(7)	Unidentified	hydrocarbon [. 1	.51
(8)	Unidentified	hydrocarbon	. 1	.09
(9)	Unidentified	hydrocarbon	1	.99
(10)	Unidentified	hvdrocarbon	1	10

SURROGATES

% RECOVERY

	N 4
Dibromofluoromethane	106
Toluene-d8	112
4-Bromofluorobenzene	107

*ND = Not Detected

1,2-Dichlorobenzene

METHODS: EPA SW 846-5030

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ANALYTICAL RESULTS FOR
NAVAJO REFINING
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

PAGE 1 of 2

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Project No: NA

Project Location: Artesia, NM 88211

Prep Date: 12/19/95
Analysis Date: 12/19/95
Sampling Date: 12/13/95

Sample Condition: Intact & Cool

Sample Received by: ML

Project Name: NA

T45670

EVA-

	POND 1-W9	Reporting	
8240 Compounds (ug/kg)	Hole-#3	Limit	
Dichlorodifluoromethane	ND	25	
Chloromethane	ND	25	
Vinyl chloride	ND	25	
Bromomethane	ND	125	
Chloroethane	ND	25	
Trichlorofluoromethane	ND	25	
1,1-Dichloroethene	ND	25	
Iodomethane	ND	125	
Carbon disulfide	: ND	25	
Methylene chloride	ND	125	
trans-1,2-Dichloroethene	. ND	. 25	
1,1-Dichloroethane	ND	.25	
Vinyl acetate	ND	25	
2-Butanone	ND	1,250	
Chloroform	ND	25	
1,1,1-Trichloroethane	ND	_ 25	
1,2-Dichloroethane	ND	25	
Benzene	ND	25	
Carbon Tetrachloride	, ND	25	
1,2-Dichloropropane	ND	25	
Trichloroethene	· ND	25	
Bromodichloromethane	ND	25	
cis-1,3-Dichloropropene	ND .	25	
4-Methyl-2-pentanone	ND	1,250	
trans-1,3-Dichloropropene	ND	25	
Toluene	ND	25	
1,1,2-Trichloroethane	· · · · · · · · · · · · · · · · · · ·	25	
2-Hexanone	ND	1,250	

NAVAJO REFINING

8240 Compounds

(ug/kg)

Ethylbenzene

m & p-Xylene

Bromoform

Styrene o-Xylene

Dibromochloromethane

1,1,2,2-Tetrachloroethane

cis 1,4-Dichloro-2-butene

1,4-Dichlorobenzene

1,3-Dichlorobenzene

1,2-Dichlorobenzene

trans 1,4-Dichloro-2-butene

Tetrachloroethene Chlorobenzene

Project Location: Artesia, NM 88211

T45670 EVA-POND 1-W9 Hole #3 ND ND

25

25

25

ND -ND ND ND ND ND ND ND ND ND ND

ND

SURROGATES

Toluene-d8

90 92.

* RECOVERY

*ND = Not Detected

Dibromofluoromethane

4-Bromofluorobenzene

METHODS: EPA SW 846-5030, 8260.

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

PAGE 1 of 2

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Prep Date: 12/19/95
Analysis Date: 12/19/95
Sampling Date: 12/13/95

Sample Condition: Intact & Cool

Sample Received by: ML

Project Name: NA

T45671

 2 V	n	_
	-	
 	-	

	POND 1-N3	Reporting
8240 Compounds (ug/kg)	Hole #2	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ND	25
Bromomethane	ND	125
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ND	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	ND .	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250

50

50

T45671

ND

NAVAJO REFINING

Project Location: Artesia, NM 88211

		EVA-	_
8240 Compounds	_	POND 1-N3	Reporting
(ug/kg)		Hole #2	Limit
Dibromochloromethane	•	ND	25
Tetrachloroethene		ND	25
Chlorobenzene		ND	25
Ethylbenzene		ND	25
m & p-Xylene		ND	25
Bromoform		ND	25
Styrene		ND "	25
o-Xylene	e gr	ND	25
1,1,2,2-Tetrachloroethane		ND	25
trans 1,4-Dichloro-2-butene	· · · · · · · · · · · · · · · · · · ·	ND	125
cis 1,4-Dichloro-2-butene	•	ND	125
1,4-Dichlorobenzene		ND	50

*ND = Not Detected

1,3-Dichlorobenzene

1,2-Dichlorobenzene

METHODS: EPA SW 846-5030, 8260.

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ANALYTICAL RESULTS FOR NAVAJO REFINING Attention: Darrell Moore 501 E. Main Artesia, NM 88210

PAGE 1 of 2

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil Project No: NA

Project Location: Artesia, NM 88211

Prep Date: 12/19/95 Analysis Date: 12/19/95 Sampling Date: 12/13/95

Sample Condition: Intact & Cool

Sample Received by: ML

Project Name: NA

T45672

EVA-

	POND 1-N6	Reporting
8240 Compounds (ug/kg)	Hole #2	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ND	25
Bromomethane	ND	125
Chloroethane	ND	25
Trichlorofluoromethane	ND -	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ND	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	· ND -	25
1,2-Dichloroethane	ND	25
Benzene	ND	. 25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	. 25
Bromodichloromethane	ND .	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250

NAVAJO REFINING

Project Location: Artesia, NM 88211

T45672

8240 Compounds (ug/kg)		EVA- POND 1-N6 Hole #2	Reporting Limit
Dibromochloromethane		ND	25
Tetrachloroethene		ND	25
Chlorobenzene		ND	25
Ethylbenzene		· ND	25
m & p-Xylene		ND	25
Bromoform		ND	25
Styrene		ND	25
o-Xylene	÷.	ND	25
1,1,2,2-Tetrachloroethane		ND	25
trans 1,4-Dichloro-2-butene		ND -	125
cis 1,4-Dichloro-2-butene		ND .	125
1,4-Dichlorobenzene		ND	50
1,3-Dichlorobenzene		· ND	50
1,2-Dichlorobenzene		ND	50

SURROGATES	% RECOVERY	
Dibromofluoromethane		95
Toluene-d8		98
4-Bromofluorobenzene		106

*ND = Not Detected

METHODS: EPA SW 846-5030, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell Date

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ANALYTICAL RESULTS FOR NAVAJO REFINING Attention: Darrell Moore 501 E. Main Artesia, NM 88210

PAGE 1 of 2

December 29, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Project No: NA

Project Location: Artesia, NM 88211

Prep Date: 12/21/95
Analysis Date: 12/21/95
Sampling Date: 12/13/95

Sample Condition: Intact & Cool

Sample Received by: ML

Project Name: NA

T45673 EVA-

	EAV-	
	POND 1-N9	Reporting
8240 Compounds (ug/kg)	Hole #2	Limit
Dichlorodifluoromethane	ND	25
	ND	25
Chloromethane	ND	
Vinyl chloride	ND	25
Bromomethane	ND	125
Chloroethane	ND	. 25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ЙД	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	46	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250

PAGE 2 of 2

NAVAJO REFINING

Project Location: Artesia, NM 88211

T45673

	*	EVA-	
8240 Compounds		POND 1-N9	Reporting
(ug/kg)		Hole #2	Limit
Dibromochloromethane		ND	25
Tetrachloroethene	•	ND	25
Chlorobenzene		ND	25
Ethylbenzene		· ND	25
m & p-Xylene	•	. ND	25
Bromoform		ND	25
Styrene		ND	25
o-Xylene		ND	25
1,1,2,2-Tetrachloroethane		ND	25
trans 1,4-Dichloro-2-butene		ИĎ	125
cis 1,4-Dichloro-2-butene		ND	125
1,4-Dichlorobenzene		· ND	50
1,3-Dichlorobenzene		ND	50
1,2-Dichlorobenzene		ND [50

SURROGATES

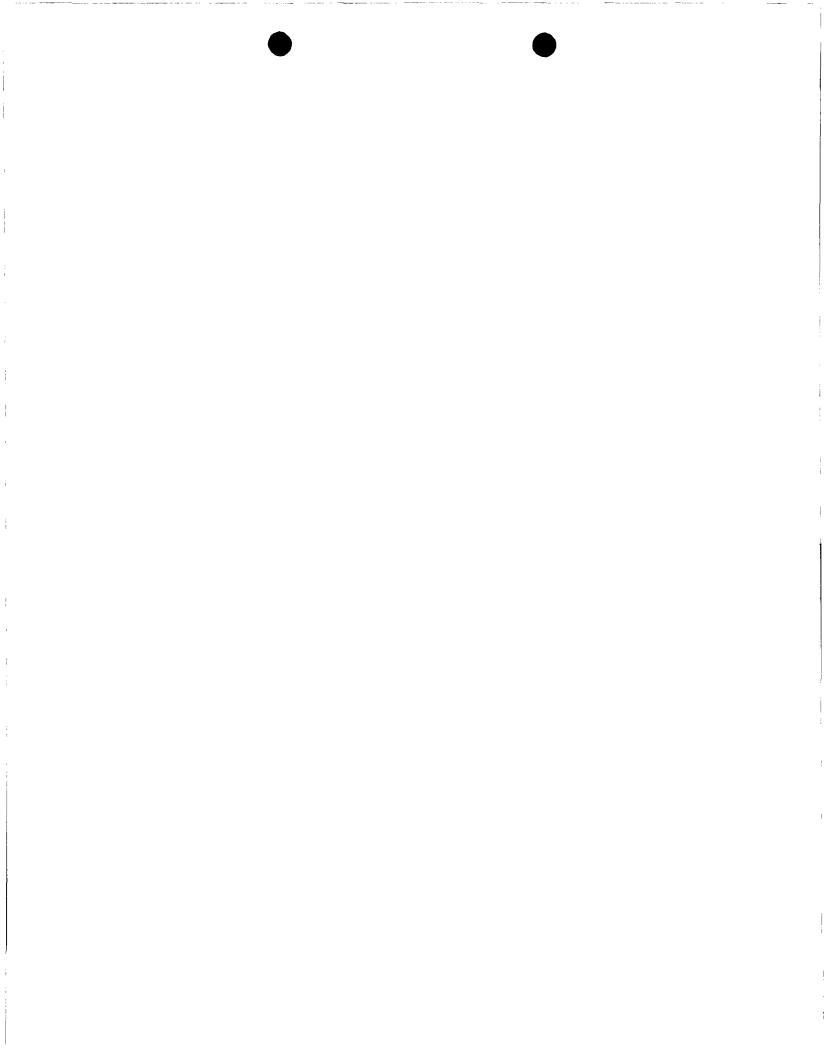
% RECOVERY

Dibromofluoromethane		92
Toluene-d8		96
4-Bromofluorobenzene	•	90.

*ND = Not Detected

METHODS: EPA SW 846-5030, 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell Date



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ANALYTICAL RESULTS FOR NO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

29, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Sampling Date: 12/13/95

Project Location: Artesia, NM 88211

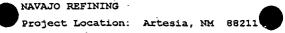
Sample Condition: Intact & Cool

Sample Received by: ML Extraction Date: 12/16/95 Analysis Date: 12/21/95

T45665

	Reporting	EVA-POND 1-E3			· · · · · · · · · · · · · · · · · · ·	
EPA 8270 (mg/kg)	Limit	Hole #1	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	25.0	מא				
2-Picoline	25.0	ND				
Methyl methanesulfonate	25.0	ND				
Ethyl methanesulfonate	25.0	_ מא	1			
Phenol	25.0	מא	100	6	79	100
Aniline	125.0	מא				
bis(2-Chloroethyl)ether	125.0	ND				
2-Chlorophenol	125.0	ND		5	91	
1,3-Dichlorobenzene	25.0	ND		<u></u>		
1,4-Dichlorobenzene	25.0	. ND .	106	5	95	106
Benzyl alcohol	125.0	מא				
1,2-Dichlorobenzene	25.0	ND				,
2-Methylphenol	25.0	ND				
bis(2-chloroisopropyl)ether	125.0	ND				
4-Methylphenol/3-Methylphenol	25.0	ND				
Acetophenone	125.0	ND			<u> </u>	
n-Nitrosodi-n-propylamine	25.0	ND		1	88	
Hexachloroethane	25.0	ND -				
Nitrobenzene	25.0	ND		···		
N-Nitrosopiperidine	125.0	ND				
Isophorone	125.0	ND				
2-Nitrophenol	125.0	ND	100			100
2,4-Dimethylphenol	125.0	מא				
bis(2-Chloroethoxy)methane	25.0	ND				
Benzoic acid	250.0	ND				
2,4-Dichlorophenol	125.0	ND	97			97
1,2,4-Trichlorobenzene	25.0	ND		14	106	
a,a-Dimethylphenethylamine	250.0	ND				
Naphthalene	25.0	ND				

103



T45665

		Reporting	EVA-POND 1-E3	· · · · · · · · · · · · · · · · · · ·	T		
EPA 8270	(mg/kg)	Limit	Hole #1	QC	RPD	%EA	%IA
4-Chloroaniline	:	125.0	ND				
2,6-Dichlorophe	enol	125.0	ND				
Hexachlorobutad	liene	25.0	ND	107			107
N-Nitroso-di-n-	-butylamine	125.0	ND				
1-Chloro-3-met)	nylphenol	125.0	ND	96	12	98	96
2-Methylnaphtha	alene	25.0	ND				
1,2,4,5-Tetrach	lorobenzene	25.0	ND				
Hexachlorocyclo	ppentadiene	25.0	. ND				
2,4,6-Trichlore	phenol	125.0	ND .	100			100
2,4,5-Trichlore	phenol	125.0	ND				
2-Chloronaphtha	alene	25.0	מא				
-Chloronaphtha	alene	25.0	ND	-	•		
2-Nitroaniline		125.0	ND				
Dimethylphthala	ate	25.0	ND				
Acenaphthylene		25.0	ND				
2,6-Dinitrotolu	iene	25.0	ND	-			
3-Nitroaniline		125.0	ND				
Acenaphthene		25.0	ND	- 100	5	101	100
2,4-Dinitropher	nol	125.0	ND				
ibenzofuran	•	125.0	ND				
entachlorobenz	ene	25.0	ND				
-Nitrophenol		125.0	מא		18	40	
		J		1	1		

125.0

25.0

125.0

125.0

25.0

25.0

25.0

125.0

25.0

25.0

125.0

ND

ND

ND

ND

ND

ND

ND

ND

103

1-Napthylamine

2-Napthylamine

Diethylphthalate

4-Nitroaniline

Diphenylhydrazine

Fluorene

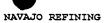
2,4-Dinitrotoluene

2,3,4,6-Tetrachlorophenol

4-Chlorophenyl-phenylether

4,6-Dinitro-2-methylphenol

n-Nitrosodiphenylamine & Diphenylamine



Project Location: Artesia, NM 88211

T45665

Reporting EVA-POND 1-E3

			T	· · · · · · · · · · · · · · · · · · ·			
EPA 8270	(mg/kg)	Limit	Hole #1	QC	RPD	%EA	%IA
4-Bromophenyl-phen	ylether	25.0	ND .				
Phenacetin		125.0	ND				
Hexachlorobenzene		25.0	ND.				
4-Aminobiphenyl		125.0	ND ·				
Pentachlorophenol		125.0	ИD	101	18	32	101
Pentachloronitrobe	nzene	125.0	ND				
Pronamide		25.0	ND				
Phenanthrene		25.0	ND				
Anthracene		25.0	ND				
Di-n-butylphthalat	e	25.0	ND				
Fluoranthene		25.0	ИD	103			103
Benzidine		250.0	DИ	-			
Pyrene		25.0	ИD	-	1	116	
p-Dimethylaminoazo	benzene	25.0	מא				
Butylbenzylphthala	te	25.0	ND	-			
Benzo[a]anthracene		25.0	ND				
3,3-Dichlorobenzid	ine	25.0	ND				
Chrysene		25.0	ND				
bis(2-Ethylhexyl)p	hthalate	25.0	, ND				
Di-n-octlphthalate		25.0	ND				
Benzo[b]fluoranthe	ne	25.0	DM				
7,12-Dimethylbenz(a) anthracene	25.0	מא	•			
Benzo[k]fluoranthe	ne	25.0	ND				
Benzo[a]pyrene		25.0	מא	97			97
3-Methylcholanthre	ne	25.0	ND				
Dibenzo(a,j)acridi	ne	25.0	ND				
Indeno[1,2,3-cd]py	rene	25.0	. ND				
Dibenz[a,h]anthrac	ene	25.0	ND				
Benzo[g,h,i]peryle	ne	25.0	ND	-			

NAVAJO REFINING

Project Location: Artesia, NM 88211

T45665

	•	
Reporting	EVA-POND	1-E3

EPA 8270 (mg/kg)	Limit	Hole #1	QC _	RPD	%EA	%IA
a-BHC	0.25	ND	0.028	0	108	112
b-BHC	0.25	DИ	0.025	13	96	100
g-BHC	0.25	ND	0.027	0	88	108
d-BHC	0.25	סא	0.025	17	88	100
Heptachlor	0.25	ДИ	0.028	11	68	112
Aldrin	0.25	ДД	0.028	. 7	108	112
Heptachlor epoxide	0.25	DИ	0.028	.32	96	112
Endosulfan-1	0.25	מא	0.027	13	112	108
Endosulfan-2	0.5	ND	0.052	. 71	64	104
P,P'-DDE	0.5	ИD	0.054	16	- 112	108
Dieldrin	0.5	ND	0.053	13	124	106
Endrin	0.5	ND	0.049	33	100	98
P, P'-DDD	0.5	ND	0.049	36	88	98
Endrin Aldehyde	0.5	סוא	0.050	82	66	100
Endosulfan Sulfate/P,P'-DDT	0.5	ИD	0.100	22	123	100
Endrin Ketone	0.5	ИD	0.049	- 65	102	98
Methoxychlor	2.5	DИ	0.243	27	128	96
a-Chlordane	0.25	ИD	0.027	11	108	108
g-Chlordane	0.25	ИD	0.027	8	96	108
Toxaphene	25.0	ИD	2.10	6	97	105
PCB's	0.25	סוא	0.50	14	113	99

% RECOVERY

2-Fluorophenol SURR 85 Phenol-d6 SURR 90 Nitrobenzene-d5 SURR 2-Fluorobiphenyl SURR 2,4,6-Tribromophenol SURR Terphenyl-d14 SURR 100

ND = NOT DETECTED

METHOD: EPA SW 846-3550, 8270, 8080.

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FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR NATURE REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 68210

Decemb 9, 199

Receiving Date: 12/14/95

Sample Type: Soil

Sampling Date: 12/13/95

Project Location: Artesia, NM 88211

Sample Condition: Intact & Cool

Sample Received by: ML Extraction Date: 12/16/95 Analysis Date: 12/21/95

T45666

		T45666				
	Reporting	EVA-POND 1-E6		1		3
EPA 8270 (mg/kg)	Limit	Hole #1	δC	RPD	%EA	%IA
N-Nitrosodimethylamine	25.0	ND				
2-Picoline	25.0	ND				
Methyl methanesulfonate	25.0	ND				
Ethyl methanesulfonate	25.0	ND	1			
Phenol	25.0	ИD	100	6	79	100
Aniline	125.0	ND				
bis(2-Chloroethy1)ether	125.0	ND				
2-Chlorophenol	125.0	ND		5	91	
1,3-Dichlorobenzene	25.0	ND				
1,4-Dichlorobenzene	25.0	ND	106	5	95	106
Benzyl alcohol	125.0	ND				
1,2-Dichlorobenzene	25.0	ND				
2-Methylphenol	25.0	ND				
bis(2-chloroisopropyl)ether	125.0	ND				
4-Methylphenol/3-Methylphenol	25.0	ND				
Acetophenone	125.0	ND ·				
n-Nitrosodi-n-propylamine	25.0	ND		11	88	
Hexachloroethane	25.0	ND				
Nitrobenzene	25.0	ND				
N-Nitrosopiperidine	125.0	ND				
Isophorone	125.0	ND				
2-Nitrophenol	125.0	ND	100			100
2,4-Dimethylphenol	125.0	ND				
bis(2-Chloroethoxy)methane	25.0	ND				
Benzoic acid	250.0	ND				-
2,4-Dichlorophenol	125.0	ND	97			97
1,2,4-Trichlorobenzene	25.0	ND		14	106	
a,a-Dimethylphenethylamine	250.0	ND				
Naphthalene	25.0	ИД				





	Reporting	EVA-POND 1-E6				
EPA 8270 (mg/kg)	Limit	Hole #1	QC	RPD	%EA	%IA
4-Chloroaniline	125.0	ND				
2,6-Dichlorophenol	125.0	ND				
Hexachlorobutadiene	25.0	ND	107			107
N-Nitroso-di-n-butylamine	125.0	ND				
4-Chloro-3-methylphenol	125.0	ND	96	12	98	96
2-Methylnaphthalene	25.0	ND				
1,2,4,5-Tetrachlorobenzene	25.0	DM				
Hexachlorocyclopentadiene	25.0	ND				
2,4,6-Trichlorophenol	125.0	ND	- 100			100
2,4,5-Trichlorophenol	125.0	ND				
2-Chloronaphthalene	25.0	ND				
1-Chloronaphthalene	25.0	ND	ļ			
2-Nitroaniline	125.0	ND				·
Dimethylphthalate	25.0	ND				
Acenaphthylene	25.0	ND				
2,6-Dinitrotoluene	25.0	ND -				
3-Nitroaniline	125.0	ND				
Acenaphthene	25.0	. ND	100	5	101	100
2,4-Dinitrophenol	125.0	· ND				
Dibenzofuran	125.0	ND				
Pentachlorobenzene	25.0	ND				
4-Nitrophenol	125.0	ND		18	40	
1-Napthylamine	125.0	ND	<u> </u>			
2,4-Dinitrotoluene	25.0	ND		6	84	
2-Napthylamine	125.0	ND				
2,3,4,6-Tetrachlorophenol	125.0	- ND	-			
Fluorene	25.0	DИ				
Diethylphthalate	25.0	. ND				
4-Chlorophenyl-phenylether	25.0	ND				
4-Nitroaniline	125.0	. ND				
4,6-Dinitro-2-methylphenol	25.0	ND				
n-Nitrosodiphenylamine & Diphenylamine	25.0	ND	103			103
Diphenylhydrazine	125.0	ND	-			

Project Location: Artesia, NM 88211

T45666 EVA-POND 1-E6

}		1 .		1	ľ	1	
EPA 8270	(mg/kg)	Limit	Hole #1	QC	RPD	%EA	AI&
4-Bromophenyl-pheny	lether	25.0	ND				
Phenacetin		125.0	ND				
Hexachlorobenzene		25.0	ND				
4-Aminobiphenyl		125.0	ОМ				
Pentachlorophenol		125.0	ND	101	18	32	101
Pentachloronitroben	zene	125.0	ND				
Pronamide		25.0	ND	-			
Phenanthrene		25.0	ND				
Anthracene		25.0	ND				
Di-n-butylphthalate		25.0	ND				
Fluoranthene		25.0	ND	103			103
Benzidine		250.0	ND		.		
Pyrene		25.0	ND		1	116	

p-Dimethylaminoazobenzene 25.0 ND 25.0 Butylbenzylphthalate ND -Benzo[a]anthracene 25.0 ND 3,3-Dichlorobenzidine 25.0 ND Chrysene 25.0 ND ~ bis(2-Ethylhexyl)phthalate 25.0 MD 25.0 Di-n-octlphthalate ND: Benzo[b]fluoranthene 25.0 **ИD** -7,12-Dimethylbenz(a)anthracene 25.0 ИD Benzo(k)fluoranthene 25.0 ND : Benzo[a]pyrene 25.0 ND 97 97 3-Methylcholanthrene 25.0 . ND Dibenzo(a,j)acridine 25.0 ND Indeno[1,2,3-cd]pyrene 25.0 -ND -Dibenz[a,h]anthracene 25.0 ND. Benzo[g,h,i]perylene 25.0 ND

Project Location: Artesia, NM 88211

T45666

Reporting EVA-POND 1-E6

	1 reporting	DVA POND I DO				
EPA 8270 (mg/kg)	Limit	Hole #1	QC	RPD	%EA	%IA
a-BHC	0.00125	ND	0.028	0	108	112
p-bhc	0.00125	МД	0.025	13	96	100
g-BHC	0.00125	ND .	0.027	0	88	108
d-BHC	0.00125	ND	0.025	17	88	100
Heptachlor ,	0.00125	ND	0.028	11	68	112
Aldrin	0.00125	ND	0.028	7	108	112
Heptachlor epoxide	0.00125	ND	0.028	32	96	112
Endosulfan-1	0.00125	מא	0.027	13	112	108
Endosulfan-2	0.0025	ND	0.052	71	64	104
P,P'-DDE	0.0025	ND	0.054	16	112	108
Dieldrin	0.0025	ND	0.053	13	124	106
Endrin	0.0025	ND -	0.049	33	100	98
P, P'-DDD	0.0025	סוא	0.049	36	88	98
Endrin Aldehyde	0.0025	סמ	0.050	82	66	100
Endosulfan Sulfate/P,P'-DDT	0.0025	ND	0.100	. 22	123	100
Endrin Ketone	0.0025	ND	0.049	65	102	98
Methoxychlor	0.0125	ND	0.243	27	128	96
a-Chlordane	0.00125	MD	0.027	11	108	108
g-Chlordane	0.00125	ND	0.027	. 8	96	108
Toxaphene	0.125	ND	2.10 -	6	97	105
PCB's .	0.25	ND	0.50	14	113	99

% RECOVERY

2-Fluorophenol SURR	95
Phenol-d6 SURR	100
Nitrobenzene-d5 SURR	100
2-Fluorobiphenyl SURR	109
2,4,6-Tribromophenol SURR	90
Terphenyl-d14 SURR	112

ND = NOT DETECTED

METHOD: EPA SW 846-3550, 8270, 8080.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell 1/4/96 Date 6701 Aberdeen Avenue Lubbock, Texas 79424

 $806 \bullet 794 \bullet 1296$

FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR NAVA REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

Reporting

ecembe 199

Receiving Date: 12/14/95

Sample Type: Soil

Sampling Date: 12/13/95

Project Location: Artesia, NM 88211

Sample Condition: Intact & Cool

Sample Received by: ML Extraction Date: 12/16/95 Analysis Date: 12/20/95

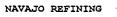
T45667 EVA-POND 1-E9

EPA 8270 (mg/kg)	Limit	Hole #1	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	25.0	ND				
2-Picoline	25.0	ND				
Methyl methanesulfonate	25.0	ND				
Ethyl methanesulfonate	25.0	ND				
Phenol	25.0	ND	98	6	79	98
Aniline	125.0	ND				
bis(2-Chloroethyl)ether	125.0	ND				
2-Chlorophenol	125.0	ND		5	91	
1,3-Dichlorobenzene	25.0	ND				
1,4-Dichlorobenzene	25.0	ND	105	5	95	105
Benzyl alcohol	125.0	ND				
1,2-Dichlorobenzene	25.0	ND				
2-Methylphenol	25.0	ND				
bis(2-chloroisopropy1)ether	125.0	ND				
4-Methylphenol/3-Methylphenol	25.0	ND			İ	
Acetophenone	125.0	ИD				
n-Nitrosodi-n-propylamine	25.0	ND		1	88	
Hexachloroethane	25.0	ND				
Nitrobenzene	25.0	ND				
N-Nitrosopiperidine	125.0	ND				
Isophorone	125.0	ND	-			
2-Nitrophenol	125.0	ND	99	_		99
2,4-Dimethylphenol	125.0	ND				
bis(2-Chloroethoxy)methane	25.0	ND				
Benzoic acid	250.0	ND				
2,4-Dichlorophenol	125.0	ND	97			97
1,2,4-Trichlorobenzene	25.0	ND		14	106	
a,a-Dimethylphenethylamine	250.0	ND				
Naphthalene	25.0	ND				



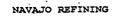
			145007	
		Reporting	EVA-POND 1-E9	
8270	(mg/kg)	Limit	Hole #1	\perp
hloroanili	ne	125.0	מא	
-Dichloropl	nenol	125.0	NTD	

EPA 8270 (mg/kg)	Limit	Hole #1	бс	RPD	%EA	%IA
4-Chloroaniline	125.0	ND				
2,6-Dichlorophenol	125.0	ND				
 Hexachlorobutadiene	25.0	ND	. 99			99
N-Nitroso-di-n-butylamine	125.0	ND				
4-Chloro-3-methylphenol	125.0	ND	96	12	98	96
2-Methylnaphthalene	25.0	ND				
1,2,4,5-Tetrachlorobenzene	25.0	ND				
Hexachlorocyclopentadiene	25.0	ND				
2,4,6-Trichlorophenol	125.0	ND	97			97
2,4,5-Trichlorophenol	125.0	ND				
2-Chloronaphthalene	25.0	ND				
1-Chloronaphthalene	25.0	ND				
2-Nitroaniline	125.0	ND .		-		
 Dimethylphthalate	25.0	ND				
Acenaphthylene	25.0	ND.				
2,6-Dinitrotoluene	25.0	ND				
3-Nitroaniline	125.0	ND				
Acenaphthene	25.0	ND	99	5	101	99
2,4-Dinitrophenol	125.0	ND				
Dibenzofuran	125.0	ND				
Pentachlorobenzene	25.0	ND -	-			
4-Nitrophenol	125.0	ND		18	40	
1-Napthylamine	125.0	ND				
2,4-Dinitrotoluene	25.0	ND		6	84	
2-Napthylamine	125.0	ND				
2,3,4,6-Tetrachlorophenol	125.0	ND				
Fluorene	25.0	ND				
 Diethylphthalate	25.0	ND				
4-Chlorophenyl-phenylether	25.0	ND				
4-Nitroaniline	125.0	ND				
4,6-Dinitro-2-methylphenol	25.0	ND				
n-Nitrosodiphenylamine & Diphenylamine	25.0	ND	100			100
Diphenylhydrazine	125.0	ND				,



Reporting	EVA-POND	1-E9

	Reporting	EVA-POND 1-E9				
EPA 8270 (mg/kg)	Limit	Hole #1	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	25.0	ND				
Phenacetin	125.0	ND				
Hexachlorobenzene	25.0	ND				<u> </u>
4-Aminobiphenyl	125.0	ND				
Pentachlorophenol	125.0	ND	101	18	32	101
Pentachloronitrobenzene	125.0	ND				
Pronamide	25.0	DИ	·			
Phenanthrene	25.0	ND				
Anthracene	25.0	ND				
Di-n-butylphthalate	25.0	ИД				75 d B
Fluoranthene	25.0	ND	101			101
Benzidine	250.0	ND				
Pyrene	25.0	ND		1	116	
p-Dimethylaminoazobenzene	25.0	ND				
Butylbenzylphthalate	25.0	ИĎ				
Benzo[a]anthracene	25.0	ND				
3,3-Dichlorobenzidine	25.0	ND				
Chrysene	25.0	ND				
bis(2-Ethylhexyl)phthalate	25.0	ND				
Di-n-octlphthalate	25.0	ND		·		
Benzo(b)fluoranthene	25.0	ДИ	-			
7,12-Dimethylbenz(a)anthracene	25.0	מא	-			
Benzo[k]fluoranthene	25.0	ИD		-		
Benzo[a]pyrene	25.0	ND	99			99
3-Methylcholanthrene	25.0	ND				
Dibenzo(a,j)acridine	25.0	ND		-		
Indeno[1,2,3-cd]pyrene	25.0	ND				
Dibenz[a,h]anthracene	25.0	מא				
Benzo[g,h,i]perylene	25.0	ND				





EVA-POND 1-E9 Reporting

	Reporting	EVA-POND 1-E9				
EPA 8270 (mg/kg)	Limit	Hole #1	<u>o</u> c	RPD	%EA	AI\$
a-BHC	0.125	ND	0.028	0	108	112
b-BHC	0.125	ND	0.025	13	96	100
g-BHC	0.125	ИD	0.027	0	88	108
d-BHC	0.125	ИD	0.025	17	88	100
Heptachlor	0.125	ND	0.028	11	68	112
Aldrin	0.125	DZD	0.028	7	108	112
Reptachlor epoxide	0.125	ИD	0.028	32	96	112
Endosulfan-1	0.125	ИD	0.027	13	112	108
Endosulfan-2	0.25	ИD	0.052	71	64	104
P,P'-DDE	0.25	ND	0.054	16.	112	108
Dieldrin	0.25	ДИ	0.053	13	124	106
Endrin	0.25	ND	0.049	33	100	98
P, P'-DDD	0.25	ND	0.049	36	88	. 98
Endrin Aldehyde	0.25	ИD	0.050	82	66	100
Endosulfan Sulfate/P,P'-DDT	0.25	ОТО	0.100	22	- 123	100
Endrin Ketone	0.25	ND	0.049	- 65	102	98
Methoxychlor	1.25	ИD	0.243	27	128	96
a-Chlordane	0.125	ИD	0.027	11	108	108
g-Chlordane	0.125	ND	0.027	8	96	108
Toxaphene	12.5	ND	2.10	6	97	105
PCB's	0.25	ИD	0.50	14_	113	99

& RECOVERY

2-Fluorophenol SURR Phenol-d6 SURR Nitrobenzene-d5 SURR 2-Fluorobiphenyl SURR 2,4,6-Tribromophenol SURR 80 Terphenyl-d14 SURR 106

ND = NOT DETECTED

METHOD: EPA SW 846-3550, 8270, 8080.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

6701 Aberdeen Avenue Lubbock, Texas 79424

806 • 794 • 1296

FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR NAV REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

Decembe 9, 1999

Receiving Date: 12/14/95

Sample Type: Soil

Sampling Date: 12/13/95

Project Location: Artesia, NM 88211

Sample Condition: Intact & Cool

Sample Received by: ML Extraction Date: 12/16/95 Analysis Date: 12/21/95

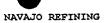
T45668 EVA-POND 1-W3

· · · · · · · · · · · · · · · · · · ·	Reporting	EVA-POND 1-W3	·	·		
EPA 8270 (mg/kg)	Limit	Hole #3	QC	RPD	₹EA	%IA
N-Nitrosodimethylamine	25.0	ND.	-			
2-Picoline	25.0	ДИ]	
Methyl methanesulfonate	25.0	ND				
Ethyl methanesulfonate	25.0	ND	1			
Phenol	25.0	ИD	100	6	79	100
Aniline	125.0	ND				
bis(2-Chloroethyl)ether	125.0	ND	-			
2-Chlorophenol	125.0	ND		5	91	
1,3-Dichlorobenzene	25.0	ND				
1,4-Dichlorobenzene	25.0	ND	106	5	95	106
Benzyl alcohol	125.0	ND				
1,2-Dichlorobenzene	25.0	סמ				
2-Methylphenol	25.0	ND	١			
bis(2-chloroisopropyl)ether	125.0	ND			<u></u>	
4-Methylphenol/3-Methylphenol	25.0	ND				
Acetophenone	125.0	ND				
n-Nitrosodi-n-propylamine	25.0	ND	-	1	88	
Hexachloroethane	25.0	ND				
Nitrobenzene	25.0	ND -				
N-Nitrosopiperidine	125.0	ND	·			
Isophorone	125.0	ND				
2-Nitrophenol	125.0	ND	100			100
2,4-Dimethylphenol	125.0	ND				
bis(2-Chloroethoxy)methane	25.0	ND				
Benzoic acid	250.0	ND				
2,4-Dichlorophenol	125.0	. ND	97			97
1,2,4-Trichlorobenzene	25.0	ND		14	106	
a,a-Dimethylphenethylamine	250.0	ND				
Naphthalene	25.0	ND				

T45668

EVA-POND 1-W3 Reporting

Γ	T	I	1	1		
EPA 8270 (mg/kg)	Limit	Hole #3	QC	RPD	%EA	AI\$
4-Chloroaniline	125.0	· ND			·	
2,6-Dichlorophenol	125.0	ND				
Hexachlorobutadiene	25.0	ИД	107			107
N-Nitroso-di-n-butylamine	125.0	MD	-			
4-Chloro-3-methylphenol	125.0	ND	96	12	98	96
2-Methylnaphthalene	25.0	50.9				
1,2,4,5-Tetrachlorobenzene	25.0	ND	-			
Hexachlorocyclopentadiene	25.0	ND				
2,4,6-Trichlorophenol	125.0	ND	100			100
2,4,5-Trichlorophenol	125.0	ИД				
2-Chloronaphthalene	25.0	מא				
1-Chloronaphthalene	25.0	. ND				
2-Nitroaniline	125.0	ND				
Dimethylphthalate	25.0	ND		270		
Acenaphthylene	25.0	ND	-		[
2,6-Dinitrotoluene	25.0	ND				
3-Nitroaniline	125.0	ND				
Acenaphthene	25.0	ND	100	5	101	100
2,4-Dinitrophenol	125.0	ND				
Dibenzofuran	125.0	ND	-			
Pentachlorobenzene	25.0	ND				
4-Nitrophenol	125.0	ND		18	40	
1-Napthylamine	125.0	ИD	-			
2,4-Dinitrotoluene	25.0	ND		6	84	
2-Napthylamine	125.0	. ND				
2,3,4,6-Tetrachlorophenol	125.0	ND				
Fluorene	25.0	38.6				
Diethylphthalate	25.0	ND				
4-Chlorophenyl-phenylether	25.0	ND				
4-Nitroaniline	125.0	ND				
4,6-Dinitro-2-methylphenol	25.0	ND				
n-Nitrosodiphenylamine & Diphenylamine	25.0	ND	103			103
Diphenylhydrazine	125.0	ND				



Reporting	EVA~POND	1 -W3

	Reporting	EVA-POND 1-W3	,		· r·	,
EPA 8270 (mg/kg)	Limit	Hole #3	oc oc	RPD	%EA	%IA
4-Bromophenyl-phenylether	25.0	ND				-
Phenacetin	125.0	ND	:			
 Hexachlorobenzene	25.0	ND				
4-Aminobiphenyl	125.0	ND		-		
Pentachlorophenol	125.0	ND	101	18	32	101
Pentachloronitrobenzene	125.0	ND	i.			
Pronamide	25.0	ND				
Phenanthrene	25.0	ND				
Anthracene	25.0	133				
Di-n-butylphthalate	25.0	ND				
Fluoranthene	25.0	ND	103			103
Benzidine	250.0	ND				
Pyrene	25.0	36.1		1	116	
p-Dimethylaminoazobenzene	25.0	ND				
Butylbenzylphthalate	25.0	ND				
Benzo[a]anthracene	25.0	ND				
3,3-Dichlorobenzidine	25.0	ND				
Chrysene	25.0	ND .				
bis(2-Ethylhexyl)phthalate	25.0	ND	\			
Di-n-octlphthalate	25.0	ND				
Benzo[b]fluoranthene	25.0	ND			,	
7,12-Dimethylbenz(a)anthracene	25.0	ND				
 Benzo[k]fluoranthene	25.0	ND				
Benzo[a]pyrene	25.0	ND	97			97
3-Methylcholanthrene	25.0	ND				
Dibenzo(a,j)acridine	25.0	ND				
Indeno[1,2,3-cd]pyrene	25.0	ND				
Dibenz[a,h]anthracene	25.0	ND		.		
Benzo[g,h,i]perylene	25.0	ND				

Project Location: Artesia, NM 88211

T45668

Reporting EV

EVA-POND 1-W3

EPA 8270 (mg/kg)	Limit	Hole #3	QC	RPD	%EA	%IA
a-BHC	1.25	ND	0.028	0	108	112
b-BHC	1.25	ND	0.025	13	96	100
д-внс	1.25	ND	0.027	0	88 .	108
d-BHC	1.25	מא	0.025	17	88	100
Heptachlor	1.25	ИD	0.028	11	.68	112
Aldrin	1.25	ИD	0.028	7	108	112
Heptachlor epoxide	1.25	ND	0.028	32	96	112
Endosulfan-1	1.25	ND	0.027	13	112	108
Endosulfan-2	2.5	מא	0:052	71	64	104
P,P'-DDE	2.5	- ND	0.054	16	112	108
Dieldrin	2.5	ND	0.053	13	124	106
Endrin	2.5	ND	0.049	33	100	98
P, P' -DDD	2.5	ИD	0.049	36	88	98
Endrin Aldehyde	2.5	ИD	0.050	82	66	100
Endosulfan Sulfate/P,P'-DDT	2.5	-ND	0.100	22	123	100
Endrin Ketone	2.5	ND	0.049	65	102	98
Methoxychlor	12.5	ND	0.243	27	128	96
a-Chlordane	1.25	, ND	0.027	11	108	108
g-Chlordane	1.25	ַ אָדַס ַ יי	0.027	8	96	108
Toxaphene	125.0	מא -	2.10	6	97	105
PCB's	0.25	ИD	0.50	14	113	99

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (mg/kg)

(1) 2,3-dimethylnapthalene		152
(2) 2,6,10,14-tetramethyl-pentadecane		147
(3) 2,6,10,14-tetramethyl-hexadecane		208
(4) Nonadecane		231
(5) Eicosane		142
(6) 2,5-dimethylphenanthrene		151
(7) Heneicosane		140
(8) Docosane		159
(9) Tetrasocane		147
•	% RECOVERY	•
2-Fluorophenol SURR	94	
Phenol-d6 SURR	100	
Nitrobenzene-d5 SURR	92	
2-Fluorobiphenyl SURR	100	-
2,4,6-Tribromophenol SURR	92	
Terphenyl-d14 SURR	106	
NO = NOT DETECTED		

METHOD: EPA SW 846-3550, 8270, 8080.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell 1/14/5C

6701 Aberdeen Avenue Lubbock, Texas 79424

806 • 794 • 1296

FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR

Attention: Darrell Moore

501 E. Main

Reporting

Artesia, NM 88210

December , 19

Receiving Date: 12/14/95

Sample Type: Soil

Sampling Date: 12/13/95

Project Location: Artesia, NM 88211

Sample Condition: Intact & Cool

Sample Received by: ML Extraction Date: 12/16/95 Analysis Date: 12/20/95

T45669 EVA-POND 1-W6

EPA 8270 (mg/kg) N-Nitrosodimethylamine	Limit	Hole #3	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	1					T TA
	25.0	ND				
2-Picoline	25.0	ND				
Methyl methanesulfonate	25.0	ND				
Ethyl methanesulfonate	25.0	ND				
Phenol	25.0	ND	98	6	79	98
Aniline	125.0	ND				
bis(2-Chloroethyl)ether	125.0	ND				
2-Chlorophenol	125.0	ND		5	91	
1,3-Dichlorobenzene	25.0	ND				
1,4-Dichlorobenzene	25.0	ND	105	_5	95	105
Benzyl alcohol	125.0	ND				
1,2-Dichlorobenzene	25.0	ND				
2-Methylphenol	25.0	ND				
bis(2-chloroisopropyl)ether	125.0	ND				
4-Methylphenol/3-Methylphenol	25.0	ND		-		
Acetophenone	125.0	ND				
n-Nitrosodi-n-propylamine	25.0	ND	-	1	88	
Hexachloroethane	25.0	ND				
Nitrobenzene	25.0	ND				
N-Nitrosopiperidine	125.0	ND				
Isophorone	125.0	ND				
2-Nitrophenol	125.0	ND	99			99
2,4-Dimethylphenol	125.0	ND				
bis(2-Chloroethoxy)methane	25.0	ND				
Benzoic acid	250.0	ND				
2,4-Dichlorophenol	125.0	ND	97			97
1,2,4-Trichlorobenzene	25.0	ND		14	106	
a,a-Dimethylphenethylamine	250.0	ND				
Naphthalene	25.0	ND				





Penorting	EVA-POND	1 -W6

	Reporting	EVA-POND 1-W6				
EPA 8270 (mg/kg)	Limit	Hole #3	QC	RPD	%EA	%IA
4-Chloroaniline	125.0	ND				
2,6-Dichlorophenol	125.0	ND	·			
Hexachlorobutadiene	25.0	ND	99			99
N-Nitroso-di-n-butylamine	125.0	ND		· · · · · · · · · · · · · · · · · · ·		
4-Chloro-3-methylphenol	125.0	ИД	96	-12	98	96
2-Methylnaphthalene	25.0	ND	-			
1,2,4,5-Tetrachlorobenzene	25.0	ДИ				
Hexachlorocyclopentadiene	25.0	DM				
2,4,6-Trichlorophenol	125.0	ND	97			97
2,4,5-Trichlorophenol	125.0	ND	-			
2-Chloronaphthalene	25.0	· · ND		_		
1-Chloronaphthalene	25.0	ND				
2-Nitroaniline	125.0	ND				
Dimethylphthalate	25.0	ИD				
Acenaphthylene	25.0	ИD				
2,6-Dinitrotoluene	25.0	ИD		-		
3-Nitroaniline	125.0	ИD				
Acenaphthene	25.0	ND	99	5	101	99
2,4-Dinitrophenol	125.0	ИD				
Dibenzofuran	125.0	ND	-			
Pentachlorobenzene	25.0	ИD				
4-Nitrophenol	125.0	ИD	-	18	40	
1-Napthylamine	125.0	ИD				
2,4-Dinitrotoluene	25.0	ND	-	6	84	
2-Napthylamine	125.0	· ИD				
2,3,4,6-Tetrachlorophenol	125.0	ND				
Fluorene	25.0	ND				-
Diethylphthalate	25.0	ND				
4-Chlorophenyl-phenylether	25.0	ND				
4-Nitroaniline	125.0	ND				
4,6-Dinitro-2-methylphenol	25.0	ND	-			
n-Nitrosodiphenylamine & Diphenylamine	25.0	מא	100			100
Diphenylhydrazine	125.0	ND	·	-		
						

Project Location: Artesia, NM 88211

T45669

Reporting EVA-POND 1-W6

	Reporting	EVA-POND 1-W6	,			· · · · · · · · · · · · · · · · · · ·
EPA 8270 (mg/kg)	Limit_	Hole #3	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	25.0	ND				
Phenacetin	125.0	ND		-		
Hexachlorobenzene	25.0	ND				
4-Aminobiphenyl	125.0	ND			·	
Pentachlorophenol	125.0	ND	101	18	32	101
Pentachloronitrobenzene	125.0	ND				
Pronamide	25.0	ND				
Phenanthrene	25.0	, ND		·		
Anthracene	25.0	26.6				
Di-n-butylphthalate	25.0	ND				
Fluoranthene	25.0	ND	. 101			101
Benzidine	250.0	ND	· .			
Pyrene	25.0	ND		1	116	
p-Dimethylaminoazobenzene	25.0	ND				
Butylbenzylphthalate	25.0	ND				
Benzo[a]anthracene	25.0	ND	<u> </u>			
3,3-Dichlorobenzidine	25.0	ND		, , , , , , , , , , , , , , , , , , , ,		
Chrysene	25.0	ND				
bis(2-Ethylhexyl)phthalate	25.0	ND				
Di-n-octlphthalate	25.0	ND				
Benzo[b]fluoranthene	25.0	ND	-			
7,12-Dimethylbenz(a)anthracene	25.0	MD		-		
Benzo(k)fluoranthene	25.0	ND				
Benzo[a]pyrene	25.0	ND	99			99
3-Methylcholanthrene	25.0	ND	,			
Dibenzo(a,j)acridine	25.0	ND				
Indeno[1,2,3-cd]pyrene	25.0	ND				
Dibenz[a,h]anthracene	25.0	ND		<u></u>		,,
Benzo[g,h,i]perylene	25.0	מא				

Project Location: Artesia, NM 88211

T45669

Reporting EVA-POND 1-W6

	- Cpororing					T
EPA 8270 (mg/kg)	Limit	Hole #3	QC	RPD	%EA	%IA
a-BHC	1.25	ND .	0.028	0	108	112
р-внс	1.25	ND	0.025	13	96	100
g-BHC	1.25	ND	0.027	0	88	108
d-BEC	1.25	ND	0.025	17	88	100
Heptachlor	1.25	ND	0.028	_ 11	68	112
Aldrin	1.25	ND	0.028	- 7	108	112
Heptachlor epoxide	1.25 .	ND	0.028	32	96	112
Endosulfan-1	1.25	ND	0.027	13	112	108
Endosulfan-2	2.5	ND	- 0.052	71	64	104
P,P'-DDE	2.5	ND	0.054	16	112	108
Dieldrin	2.5	ND	0.053	13	124	106
Endrin	2.5	ND	0.049	33	100	98
פסס ים, פ	2.5	ND	0.049	36	88	98
Endrin Aldehyde	2.5	ND	0.050	82	66	100
Endosulfan Sulfate/P,P'-DDT	2.5	ND	0.100	22	123	100
Endrin Ketone	2.5	ND	- 0.049	65	102	98
Methoxychlor	12.5	ND	0.243	27	128	96
a-Chlordane	1.25	ND	0.027	11	108	108
g-Chlordane	1.25	710	0.027	8	96	108
Toxaphene	125.0	ND	2.10	- 6	97	105
PCB's	0.25	מא	0.50	14	113	99

mestes matter v	TOWNSHITETON	COLORADA	3 3 777	TO COMPANY DOWN	CONCENTRATIONS	/	/kg)
TENTATIVELL	TUENTIFIED	COMPOUNDS	ANIJ	F.STIMATED	CONCENTRATIONS	lmcs	/ K(T)

(1) 2,6,10,14-tetramethyl-pentadecane

(2) 2,6,10,14-tetramethyl-hexadecane

(3) 9-methylanthracene

(4) 2-methylphenanthrene

37.4

42.9

35.6

37.3

% RECOVERY

	0 .1410041
2-Fluorophenol SURR	92
Phenol-d6 SURR	, 96 ,
Nitrobenzene-d5 SURR	. 98
2-Fluorobiphenyl SURR	110
2,4,6-Tribromophenol SURR	82
Terphenyl-d14 SURR	104

ND = NOT DETECTED

METHOD: EPA SW 846-3550, 8270, 8080.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell 1/4/96 Date 6701 Aberdeen Avenue

Lubbock, Texas 79424

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FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR NAV. REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

Reporting

Decembe , 199

Receiving Date: 12/14/95

Sample Type: Soil

Sampling Date: 12/13/95

Project Location: Artesia, NM 88211

Sample Condition: Intact & Cool

Sample Received by: ML Extraction Date: 12/16/95 Analysis Date: 12/20/95

T45670 EVA-POND 1-W9

	Tapor cring					
EPA 8270 (mg/kg)	Limit	Hole #3	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	2.5	ND		-		
2-Picoline	2.5	מא				
Methyl methanesulfonate	2.5	ND.				
Ethyl methanesulfonate	2.5	ИД		· ·		
Phenol	2.5	ND	-98	6	79	98
Aniline	12.5	ND	-			
bis(2-Chloroethyl)ether	12.5	ND				
2-Chlorophenol	12.5	ND		5	91	
1,3-Dichlorobenzene	2.5	ИD				
1,4-Dichlorobenzene	2.5	ND -	105	5	95	105
Benzyl alcohol	12.5	ND	-			
1,2-Dichlorobenzene	2.5	ND				
2-Methylphenol	2.5	ND				
ois(2-chloroisopropyl)ether	12.5	ND		ı .		
4-Methylphenol/3-Methylphenol	2.5	ND				
Acetophenone	12.5	ND				
n-Nitrosodi-n-propylamine	2.5	ND		1	88	
Hexachloroethane	2.5	. ND.				ļ
Nitrobenzene	2.5	ND				
N-Nitrosopiperidine	12.5	ND				
Isophorone	12.5	ND				
2-Nitrophenol	12.5	ND	99			99
2,4-Dimethylphenol	12.5	ND				
ois(2-Chloroethoxy)methane	2.5	ND				
Benzoic acid	25.0	ND				
2,4-Dichlorophenol	12.5	ND	97			97
1,2,4-Trichlorobenzene	2.5	ND		14	106	
a,a-Dimethylphenethylamine	25.0	ND				
Naphthalene	2.5	ND .				



Reporting EVA-POND 1-W9

	Reporting	EVA-POND 1-W9				
EPA 8270 (mg/kg)	Limit	Hole #3	δc	RPD	%EA	%IA
4-Chloroaniline	12.5	ND				
2,6-Dichlorophenol	12.5	ND			,,,	
Hexachlorobutadiene	2.5	ND	99			99
N-Nitroso-di-n-butylamine	12.5	ND		- · · · ·		
4-Chloro-3-methylphenol	12.5	ND	96	12	98	96
2-Methylnaphthalene	2.5	ND				
1,2,4,5-Tetrachlorobenzene	2.5	ND				**************************************
Hexachlorocyclopentadiene	2.5	ND				,,
2,4,6-Trichlorophenol	12.5	ND	97			97
2,4,5-Trichlorophenol	12.5	ND				
2-Chloronaphthalene	2.5	- ND				P-184
1-Chloronaphthalene	2.5	ND				
2-Nitroaniline	12.5	ND				
Dimethylphthalate	2.5	ND				
Acenaphthylene	2.5	ND		·		
2,6-Dinitrotoluene	2.5	ND	-	-		
3-Nitroaniline	12.5	ND				
Acenaphthene	2.5	- ND	99	5	101	99
2,4-Dinitrophenol	12.5	. ND				···
Dibenzofuran	12.5	ND				
Pentachlorobenzene	2.5	ND				
4-Nitrophenol	12.5	ND		18	40	
1-Napthylamine	12.5	 ND				
2,4-Dinitrotoluene	2.5	ND		6	84	
2-Napthylamine	12.5	ND				
2,3,4,6-Tetrachlorophenol	12.5	ND				
Fluorene	2.5	ND				
Diethylphthalate	2.5	ND		· ·		
4-Chlorophenyl-phenylether	2.5	ND				
4-Nitroaniline	12.5	ND				
4,6-Dinitro-2-methylphenol	2.5	ND				
n-Nitrosodiphenylamine & Diphenylamine	2.5	ND	100			100
Diphenylhydrazine	12.5	, ND				



MANNO ACTINING

Project Location: Artesia, NM 88211

	Reporting	EVA-POND 1-W9				
EPA 8270 (mg/kg)	Limit	Hole #3	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	2.5	ND				
Phenacetin	12.5	ND				
Hexachlorobenzene	2.5	ND.				
4-Aminobiphenyl	12.5	ND				·
Pentachlorophenol	12.5	ND	101	18	32	101
Pentachloronitrobenzene	12.5	ND				
Pronamide	2.5	ND			L	
Phenanthrene	2.5	ND				
Anthracene	2.5	ND .			·	
Di-n-butylphthalate	2.5	ND				
Fluoranthene	2.5	ND	101			101
Benzidine	25.0	ND		:		
Pyrene	2.5	ND		1	116	
p-Dimethylaminoazobenzene	2.5	ND				
Butylbenzylphthalate	2.5	ND	·			
Benzo[a]anthracene	2.5	ND ND				
3,3-Dichlorobenzidine	2.5	ND	· -		·	
Chrysene	2.5	ND				
bis(2-Ethylhexyl)phthalate	2.5	ND	· .			
Di-n-octlphthalate	2.5	ND				
Benzo[b]fluoranthene	2.5	ND				
7,12-Dimethylbenz(a)anthracene	2.5	ND				
Benzo[k]fluoranthene	2.5	ND				
Benzo[a]pyrene	2.5	ND	99			99
3-Methylcholanthrene	2.5	ND		-		
Dibenzo(a,j)acridine	2.5	ND				
Indeno[1,2,3-cd]pyrene	2.5	ND			·	
Dibenz[a,h]anthracene	2.5	ND				
Benzo[g,h,i]perylene	2.5	ND				

Project Location: Artesia, NM 88211

T45670

Reporting EVA-POND 1-W9

						
EPA 8270 (mg/kg)	Limit	Hole #3	QC	RPD	%EA	*IA
а-внс	1.25	ND	0.028	0	108	112
b-BHC	1.25	ND	0.025	13	96	100
д-внс	1.25	ND	0.027	0	88	108
d-BHC	1.25	ND	0.025	17	88	100
Heptachlor	1.25	ND	0.028	11	68	112
Aldrin	1.25	ND	0.028	7	108	112
Heptachlor epoxide	1.25	ND	0.028	32	96	112
Endosulfan-1	1.25	ND	0.027	13	112	108
Endosulfan-2	2.5	ИD	0.052	71	64	104
P,P'-DDE	2.5	מא	0.054	16	112	108
Dieldrin	2.5	ND	0.053	13	124	106
Endrin	2.5	סוא	0.049	- 33	100	98
P,P'-DDD	2.5	ND	0.049	. 36	88	98
Endrin Aldehyde	2.5	מא	0.050	82	66	100
Endosulfan Sulfate/P,P'-DDT	2.5	ND	0.100	22	123	100
Endrin Ketone	2.5	ND	0.049	65	102	98
Methoxychlor	12.5	סא	0.243	27	128	96
a-Chlordane	1.25	ND	0.027	11	108	108
g-Chlordane	1.25	ND	0.027	8	96	108
Toxaphene	125.0	ND	2.10	6	97	105
PCB's	0.25	ND	0.50	14	113	99

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (mg/kg)

(1) Benzenemethanthiol

4.8

(2) 3,4-dimethylthiophenol

5.9

(3) 2,4-dimethylthiophenol

6.4

	% RECOVERY
2-Fluorophenol SURR	67
Phenol-d6 SURR	76
Nitrobenzene-d5 SURR	74
2-Fluorobiphenyl SURR	84
2,4,6-Tribromophenol SURR	69
Terphenyl-d14 SURR	85

ND = NOT DETECTED

METHOD: EPA SW 846-3550, 8270, 8080.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell 1/4/96 Date 6701 Aberdeen Avenue Lubbock, Texas 79424 806 • 794 • 1296

FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR NAV REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

Reporting

December 9, 199

Receiving Date: 12/14/95

Sample Type: Soil

Sampling Date: 12/13/95

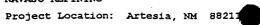
Project Location: Artesia, NM 88211

Sample Condition: Intact & Cool

Sample Received by: ML Extraction Date: 12/16/95 Analysis Date: 12/21/95

T45671 EVA-POND 1-N3

	Reporting	EVA-POND I-N3	,		·	
EPA 8270 (mg/kg)	Limit	Hole #2	QC	RPD	%EA	AI&
N-Nitrosodimethylamine	2.5	ND				
2-Picoline	2.5	ND				
 Methyl methanesulfonate	2.5	ND				
Ethyl methanesulfonate	2.5	· ND	1			
Phenol	2.5	ND	100	6	79	100
Aniline	12.5	ND				
bis(2-Chloroethyl)ether	12.5	ND				
2-Chlorophenol	12.5	ND		. 5	91	
1,3-Dichlorobenzene	2.5	ND				
1,4-Dichlorobenzene	2.5	ND	106	5	95	106
Benzyl alcohol	12.5	ND				
1,2-Dichlorobenzene	2.5	ND	-			
2-Methylphenol	2.5	ND				
bis(2-chloroisopropyl)ether	12.5	ИD				
4-Methylphenol/3-Methylphenol	2.5	ND				
Acetophenone	12.5	ND	·			
n-Nitrosodi-n-propylamine	2.5	ND		1	88	
Hexachloroethane	2.5	ND				
Nitrobenzene	2.5	סא				
N-Nitrosopiperidine	12.5	ND				
Isophorone	12.5	ND				
2-Nitrophenol	12.5	ND	100			100
2,4-Dimethylphenol	12.5	ND		-		
bis(2-Chloroethoxy)methane	2.5	: ND				
Benzoic acid	25.0	ИD				
2,4-Dichlorophenol	12.5	ND	97			97
1,2,4-Trichlorobenzene	2.5	ND	-	14	106	
a,a-Dimethylphenethylamine	25.0	ND				
Naphthalene	2.5	ND				



T45671

Reporting EVA-POND 1-N3

	Reporting	EVA-POND 1-N3			,	···
EPA 8270 (mg/kg)	Limit	Hole #2	QC	RPD	%EA	%IA
4-Chloroaniline	12.5	, ND				···
2,6-Dichlorophenol	12.5	ND				
Hexachlorobutadiene	2.5	ND	107	· .		107
N-Nitroso-di-n-butylamine	12.5	ND	-			
4-Chloro-3-methylphenol	12.5	ND	96	12	98	96
2-Methylnaphthalene	2.5	ND	-			
1,2,4,5-Tetrachlorobenzene	2.5	ND	-			
Hexachlorocyclopentadiene	2.5	ND				
2,4,6-Trichlorophenol	12.5	ND	.100			100
2,4,5-Trichlorophenol	12.5	ND				
2-Chloronaphthalene	2.5	ND				
1-Chloronaphthalene	2.5	ND				
2-Nitroaniline	12.5	ND				
Dimethylphthalate	2.5	ND -				
Acenaphthylene	2.5	ND				
2,6-Dinitrotoluene	2.5	ND				
3-Nitroaniline	12.5	ND	·			
Acenaphthene	2.5	ND	100	5	101	100
2,4-Dinitrophenol	12.5	ND				
Dibenzofuran	12.5	ND				
Pentachlorobenzene	2.5	ND	-			
4-Nitrophenol	12.5	ИД		18	40	
1-Napthylamine	12.5	ND				
2,4-Dinitrotoluene	2.5	ИD		6	84	
2-Napthylamine	12.5	ND				
2,3,4,6-Tetrachlorophenol	12.5	מא	}			
Fluorene	2.5	ИD				
Diethylphthalate	2.5	DM				
4-Chlorophenyl-phenylether	2.5	ND				
4-Nitroaniline	12.5	ND				
4,6-Dinitro-2-methylphenol	2.5	ND				
n-Nitrosodiphenylamine & Diphenylamine	2.5	ND	103			103
Diphenylhydrazine	12.5	ND				

Project Location: Artesia, NM 88211

T45671

Reporting EVA-POND 1-N3

	Reporting	AVA TOND I NO				,
EPA 8270 (mg/kg)	Limit	Hole #2	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	2.5	ND	-			
Phenacetin	12.5	ND		<u>.</u>		
Hexachlorobenzene	2.5	- ND		-	-	
4-Aminobiphenyl	12.5	ND			· -	
Pentachlorophenol	12.5	ND	101	18	32	101
Pentachloronitrobenzene	12.5	ND				
Pronamide	2.5	ND				
Phenanthrene	2.5	ND		_		
Anthracene	2.5	ND				
Di-n-butylphthalate	2.5	ND				
Fluoranthene	2.5	ND	103			103
Benzidine	25.0	ND				
Pyrene	2.5	ND		1	116	
p-Dimethylaminoazobenzene	2.5	ND			٠.,	
Butylbenzylphthalate	2.5	ND				
Benzo[a]anthracene	2.5	ND				
3,3-Dichlorobenzidine	2.5	ND				
Chrysene	2.5	ND		_	:	
bis(2-Ethylhexyl)phthalate	2.5	ND				
Di-n-octlphthalate	2.5	ND				
Benzo[b]fluoranthene	2.5	ND				
7,12-Dimethylbenz(a)anthracene	2.5	ИD				
Benzo[k]fluoranthene	2.5	ND				
Benzo[a]pyrene	2.5	ND	97			97
3-Methylcholanthrene	2.5	ИD				
Dibenzo(a,j)acridine	2.5	ИD				
Indeno[1,2,3-cd]pyrene	2.5	ND				
Dibenz[a,h]anthracene	2.5	ND -			L71.717	
Benzo[g,h,i]perylene	2.5	ND	-			







T45671

Reporting	EVA-POND	1-N3

	reportaring			V:	·	
EPA 8270 (mg/kg)	Limit	Hole #2	QC	RPD	%EA	%IA
a-BHC	0.03125	ОТИ	0.028	0	108	112
b-BHC	0.03125	ND	0.025	13	96	100
д-внс	0.03125	Фи	0.027	0	88	108
d-BHC	0.03125	ND	0.025	17	88	100
Heptachlor	0.03125	ND	0.028	11	68	112
Aldrin	0.03125	ND	0.028	7	108	112
Heptachlor epoxide	0.03125	ДZ	0.028	32	96	112
Endosulfan-1	0.03125	ИD	0.027	- 13	112	108
Endosulfan-2	0.0625	ΩΝ	0.052	71	64	104
P,P'-DDE	0.0625	ДИ	0.054	16	112	108
Dieldrin	0.0625	ND	0.053	13	124	106
Endrin	0.0625	ND	0.049	33	100	98
P, P'-DDD	0.0625	ИD	0.049	36	88	98
Endrin Aldehyde	0.0625	ND	0.050	82_	66	100
Endosulfan Sulfate/P,P'-DDT	0.0625	ND	0.100	22	123	100
Endrin Ketone	0.0625	ND	0.049	65	102	98
Methoxychlor	0.3125	ИD	0.243	27	128	96
a-Chlordane	0.03125	ИD	0.027	11	108	108
g-Chlordane	0.03125	ND	0.027	. 8	96	108
Toxaphene	3.125	ИD	2.10	. 6	97	105
PCB's	0.25	ND	0.50	14	113	99

* RECOVERY

2-Fluorophenol SURR	96
Phenol-d6 SURR	100
Nitrobenzene-d5 SURR	100
2-Fluorobiphenyl SURR	.90
2,4,6-Tribromophenol SURR	92
Ternhenyl-di4 SIPP	120

ND = NOT DETECTED

METHOD: EPA SW 846-3550, 8270, 8080.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

6701 Aberdeen Avenue Lubbock, Texas 79424

806 • 794 • 1296

FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR NAV. REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

December 199

Receiving Date: 12/14/95

Sample Type: Soil

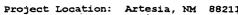
Sampling Date: 12/13/95

Project Location: Artesia, NM 88211

Sample Condition: Intact & Cool

Sample Received by: ML Extraction Date: 12/16/95 Analysis Date: 12/21/95

	Reporting	EVA-POND 1-N6	y			Y
EPA 8270 (mg/kg)	Limit	Hole #2	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	2.5	ND				
2-Picoline	2.5	ND				
Methyl methanesulfonate	2.5	.DD				
Ethyl methanesulfonate	2.5	ND	1			
Phenol	2.5	ND	100	6	79	100
Aniline	12.5	ND				
bis(2-Chloroethyl)ether	12.5	· ND·		<u></u> j		
2-Chlorophenol	12.5	ND		5	91	
1,3-Dichlorobenzene	2.5	ND				
1,4-Dichlorobenzene	2.5	ND	106	5	95	106
Benzyl alcohol	12.5	ND				
1,2-Dichlorobenzene	. 2.5	ND		·		
2-Methylphenol	2.5	ND -				
bis(2-chloroisopropyl)ether	12.5	ND				
4-Methylphenol/3-Methylphenol	2.5	СТИ				
Acetophenone	12.5	ND -				
n-Nitrosodi-n-propylamine	2.5	ND		1	88	
Hexachloroethane	2.5	ND.				
Nitrobenzene	2.5	ДИ				: :
N-Nitrosopiperidine	12.5	ИД				
Isophorone	12.5	סוא				
2-Nitrophenol	12.5	ND	100			100
2,4-Dimethylphenol	12.5	ND				
bis(2-Chloroethoxy)methane	2.5	ND				
Benzoic acid	25.0	סוא				
2,4-Dichlorophenol	12.5	DИ	97		· · · · · · · · · · · · · · · · · · ·	97
1,2,4-Trichlorobenzene	2.5	ОИ		14	106	
a,a-Dimethylphenethylamine	25.0	ND				
Naphthalene	2.5	ND	-			,



	•	
Reporting	EVA-POND 1-N	16

	Reporting	EVA-POND 1-N6		·	· · · · · · · · · · · · · · · · · · ·	
EPA 8270 (mg/kg)	Limit	Hole #2	QC	RPD	%EA	AI#
4-Chloroaniline	12.5	ND				
2,6-Dichlorophenol	12.5	ОМ				
Hexachlorobutadiene	2.5	ND	107			107
N-Nitroso-di-n-butylamine	12.5	מא	•			
4-Chloro-3-methylphenol	12.5	ND	96	12	98	96
2-Methylnaphthalene	2.5	ND				
1,2,4,5-Tetrachlorobenzene	2.5	МД				
Hexachlorocyclopentadiene	2.5	- ND				
2,4,6-Trichlorophenol	12.5	מא	100	-		100
2,4,5-Trichlorophenol	12.5	ND				
2-Chloronaphthalene	2.5	י ב אם.				
1-Chloronaphthalene	2.5	- ND				
2-Nitroaniline	12.5	ND				
Dimethylphthalate	2.5	ND				
Acenaphthylene	2.5	ИD				
2,6-Dinitrotoluene	2.5	ND				
3-Nitroaniline	12.5	ND ·				
Acenaphthene	2.5	- DM	100	5	101	100
2,4-Dinitrophenol	12.5	מא	<u> </u>			
Dibenzofura n	12.5	ИD				
Pentachlorobenzene	2.5	ИD	-			
4-Nitrophenol	12.5	ND		18	40	
1-Napthylamine	12.5	ИD				
2,4-Dinitrotoluene	2.5	ИD		.6	84	
2-Napthylamine	12.5	ND				
2,3,4,6-Tetrachlorophenol	12.5	МО	-			
Fluorene	2.5	ND				
Diethylphthalate	2.5	ND	-			
4-Chlorophenyl-phenylether	2.5	. ИD				
4-Nitroaniline	12.5	ND				
4,6-Dinitro-2-methylphenol	2.5	ND				
n-Nitrosodiphenylamine & Diphenylamine	2.5	ND	103			103
Diphenylhydrazine	12.5	ИD	· -			

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Reporting EVA-POND 1-N6

	Reporting	EVA-POND 1-N6				
EPA 8270 (mg/kg)	Limit	Hole #2	QC QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	2.5	ND	•.			
Phenacetin	12.5	ND				
Hexachlorobenzene	2.5	ND				
4-Aminobiphenyl	12.5	ND-			<u> </u>	
Pentachlorophenol	12.5	ND	101	18	32	101
Pentachloronitrobenzene	12.5	ND				
Pronamide	2.5	ND				
Phenanthrene	2.5	ND		-		
Anthracene	2.5	ND				
Di-n-butylphthalate	2.5	ND		···		
Fluoranthene	2.5	ND	103			103
Benzidine	25.0	ND				
Pyrene	2.5	ND		1	116	
p-Dimethylaminoazobenzene	2.5	ND .	· .			
Butylbenzylphthalate	2.5	ND				
Benzo[a]anthracene	2.5	ND				
3,3-Dichlorobenzidine	2.5	ND	-			
Chrysene	2.5	ND	·			
bis(2-Ethylhexyl)phthalate	2.5	ND				
Di-n-octlphthalate	2.5	ND	·	-		
Benzo[b]fluoranthene	2.5	ND	·			
7,12-Dimethylbenz(a)anthracene	2.5	ИD				
Benzo(k]fluoranthene	2.5	ND				
Benzo[a]pyrene	2.5	ND	97			97
3-Methylcholanthrene	2.5	ND				
Dibenzo(a,j)acridine	2.5	ND				
Indeno[1,2,3-cd]pyrene	2.5	ND				
Dibenz[a,h]anthracene	2.5	ND				
Benzo[g,h,i]perylene	2.5	ND				



Project Location: Artesia, NM 88211

T45672

teporting EVA-POND 1-N6

	Reporting	EVA-POND 1-N6				
EPA 8270 (mg/kg)	Limit	Hole #2	ОС	RPD	₹EA	*IA
a-BHC	0.03125	ND	0.028	0	108	112
b-BHC	0.03125	ND	0.025	13	96	100
д-внс	0.03125	ND	0.027	0	88	108
d-BHC	0.03125	ND	0.025	17	88	100
 Heptachlor	0.03125	ND	0.028	11	68	112
Aldrin	0.03125	ND	0.028	7	108	112
Heptachlor epoxide	0.03125	ND	0.028	32	96	112
Endosulfan-1	0.03125	ND	0.027	13	112	108
Endosulfan-2	0.0625	ИD	0.052	71	64	104
P,P'-DDE	0.0625	ND	0.054	16	112	108
Dieldrin	0.0625	ND	0.053	13	124	106
Endrin	0.0625	- ND	0.049	- 33	100	98
P, P'-DDD	0.0625	ND	0.049	36	88	98
Endrin Aldehyde	0.0625	ND	0.050	82	66	100
Endosulfan Sulfate/P,P'-DDT	0.0625	ND	0.100	22	123	100
Endrin Ketone	0.0625	ND	0.049	65	102	98
Methoxychlor	0.3125	ND	0.243	27	128	96
a-Chlordane	0.03125	ИD	0.027	11	108	108
g-Chlordane	0.03125	ИD	0.027	8	96	108
Toxaphene	3.125	סוא	2.10	. 6	97	105
PCB's	0.25	ND	0.50	14	113	99

RECOVERY

2-Fluorophenol SURR 76
Phenol-d6 SURR 86
Nitrobenzene-d5 SURR 77
2-Fluorobiphenyl SURR 96
2,4,6-Tribromophenol SURR 76
Terphenyl-d14 SURR 96

ND = NOT DETECTED

METHOD: EPA SW 846-3550, 8270, 8080.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell 1/4/4/ Date 6701 Aberdeen Avenue Lubbock, Texas 79424 806 • 794 • 1296

FAX 806 • 794 • 1298

Naphthalene

ANALYTICAL RESULTS FOR NAV REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

ecembe 9, 1995

Receiving Date: 12/14/95

Sample Type: Soil

Sampling Date: 12/13/95

Project Location: Artesia, NM 88211

Sample Condition: Intact & Cool

Sample Received by: ML Extraction Date: 12/16/95 Analysis Date: 12/20/95

. T45673

	Reporting	EVA-POND 1-N9				
EPA 8270 (mg/kg)	Limit	Hole #2	QC -	RPD	%EA	%IA
N-Nitrosodimethylamine	2.5	ND				
2-Picoline	2.5	ND				
Methyl methanesulfonate	2.5	ND				
Ethyl methanesulfonate	2.5	ND	1			
Phenol	2.5	ND	100	6	79	100
Aniline	12.5	ND				
ois(2-Chloroethyl)ether	12.5	ND				
2-Chlorophenol	12.5	ND		5	91	
,3-Dichlorobenzene	2.5	ND				
,4-Dichlorobenzene	2.5	ND	106	5	95	106
Benzyl alcohol	12.5	ND				
.,2-Dichlorobenzene	2.5	ND				
-Methylphenol	2.5	ND				
is(2-chloroisopropyl)ether	12.5	ND				
-Methylphenol/3-Methylphenol	2.5	_ ND		· .		
cetophenone	12.5	- ND				
-Nitrosodi-n-propylamine	2.5	ND		1	88	
exachloroethane	2.5	ND			·	
litrobenzene	2.5	ир -				
-Nitrosopiperidine	12.5	ND				
sophorone	12.5	מא				
-Nitrophenol	12.5	ND	100			100
,4-Dimethylphenol	12.5	ND				
ois(2-Chloroethoxy)methane	2.5	ND				
Benzoic acid	25.0	ND				
,4-Dichlorophenol	12.5	ND	· 97			97
,2,4-Trichlorobenzene	2.5	ND		14	106	
,a-Dimethylphenethylamine	25.0	ND		-		
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T45673

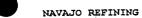
Reporting EVA-POND 1-N9

EPA 8270 (mg/kg)	Limit	Hole #2	QC	RPD	%EA	%IA
4-Chloroaniline	12.5	ND				
2,6-Dichlorophenol	12.5	ND				
Hexachlorobutadiene	2.5	ND	99			99
N-Nitroso-di-n-butylamine	12.5	ND				
4-Chloro-3-methylphenol	12.5	ND	96	12	98	96
2-Methylnaphthalene	2.5	ND				
1,2,4,5-Tetrachlorobenzene	2.5	ND		·		
Hexachlorocyclopentadiene	2.5	ND				
2,4,6-Trichlorophenol	12.5	ND	- 97			97
2,4,5-Trichlorophenol	12.5	ND				
2-Chloronaphthalene	2.5	ND		·		
1-Chloronaphthalene	2.5	ND				
2-Nitroaniline	12.5	ND				
Dimethylphthalate	2.5	ND				
Acenaphthylene	2.5	ND				
2,6-Dinitrotoluene	2.5	ND				
3-Nitroaniline	12.5	ND				
Acenaphthene	2.5	מא	99	5	101	99
2,4-Dinitrophenol	12.5	ND -				
Dibenzofuran	12.5	ND				
Pentachlorobenzene	2.5	ND				
4-Nitrophenol	12.5	ND		18	40	
1-Napthylamine	12.5	ND				
2,4-Dinitrotoluene	2.5	ND		6	84	
2-Napthylamine	12.5	ND	- ·.			
2,3,4,6-Tetrachlorophenol	12.5	ND	-			
Fluorene	2.5	ND				
Diethylphthalate	2.5	ND				
4-Chlorophenyl-phenylether	2.5	ND				renut.
4-Nitroaniline	12.5	ND				
4,6-Dinitro-2-methylphenol	2.5	ND				
n-Nitrosodiphenylamine & Diphenylamine	2.5	ND	100			100
Diphenylhydrazine	12.5	ND				

T45673

Reporting EVA-POND 1-N9

	Reporting	EVA-POND 1-N9	· · · · · · · · · · · · · · · · · · ·		,	
EPA 8270 (mg/kg)	Limit	Hole #2	QC QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	2.5	ND				
Phenacetin	12.5	ND				
Hexachlorobenzene	2.5	ND				
4-Aminobiphenyl	12.5	ND				
Pentachlorophenol	12.5	ND	101	. 18	32	101
Pentachloronitrobenzene	12.5	ND				, , , , , , , , , , , , , , , , , , , ,
Pronamide	2.5	ND	-			
Phenanthrene	2.5	ND				
Anthracene	2.5	ND	٠,			
Di-n-butylphthalate	. 2.5	ND		· · · · · · · · · · · · · · · · · · ·		
Fluoranthene	2.5	ND	101			101
Benzidine	25.0	ИD		-		
Pyrene	2.5	ND	1	1	116	
p-Dimethylaminoazobenzene	2.5	סוא		····		
Butylbenzylphthalate	2.5	ND			1	
Benzo[a]anthracene	2.5	ND				
3,3-Dichlorobenzidine	2.5	ИD				
Chrysene	2.5	ND				
bis(2-Ethylhexyl)phthala te	2.5	ND				
Di-n-octlphthalate	2.5	ND				
Benzo[b]fluoranthene	2.5	ND	-			
7,12-Dimethylbenz(a)anthracene	2.5	ND	·	-		
Benzo[k]fluoranthene	2.5	ND	·			·
Benzo[a]pyrene	2.5	ИD	99	<u> </u>		99
3-Methylcholanthrene	2.5	ND				
Dibenzo(a,j)acridine	2.5	ИD				
Indeno[1,2,3-cd]pyrene	2.5	ND				
Dibenz[a,h]anthracene	2.5	ИD	·			.,
Benzo[g,h,i]perylene	2.5	ND				





T45673

Reporting	EVA-POND	1-N9

EPA 8270 (mg/kg)	Limit	Hole #2	QC	RPD	%EA	%IA
a-BHC	0.0125	ND	0.028	0	108	112
b-BHC	0.0125	ИD	0.025	13	96	100
д-внс	0.0125	DИ	0.027	0	88	108
d-внс	0.0125	ND	0.025	. 17	88	100
Heptachlor	0.0125	ND	0.028	11	68	112
Aldrin	0.0125	ND	0.028	7	108	112
Heptachlor epoxide	0.0125	ND	0.028	32	96	112
Endosulfan-1	0.0125	ND	0.027	13	112	108
Endosulfan-2	0.025	ND	0.052	71	64	104
P,P'-DDE	0.025	ND	0.054	16	112	108
Dieldrin	0.025	ИD	0.053	13	124	106
Endrin	0.025	DИ	0.049	33	100	98
P,P'-DDD	0.025	ND	0.049	36	88	98
Endrin Aldehyde	0.025	DИ	0.050	82	66	100
Endosulfan Sulfate/P,P'-DDT	0.025	ИD	0.100	22	123	100
Endrin Ketone	0.025	ND	0.049	65	102	98
Methoxychlor	0.125	ND	0.243	27	128	96
a-Chlordane	0.0125	ND	0.027	11	108	108
g-Chlordane	0.0125	ИD	0.027	8	96	108
Toxaphene	1.25	ND	2.10	6	97	105
PCB's	0.25	סמ	0.50	14	113	99

* RECOVERY

2-Fluorophenol SURR		92,
Phenol-d6 SURR	·	96
Nitrobenzene-d5 SURR	•	96
2-Fluorobiphenyl SURR		106
2,4,6-Tribromophenol SURR		70 -
Terphenyl-d14 SURR		102

ND = NOT DETECTED

METHOD: EPA SW 846-3550, 8270, 8080.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell