## AP - <u>30</u>

## STAGE 1 & 2 REPORTS

# DATE: April 2001

### PB 11/5



#### PHASE II SITE ASSESSMENT REPORT

Amerada Hess Corporation Project No.: OPF00ES004 Meridian Alliance Group, LLC. Project No.: 07F005537

> Amerada Hess Corporation W.P. Byrd Lease SECTION 12, T-20-S, R-36-E, LEA COUNTY, NEW MEXICO

> > April 16, 2001

Prepared for:

**Amerada Hess Corporation** 

Prepared by:



Meridian Alliance Group, L.L.C. 306 W. Wall, Suite 600 Midland, Texas 79701

District Manager - J. Curtis Henderson Project Manager - Mark A. Ehrlich

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| Identification         (feet)         (feet) <th< th=""></th<> |
|---|
| MW-1         580176         816099         3556.90         3559.30         32.93         3526.37           MW-2         580091         816331         3555.80         3555.40         3558.40         32.42         3526.38           MW-3         580302         816331         3555.70         3558.40         32.42         3552.98         3556.42           MW-4         580386         816257         3555.70         3558.20         35.60.70         33.65         3526.42           MW-4         580586         815899         3558.10         3560.70         33.65         3527.05         3527.05           MW-4         580586         815899         35560.70         33.65         3527.05   |
| MW-2         580091         816331         3555.80         3558.40         35.42         3555.98         3555.98           MW-3         580302         816257         3555.70         3558.20         35.642         3526.42         3526.42           MW-4         580586         815899         3558.10         3558.20         33.65         3526.42         3526.42           MW-4         580586         815899         3558.10         3560.70         33.65         3527.05         3527.05           MW-4         580576         815899         3558.10         3560.70         33.65         3527.05           MW-4         580586         815899         3558.10         3560.70         33.65         3527.05           MW-4         580586         815899         3558.10         3560.70         33.65         3527.05  |
| MW-3         580302         816257         3555.70         3558.20         32.05         3526.42           MW-4         580586         815899         3558.10         3560.70         33.65         3527.05   |
| MW-4         580586         815899         3558.10         3560.70         33.65         3527.05           MW-4         580586         815899         3558.10         3560.70         33.65         3527.05   |
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#### 1.0 SITE ASSESSMENT

#### 1.1 Scope of Services

Meridian Alliance Group, L.L.C. (MAG) has completed the approved Site Assessment Reporting activities for the Amerada Hess Corporation (Amerada Hess), W.P. Byrd Lease, located at SECTION 12, T-20-S, R-36-E, LEA COUNTY, NEW MEXICO. According to the approved Scope of Work, prior to the commencement of field activities, MAG Personnel researched The State of New Mexico Oil Conservation Division (NMOCD) records, interviewed Amerada Hess Personnel, interviewed the landowner, Mr. Red Byrd, reviewed Aerial Photographs, and conducted in-field visual inspections to determine potential areas of concern that could possibly introduce hydrocarbon and produced water contamination into the soils and groundwater at the subject area. After consultation with Amerada Hess Personnel, MAG drilled four (4) soil borings at predetermined points of concern at the site. Soil samples were collected from the appropriate intervals to assist with the definition of possible vertical hydrocarbon contamination in the native soils. The four (4) soil borings were subsequently completed into groundwater and sampled for various constituents according to the current United States Environmental Protection Agency (EPA) guidelines, to determine the possible horizontal extent of hydrocarbon contamination. Solid and liquid wastes produced during these assessment activities were disposed of at an NMOCD approved facility.

#### 1.2 Identified Potential Areas of Concern

Upon receipt of the contract from Amerada Hess, MAG conducted preliminary research to determine potential areas of concern at and in the vicinity of the site. The research included NMOCD records, interviews with Amerada Hess Personnel and Mr. Red Byrd, reviews Aerial Photographs, and in-field visual inspections.

A review of NMOCD Records and interviews with Amerada Hess Personnel revealed no known reported spills or releases related to the subject area at the W.P. Byrd Lease.

A review of Aerial Photographs from the years 1949, 1966, 1975, and 1997 revealed the presence of four (4) pits of unknown contents within the subject area. The 1949 Aerial Photograph shows that at the time the picture was taken only one (1) pit existed in the subject area. This pit was located east of the tank battery as it appeared at that time. The 1966 Aerial Photograph shows the presence of three (3) additional pits north of the original pit and northeast of the tank battery as it appeared at the time the picture was taken. The 1975 Aerial Photograph reveals no additional areas of concern or significant changes in the landscape, structures or equipment associated with the subject area. The 1997 Aerial Photograph reveals no additional potential areas of concern, however, the photograph does show significant changes to the landscape, structures and equipment associated with the subject area. The tank battery appears to have been updated, with the structures completed partially over the original pit, first identified in the 1949 photograph. Additionally, the Byrd water tanks are visually documented in the area of the three (3) northern pits first identified in the 1966 photograph. The 1997 photograph also shows the Byrd Homestead for the first time. The structures of the homestead are complete and it appears as it did at the time of the visual inspections by MAG Personnel. Please refer to the Aerial Photographs in Section 5.

On January 26, 29, February 15, and March 1, 2001, MAG Personnel conducted inspections of the subject area to visually identify potential areas of concern. During the inspections, MAG identified six (6) pipelines crossing or in the vicinity of the subject area. Three (3) gas pipelines, Northen Natural Gas, Chevron LPG,



and El Paso Natural Gas lie to the north and northeast of the subject area and run west-to-east, northwest-tosoutheast, and north-to-south, respectively. One (1) pipeline, belonging to Rice Engineering is a produced water pipeline and runs west-to-east through the subject area just north of the Byrd Tank Battery. One (1) pipeline belonging to Warren Petroleum is a natural gas pipeline and runs north-to-south east of the Byrd Tank Battery. One (1) additional pipeline belonging to Texas New Mexico is a crude oil pipeline and runs from the northwest-to-southeast, south of the Byrd Tank Battery and the Byrd Homestead. Please refer to Attachment 1 in Section 2.

During the visual inspections, the four (4) pits originally identified in the Aerial Photographs were visually identified by MAG Personnel. Please refer to Attachment 1 in Section 2.

In addition, MAG Personnel also identified three (3) areas where an undocumented spill or a release had previously occurred. Two (2) small spill areas were identified, one (1) along the Warren Petroleum Pipeline just east of the flare stacks associated with the subject area, and one (1) northeast of the subject area where the Chevron LPG and El Paso Natural Gas Pipelines intersect. One (1) large spill was visually identified south of the Byrd Tank Battery. Please refer to Attachment 3 in Section 2.

To further assist with the placement of the proposed soil borings, MAG Personnel collected surficial soil samples from the identified areas of concern and performed field analysis for total petroleum hydrocarbons (TPH). Surficial soil samples collected and field analyzed from the Northwest pit area, the middle pit area, the south pit area, and the large spill area south of the Byrd Tank Battery exhibited concentrations of 4,270 mg/kg., 13,500 mg/kg., 2,420 mg/kg., and 6,070 mg/kg., respectively. Surficial soil samples collected and field analyzed from the leak area near the Warren Petroleum Pipeline, the Water Well #1 area, and an area northwest of Water Well #1 exhibited concentrations of 0.0 mg/kg. for all three samples. Please refer to Attachment 3 in Section 2.

#### 1.3 Soils Investigation

The subject area is situated on the High Plains of Eastern New Mexico. The High Plains is essentially a flat plateau. A remarkable characteristic of the region is the great number of shallow depressions, or playas, which dot its surface. During periods of rainfall the playas accumulate drainage from local watershed areas ranging in size from less than one square mile to several square miles. Only a very small portion of rainfall drains into the streams which traverse the plateau.

The subject area is associated with Ogallala Formation. Pleistocene and recent soils form a thin mantle over the Ogallala Formation. Caliche horizons, at depths ranging from one (1) to six (6) feet, underlie the top and subsoil zones over most of the High Plains. These caliche zones are generally one (1) to two (2) feet thick and grade downward into the lower Pleistocene subsoils or into hard indurated caliche layers (caprock) at the top of the Ogallala. The caprock in many cases separates the Pleistocene sediments from the Ogallala Formation. The topsoils consist of three major textural types: fine sandy and silty loams, clay and clay loams, and fine sandy loams.

Based upon elevations provided to MAG from Topographic Land Surveyors (Topographic) of Midland, Texas, surface drainage over the subject area is to the northeast.

Upon completion of the preliminary investigation of the Byrd Lease subject area, MAG Personnel presented the findings to Amerada Hess. Based upon the findings, MAG and Amerada Hess Personnel mutually determined the placement of the four approved soil borings/monitor wells. The locations of the borings/monitor wells were chosen to best represent the primary areas of concern identified in the



Meridian Alliance Group, LLC preliminary investigation to identify possible vertical and horizontal hydrocarbon contamination in the soils and groundwater associated with the subject area.

On March 14, 2001, MAG Personnel and personnel from White Drilling Company (White) drilled four (4) soil borings in the locations predetermined by MAG and Amerada Hess. MW-1 was drilled south of the Byrd Tank Battery in the area of the identified large spill. MW-2 was drilled south of the Byrd Homestead Water Well (WW) and north of the Texas New Mexico Pipeline. MW-3 was drilled in the area of the south pit, first identified in the 1949 Aerial Photograph. MW-4 was drilled in the assumed up-gradient direction from the potential areas of concern west of the Warren Petroleum Pipeline. Please refer to Attachment 1 in Section 2.

During the drilling of the four (4) soil borings, MAG Personnel collected soil samples at five (5) foot intervals to maximum depths of forty (40) feet. The collected soil samples were field screened using an Organic Vapor Monitor (OVM) to determine which soil samples to submit for laboratory analytical analysis. It was determined that in all of the soil borings, the 25-27 foot sample was the sample directly above the groundwater interface. In all four (4) soil borings, the soil sample collected from the 25-27 foot interval was submitted to Millennium Laboratories, Inc. (Millennium) for analytical analysis. In addition, collected samples exhibiting field screening levels above 100 parts per million via the OVM were submitted by MAG to Millennium for analytical analysis. One sample from the 20-22 foot interval in MW-3 was submitted.

The lithology of the soil borings was silty-sand and sand from the surface to the maximum depths of forty (40) feet. The silty-sands were indurated with caliche, however not more than 20 percent in any of the soil samples. A five (5) foot sand layer was located in MW-1 at twenty (20) feet, and a five (5) foot gravelly-sand layer was identified in MW-4 at twenty (20) feet. Soil samples collected from MW-3 exhibited hydrocarbon discoloration in the 5-7 foot interval, and exhibited strong hydrocarbon odor in all other collected soil samples. Please refer to Section 4 for Soil Boring Logs, Monitor Well Completion Details and Monitor Well Driller's Reports.

The soil samples collected from the soil borings and submitted to Millennium were analyzed for constituents of BTEX (benzene, toluene, ethyl-benzene, and xylenes, Method SW-846 5030B/8021B), Chloride (EPA Method 300.0), and TPH (Method 418.1). The Laboratory Reports from Millennium documented that MW-1, MW-2, and MW-4 exhibited concentrations of BTEX and TPH which were below detection limits (<0.125 and <10.0 mg/kg., respectively). Concentrations for Chloride in MW-1, MW-2, and MW-4 were 1,045.0 mg/kg., 90.3 mg/kg., and 666.0 mg/kg., respectively. The Laboratory Reports from Millennium documented that MW-3 (20-22') concentrations for benzene, toluene, ethyl-benzene, and xylenes were <0.125 mg/kg., <0.125 mg/kg., 0.109 mg/kg., and 2.44 mg/kg., respectively. The MW-3 (25-27') concentrations for benzene, toluene, ethyl-benzene, and xylenes were <0.125 mg/kg., respectively. Concentrations in for Chloride and TPH in MW-3 (20-22') were 29.2 mg/kg. and 1,530.0 mg/kg. Concentrations in for Chloride and TPH in MW-3 (25-27') were 36.2 mg/kg. and 2,020.0 mg/kg. The complete analytical results for the constituents mentioned are presented in Table 1.

| 1 | ab | le | T |
|---|----|----|---|
|   |    |    |   |

| Location   | Date     | Depth (feet) | Benzene | Toluene | Ethyl- benzene | Total Xylenes | BTEX    | Chloride | TPH      |
|------------|----------|--------------|---------|---------|----------------|---------------|---------|----------|----------|
|            |          |              |         |         |                |               |         |          | 418.1    |
| MW-1       | 03/14/01 | 25-27        | <0.125  | <0.125  | < 0.125        | <0.125        | <0.125  | 1,045.00 | <10.0    |
| MW-2       | H        | 25-27        | <0.125  | < 0.125 | <0.125         | <0.125        | < 0.125 | 90.30    | <10.0    |
| MW-3       | 11       | 20-22        | < 0.125 | <0.125  | 0.109          | 2.440         | 2.549   | 29.20    | 1,530.00 |
| _          | 11       | 25-27        | < 0.125 | < 0.125 | 0.228          | 3.140         | 3.368   | 36.20    | 2,020.00 |
| MW-4       | "        | 25-27        | <0.125  | <0.125  | <0.125         | <0.125        | < 0.125 | 666.00   | <10.0    |
| Drum Comp. | It       |              | <0.125  | < 0.125 | < 0.125        | <0.125        | <0.125  |          | <50.0    |

Concentrations in mg/kg.



Please refer to Figure 1 Section 3 for Soil Laboratory Analytical Results, Attachment 2 Section 2 for Subsurface Soil Contaminant Concentration Map, and Section 7 for Soil Laboratory Analytical Reports.

#### 1.4 Groundwater Investigation

Groundwater associated with the subject area is associated with the Ogallala (High Plains) Aquifer. The Ogallala Formation of late Miocene to Pliocene age uncomfortably overlies Cretaceous, Jurassic, Triassic, and Permian rocks and consists primarily of sand, silt, clay, and gravel derived from the southern Rocky Mountains to the west. The Ogallala is the major water-bearing unit of the High Plains of Eastern New Mexico. Hydraulic continuity occurs between the Ogallala Formation and both the underlying Cretaceous, Jurassic, and Triassic rocks in many areas of the High Plains, and the Quaternary deposits, where present. The High Plains Aquifer consists of the saturated sediments of the Ogallala Formation and those geologic units which contain potable water and are in hydraulic continuity with the Ogallala.

Subsequent to the completion of drilling activities for the four (4) soil borings, they were completed as monitor wells as requested by Amerada Hess. The monitor wells are constructed of 2.0-inch diameter poly vinyl chloride (PVC) and completed to total depths of forty (40) feet below the ground surface (BGS). From forty (40) feet BGS to twenty (20) feet BGS, White installed 2.0-inch diameter, Schedule 40, threaded, slotted 0.010 PVC well screen. From twenty (20) feet BGS to approximately thirty-two (32) inches above the ground surface (AGS), White installed 2.0-inch diameter, Schedule 40, threaded, PVC riser pipe. From forty (40) feet BGS to eighteen (18) feet BGS, 8/16 sand was poured down the 5.0-inch diameter soil boring around the PVC pipe. From eighteen (18) feet BGS to sixteen (16) feet BGS, a Bentonite Pellet Seal was put in place to seal off the boring from possible surface contamination. From sixteen (16) feet BGS to the ground surface, a non-shrink grout was poured to further to seal off the boring from possible surface contamination and to set the monitor well. On the surface, a 2 x 2 foot concrete pad was installed with an upright metal vault to protect the PVC Riser Pipe from damage. A locking sealed well cap was placed on the PVC pipe and a lock was placed on the upright vault.

As per a request from Amerada Hess, the subject area, including the newly installed monitor wells, was surveyed by a third party company registered in the State of New Mexico. Ground surface, top of casing elevations, and monitor well locations were provided by Topographic of Midland, Texas.

On March 19, 2001, MAG Personnel, gauged each monitoring well, then manually purged each monitoring well of three well volumes using clean, dedicated 1.5-inch diameter disposable polyethylene bailers, before any groundwater samples were collected. This evacuation procedure allows representative groundwater to enter the well. Samples collected for the agreed specified constituents were placed in the proper containers with Teflon®-lined lids. All groundwater samples were stored on ice and shipped to Millennium following strict chain-of-custody procedures.

All equipment was thoroughly cleaned with an Alconox® wash and rinsed with distilled water between each well sampling.

During the groundwater monitoring event, depth to groundwater in MW-1, MW-2, MW-3, and MW-4 was gauged at 32.93 feet, 32.42 feet, 32.05 feet, and 33.65 feet below the top of casing (TOC), respectively. The site specific groundwater gradient for the site is 0.0016 ft/ft, trending to the Southeast. Approximately 0.31 feet of phase-separated hydrocarbons (PSH), identified as crude oil, was documented on top of the groundwater in MW-3. Additionally, a very light sheen and a very heavy sheen of PSH was documented in MW-1 and MW-2, respectively. Please refer to Figure 2 Section 3 for Fluid Level Measurements and Attachment 4 Section 2 for the Groundwater Gradient Map.



There are three identified water wells associated with the subject area. All three Byrd Water Well #1, Byrd Water Well #2, and the Byrd Homestead Water Well are not in use at the present time. According to State Well Records provided by the New Mexico State Engineers Office, Byrd Water Well #1 and Byrd Water Well #2 were drilled between May 8 and May 12, 1991, and were completed to totals depths of seventy (70) feet BGS. Byrd Water Well #1 was screened from fifty-two (52) feet BGS to seventy (70) feet BGS. Byrd Water Well #2 was not completed and no casing was installed. According to information provided by Amerada Hess, the Byrd Homestead Water Well is completed to a depth of approximately 46.45 feet BGS. The depth to water was recently measured at 29.02 feet below the top of the casing. Please refer to Section 4 for State of New Mexico State Engineers Office Well Records.

The four (4) monitor wells and the Byrd Homestead Water Well (WW) had groundwater samples analyzed by Millennium for constituents of MTBE (methyl-tertiary butyl ether, Method SW-846 5030B/8021B), BTEX (benzene, toluene, ethyl-benzene, and xylenes, Method SW-846 5030B/8021B), Bromofluorobenzene (Method 8021 Surrogate), TDS (total dissolved solids, EPA Method 160.1), Sulfate (EPA Method 300.0), Chloride (EPA Method 300.0), Bicarbonate/Carbonate (EPA Method 310.1), Calcium (Method SW-846 3010A/6020), Magnesium (Method SW-846 3010A/6020), Potassium (Method SW-846 3010A/6020), and Sodium (Method SW-846 3010A/6020). In addition, TPH (total petroleum hydrocarbons, Method TX 1005) analysis was performed by Millennium on groundwater samples submitted from MW-1 and MW-4. The complete analytical results for the constituents mentioned are presented in Table 2 and Table 3.

| Table | 2 |
|-------|---|
|-------|---|

| Location | Date     | MTBE    | Benzene | Toluene | Ethyl- benzene | Total Xylenes | Total BTEX | ТРН                             |
|----------|----------|---------|---------|---------|----------------|---------------|------------|---------------------------------|
|          |          |         |         |         |                |               |            | C <sub>6</sub> -C <sub>28</sub> |
| MW-1     | 03/19/01 | < 0.010 | < 0.002 | < 0.005 | < 0.005        | < 0.005       | ND         | <5.00                           |
| MW-2     | 03/19/01 | < 0.010 | 0.0970  | < 0.005 | < 0.005        | < 0.005       | 0.0970     |                                 |
| MW-3     | 03/19/01 | < 0.010 | 0.0540  | < 0.005 | < 0.005        | < 0.005       | 0.0540     |                                 |
| MW-4     | 03/19/01 | < 0.010 | 0.0180  | < 0.005 | < 0.005        | < 0.005       | 0.0180     | <5.00                           |
| WW       | 03/19/01 | < 0.010 | < 0.002 | < 0.005 | < 0.005        | < 0.005       | ND         | i                               |
| ww       | 03/19/01 | <0.010  | <0.002  | <0.005  | <u>\0.003</u>  | N0.003        | ND         |                                 |

ND - Not Detected

| Location | Date     | Bromofluoro- | TDS      | Sulfate | Chloride | Bicarbonate | Calcium | Magnesium | Potassium | Sodium  |
|----------|----------|--------------|----------|---------|----------|-------------|---------|-----------|-----------|---------|
|          |          | benzene*     |          |         |          | / Carbonate |         |           |           |         |
| MW-1     | 03/19/01 | 98.9         | 88,638.0 | 1,350.0 | 16,971.0 | 163/0.369   | 1,659.0 | 482.0     | 45.2      | 9,643.0 |
| MW-2     | 03/19/01 | 102.0        | 25,608.0 | 1,410.0 | 19,108.0 | 1.88/8.44   | 2,425.0 | 630.0     | 74.7      | 8,859.0 |
| MW-3     | 03/19/01 | 87.6         | 23,898.0 | 1,189.0 | 14,623.0 | 163/0.154   | 1,755.0 | 581.0     | 65.0      | 7,571.0 |
| MW-4     | 03/19/01 | 99.8         | 23,414.0 | 1,321.0 | 15,209.0 | 166/0.48    | 1,443.0 | 434.0     | 34.0      | 8,394.0 |
| WW       | 03/19/01 | 97.9         | 4,071.0  | 86.1    | 2,081.0  | 40.7/139    | 530.0   | 129.0     | 42.5      | 820.0   |

#### Table 3

All concentrations in mg/l.

\* - % Recovery.

Please refer to Figure 3 Section 3 for Groundwater Laboratory Analytical Results and Attachment 5 Section 2 for the Groundwater Contaminant Concentration Map.

During the visual inspections of the subject area, MAG Personnel identified several chemicals of concern in the Byrd Homestead Water Well (WW) Shed. The Chemicals identified were: Napthylene, Methylcarbonate, Malathion, Fertilome Weed Out, Amdro, High Yield Sevin Dust, Green Charm Weed & Feed, Balan, Diazinon, and Ortho Weed B Gone. In addition, approximately eighty (80) gallons of gasoline was also found to be stored in the nearby barn. The water well is currently not being used, however, it is open at the surface, currently being covered by a flower pot. To determine if contamination of any type could possibly be introduced from the water well opening to the groundwater, on March 19, 2001, MAG





submitted groundwater samples from the water well (WW) to Millennium for pesticide analysis. Groundwater samples from MW-2 and MW-3 were also submitted to verify the background concentrations. The complete analytical results for the constituents mentioned are presented in Table 4.

| Constituent        | MW-2   | MW-3   | WW     |
|--------------------|--------|--------|--------|
| 2,4,5-T            | <0.12  | <0.12  | <0.12  |
| 2,4,5-Тр           | <0.12  | <0.12  | <0.12  |
| 2,4-D              | <1.2   | <1.2   | <1.2   |
| 2,4-Db             | <1.2   | <1.2   | <1.2   |
| Dicamba            | <0.12  | <0.12  | <0.12  |
| Dichloroprop       | <1.2   | <1.2   | <1.2   |
| МСРА               | <0.12  | <0.12  | <0.12  |
| МСРР               | <0.12  | < 0.12 | <0.12  |
| alpha-BIIC         | < 0.05 | <0.05  | < 0.05 |
| beta-BIIC          | <0.05  | <0.05  | <0.05  |
| gamma-BIIC         | <0.05  | <0.05  | <0.05  |
| Heplachlor         | <0.05  | <0.05  | < 0.05 |
| Aldrin             | <0.05  | <0.05  | <0.05  |
| Heplachlor epoxide | < 0.05 | <0.05  | <0.05  |
| Endosulfan I       | <0.05  | <0.05  | <0.05  |
| <b>4,4-DDE</b>     | <0.10  | <0.10  | <0.10  |
| Dieldrin           | <0.10  | <0.10  | <0.10  |
| Endrin             | <0.10  | <0.10  | <0.10  |
| Endosulfan II      | <0.10  | <0.10  | <0.10  |
| 4,4-DDD            | <0.10  | <0.10  | <0.10  |
| Endrin aldehyde    | <0.10  | <0.10  | <0.10  |
| 4,4-DDT            | <0.10  | <0.10  | <0.10  |
| Methoxychlor       | <0.50  | <0.50  | <0.50  |
| Endrin ketone      | <0.10  | <0.10  | <0.10  |
| alpha-Chlordane    | < 0.05 | <0.05  | <0.05  |
| gamma-Chlordane    | < 0.05 | <0.05  | <0.05  |
| Toxaphene          | <1.0   | <1.0   | <1.0   |

#### Table 4

Concentrations in ug/l.

#### 1.5 Waste Management and Disposition

Soil Cuttings generated from the drilling activities on March 14, 2001, and purged groundwater and fluids generated from the groundwater monitoring activities on March 19, 2001 were stored on-site in 55-gallon drums. On April 17, 2001, the generated wastes were transported to and disposed of by Gandy-Marley, Inc. at their NMOCD approved facility, located west of Tatum, in Chaves County, New Mexico. Please refer to Section 8 for the Waste Manifests.

#### 1.6 Limitations

It should be noted that all environmental investigations are inherently limited in the sense that conclusions are drawn from observations and conversations only at specific locations and times designated in the report. Also, the passage of time may result in a change of conditions.



Our professional services have been performed in accordance with generally accepted environmental principals and practices. Meridian Alliance Group, LLC is not responsible for independent conclusions, opinions or recommendations made by others based on the information contained herein. Should any new information regrading the site become available during future investigations, we request that this information be presented to us so that we can review this data and make any necessary modification to this report in a timely and professional manner.

J. Curtis Henderson District Manager

mail Shull

Mark A. Ehrlich Project Manager





|                                    |          | Amer          | Soil Labora<br>ada Hess C<br>SECTIOI<br>LEA COI | Figure 1<br>atory Analy<br>orporation<br>N 12, T-20-<br>UNTY, NEV | tical Resu<br>- W.P. Byr<br>S, R-36-E,<br>V MEXICO | its<br>d Lease   |        |          |              |
|------------------------------------|----------|---------------|---|---|--|------------------|--------|----------|--------------|
| Location                           | Date     | Depth<br>feet | Benzene   | Toluene   | Ethyl-<br>benzene                                  | Total<br>Xylenes | втех   | Chloride | TPH<br>418.1 |
| MW-1                               | 03/14/01 | 25-27         | <0.125  | <0.125  | <0.125   | <0.125           | <0.125 | 1,045.00 | <10.0        |
| MW-2                               | z        | 25-27         | <0.125  | <0.125  | <0.125   | <0.125           | <0.125 | 90.30    | <10.0        |
| MW-3                               |          | 20-22         | <0.125  | <0.125  | 0.109  | 2.440            | 2.549  | 29.20    | 1,530.00     |
|                                    | 2        | 25-27         | <0.125  | <0.125  | 0.228  | 3.140            | 3.368  | 36.20    | 2,020.00     |
| MW-4                               | =        | 25-27         | <0.125  | <0.125  | <0.125   | <0.125           | <0.125 | 666.00   | <10.0        |
| Drum Composite                     |          |               | <0.125  | <0.125  | <0.125   | <0.125           | <0.125 |          | <50.0        |
|                                    |          |               |   |   |  |                  |        |          |              |
|                                    |          |               |   |   |  |                  |        |          |              |
|                                    |          |               |   |   |  |                  |        | 1        |              |
| NOTES:<br>All values reported in I | mg/kg.   |               |   |   |  |                  |        |          |              |
|                                    |          |               |   |   |  |                  |        | (        |              |



| Location | Date     | TOC Elev.<br>Feet | Depth to<br>Water<br>Feet | PSH<br>Thickness<br>Feet | Corrected<br>GW Elev<br>Feet | Screene<br>Interval |
|----------|----------|-------------------|---------------------------|--------------------------|------------------------------|---------------------|
| MW-1     | 03/19/01 | 3559.30           | 32.93                     | 0.00                     | 3526.37                      | 20-40'              |
| MW-2     | 03/19/01 | 3558.40           | 32.42                     | 0.00                     | 3525.98                      | 20-40'              |
| MW-3     | 03/19/01 | 3558.20           | 32.05                     | 0.31                     | 3526.42                      | 20-40'              |
| MW-4     | 03/19/01 | 3560.70           | 33.65                     | 0.00                     | 3527.05                      | 20-40'              |



|  |  |              |         |         |                   |                  |            | Groundwa<br>Amerada H<br>SE | Figurate Figurate Her Laborato Her Laborato Heras Corporation 12, T- | re 3<br>ry Analytica<br>Jon - W.P. Bj<br>20-S, R-36-E<br>VEW MEXICI | a Results<br>yrd Lease   |          |         |          |                            |         |           |                                   |         |
|--|--|--------------|---------|---------|-------------------|------------------|------------|-----------------------------|--|---|--------------------------|----------|---------|----------|----------------------------|---------|-----------|-----------------------------------|---------|
| Location   | Date                                       | MTBE         | Benzene | Toluene | Ethyl-<br>benzene | Total<br>Xvienes | Total BTEX | TPH<br>CrCis                | TPH<br>CurCa   | TPH   | Bromofluoro-<br>benzene" | TDS      | Suttate | Chloride | Bicarbonate /<br>Carbonate | Calcium | Magnesium | Potassium                         | Sodium  |
| I-WW   | 03/19/01                                   | <0.010       | <0.002  | \$00.05 | <0.005            | <0.005           | Q          | €.00<br>€                   | 8  | 8.9   | 8.8                      | 88,638.0 | 1,350.0 | 16,971.0 | 163/0.369                  | 1,659.0 | 482.0     | 452                               | 9,643.0 |
| MW-2   | 03/19/01                                   | <0.010       | 0.0970  | \$0.005 | \$00 û>           | <0.005           | 0.0870     |                             |  |   | 102.0                    | 25,608.0 | 1,410.0 | 19,108.0 | 1.88/8.44                  | 2,425.0 | 630.0     | 7.47                              | 8,859.0 |
| S-WM   | 03/19/01                                   | <0.010       | 0.0540  | <0.005  | <0.005            | ×0.005           | 0.0540     |                             |  |   | 87.6                     | 23,698.0 | 1,188.0 | 14,823.0 | 163/0.154                  | 1,755.0 | 581.0     | 65.0                              | 7,571.0 |
| MW-4   | 03/19/01                                   | <0.010       | 0.0180  | \$00.05 | <0.005            | <0.005           | 0.0180     | 45.00<br>45.00              | 899  | §.8   | 90 S                     | 23,414.0 | 1,321.0 | 15,208.0 | 166/0.483                  | 1,443.0 | 434.0     | 34.0                              | 8,394.0 |
| Byrd<br>House<br>Water<br>Well                                     | 03/19/01                                   | <0.010       | <0.002  | <0.005  | <0.005            | <0.005           | 9          |                             |  |   | 679                      | 4,071.0  | 88.1    | 2,081.0  | 40.7/139                   | 530.0   | 129.0     | 42.5                              | 820.0   |
| NOTES:<br>All concentr<br>ND - Not De<br>TDS - Total<br>- % Recovi | ations present<br>tected<br>Dissolved Solk | ted in mg/l. |         |         | ]                 |                  |            | 1                           | 1  | ]   |                          |          |         |          |                            |         |           | feridian<br>Illiance<br>roup, LLC |         |

| Groundwate<br>Amerada | Figure<br>er Laboratory Pes<br>a Hess Corporatio<br>SECTION 12, T-2<br>LEA COUNTY, NE | 4<br>ticde Analytical Re<br>on - W.P. Byrd Leas<br>0-S, R-36-E,<br>EW MEXICO | esults<br>se |
|-----------------------|---|--|--------------|
| Constituent           | MW-2  | MW-3   | ww           |
| 2,4,5-T               | <0.12   | <0.12  | <0.12        |
| 2,4,5-Tp              | <0.12   | <0.12  | <0.12        |
| 2,4-D                 | <1.2  | <1.2   | <1.2         |
| 2,4-Db                | <1.2  | <1.2   | <1.2         |
| Dicamba               | <0.12   | <0.12  | < 0.12       |
| Dichloroprop          | <1.2  | <1.2   | <1.2         |
| MCPA                  | <0.12   | <0.12  | <0.12        |
| MCPP                  | <0.12   | <0.12  | <0.12        |
| alpha-BIIC            | < 0.05  | < 0.05   | < 0.05       |
| beta-BIIC             | < 0.05  | <0.05  | <0.05        |
| gamma-BIIC            | < 0.05  | <0.05  | < 0.05       |
| Heplachlor            | <0.05   | < 0.05   | < 0.05       |
| Aldrin                | < 0.05  | < 0.05   | < 0.05       |
| Heplachlor epoxide    | <0.05   | < 0.05   | <0.05        |
| Endosulfan I          | < 0.05  | < 0.05   | < 0.05       |
| 4,4-DDE               | < 0.10  | <0.10  | <0.10        |
| Dieldrin              | <0.10   | <0.10  | <0.10        |
| Endrin                | < 0.10  | <0.10  | <0.10        |
| Endosulfan II         | <0.10   | <0.10  | <0.10        |
| 4,4-DDD               | < 0.10  | < 0.10   | <0.10        |
| Endrin aldehyde       | < 0.10  | <0.10  | <0.10        |
| 4,4-DDT               | <0.10   | <0.10  | <0.10        |
| Methoxychlor          | <0.50   | <0.50  | <0.50        |
| Endrin ketone         | < 0.10  | <0.10  | <0.10        |
| alpha-Chlordane       | <0.05   | < 0.05   | <0.05        |
| gamma-Chlordane       | < 0.05  | < 0.05   | <0.05        |
| Toxaphene             | <1.0  | <1.0   | <1.0         |

All concentrations presented in ug/l.



| ~   |  | Ieridia                    | m                             |                                 |  |                                  | Project Number:<br>07C005537  | Monito    | or Well: MW-1              | Sheet 1 of 1  |
|---|--|----------------------------|-------------------------------|---------------------------------|--|----------------------------------|---|-----------|----------------------------|---|
|   |  | lliance<br>Froup,          | e<br>LLC                      | 2                               |  |                                  | Contractor:<br>White Drilling Company   |           | Drilling Me<br>Air Coring  | thod:   |
| Project   | t Name/L                               | ocation:                   |                               |                                 |  |                                  | Driller:<br>Bø  |           | Location:<br>South of Ta   | nk Battery  |
| Amera<br>W.P. H<br>SECT                           | da Hess<br>Byrd Leas<br>ION 12, 7      | Corpora<br>ie<br>F-20-S, F | tion<br>R-36-I                | E,                              |  |                                  | Date Start:<br>3/14/01  |           | Date Comp<br>3/14/01       | leted:  |
| LEAC  | OUNTY                                  | , INE W 1                  | VIEAI                         | CU                              |  |                                  | Top of Casing Elevation:<br>3559.30'  |           | Logged By:<br>Aaron Hale   |   |
| -   | erval                                  | Alavoo                     | 8                             | ication                         |  |                                  |   |           | N<br>Con                   | Aonitor Well<br>struction Detail                                    |
| Depti   | Sample Inte<br>(FT)                    | Sample Re(<br>(FT)         | Sample Ty                     | Soil Classif                    | PIELD SCREENING<br>INSTRUMENT:<br>PID:OVM UNITS: 3 |                                  | Sample Description<br>and Conditions  | Lithology | 32"                        | Locking Top Cop<br>Upright Voult<br>Ground Surface                  |
|   |  |                            |                               |                                 |  |                                  |   |           | 0'                         | Nun Shriuk Grout  |
|   | 5-7'                                   | ľ                          | ST                            | SM                              | 3.1  | SILTY SAN<br>nodules, ver        | D: Fine to v. fine grained; 20% caliche<br>y pale orange (10YR8/2).             |           | 2.8" 13. Schedule 48       |   |
| 10'   |  |                            |                               |                                 |  |                                  |   |           | Threaded PVC Riser<br>Pipe | 5.6" Diameter Hule  |
| 0000  | 10-12                                  | 0.5'                       | SS                            | SM                              | 1.0  | SILTY SAI<br>indurated, v        | <li>ID: Fine to v. fine gramed, caliche<br/>ery pale orange (10YR8/2).</li>     |           |                            |   |
|   | 15-17                                  | r                          | SS                            | SM                              | 1.3  | SILTY SAM                        | ND: Fine to v. fine grained; caliche<br>ery pale orange (10YR8/2).              |           | 16'                        |   |
| 20'   |  |                            |                               |                                 |  |                                  |   |           | 18'                        |   |
| 20  | 20-22                                  | 1.5'                       | SS                            | SP                              | 2.3  | SAND: Fin                        | c grained, light brown (5YR5/6).  |           |                            |   |
|   | *25-27                                 | 0.5                        | SS                            | SM                              | 15.3   | SILTY SA<br>fine sands,          | ND: Fine to v. fine grained; poorly cemented moist, very pale orange (10YR8/2). |           |                            | 2.0" 1.D. Schedule 40<br>Threaded, Stotted 0.010<br>PVC Well Screen |
| 30'   | 30-32'                                 | 0.66'                      | SS                            | SM                              | 23.9   | SILTY SA<br>fine sands,          | ND: Fine to v. fine grained, poorly cemented moist, very pale orange (10YR8/2). |           |                            |   |
|   | 35-37                                  | ľ                          | SS                            | SM                              | N/A  | SILTY SA<br>fine sands,          | ND: Fine to v. fine grained, poorly cemented wet, light brown (5YR6/4).         |           |                            |   |
| 40'   |  |                            |                               |                                 |  |                                  |   |           | 40'                        | - End Cap   |
|   |  |                            |                               |                                 |  |                                  |   |           |                            |   |
|   |  |                            |                               |                                 |  |                                  |   |           |                            |   |
| SS - split<br>SB - split<br>ST - shel<br>RC - roc | spoon<br>t barrel<br>by tube<br>k core | pes                        | NOT<br>* - si<br>Bott<br>Bott | TES:<br>ample<br>om of<br>om of | e subm<br>Boring<br>Monit                          | itted for<br>g @ 40.0<br>or Well | analytical analysis<br>'<br>@ 40.0'   |           |                            |   |

| -   |   | Meridia                    | m                             |                                 |  |                                   | Project Number:<br>07C005537  | Monite    | or Well: MW-2              | Sheet 1 of 1   |
|---|---|----------------------------|-------------------------------|---------------------------------|--|-----------------------------------|---|-----------|----------------------------|--|
|   | D   | Illiance<br>Group,         |                               | 2                               |  |                                   | Contractor:<br>White Drilling Company   |           | Drilling Me<br>Air Coring  | thod:  |
| Proje                                       | ct Name/I   | .ocation:                  |                               |                                 |  |                                   | Driller:<br>Bo  |           | Location:<br>South of By   | rd Household   |
| Amer<br>W.P.<br>SECT                        | ada Hess<br>Byrd Lea<br>TION 12,                          | Corpora<br>se<br>T-20-S, I | tion<br>R-36-I                | ε,                              |  |                                   | Date Start:<br>3/14/01  |           | Date Comp<br>3/14/01       | leted:   |
| LEA   | COUNTY  | , NEW I                    | MEAI                          | 0                               |  |                                   | Top of Casing Elevation:<br>3558.40'  |           | Logged By:<br>Mark Ehrli   | ch   |
|   | rval  | ŚJANO                      | 2                             | ication                         |  |                                   |   |           | M                          | Aonitor Well<br>struction Detail                                   |
| Dept  | sample Inte<br>FT)  | sample Rec<br>FT)          | Sample Tyr                    | soil Classif                    | BLD SCREENING<br>VSTRUMENT:<br>ID OVM UNITS: P |                                   | Sample Description<br>and Conditions  | Lithology | 32"                        | Locking Top Cap  |
|   |   |                            |                               | 01                              |  |                                   |   |           | 0,                         |  |
|   | 5-7'  | P                          | ST                            | SM                              | 0.0  | SILTY SAN<br>indurated, <         | (D: Fine to v. fine grained; caliche<br>10% organics, very pale orange (10YR8/2). |           | 2.6" LD. Schedule 48       |  |
| 10'   | 10-12'  | 0.5'                       | SS                            | SM                              | 0.7  | SILTY SAI                         | ND: Fine to v. fine grained; caliche<br>10% organics; very pale orange (10YR8/2). |           | Threaded PVC Riser<br>Pipe |  |
|   | 15-17   | P                          | SS                            | SM                              | 0.0  | SILTY SAI<br>nodules, ve          | ND: Fine to v. fine grained; 10% caliche<br>ry pale orange (10YR8/2).             |           | 16'                        | Bartantia Pallet Need  |
| 20'   |   |                            |                               |                                 |  |                                   |   |           | 18'                        |  |
|   | 20-22   | 0.66'                      | SS                            | SM                              | 0.0  | SILTY SAI<br>mod orange           | ND: Fine to v. fine grained;<br>e pink (5YR8/4)                                   |           |                            |  |
|   | *25-27  | 0.83'                      | SS                            | SM                              | 0.2  | SILTY SAI<br>moist; very          | ND: Fine to v. fine grained;<br>pale orange (10YR8/2).                            |           |                            | 2.8" LD, Schedule 40<br>Threaded, Slotted 8,019<br>PVC Well Screen |
| 30'   | 30-32   | r                          | SS                            | SM                              | 0.0  | SILTY SAI<br>moist, very          | ND: Fine to v. fine grained,<br>pale orange (10YR8/2).                            |           |                            |  |
|   |   |                            |                               |                                 |  |                                   |   |           |                            |  |
| 40'   |   |                            |                               |                                 |  |                                   |   |           | 40'                        |  |
|   |   |                            |                               |                                 |  |                                   |   |           |                            |  |
|   |   |                            |                               |                                 |  |                                   |   |           | _                          |  |
| SS - spl<br>SB - spl<br>ST - she<br>RC - ro | Sample Ty<br>it spoon<br>it barrel<br>lby tube<br>ck core | pes                        | NOT<br>* - si<br>Bott<br>Bott | TES:<br>ample<br>om of<br>om of | e subm<br>Borin<br>Monit                       | itted for<br>g @ 40.0<br>tor Well | analytical analysis<br>'<br>@ 40.0'   |           |                            |  |

|  | a.  | Aeridia                    | m                                   |   |  |   | Project Number:<br>07C005537  | Monit      | or Well: MW-3                               | Sheet 1 of 1  |  |  |  |
|--|---|----------------------------|-------------------------------------|---|--|---|---|------------|---|---|--|--|--|
|  |   | Iliance<br>Group,          |                                     | •                                       |  |   | Contractor:<br>White Drilling Company   |            | Drilling Me<br>Air Coring                   | thod:   |  |  |  |
| Projec   | ct Name/L   | <u>ocation:</u>            |                                     |   |  |   | Driller:<br>Bo  |            | Location:<br>East of Tan<br>Vicinity of S   | k Battery<br>South Pit  |  |  |  |
| Amera<br>W.P. J<br>SECT                                    | ada Hess<br>Byrd Leas<br>TON 12, 7  | Corpora<br>se<br>F-20-S, F | tion<br>R-36-E                      | E,                                      |  |   | Date Start:<br>3/14/01  |            | Date Comp<br>3/14/01                        | leted:  |  |  |  |
|  | COUNTY  | , 140. 00 1                | VIEAI                               | co                                      |  |   | Top of Casing Elevation:<br>3558.20'  |            | Logged By:<br>Mark Ehrli                    | Logged By:<br>Mark Ehrlich  |  |  |  |
| -  | arval   | viavos                     | 8                                   | ication                                 | L  |   | 8284 12   |            | N<br>Con                                    | Aonitor Well<br>struction Detail                                    |  |  |  |
| Dept   | Sample Inte<br>(FT)   | Sample Rec<br>(FT)         | Sample Tyj                          | Soil Classif                            | TIELD SCREENING<br>DNSTRUMENT:<br>PID/OVM UNITS: P |   | Sample Description<br>and Conditions  | Lithology  | 32" -                                       | Locking Top Cup<br>Upright Vanit<br>Oround Surface                  |  |  |  |
|  |   |                            |                                     |   |  |   |   |            | 0'  | - Now-Shrink Grout  |  |  |  |
|  | 5-7'  | 1.5'                       | ST                                  | SM                                      | 0.0  | SILTY SAI<br>discoloratio                 | ND: Fine to v. fine grained; hydrocarbon<br>n; very pale orange (10YR8/2).        |            | 2.0° 1.D. Schedule 40<br>Threaded PVC Riser |   |  |  |  |
| 10'  | 10-12   | 2'                         | SS                                  | SM                                      | 78.2   | SII.TY SA)<br>hydrocarbo                  | ND: Fine to v. fine grained; strong<br>n odor, very pale orange (10YR8/2).        |            | Phy   |   |  |  |  |
| $\bullet$  | 15-17'  | r                          | SS                                  | SM                                      | 63.7   | SILTY SAI                                 | ND: Fine to v. fine grained; strong<br>n odor; very pale orange (10YR8/2).        |            | 16'<br>18'                                  | Bentonite Pellet Seal   |  |  |  |
| 20'  | *20-22  | 1.5'                       | SS                                  | SM                                      | 230.6  | SILTY SA<br>indurated;<br>yellowish g     | ND: Fine to v. fine grained; caliche<br>strong hydrocarbon odor,<br>ray (5Y7/2).  |            | 20'   | 8/16 Sand   |  |  |  |
|  | *25-27  | 0.66'                      | SS                                  | SM                                      | 192.2  | SILTY SA<br>indurated,<br>yellowish g     | ND: Fine to v. fine grained; caliche<br>strong hydrocarbon odor;<br>gray (5Y7/2). |            |   | 2.0" I.D. Schedule 40<br>Thrunded, Slotted 9.010<br>PVC Well Screen |  |  |  |
| 30'  | 30-32'  | 0.66'                      | SS                                  | SM                                      | 19.5   | SILTY SA<br>hydrocarbo                    | ND: Fine to v. fine grained; strong<br>on odor; yellowish gray (5Y7/2).           |            |   |   |  |  |  |
|  |   |                            |                                     |   |  |   |   |            |   |   |  |  |  |
| 40'  |   |                            |                                     |   |  |   |   |            | 40'   | End Cap   |  |  |  |
| SS - spli<br>SB - spli<br>ST - she<br>RC - roo<br>SH - sho | ample Ty<br>t spoon<br>it barrel<br>lby tube<br>ck core<br>ovel (surface) | pes                        | NOT<br>* - s<br>Bott<br>Bott<br>Gro | TES:<br>ample<br>om of<br>om of<br>undw | e subm<br>Boring<br>Monit<br>ater @                | itted for<br>g @ 40.0<br>or Well<br>~ 30' | analytical analysis<br>'<br>@ 40.0'   | _ <b>_</b> |   |   |  |  |  |

| ſ  | ~   | a .                                  | Aeridis                    |                        |                         |   |                                    | Project Number:<br>07C005537  | Mo        | nitor W | ell: MW-4                 | Sheet 1 of 1                     |  |
|--|---|--------------------------------------|----------------------------|------------------------|-------------------------|---|------------------------------------|---|-----------|---------|---------------------------|----------------------------------|--|
|  |   |                                      | Alliance<br>Group,         | e<br>LLC               | 2                       |   |                                    | Contractor:<br>White Drilling Company   |           |         | Drilling Me<br>Air Coring | thod:                            |  |
|  | Projec  | t Name/I                             | ocation:                   |                        |                         |   |                                    | Driller:<br>Bo  |           |         | Location:<br>NW of Tanl   | (Battery                         |  |
| All the second s | Amera<br>W.P. I<br>SECT                           | ida Hess<br>Byrd Leas<br>ION 12, 7   | Corpora<br>se<br>F-20-S, F | tion<br>R-36-I         | E,                      |   |                                    | Date Start:<br>3/14/01  |           |         | Date Comp<br>3/14/01      | eted:                            |  |
|  | LEAC  |                                      | , 142 1                    | VIEAI                  | co                      |   |                                    | Top of Casing Elevation:<br>3560.70'  |           |         | Logged By:<br>Mark Ehrli  | ch                               |  |
| ſ  | h   | erval                                | covery                     | be                     | fication                |   |                                    |   |           |         | N<br>Con                  | Ionitor Well<br>struction Detail |  |
|  | Dept  | Sample Int<br>(FT)                   | Sample Re<br>(FT)          | Sample Ty              | Soil Classi             | FIGLD SCREENIN<br>INSTRUMENT:<br>FID/OVM UNITS: |                                    | and Conditions  | Lithology |         | 32"                       | Locking                          | Top Cap<br>ht Vandt<br>Surface                   |
|  |   |                                      |                            |                        |                         |   |                                    |   |           |         | 0'                        | Non-Shri                         | nk Grout   |
|  |   | 5-7'                                 | r                          | ST                     | SM                      | 1.2   | SILTY SAN<br>10% caliche           | ND: Fine to v. fine grained, 5% organics,<br>e nodules, very pale orange (10YR8/2). |           | 2.0     | " LD. Schedule 40         |                                  |  |
|  | 10'   | 10-12                                | 0.5'                       | SS                     | SM                      | 1.0   | SILTY SAN<br>very pale or          | (D: Fine to v. fine grained; caliche indurated;<br>ange (10YR8/2).                  |           | Pip     | e                         | 5.8" Di                          | umeter Hole                                      |
|  |   | 15-17                                | 0.5'                       | SS                     | SM                      | 0.7   | SILTY SAN<br>pale yellow           | ID: Fine to v. fine grained,<br>ish orange (10YR8/6).                               |           | 2       | 16'                       |                                  |  |
| I  |   |                                      | 1                          |                        |                         |   |                                    |   |           |         | 18'                       | Benton                           | ite Pellet Seal                                  |
|  | 20  | 20-22'                               | 0.5'                       | SS                     | GM                      | N/A   | GRAVELL<br>gravel; 10%             | Y SAND: Fine to v. fine grained; angular<br>limestone; light brown (SYR6/4).        |           |         | 20.                       | 8/16                             | Sand   |
|  |   | *25-27'                              | ľ                          | SS                     | SM                      | 0.7   | SILTY SAI<br>moist, very           | ND: Fine to v. fine grained;<br>pale orange (10Y R8/2).                             |           |         |                           | 2.0" LD<br>Thread<br>PVC W       | . Schedule 40<br>ed, Slotzed 0.010<br>ell Screen |
|  | 30'   | 30-32'                               | 0.66'                      | SS                     | SM                      | 19.5  | SILTY SAN                          | ND: Fine to v. fine grained;<br>ale orange (10Y R8/2).                              |           |         |                           |                                  |  |
|  |   |                                      |                            |                        |                         |   |                                    |   |           |         |                           |                                  |  |
|  | 40'   |                                      |                            |                        |                         |   |                                    |   |           |         | 40'                       | P                                | nd Cap   |
|  |   |                                      |                            |                        |                         |   |                                    |   |           |         | 13                        |                                  |  |
|  |   |                                      |                            |                        |                         |   |                                    |   |           |         |                           |                                  |  |
| d  | Sa  | imple Ty                             | pes                        | NOT                    | TES:                    |   |                                    |   |           |         |                           |                                  |  |
|  | SS - split<br>SB - split<br>ST - shel<br>RC - roc | spoon<br>barrel<br>by tube<br>k core |                            | * - s:<br>Bott<br>Bott | ample<br>om of<br>om of | e subm<br>Boring<br>Monit                       | itted for<br>g @ 40.0<br>or Well ( | analytical analysis<br>'<br>@ 40.0'   |           |         |                           |                                  |  |
| L  | SH - sho  | vel (surface)                        |                            | Gro                    | undwa                   | ater (a)  | ~ 29'                              |   | _         |         |                           |                                  |  |

#### STATE ENGINEER OFFICE

#### WELL RECORD

|         |    | 0.53 | -    |     |    |     | - |    | - |   |
|---------|----|------|------|-----|----|-----|---|----|---|---|
| section | Ι. | GEN  | IEK/ | ٩L. | ID | IFU | ю | ΝА |   | Ł |

| <ul> <li>A) Owner of we Street or Po:<br/>City and Sta</li> <li>Vell was drilled ur</li> <li>a</li> <li>b. Tract No.</li> </ul> | st Office Ad<br>te | dress <u>I</u><br>H  | Box 92<br>Hobbs, NM | 88241            |                 | Owner           | s well No                |                   |
|---|--------------------|----------------------|---------------------|------------------|-----------------|-----------------|--------------------------|-------------------|
| City and Sta<br>Vell was drilled ur<br>a i<br>b. Tract No.  | te                 | NoI                  | lobbs, NM           | 88241            |                 |                 |                          |                   |
| Vell was drilled un<br>a t<br>b. Tract No.  | nder Permit        | NoI                  | 10 160              | <u>,</u>         |                 |                 |                          |                   |
| a ;<br>b. Tract No.   | Va Va              |                      | -10,100             |                  | and is located  | in the:         |                          |                   |
| b. Tract No.  |                    | ¼                    | <u>N 1</u> % of Se  | ection 12        | _ Township _    | <u>20-S</u> Ran | ge <u>36-E_</u> _        | N.M.P.M           |
|   |                    | of Map No            | )                   | of the           |                 |                 | ·····                    |                   |
| c. Lot No<br>Subdivisi  | on, recorded       | of Block No.<br>I ín | Lea                 | of the           | ounty.          |                 |                          |                   |
| d. X=<br>the  | <u>.</u>           | feet, Y=             |                     | feet, N.         | M. Coordinate   | System          |                          | Zone ir<br>Grant  |
| B) Drilling Con   | tractor            | W.                   | L. Van No           | )y               |                 | License No      | WD-208                   | <del>.</del>      |
| \ddress   |                    | Вол                  | : 7, 011 (          | lenter, NM       | 88266           |                 |                          |                   |
| Drilling Began  | May 8, 1           | 991 <sub>Сол</sub>   | pletedMa            | y 10, 1991       | . Type tools    | cable           | Size of hole             | <u>8"</u> in      |
| levation of land s  | surface or         |                      |                     | at wel           | is              | ft. Total depth | of well                  | <u>70</u> ft      |
| completed well is   | k⊊ s≵              | nallow 🔲 .           | artesian.           |                  | Depth to water  | upon completion | of well                  | <del>-55</del> ft |
| Denth in l  | Faat               | Se Se                | ction 2. PRIN       | CIPAL WATER      | -BEARING ST     |                 | Detter et al 1           |                   |
| Erom  | To.                | in Feet              | s                   | Description of V | Vater-Bearing F | ormation        | Estimated (gallons per n | (jeld<br>jinute)  |
| 55  | 70                 | 15                   |                     | andy calie       | he sa           | lt water        | <u> </u>                 |                   |
|   |                    |                      |                     |                  |                 |                 |                          |                   |
|   |                    |                      |                     |                  |                 |                 |                          |                   |
|   |                    |                      |                     |                  |                 |                 |                          |                   |
|   |                    |                      | Sectio              | on 3. RECORD     | OF CASING       |                 |                          |                   |
| Diameter  | Pounds             | Threads              | Depth               | in Feet          | Length          | Type of Sho     | Perfor                   | ations            |
| (incnes)  | per 1001           | per in.              | Тор                 | Bottom           | (feet)          |                 | From                     | To                |
| 5"  | PVC                |                      | 0                   | 70               |                 |                 | 52                       | 70                |
|   |                    |                      |                     |                  |                 |                 |                          |                   |
| 1   |                    | 1 1                  |                     | 1                |                 | 1               | 1                        |                   |

Section 4. RECORD OF MUDDING AND CEMENTING

| Depth | in Feet | Hole     | Sacks  | Cubic Feet |  |
|-------|---------|----------|--------|------------|--|
| From  | То      | Diameter | of Mud | of Cement  | Method of Placement                    |
|       |         | 1        |        |            | ······································ |
|       |         |          | •      |            |  |
|       |         |          |        |            |  |
|       |         |          |        |            |  |
|       |         |          |        |            |  |
|       |         | 1        |        |            |  |

#### Section 5. PLUGGING RECORD

| Address                    | N.       | Depth | in Feet | Cubic Feet |
|----------------------------|----------|-------|---------|------------|
| Plugging Method            | NO.      | Top   | Bottom  | of Cement  |
| Date Well Plugged          | <u>1</u> |       |         |            |
| Plugging approved by:      | 2        |       |         |            |
|                            | 3        |       |         |            |
| State Engineer Representat | ive 4    |       |         |            |

Date Received May 20, 1991

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Location No. 20.36.12.21332

2- 6-01:10:22AM;NM. STATE ENG.

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|            |                                       |           | Section 6. LOG OF HOLE                |  |
|------------|---------------------------------------|-----------|---------------------------------------|--|
| Depth      | in Feet                               | Thickness | Color and Type of Material F.         | acountered                             |
| From       | To                                    | in Feet   |                                       |  |
| 0          | 5                                     | 5         | Top soil                              |  |
| 5          | 45                                    | 40        | caliche                               |  |
| 45         | 55                                    | 10        | Sandy Caliche                         |  |
| <b>5</b> 5 | 70                                    | 15        | salt water                            |  |
| 70         |                                       |           | Red Bed                               |  |
|            |                                       |           |                                       |  |
|            |                                       |           |                                       |  |
|            |                                       |           |                                       |  |
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|            | · · · ·                               | <u> </u>  | · · · · · · · · · · · · · · · · · · · |  |
|            |                                       | Section   | 7 REMARKS AND ADDITIONAL INFORMATION  |  |
|            |                                       |           | · · · · · · · · · · · · · · · · · · · | T ULA SU - ULA A                       |
|            |                                       |           |                                       | 10 24<br>DEFICE                        |

The undersigned here by certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

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<u>AUJ No</u> Driller <u>4</u>

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#### STATE ENGINEER OFFICE

#### WELL RECORD

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Section 1. GENERAL INFORMATION

| (4) 0                     | f                       |                     | J. B. F      | lynd           |                 | 0                    | 2               |                   |
|---------------------------|-------------------------|---------------------|--------------|----------------|-----------------|----------------------|-----------------|-------------------|
| (A) Uwner of<br>Street or | Post Office Ad          | Aress               | Box 92       |                | ·····           | Owner's              | well NO         |                   |
| City and                  | State                   |                     | Hobbs,       | NM 8824        | 1               |                      |                 |                   |
| Well was drille           | d under Permit          | No                  | I-10,10      | 50 <u>-</u> 5  | and is located  | i in the:            |                 |                   |
| a,                        | _ % <u>\$e</u> %        | NE % N              | [₩ ¼ of Sec  | ction12        | Township        | 20-S Range           | 36-E            | N.M.P.M.          |
| b. Tract                  | No,                     | of Map No.          |              | of th          | e               |                      |                 |                   |
| c. Lot N<br>Subdi         | lo<br>ivision, recorded | of Block No<br>1 ín | Lea          | of th          | e<br>County.    |                      |                 |                   |
| d. X≖<br>the              |                         | _ feet, Y=          |              | feet, N        | I.M. Coordinate | System               |                 | Zone in<br>Grant. |
| (B) Drilling              | Contractor              |                     | W. L.        | Van Noy        |                 | License No. HD-2     | 208             |                   |
| Address                   | · ·                     |                     | Box 7        | , Oil Gen      | ter, NM 88      | 3266                 |                 |                   |
| Drilling Began            | -May 101                | eo4 Com             | pleted May 1 | 2, 1991        | Type tools      | lable                | _ Size of hole_ | 8" in.            |
| Elevation of la           | nd surface or           | .,,,                |              | atwo           | ell is          | ft. Total depth of   | well            | 70 ft.            |
| <i>a</i>                  |                         |                     |              |                |                 |                      |                 |                   |
| Completed we              | 11.13 A.A.I S           | hallow L.a          | rtesian.     |                | Depth to wate   | r upon completion of | well            |                   |
| Denth                     | in Feet                 | Sec                 | tion 2. PRIN | CIPAL WATE     | R-BEARING S     | TRATA                | Estimated.      | Viald             |
| From                      | To                      | in Feet             |              | Description of | Water-Bearing l | Formation            | (gallons per i  | ninu'te)          |
| 55                        | 70                      | 15                  |              | sandy cal      | liche           | salt water           |                 |                   |
|                           | <br>                    |                     |              |                |                 |                      |                 |                   |
|                           |                         |                     |              |                |                 |                      |                 |                   |
| L                         | .L.,                    | J                   | Section      | n 3. RECORI    | OF CASING       |                      |                 |                   |
| Diameter                  | Pounds                  | Threads             | Depth        | in Feet        | Length          | Type of Shoe         | Perfo           | rations           |
| (inches)                  | per foot                | per in.             | Top          | Bottom         | (feet)          | Type of Shoe         | From            | То                |
| N                         | o casing                |                     |              |                |                 |                      |                 |                   |
| <br>                      |                         |                     | <u></u> .    |                | ·               | <u></u>              |                 |                   |
|                           |                         |                     | • <u></u> .  |                |                 | L                    |                 | 1                 |
|                           |                         | Secti               | on 4. RECO   | RD OF MUDI     | DING AND CEN    | IENTING              | ·               |                   |
| Erom                      | in Feet                 | Hole<br>Diameter    | Sack<br>of M | cs C<br>uđ     | Cubic Feet      | Method               | of Placement    |                   |
|                           | 1.                      |                     |              |                |                 |                      |                 |                   |
| <u> </u>                  | <b> </b>                | <u> </u>            |              |                |                 | ·····                |                 | <u></u>           |
| 1                         | 1                       |                     | 1            | 1              |                 |                      |                 |                   |

#### Section 5. PLUGGING RECORD

| Plugging ContractorAddress                        |                  | Depth | in Feet | Cubic Feet |
|---|------------------|-------|---------|------------|
| Plugging Method                                   | <sup>No.</sup> [ | Top   | Bottom  | of Cement  |
| Date Well Plugged                                 |                  |       |         |            |
| Plugging approved by:                             | 2                |       |         |            |
|   | 3                |       |         |            |
| State Engineer Representative                     | 4                |       |         |            |
| FOR USE OF STATE EN<br>Date Received May 20, 1991 | GINEER ONLY      | 7     | 1       | ESI        |

L-10,160-S

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File No.

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| (SUPP) | ) Location No 20.36.12.12442   |
|--------|--------------------------------|
|        | 20.36.12.12942                 |
| . 1    | 2- 8-01;10:22AM;NM. STATE ENG. |

|              |           | T                                     | Section 6. LOG OF HOLE                 |  |  |  |  |
|--------------|-----------|---------------------------------------|--|--|--|--|--|
| Depth        | in Feet   | Thickness                             | Color and Type of Material Encountered |  |  |  |  |
| Prom         | 10        | mreet                                 |  |  |  |  |  |
| 0            | E         | 5                                     | Top sail                               |  |  |  |  |
|              |           |                                       |  |  |  |  |  |
| 5            | 45        | 40                                    | Caliche                                |  |  |  |  |
| 45           | 55        | 10                                    | Sandy Caliche                          |  |  |  |  |
|              |           |                                       |  |  |  |  |  |
| 55           | 70        | 15                                    | Salt Water                             |  |  |  |  |
| 20           |           |                                       | Ref Bed                                |  |  |  |  |
| <i></i>      |           |                                       |  |  |  |  |  |
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Section 7. REMARKS AND ADDITIONAL INFORMATION

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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

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123 Driller

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#### STATE ENGINEER OFFICE WELL RECORD

#### Section 1. GENERAL INFORMATION

| (A) Owner of<br>Street or | well <u>Ame</u><br>Post Office Ad | rada He<br>dress <u>P</u> . | ss Corpo<br>O. Box 8                  | ration<br>40     | · · · · · · · · · · · · · · · · · · · | Owner's                        | Well No. <u>MW</u> - | 1                 |
|---------------------------|-----------------------------------|-----------------------------|---------------------------------------|------------------|---------------------------------------|--------------------------------|----------------------|-------------------|
| City and                  | State <u>Sem</u>                  | <u>inole,</u>               | <u>TX 7936</u>                        | 0                |                                       |                                |                      |                   |
| Well was drilled          | under Permit                      | No                          |                                       |                  | (<br>and is located i                 | GPS-N-32-35<br>in the: W-103-1 | 5-27-8"<br>8-28-3    |                   |
| a                         | _ ¼ ¼                             | ¥                           | ¼ of Se                               | ction <u>12</u>  | _ Township <u>T</u>                   | <u>-20-S</u> Range             | <u>R-36-E</u>        | _N.M.P.M.         |
| b. Tract                  | No                                | of Map No                   | D                                     | of the           |                                       |                                |                      |                   |
| c. Lot No<br>Subdiv       | o vision, recorded                | of Block No.<br>I in        |                                       | of the           | ounty.                                |                                |                      |                   |
| d. X=<br>the              |                                   | _ feet, Y=                  |                                       | feet, N.I        | M. Coordinate S                       | ystem                          |                      | Zone in<br>Grant. |
| (B) Drilling C            | ContractorW                       | hite Dr                     | illing C                              | ompany           |                                       | _ License No                   | ND-1456              |                   |
| Address P.                | 0. Box 9                          | 06 -                        | Clyde, T                              | <u>x 79510</u>   |                                       |                                |                      |                   |
| Drilling Began            | 3/14/01                           | Cor                         | npleted3/                             | 14/01            | . Type tools                          | •<br>                          | Size of hole         | 5.0 in.           |
|                           | +                                 |                             | ading ol                              | owntion .        | . 2550 2                              | 0.5                            | c 40.0               | <i>c.</i>         |
| Elevation of lai          | nd surface or 🗠                   |                             | asing er                              | eva Li stiwel    | Is                                    | Lit, Total depth o             | i well 4010          | II.               |
| Completed wel             | lis 🗆 sl                          | hallow 🗖                    | artesian. MO                          | nitor We         | bepth to water                        | upon completion o              | f well 40.0          | ft.               |
| •                         |                                   |                             |                                       |                  | -                                     |                                |                      |                   |
|                           |                                   | S                           | ection 2. PRIN                        | CIPAL WATER      | R-BEARING ST                          | RATA                           |                      |                   |
| Depth                     | in Feet                           | Thickne                     | ss                                    | Description of V | Vater-Bearing F                       | ormation                       | Estimated Y          | ield              |
| From                      | To                                | in ree                      | · · · · · · · · · · · · · · · · · · · |                  |                                       |                                | (gations per in      | inute)            |
| 29.8                      |                                   |                             | very                                  | pale ora         | ange silt                             | y sand                         |                      |                   |
|                           |                                   |                             |                                       |                  |                                       |                                |                      |                   |
|                           |                                   |                             |                                       |                  |                                       |                                |                      |                   |
|                           |                                   |                             |                                       |                  |                                       |                                |                      |                   |
| L                         | · ·                               | J,                          | Sectio                                | n 3 RECORD       | OF CASING                             |                                |                      |                   |
| Diamatar                  | Pourida                           | Theorida                    | Denth                                 | in Feet          | UT CASING                             |                                | Perfor               | tions             |
| (inches)                  | per foot                          | per in.                     | Ton                                   | Bottom           | (feet)                                | Type of Shoe                   | From                 | To                |
| 2.0                       |                                   | 4                           | 0.0                                   | 40.0             | 10.0                                  | point                          | 20.0                 | 40.0              |
|                           |                                   |                             |                                       |                  |                                       |                                |                      |                   |

| Depth in Feet |      | Hole     | Sacks  | Cubic Feet    |                     |
|---------------|------|----------|--------|---------------|---------------------|
| From          | То   | Diameter | of Mud | of Cement     | Method of Placement |
| 40.0          | 18.0 | 5.0      | 55     | gravel packed | poured              |
| 18.0          | 16.0 | 5.0      | 1.0    | bent. pellets | poured              |
| 16.0          | 0.0  | 5.0      | 6.5    | cement        | poured              |

#### Section 5. PLUGGING RECORD

| Plugging Contractor           |       |       |         |            |
|-------------------------------|-------|-------|---------|------------|
| Address                       | -     | Depth | in Feet | Cubic Feet |
| Plugging Method               | - NO. | Тор   | Bottom  | of Cement  |
| Date Well Plugged             | - 1   |       |         |            |
| Plugging approved by:         | 2     |       |         |            |
|                               | 3     |       |         |            |
| State Engineer Representative | 4     |       | 1       |            |

#### FOR USE OF STATE ENGINEER ONLY

Use.

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Date Received

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\_\_\_\_\_ Location No.\_\_

|  | Section 6, LOG OF HOLE |              |  |  |  |  |  |  |
|--|------------------------|--------------|--|--|--|--|--|--|
| Depth i                                | n Feet                 | Thickness    | Color and Type of Material Encountered |  |  |  |  |  |
| From                                   | 10                     | In Feet      |  |  |  |  |  |  |
| 0.0                                    | 20.0                   | 20           | Very pale orange silty sand w/caliche  |  |  |  |  |  |
| 20.0                                   | 25.0                   | .5           | Lt. Brown sand                         |  |  |  |  |  |
| 25.0                                   | 35.0                   | 10           | Very pale orange silty sand            |  |  |  |  |  |
| 35.0                                   | 40.0                   | 5            | Lt. Brown silty sand                   |  |  |  |  |  |
|  |                        | !<br>******* |  |  |  |  |  |  |
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Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned here by certifies that, to the best of his knowledge and belief, the foregoing is a frue and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5.

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#### STATE ENGINEER OFFICE

#### WELL RECORD

Section 1. GENERAL INFORMATION

| Site of DS Office Address   |                   |  |
|---|-------------------|--|
| GPS-N-32-35-27-8"         Meil was drilled under Permit No  |                   |  |
| a.       W       W       W of Section 12       Township T-20-S       Range R-36-E         b.       Tract No.       of Map No.       of the         c.       Lot No.       of Block No.       of the         Subdivision, recorded in       County.         d. X=       feet, Y=       feet, NM. Coordinate System         the       feet, Y       feet, Y       feet, NM. Coordinate System         B)       Drilling Contractor       White Drilling Company       License No. MD-1456         Address       P.O. Box 906       Clyde, TX 79510         Orniling Began       3/14/01       Completed 3/14/01       Type tools         Size of hole 5       Size of hole 5         Elevation of land surface or top of Casing elevatiq0ell is       3558.40ft. Total depth of well _40.0         Completed well is       shallow       artesian. Monitor WelDepth to water upon completion of well _40.0         Section 2. PRINCIPAL WATER-BEARING STRATA       Estimated Yi         Depth in Feet       Thicknes       Description of Water-Bearing Formation       (gallons per mi         30.0       Very pale orange silty sand       Image: sand sand sand sand sand sand sand sand   |                   |  |
| b. Tract No   | N.M.P.N           |  |
| c. Lot No   | <del></del>       |  |
| d. X=   |                   |  |
| B) Drilling Contractor White Drilling COMDANY License No. WD-1456<br>.ddress P.O. Box 906 - Clyde, TX 79510<br>Drilling Began 3/14/01 Completed 3/14/01 Type tools Size of hole 5<br>ilevation of land surface or top of casing elevative well is 3558.40ft. Total depth of well 40.0<br>Section 2. PRINCIPAL WATER-BEARING STRATA<br>Depth in Feet Thickness Description of Water-Bearing Formation (gallons per min<br>30.0 Very pale orange silty sand<br>Section 3. RECORD OF CASING<br>Diameter Pounds Threads Depth in Feet Length (feet) Type of Shoe Perform<br>2.0 4 0.0 40.0 10.0 point 20.0 -<br>Section 4. RECORD OF MUDDING AND CEMENTING<br>Depth in Feet Hole Sacks Cubic Feet Method of Placement<br>40.0 18.0 5.0 5.5 gravel packed poured<br>18.0 16.0 5.0 1.0 bent. pellets poured   | _Zone i<br>_ Gran |  |
| ddress P.O. Box 906 - Clyde, TX 79510         Drilling Began 3/14/01       Completed 3/14/01       Type tools       Size of hole 5         ilevation of land surface or top of Casing elevative Rell is 3558.40ft. Total depth of well 40.0       Sompleted well is 3558.40ft. Total depth of well 40.0         completed well is       shallow       artesian.Monitor WelDepth to water upon completion of well 40.0         Section 2. PRINCIPAL WATER-BEARING STRATA       Section 2. PRINCIPAL WATER-BEARING STRATA         Depth in Feet       Thickness       Description of Water-Bearing Formation       (gallons per minits)         30.0       Very pale orange silty sand       Image: Section 3. RECORD OF CASING         Diameter       From       Top       Bottom       (feet)       Type of Shoe       Perforat         2.0       4       0.0       40.0       10.0       point       20.0       Image: Site of ADD of Casing         Section 4. RECORD OF MUDDING AND CEMENTING       Section 4. RECORD OF MUDDING AND CEMENTING       Image: Site of ADD of Casing         Section 4. RECORD OF MUDDING AND CEMENTING       Section 4. RECORD OF MUDDING AND CEMENTING       Image: Site of ADD of Casing         Section 4. RECORD OF MUDDING AND CEMENTING       Section 4. RECORD OF MUDDING AND CEMENTING       Image: Site of ADD of Casing         Section 4. RECORD OF MUDDING AND CEMENTING       Section 4. RECORD OF Site of Cement |                   |  |
| Drilling Began 3/14/01       Completed 3/14/01       Type tools       Size of hole 5         Size at hole of Log of Casing elevative field is 3558.40ft. Total depth of well 40.0       Size of hole 40.0         Sompleted well is       Ishallow       artesian. Monitor WelDepth to water upon completion of well 40.0         Section 2. PRINCIPAL WATER-BEARING STRATA       Section 2. PRINCIPAL WATER-BEARING STRATA         Depth in Feet       Thickness       Description of Water-Bearing Formation       Estimated Yi (gallons per mini 30.0         30.0       Very pale orange silty sand       Image: Section 3. RECORD OF CASING         Diameter       Pounds       Threads       Depth in Feet       Length       Type of Shoe       Perforat         (inches)       per foot       Threads       Depth in Feet       Length       Type of Shoe       From         2.0       4       0.0       40.0       10.0       point       20.0       Image: Size of MudDing AND CEMENTING         Section 4. RECORD OF MUDDING AND CEMENTING         Depth in Feet       Hole       Sacks       Cubic Feet       Method of Placement         Method of Casent         Method of Casent         O A 10.0       5.0       5.5       grave1 packed       poured <td colspanete<="" td=""><td></td></td>   | <td></td>         |  |
| Levation of land surface or top of casing elevation well is 3558.40ft. Total depth of well 40.0         completed well is shallow artesian. Monitor WelDepth to water upon completion of well 40.0         Section 2. PRINCIPAL WATER-BEARING STRATA         Depth in Feet       Thickness       Description of Water-Bearing Formation       Estimated Yi (gallons per mi         30.0       Very pale orange silty sand       Image: Section 3. RECORD OF CASING         Depth in Feet         Depth in Feet         Section 3. RECORD OF CASING         Diameter Pounds         inches)       per foot       Depth in Feet       Length         Type of Shoe         From         2.0       4       0.0       40.0       10.0       point       20.0         Section 4. RECORD OF MUDDING AND CEMENTING         Depth in Feet         Hole         Section 4. RECORD OF MUDDING AND CEMENTING         Depth in Feet       Method of Placement         A dott of Mud         OC Center         Method of Placement         A dott of Mud         Deputed         Dep  | <u>.0</u> i       |  |
| completed well is       shallow       artesian. Monitor WelDepth to water upon completion of well_40.0_<br>Section 2. PRINCIPAL WATER-BEARING STRATA         Depth in Feet       Thickness<br>in Feet       Description of Water-Bearing Formation       Estimated Yi<br>(gallons per mi         30.0       Very pale orange silty sand       Image: Section 3. RECORD OF CASING         Diameter       Pounds<br>(nches)       Threads<br>per foot       Depth in Feet       Length<br>Top       Type of Shoe       Perforat         2.0       4       0.0       40.0       10.0       point       20.0       Image: Section 4. RECORD OF MUDDING AND CEMENTING         Section 4. RECORD OF MUDDING AND CEMENTING         Depth in Feet       Hole         Section 4. RECORD OF MUDDING AND CEMENTING         Depth in Feet       Method of Placement         40.0       18.0       5.0       5.5       gravel packed       poured  | f                 |  |
| Section 2. PRINCIPAL WATER-BEARING STRATA         Depth in Feet       Thickness<br>in Feet       Description of Water-Bearing Formation       Estimated Yi<br>(gallons per mi         30.0       Very pale orange silty sand       Very pale orange silty sand       Image: Section 3. RECORD OF CASING         Section 3. RECORD OF CASING         Diameter (inches) per foot       Threads per in.         2.0       4       0.0       40.0       10.0       point       20.0         Section 4. RECORD OF MUDDING AND CEMENTING         Section 4. RECORD OF MUDDING AND CEMENTING         Section 4. RECORD OF MUDDING AND CEMENTING         Depth in Feet         Hole       Sacks       Cubic Feet       Method of Placement         40.0       18.0       5.0       5.5       gravel packed       poured   | f                 |  |
| Depth in FeetThickness<br>in FeetDescription of Water-Bearing FormationEstimated Yi<br>(gallons per mi30.0Very pale orange silty sand30.0Very pale orange silty sand30.0Section 3. RECORD OF CASINGSection 3. RECORD OF CASINGDiameter<br>(inches)Pounds<br>per foot2.040.040.010.09Section 4. RECORD OF MUDDING AND CEMENTINGSection 4. RECORD OF MUDDING AND CEMENTING1Diameter<br>of Mud1O <td></td>   |                   |  |
| 30.0       Very pale orange silty sand         30.0       Very pale orange silty sand         1       1   | eld<br>nute)      |  |
| Section 3. RECORD OF CASING       Diameter<br>(inches)     Pounds<br>per foot     Threads<br>per in.     Depth in Feet<br>Top     Length<br>Bottom     Type of Shoe     Perforat       2.0     4     0.0     40.0     10.0     point     20.0       3     4     0.0     40.0     10.0     point     20.0       4     0.0     40.0     10.0     point     20.0       5     5     5     Gravel packed     poured       40.0     18.0     5.0     1.0     bent. pellets     poured   |                   |  |
| Section 3. RECORD OF CASING         Diameter<br>(inches)       Pounds<br>per foot       Threads<br>per in.       Depth in Feet<br>Top       Length<br>(feet)       Type of Shoe       Perforat         2.0       4       0.0       40.0       10.0       point       20.0         4       0.0       40.0       10.0       point       20.0         5       5       Gravel perform       1       1         1       1       1       1       1       1         2.0       4       0.0       40.0       10.0       point       20.0         2.0       4       0.0       40.0       10.0       10.0       10.0       10.0         5       5       5       1 <td></td>   |                   |  |
| Section 3. RECORD OF CASING         Diameter<br>(inches)       Pounds<br>per foot       Threads<br>per in.       Depth in Feet       Length<br>(feet)       Type of Shoe       Perforat         2.0       4       0.0       40.0       10.0       point       20.0       20.0         2.0       4       0.0       40.0       10.0       point       20.0       20.0         2.0       4       0.0       40.0       10.0       point       20.0       4         2.0       4       0.0       5.8       Cubic Feet       10       10       10         2.0       18.0       5.0       5.5       gravel packed       poured       18.0       16.0       5.0       1.0       bent. pellets       poured   |                   |  |
| Section 3. RECORD OF CASINGDiameter<br>(inches)Pounds<br>per footThreads<br>per in.Depth in Feet<br>TopLength<br>(feet)Type of ShoePerforat2.040.040.010.0point20.042.040.040.010.0point20.042.040.040.010.0point20.042.040.040.010.0point20.042.040.040.010.0point20.042.040.040.010.0point20.042.040.040.010.0point20.042.040.05.01.010.0point20.040.05.05.5gravel packedpoured40.018.05.01.0bent. pelletspoured  |                   |  |
| Diameter<br>(inches)Pounds<br>per footThreads<br>per in.Depth in Feet<br>TopLength<br>(feet)Type of ShoePerforat2.040.040.010.0point20.02.040.040.010.0point20.02.040.040.010.0point20.02.040.040.010.0point20.02.040.040.010.0point20.02.040.040.010.0point20.02.040.040.010.0point20.02.040.040.010.0point20.02.055Cubic Feet<br>of MudMethod of Placement40.018.05.05.5gravel packed<br>poured18.016.05.01.0bent. pellets<br>poured  |                   |  |
| (inclus)per lootper in.TopBottom(teet)In.From2.040.040.010.0point20.02.040.040.010.0point20.0Section 4. RECORD OF MUDDING AND CEMENTINGSection 4. RECORD OF MUDDING AND CEMENTINGDepth in FeetHoleFromToDiameterof MudOf CementMethod of Placement40.018.05.05.5gravel packedpoured18.016.05.01.0bent. pelletspoured  | ions              |  |
| Z.0     4     0.0     40.0     10.0     point     20.0       Section 4. RECORD OF MUDDING AND CEMENTING       Depth in Feet     Hole     Sacks     Cubic Feet     Method of Placement       40.0     18.0     5.0     5.5     gravel packed     poured       18.0     16.0     5.0     1.0     bent. pellets     poured   | <u> </u>          |  |
| Section 4. RECORD OF MUDDING AND CEMENTING       Depth in Feet     Hole     Sacks     Cubic Feet     Method of Placement       From     To     Diameter     of Mud     of Cement     Method of Placement       40.0     18.0     5.0     5.5     gravel packed     poured       18.0     16.0     5.0     1.0     bent. pellets     poured  | 40.0              |  |
| Section 4. RECORD OF MUDDING AND CEMENTING         Depth in Feet       Hole       Sacks       Cubic Feet       Method of Placement         From       To       Diameter       of Mud       of Cement       Method of Placement         40.0       18.0       5.0       5.5       gravel packed       poured         18.0       16.0       5.0       1.0       bent. pellets       poured  |                   |  |
| Depth in FeetHole<br>DiameterSacks<br>of MudCubic Feet<br>of CementMethod of Placement40.018.05.05.5gravel packedpoured18.016.05.01.0bent. pelletspoured  |                   |  |
| 40.0         18.0         5.0         5.5         gravel packed poured           18.0         16.0         5.0         1.0         bent. pellets poured   |                   |  |
| 18.0 16.0 5.0 1.0 bent. pellets poured  | ·                 |  |
|   |                   |  |
| 16.0 0.0 5.0 6.5 cement poured  |                   |  |
| Section 5. PLUGGING RECORD  |                   |  |

State Engineer Representative

Date Received

#### FOR USE OF STATE ENGINEER ONLY

Use

Quad \_\_\_\_\_ FWL \_\_\_\_ FSL\_\_\_

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\_\_\_\_\_ Location No. \_

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|          |        | w.c.ant              | Section 6. LOG OF HOLE                 |
|----------|--------|----------------------|--|
| Depth i  | n Feet | Thickness<br>in Feet | Color and Type of Material Encountered |
| From     | То     | In reet              |  |
| 0.0      | 20.0   | 20.0                 | Very pale orange silty sand w/caliche  |
| 20.0     | 25.0   | 5.0                  | Mod. grange pink silty sand            |
| 25.0     | 40.0   | 15.0                 | Very pale orange silty sand            |
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Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need by completed

#### STATE ENGINEER OFFICE WELL RECORD

Section 1. GENERAL INFORMATION

| (A) Owner of        | well <u>Amer</u>      | ada Hess             | Corpor               | ation         |              |                | Owner'                                | 's Well         | No. <u>MW-</u>              | -3                                    |
|---------------------|-----------------------|----------------------|----------------------|---------------|--------------|----------------|---------------------------------------|-----------------|-----------------------------|---------------------------------------|
| Street or I         | Post Office Add       | iress P.O.           | <u>Box 84</u>        | 0             |              |                |                                       |                 |                             | · · · · · · · · · · · · · · · · · · · |
| City and S          | itate <u>Semi</u>     | nole, T              | <u>x 79360</u>       | l             |              | <u> </u>       |                                       |                 |                             |                                       |
| Well was drilled    | under Permit N        | 1o                   |                      |               |              | and is located | GPS-N-32-3<br>in the: W-103-          | 5-27<br>18-2    | 7-8"<br>28-3                |                                       |
| a                   | · ¼ ¼                 | ¼                    | ¼ of Sec             | tion <u>1</u> | 2            | _ Township _I  | <u>-20-S</u> Rang                     | ge <u>R – 3</u> | 6-E                         | N.M.P.M.                              |
| b. Tract N          | lo                    | _ of Map No.         | ·                    | of            | f the .      |                |                                       |                 |                             |                                       |
| c. Lot No<br>Subdiv | ision, recorded       | of Block No<br>in    |                      | of            | f the_<br>Co | ounty.         |                                       | <u> </u>        |                             |                                       |
| d. X=<br>the        |                       | feet, Y=             |                      | fee           | t, N.M       | 1. Coordinate  | System                                |                 |                             | Zone in<br>Grant.                     |
| (B) Drilling Co     | ontractor <u> </u>    | Nhite Dr             | illing C             | Compan        | <u>y</u>     | ·              | License No                            | WD-             | -1456                       |                                       |
| AddressP            | .0. Box 9             | 906 -                | Clyde,               | ТХ            | 795          | 10             |                                       |                 |                             |                                       |
| Drilling Began _    | 3/14/01               | L Com                | pleted <u>3/1</u>    | 4/01          |              | . Type tools   | ·                                     | Siz             | e of hole                   | <u>5.0</u> in.                        |
| Elevation of lan    | d surface or <b>t</b> | op of ca             | sing ele             | evatia        | Well         | is 3558.2      | 0'ft. Total depth                     | of well         | 40.                         | <u>0</u> ft.                          |
| Completed well      | is 🗆 sh               | allow 🗖 a            | artesianMon <b>i</b> | ltor W        | e11          | Depth to wate  | r upon completion                     | of wel          | 40.                         | 0 ft.                                 |
|                     |                       | Sec                  | tion 2. PRIN         | CIPAL WA      | ATER         | BEARING S      | TRATA                                 |                 |                             |                                       |
| Depth i<br>From     | n Feet<br>To          | Thickness<br>in Feet | <sup>3</sup> E       | Description   | n of V       | Vater-Bearing  | Formation                             | (g              | Estimated 1<br>allons per n | r ield<br>ninute)                     |
| 30.0                |                       |                      | Ye11                 | owish         | gri          | ay silty       | sanđ                                  |                 |                             |                                       |
|                     |                       |                      |                      |               |              |                | · · · · · · · · · · · · · · · · · · · |                 |                             |                                       |
|                     |                       |                      |                      |               |              |                |                                       |                 |                             |                                       |
|                     |                       |                      |                      |               |              |                |                                       |                 |                             |                                       |
|                     |                       |                      | Section              | n 3. RECC     | ORD          | OF CASING      |                                       |                 |                             |                                       |
| Diameter            | Pounds                | Threads              | Depth                | in Feet       |              | Length         | Type of Sho                           | e               | Perfor                      | ations                                |
| (inches)            | per loot              | per in.              | Тор                  | Bottor        | m            | (reet)         |                                       |                 | From                        | To                                    |
| 2.0                 | <u> </u>              | 4                    | 0.0                  | 40.           | 0            | 10'            | point                                 |                 | 20.0                        | 40.0                                  |
|                     |                       |                      |                      |               |              |                |                                       |                 |                             |                                       |
|                     |                       |                      | 4 PEGG               |               |              |                |                                       |                 |                             | l                                     |
| Denth               | in Feet               | Sect                 | ion 4. KECOI         |               | ועעט         | ING AND CEN    | ALEIN LIING                           |                 | · · · ·                     |                                       |
| From                | То                    | Diameter             | Sack<br>of Mu        | uđ            | of           | Cement         | Metho                                 | d of P          | lacement                    |                                       |
|                     |                       |                      |                      |               | ····•        |                |                                       |                 |                             |                                       |

| 40.0 | 18.0 | 5.0 | 5.5 | gravel packed | poured |
|------|------|-----|-----|---------------|--------|
| 18.0 | 16.0 | 5.0 | 1.0 | bent. pellets | poured |
| 16.0 | 0.0  | 5.0 | 6.5 | cement        | poured |

#### Section 5. PLUGGING RECORD

| Plugging Contractor       |        |       |         |            |
|---------------------------|--------|-------|---------|------------|
| Address                   |        | Depth | in Feet | Cubic Feet |
| Plugging Method           | NO.    | Тор   | Bottom  | of Cement  |
| Date Well Plugged         | 1      |       |         |            |
| Plugging approved by:     | 2      |       |         |            |
|                           | 3      |       |         | 1          |
| State Engineer Representa | tive 4 |       |         |            |

#### FOR USE OF STATE ENGINEER ONLY

Use

Date Received

File No ...

\_\_\_\_\_ Location No.\_

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|          | Section 6. LOG OF HOLE |           |  |  |  |  |
|----------|------------------------|-----------|--|--|--|--|
| Depth    | in Feet                | Thickness | Color and Type of Material Encountered               |  |  |  |
| From     | То                     | in Feet   | Color and type of material Dicountered               |  |  |  |
|          | 10.0                   | 10.0      | Very pale orange silty sand w/hydrocarbon discolorat |  |  |  |
| 10.0     | 20.0                   | 10.0      | Very pale orange silty sand                          |  |  |  |
| 20.0     | 30.0                   | 10.0      | Yellowish gray silty sand w/caliche                  |  |  |  |
| 30.0     | 40.0                   | 10.0      | Yellowish gray silty sand                            |  |  |  |
|          |                        |           |  |  |  |  |
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Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is defined experience when this formation is a state of the section of the se

#### STATE ENGINEER OFFICE

#### WELL RECORD

#### Section 1. GENERAL INFORMATION

| (A) Owner of well Ame  | rada Hess (         | Corporation       | Owner                                     | 's Well No. MW-        | -4                |
|--|---------------------|-------------------|---|------------------------|-------------------|
| Street or Post Office Ad                                     | dress P.O.          | Box 840           |   |                        | ·                 |
| City and State <u>Sem</u> .<br>Well was drilled under Permit | No                  | 19300             | GPS-N-32<br>and is located in the: $W-10$ | -35-27-8"<br>3-18-28-3 |                   |
| a ¼ ¼  | · ¼                 | 4 of Section 12   | Township <u>T-20-S</u> Ran                | ge <u>R-36-E</u>       | N.M.P.M.          |
| b. Tract No  | of Map No           | of the            |   |                        |                   |
| c. Lot No<br>Subdivision, recorded                           | of Block No<br>1 in | of the            | county.                                   | , <u> </u>             |                   |
| d. X=<br>the   | _ feet, Y=          | feet, N           | M. Coordinate System                      |                        | Zone in<br>Grant. |
| (B) Drilling Contractor <u>W</u>                             | hite Drill          | ing Company       | License No.                               | WD-1456                |                   |
| Address P.O. Box   | 906 - C1            | yde, TX 7951      | 0   |                        |                   |
| Drilling Began3/14/0   | 1 Complete          | ed <u>3/14/01</u> | Type tools                                | Size of hole_          | <u>5.0</u> in.    |
| Elevation of land surface or _                               | top of cas          | sing elevatator   | al is <u>3560.70'</u> ft. Total depth     | of well 40.0           | ft.               |
| Completed well is s  | hallow 🗖 artes      | sianMonitor Wel   | Depth to water upon completion            | n of well <u>40.0</u>  | ft.               |
|  | Sectior             | 2. PRINCIPAL WATE | R-BEARING STRATA                          |                        |                   |
| Depth in Feet  | Thickness           |                   | Wata Dania Familia                        | Estimated              | Yield             |

| Depth | in Feet | Thickness | Description of Water-Bearing Formation | Estimated Yield<br>(gallons per minute) |  |
|-------|---------|-----------|--|---|--|
| From  | To      | in Feet   |  |   |  |
| 29.0  |         |           | very pale orange silty sand            |   |  |
|       |         |           |  |   |  |
|       |         |           | · · · · · · · · · · · · · · · · · · ·  | · · · · · · · · · · · · · · · · · · ·   |  |
|       | 1       |           |  |   |  |
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#### Section 3. RECORD OF CASING

| Diameter | Pounds<br>per foot | Threads | Depth in Feet |        | Length |              | Perforations |      |
|----------|--------------------|---------|---------------|--------|--------|--------------|--------------|------|
| (inches) |                    | per in. | Тор           | Bottom | (feet) | Type of Shoe | From         | То   |
| 2.0      |                    | 4       | 0.0           | 40.0   | 10'    | point        | 20.0         | 40.0 |
|          |                    |         |               |        |        |              |              |      |
| ····     |                    |         |               |        |        |              |              |      |
|          |                    |         |               |        |        |              |              | 1    |

Section 4. RECORD OF MUDDING AND CEMENTING

| Depth in Feet |      | Hole Sacks |        | Cubic Feet | Mathed of Placement |        |  |
|---------------|------|------------|--------|------------|---------------------|--------|--|
| From          | То   | Diameter   | of Mud | of Cement  | Method of Placement |        |  |
| 40.0          | 18.0 | 5.0        | 5.5    | gravel pac | ked                 | poured |  |
| 18.0          | 16.0 | 5.0        | 1.0    | bent. pell | ets                 | poured |  |
| 16.0          | 0.0  | 5.0        | 6.5    | cement     |                     | poured |  |

#### Section 5. PLUGGING RECORD

| Plugging Contractor   |                               |     |       |         |            |
|-----------------------|-------------------------------|-----|-------|---------|------------|
| Address               |                               |     | Depth | in Feet | Cubic Feet |
| Plugging Method       |                               | No. | Тор   | Bottom  | of Cement  |
| Date Well Plugged     | ·····                         | - 1 |       |         |            |
| Plugging approved by: |                               | 2   |       |         |            |
|                       |                               | 3   |       |         | ]          |
|                       | State Engineer Representative | 4   |       |         |            |

#### FOR USE OF STATE ENGINEER ONLY

\_\_ Use \_\_\_\_

Date Received

\_\_\_ FWL \_\_\_\_

\_\_\_\_\_ FSL\_\_\_

\_\_\_\_\_ Location No.\_\_\_\_'

| Depth in Feet         Thickess         Color and Type of Material Encountered           0.0         15.0         15.0         Very pale orange silty sand w/caliche           15.0         20.0         5.0         Pale yellowish orange silty sand           20.0         25.0         5.0         Light brown gravelly sand w/caliche           25.0         40.0         15.0         Very pale orange silty sand           20.0         20.0         20.0         20.0           20.0         20.0         20.0         20.0           20.0         20.0         20.0         20.0           20.0         20.0         20.0         20.0           20.0 | Section 6. LOG OF HOLE |                                       |           |  |  |  |
|---|------------------------|---------------------------------------|-----------|--|--|--|
| From         To         in Feet         Contain type of manna findements           0.0         15.0         15.0         Very pale orange silty sand w/caliche           15.0         20.0         5.0         Pale yellowish orange silty sand           20.0         25.0         5.0         Light brown gravelly sand w/limestone           25.0         40.0         15.0         Very pale orange silty sand           25.0         40.0         15.0         Very pale orange silty sand           25.0         40.0         15.0         Very pale orange silty sand  | Depth i                | n Feet                                | Thickness | Color and Type of Material Encountered |  |  |
| 0.0       15.0       15.0       Very pale orange silty sand w/caliche         15.0       20.0       5.0       Pale yellowish orange silty sand         20.0       25.0       5.0       Light brown gravelly sand w/limestone         25.0       40.0       15.0       Very pale orange silty sand   | From                   | To                                    | in Feet   | Color and Type of Material Encountered |  |  |
| 15.0       20.0       5.0       Pale yellowish orange silty sand         20.0       25.0       5.0       Light brown gravelly sand w/limestone         25.0       40.0       15.0       Very pale orange silty sand         25.0       20.0       20.0       20.0         25.0       40.0       15.0       Very pale orange silty sand         25.0       20.0       20.0       20.0         25.0       20.0       20.0       20.0       20.0         20.0       20.0       20.0       20.0       20.0         20.0       20.0       20.0       20.0       20.0         20.0       20.0       20.0       20.0       20.0         20.0       20.0       20.0       20.0       20.0         20.0       20.0       20.0       20.0       20.0         20.0       20.0       20.0       20.0       20.0         20.0       20.0       20.0       20.0       20.0 <t< td=""><td>0.0</td><td>15.0</td><td>15.0</td><td>Very pale orange silty sand w/caliche</td></t<>   | 0.0                    | 15.0                                  | 15.0      | Very pale orange silty sand w/caliche  |  |  |
| 20.0       25.0       5.0       Light brown gravelly sand v/limestone         25.0       40.0       15.0       Very pale orange silty sand  | 15.0                   | 20.0                                  | 5.0       | Pale yellowish orange silty sand       |  |  |
| 25.0       40.0       15.0       Very pale orange silty sand  | 20.0                   | 25.0                                  | 5.0       | Light brown gravelly sand w/limestone  |  |  |
|   | 25.0                   | 40.0                                  | 15.0      | Very pale orange silty sand            |  |  |
|   |                        |                                       |           |  |  |  |
|   |                        |                                       |           |  |  |  |
|   |                        |                                       | <br>      |  |  |  |
|   |                        |                                       |           |  |  |  |
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|   |                        |                                       |           |  |  |  |
|   |                        |                                       |           |  |  |  |
|   | <u></u>                |                                       |           |  |  |  |
|   |                        | · · · · · · · · · · · · · · · · · · · |           |  |  |  |
|   |                        |                                       |           |  |  |  |
|   |                        | <u></u>                               |           |  |  |  |
|   |                        |                                       |           | · · · · · · · · · · · · · · · · · · ·  |  |  |
|   |                        |                                       |           |  |  |  |
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Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a/true and correct record of the above described hole.

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled renaired or despended. When this form is used as a plusaing record, apply Section 14 hereits and accurately as possible when any well is

Driller
1949 Aerial Photograph Courtesy of: Earth Data Analysis Center University of New Mexico

Byrd #4

Tank Battery









MW-1



MW-1









View to the northeast across large spill area



Abandoned Water Well #2





View to the southeast across south pit



View to the northwest from south pit area





Chemical drums on Byrd property



Byrd water well shed





Inside Byrd water well shed



View west at Byrd water station. Note pit edge in foreground





# **MILLENNIUM Laboratories, Inc.**

1544 SAWDUST ROAD \* SUITE 402 \* THE WOODLANDS, TEXAS 77380 \* 281-362-8490

| CLIENT: | Mark Ehrlich            |
|---------|-------------------------|
|         | Meridian Alliance Group |
|         | 306 West Wall Suite 600 |
|         | Midland, TX 79701       |
|         |                         |

Report No.:2001030122Report Date:03/30/2001

Phone: 915-682-5557

2001030122-2

2001030122-3

2001030122-4

2001030122-5

2001030122-6

2001030122-7

2001030122-8

Project Name: Amerada Hess Project Number: 07C005537-14 Received: 03/20/2001 Fax: 915-682-5593 Sampled by: Joe Mireles

Received: 03/20/2001 <u>Lab Number</u> 2001030122-1

Sample Identification MW-1 MW-2 MW-3 WW MW-2 MW-2 MW-3 WW

Our letters and reports are for the exclusive use of the client to whom they are addressed and shall not be reproduced except in full with out the approval of the testing laboratory. The use of our name must receive our prior written approval. Our letters and reports apply only to/the samples tested and are not necessarily indicative of the qualities of apparently identical or similar samples.

Technical - QA/QC review by : Matt Steere/Theresa Sorrells MILLENNIUM LABORATORIES, Inc.

Amanda Bourgeois/Daniel Duplechien Project Manager



April 6, 2001

Meridian Alliance Group Attn: Mr. Mark Ehrlich 306 West Wall, Suite 600 Midland, TX 79701

Millennium Labs Order Number: 2001030122 Project Name: Amerada Hess Project Number: 07C005537-14

Dear Mr. Ehrlich:

Enclosed you find the results of the samples submitted to Millennium Laboratories on 03/20/01 from the site referenced above.

Your samples for Pesticide and Herbicide analysis were sub-concontacted to PDP Analytical Services. The results and QC are enclosed.

As per your request and your revised chain, only BTEX is to be run on these soil samples.

Your sample "MW-1" (Millennium ID: 2001030122-1) was randomly chosen for use in Millennium's Quality Control Program for Metals by method 6020. The Matrix Spike recovery was outside the quality control limits, due to the high concentration of the original sample. A Laboratory Control Sample (LCS) was analyzed as part of the analytical batch and all recoveries were within acceptable limits.

This report retains its validity and integrity only when reported in full and accompanied by this letter. Any other use of this report must be granted, in writing, by Millennium Laboratories. All samples pertaining to this Order Number will be disposed of 60 days after the date of receipt, unless otherwise arranged in writing.

Please do not hesitate to contact us if you have any questions or comments concerning this report. Please reference the above Work Order Number.

Sincerely,

Danie)Duplechien Project Manager

Client: Meridian Alliance Group

| Sample No.: 1                 | 1 Date Collected: 03/19/2001 Time Collected: 14:04:00 |            | Matrix: Groundwater |                    |               |         |
|-------------------------------|---|------------|---------------------|--------------------|---------------|---------|
| Description: MW-1             | Projec  | t Name: A  | merada Hess         |                    |               |         |
| Test                          | Method  | Results    | Units               | Detection<br>Limit | Date Analyzed | Analyst |
| MtBE                          | SW-846 5030B/8021B                                    | <0.010     | mg/L                | 0.010              | 03/21/2001    | MEP     |
| Benzene                       | SW-846 5030B/8021B                                    | < 0.002    | mg/L                | 0.002              | 03/21/2001    | MEP     |
| Toluene                       | SW-846 5030B/8021B                                    | <0.005     | mg/L                | 0.005              | 03/21/2001    | MEP     |
| Ethylbenzene                  | SW-846 5030B/8021B                                    | <0.005     | mg/L                | 0.005              | 03/21/2001    | MEP     |
| Xylenes, total                | SW-846 5030B/8021B                                    | <0.005     | mg/L                | 0.005              | 03/21/2001    | MEP     |
| Bromofluorobenzene            | 8021 Surrogate  | 98.9       | % Rec.              | 0.000              | 03/21/2001    | MEP     |
| ГРН (1005) - C6 to C12        | TX 1005   | <5.00      | mg/L                | 5.000              | 03/23/2001    | KRW     |
| TPH (1005) - >C12 to C28      | TX 1005   | <5.00      | mg/L                | 5.000              | 03/23/2001    | KRW     |
| TPH (1005) - C6 to C28        | TX 1005   | <5.00      | mg/L                | 5.000              | 03/23/2001    | KRW     |
| <b>Fotal Dissolved Solids</b> | EPA 160.1   | 88638      | mg/L                | 10.000             | 03/21/2001    | TW      |
| Sulfate                       | EPA 300.0   | 1350       | mg/L                | 1.000              | 03/22/2001    | TW      |
| Chloride                      | EPA 300.0   | 16971      | mg/L                | 0.100              | 03/22/2001    | TW      |
| Bicarbonate/Carbonate         | EPA 310.1   | 163/0.36   | mg/L                | 0.000              | 03/26/2001    | TW      |
| Calcium                       | SW-846 3010A/6020                                     | 1,659      | mg/L                | 0.100              | 03/26/2001    | KF      |
| Magnesium                     | SW-846 3010A/6020                                     | 482        | mg/L                | 0.100              | 03/26/2001    | KF      |
| Potassium                     | SW-846 3010A/6020                                     | 45.2       | mg/L                | 0.100              | 03/26/2001    | KF      |
| Sodium                        | SW-846 3010A/6020                                     | 9,643      | mg/L                | 0.100              | 03/26/2001    | KF      |
| Sample No.: 2                 | Date Collected: 03/19/2                               | 2001       | Time Collecte       | ed: 13:33:00       | Matrix: Groun | ndwater |
| Description: MW-4             | Projec  | t Name: Ar | nerada Hess         |                    |               |         |
| Test                          | Method  | Results    | Units               | Detection<br>Limit | Date Analyzed | Analyst |
| MtBE                          | SW-846 5030B/8021B                                    | <0.010     | mg/L                | 0.010              | 03/21/2001    | MEP     |
| Benzene                       | SW-846 5030B/8021B                                    | 0.018      | mg/L                | 0.002              | 03/21/2001    | MEP     |
| Foluene                       | SW-846 5030B/8021B                                    | <0.005     | mg/L                | 0.005              | 03/21/2001    | MEP     |
| Ethylbenzene                  | SW-846 5030B/8021B                                    | <0.005     | mg/L                | 0.005              | 03/21/2001    | MEP     |
| Xylenes, total                | SW-846 5030B/8021B                                    | <0.005     | mg/L                | 0.005              | 03/21/2001    | MEP     |
| Bromofluorobenzene            | 8021 Surrogate  | 99.8       | % Rec.              | 0.000              | 03/21/2001    | MEP     |
| ГРН (1005) - C6 to C12        | TX 1005   | <5.00      | mg/L                | 5.000              | 03/23/2001    | KRW     |
| ГРН (1005) - >C12 to C28      | TX 1005   | <5.00      | mg/L                | 5.000              | 03/23/2001    | KRW     |
| TPH (1005) - C6 to C28        | TX 1005   | <5.00      | mg/L                | 5.000              | 03/23/2001    | KRW     |
| Fotal Dissolved Solids        | EPA 160.1   | 23414      | mg/L                | 10.000             | 03/21/2001    | TW      |
| Sulfate                       | EPA 300.0   | 1321       | mg/L                | 1.000              | 03/22/2001    | TW      |
| Chloride                      | EPA 300.0   | 15209      | mg/L                | 0.100              | 03/22/2001    | TW      |
| Bicarbonate/Carbonate         | EPA 310.1   | 166/0.48   | mg/L                | 0.000              | 03/26/2001    | TW      |
| Calcium                       | SW-846 3010A/6020                                     | 1,443      | mg/L                | 0.100              | 03/26/2001    | KF      |
| Magnesium                     | SW-846 3010A/6020                                     | 434        | mg/L                | 0.100              | 03/26/2001    | KF      |
| Potassium                     | SW-846 3010A/6020                                     | 34.0       | mg/L                | . 0.100            | 03/26/2001    | KF      |
| Sodium                        | SW-846 3010A/6020                                     | 8,394      | mg/L                | 0.100              | 03/26/2001    | KF      |
|                               |   |            |                     |                    |               |         |

Client: Meridian Alliance Group

|   | Date Collected: 03/19/2  | 2001  | Time Collecte   | ed: 15:01:00   | Matrix: Groun  | ndwater   |
|---|--|---|---|--|--|---|
| Description: MW-2   | Projec   | t Name: Ar  | nerada Hess   |  |  |   |
| Test  | Method   | Results   | Units   | Detection<br>Limit   | Date Analyzed  | Analyst   |
| MtBE  | SW-846 5030B/8021B   | <0.010  | mg/L  | 0.010  | 03/21/2001   | MEP   |
| Benzene   | SW-846 5030B/8021B   | 0.097   | mg/L  | 0.002  | 03/21/2001   | MEP   |
| Toluene   | SW-846 5030B/8021B   | <0.005  | mg/L  | 0.005  | 03/21/2001   | MEP   |
| Ethylbenzene  | SW-846 5030B/8021B   | <0.005  | mg/L  | 0.005  | 03/21/2001   | MEP   |
| Xylenes, total  | SW-846 5030B/8021B   | <0.005  | mg/L  | 0.005  | 03/21/2001   | MEP   |
| Bromofluorobenzene  | 8021 Surrogate   | 102   | % Rec.  | 0.000  | 03/21/2001   | MEP   |
| Total Dissolved Solids  | EPA 160.1  | 25608   | mg/L  | 10.000   | 03/21/2001   | TW  |
| Sulfate   | EPA 300.0  | 1410  | mg/L  | 1.000  | 03/22/2001   | TW  |
| Chloride  | EPA 300.0  | 19108   | mg/L  | 0.100  | 03/22/2001   | TW  |
| Bicarbonate/Carbonate   | EPA 310.1  | 1.88/8.44   | mg/L  | 0.000  | 03/26/2001   | TW  |
| Calcium   | SW-846 3010A/6020  | 2,425   | mg/L  | 0.100  | 03/26/2001   | KF  |
| Magnesium   | SW-846 3010A/6020  | 630   | mg/L  | 0.100  | 03/26/2001   | KF  |
| Potassium   | SW-846 3010A/6020  | 74.7  | mg/L  | 0.100  | 03/26/2001   | KF  |
| Sodium  | SW-846 3010A/6020  | 8,859   | mg/L  | 0.100  | 03/26/2001   | KF  |
| Sample No.: 4   | Date Collected: 03/19/2  | 2001  | Time Collecte   | ed: 15:30:00   | Matrix: Grour  | ndwater   |
| Description: MW-3   | Projec   | t Name: Ar  | nerada Hess   |  |  |   |
| Test  | Method   | Results   | Units   | Detection<br>Limit   | Date Analyzed  | Analyst   |
| MtBE  | SW-846 5030B/8021B   | <0.010  | mg/L  | 0.010  | 03/21/2001   | MEP   |
| Benzene   | SW-846 5030B/8021B   | 0.054   | mg/L  | 0.002  | 03/21/2001   | MEP   |
|   |  |   |   |  |  |   |
| Toluene   | SW-846 5030B/8021B   | <0.005  | mg/L  | 0.005  | 03/21/2001   | MEP   |
| Foluene<br>Ethylbenzene   | SW-846 5030B/8021B<br>SW-846 5030B/8021B   | <0.005<br><0.005  | mg/L<br>mg/L  | 0.005<br>0.005   | 03/21/2001<br>03/21/2001   | MEP<br>MEP  |
| Toluene<br>Ethylbenzene<br>Xylenes, total   | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B   | <0.005<br><0.005<br><0.005  | mg/L<br>mg/L<br>mg/L  | 0.005<br>0.005<br>0.005  | 03/21/2001<br>03/21/2001<br>03/21/2001   | MEP<br>MEP<br>MEP   |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene   | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate   | <0.005<br><0.005<br><0.005<br>87.6  | mg/L<br>mg/L<br>mg/L<br>% Rec.  | 0.005<br>0.005<br>0.005<br>0.000   | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001   | MEP<br>MEP<br>MEP<br>MEP  |
| Foluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Fotal Dissolved Solids   | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1  | <0.005<br><0.005<br><0.005<br>87.6<br>23898   | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L  | 0.005<br>0.005<br>0.005<br>0.000<br>10.000   | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001   | MEP<br>MEP<br>MEP<br>TW   |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate  | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0   | <0.005<br><0.005<br><0.005<br>87.6<br>23898<br>1189   | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L  | 0.005<br>0.005<br>0.005<br>0.000<br>10.000<br>1.000  | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001   | MEP<br>MEP<br>MEP<br>TW<br>TW   |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride  | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0  | <0.005<br><0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623  | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L  | 0.005<br>0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100   | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001   | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW   |
| Foluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Fotal Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate   | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1   | <0.005<br><0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623<br>163/0.15  | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L<br>mg/L  | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.000   | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001   | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW   |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate<br>Calcium  | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1<br>SW-846 3010A/6020  | <0.005<br><0.005<br><7.6<br>23898<br>1189<br>14623<br>163/0.15<br>1,755   | mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L  | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.100<br>0.100  | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001<br>03/26/2001   | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW<br>KF   |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate<br>Calcium<br>Magnesium   | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1<br>SW-846 3010A/6020<br>SW-846 3010A/6020   | <0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623<br>163/0.15<br>1,755<br>581  | mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L  | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.100<br>0.100<br>0.100   | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001<br>03/26/2001   | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW<br>KF<br>KF   |
| Foluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate<br>Calcium<br>Magnesium<br>Potassium  | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>SW-846 3010A/6020  | <0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623<br>163/0.15<br>1,755<br>581<br>65.0  | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L  | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100  | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001   | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW<br>KF<br>KF   |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate<br>Calcium<br>Magnesium<br>Potassium<br>Sodium  | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>SW-846 3010A/6020  | <0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623<br>163/0.15<br>1,755<br>581<br>65.0<br>7,571   | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L                                  | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100   | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001   | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW<br>KF<br>KF<br>KF   |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate<br>Calcium<br>Magnesium<br>Potassium<br>Sodium  | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>Date Collected: 03/19/2   | <0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623<br>163/0.15<br>1,755<br>581<br>65.0<br>7,571<br>2001   | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L                                  | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100  | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>Matrix: Groun                                | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW<br>KF<br>KF<br>KF<br>KF                                     |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate<br>Calcium<br>Magnesium<br>Potassium<br>Sodium<br>Sample No.: 5<br>Description: WW                            | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>Date Collected: 03/19/2<br>Projec   | <0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623<br>163/0.15<br>1,755<br>581<br>65.0<br>7,571<br>2001<br>t Name: Art                                      | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L                          | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100   | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>Matrix: Groun                                | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW<br>KF<br>KF<br>KF<br>KF                                     |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate<br>Calcium<br>Magnesium<br>Potassium<br>Sodium<br>Sample No.: 5<br>Description: WW<br>Test                    | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>Date Collected: 03/19/2<br>Projec<br>Method   | <0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623<br>163/0.15<br>1,755<br>581<br>65.0<br>7,571<br>2001<br>t Name: An<br><b>Results</b>                     | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>Time Collecte<br>nerada Hess                  | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100   | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>Matrix: Groun  | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW<br>KF<br>KF<br>KF<br>KF<br>adwater                          |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate<br>Calcium<br>Magnesium<br>Potassium<br>Sodium<br>Sample No.: 5<br>Description: WW<br>Test<br>MtBE            | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>Date Collected: 03/19/2<br>Projec<br>Method<br>SW-846 5030B/8021B                       | <0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623<br>163/0.15<br>1,755<br>581<br>65.0<br>7,571<br>2001<br>t Name: An<br><b>Results</b><br><0.010           | mg/L<br>mg/L<br>mg/L<br>% Rec.<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>Time Collecte<br>nerada Hess<br>Units<br>mg/L | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100  | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>Matrix: Groun  | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW<br>KF<br>KF<br>KF<br>KF<br>adwater<br>MEP                   |
| Toluene<br>Ethylbenzene<br>Xylenes, total<br>Bromofluorobenzene<br>Total Dissolved Solids<br>Sulfate<br>Chloride<br>Bicarbonate/Carbonate<br>Calcium<br>Magnesium<br>Potassium<br>Sodium<br>Sample No.: 5<br>Description: WW<br>Test<br>MtBE<br>Benzene | SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>8021 Surrogate<br>EPA 160.1<br>EPA 300.0<br>EPA 300.0<br>EPA 310.1<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>SW-846 3010A/6020<br>Date Collected: 03/19/2<br>Projec<br>Method<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B | <0.005<br><0.005<br>87.6<br>23898<br>1189<br>14623<br>163/0.15<br>1,755<br>581<br>65.0<br>7,571<br>2001<br>t Name: An<br><b>Results</b><br><0.010<br><0.002 | mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L  | 0.005<br>0.005<br>0.000<br>10.000<br>1.000<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.000<br>0.100<br>0.000<br>0.100<br>0.000<br>0.000<br>0.000<br>0.000<br>0.000<br>0.000<br>0.000<br>0.000<br>0.000<br>0.000<br>0.100<br>0.000<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.100<br>0.001<br>0.001<br>0.001<br>0.001<br>0.002 | 03/21/2001<br>03/21/2001<br>03/21/2001<br>03/21/2001<br>03/22/2001<br>03/22/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>03/26/2001<br>Matrix: Groun<br>Date Analyzed<br>03/21/2001<br>03/21/2001 | MEP<br>MEP<br>MEP<br>TW<br>TW<br>TW<br>TW<br>KF<br>KF<br>KF<br>KF<br>adwater<br>Analyst<br>MEP<br>MEP |

Client: Meridian Alliance Group

| Sample No.: 5          | Date Collected: 03/19 | 0/2001      | Time Collected: 14:32:00 |                    | Matrix: Groundwater |         |
|------------------------|-----------------------|-------------|--------------------------|--------------------|---------------------|---------|
| Description: WW        | Proje                 | ect Name: A | merada Hess              |                    |                     |         |
| Test                   | Method                | Results     | Units                    | Detection<br>Limit | Date Analyzed       | Analyst |
| Ethylbenzene           | SW-846 5030B/8021     | B <0.005    | mg/L                     | 0.005              | 03/21/2001          | MEP     |
| Xylenes, total         | SW-846 5030B/8021     | B <0.005    | mg/L                     | 0.005              | 03/21/2001          | MEP     |
| Bromofluorobenzene     | 8021 Surrogate        | 97.9        | mg/L                     | 0.000              | 03/21/2001          | MEP     |
| Total Dissolved Solids | EPA 160.1             | 4071        | mg/L                     | 10.000             | 03/21/2001          | TW      |
| Sulfate                | EPA 300.0             | 86.1        | mg/L                     | 1.000              | 03/22/2001          | TW      |
| Chloride               | EPA 300.0             | 2081        | mg/L                     | 0.100              | 03/22/2001          | TW      |
| Bicarbonate/Carbonate  | EPA 310.1             | 40.7/139    | mg/L                     | 0.000              | 03/26/2001          | TW      |
| Calcium                | SW-846 3010A/6020     | 530         | mg/L                     | 0.100              | 03/26/2001          | KF      |
| Magnesium              | SW-846 3010A/6020     | ) 129       | mg/L                     | 0.100              | 03/26/2001          | KF      |
| Potassium              | SW-846 3010A/6020     | ) 42.5      | mg/L                     | 0.100              | 03/26/2001          | KF      |
| Sodium                 | SW-846 3010A/6020     | 820         | mg/L                     | 0.100              | 03/26/2001          | KF      |
| Sample No.: 6          | Date Collected: 03/19 | /2001       | Time Collect             | ed: 15:01:00       | Matrix: Groun       | ndwater |
| Description: MW-2      | Proje                 | ect Name: A | merada Hess              |                    |                     |         |
| Test                   | Method                | Results     | Units                    | Detection<br>Limit | Date Analyzed       | Analyst |
| 2,4,5-T                | SW-846 8151           | <0.12       | UG/L                     | 0.120              | 03/27/2000          | PDP     |
| 2,4,5-Tp               | SW-846 8151           | <0.12       | UG/L                     | 0.120              | 03/27/2000          | PDP     |
| 2,4-D                  | SW-846 8151           | <1.2        | UG/L                     | 1.200              | 03/27/2000          | PDP     |
| 2,4-Db                 | SW-846 8151           | <1.2        | UG/L                     | 1.200              | 03/27/2000          | PDP     |
| Dicamba                | SW-846 8151           | <0.12       | UG/L                     | 0.120              | 03/27/2000          | PDP     |
| Dichloroprop           | SW-846 8151           | <1.2        | UG/L                     | 1.200              | 03/27/2000          | PDP     |
| MCPA                   | SW-846 8151           | <0.12       | MG/L                     | 0.120              | 03/27/2000          | PDP     |
| MCPP                   | SW-846 8151           | <0.12       | MG/L                     | 0.120              | 03/27/2000          | PDP     |
| alpha-BHC              | SW-846 8081A          | <0.05       | UG/L                     | 0.050              | 03/28/2000          | PDP     |
| beta-BHC               | SW-846 8081A          | <0.05       | UG/L                     | 0.050              | 03/28/2000          | PDP     |
| gamma-BHC              | SW-846 8081A          | <0.05       | UG/L                     | 0.050              | 03/28/2000          | PDP     |
| delta-BHC              | SW-846 8081A          | <0.05       | UG/L                     | 0.050              | 03/28/2000          | PDP     |
| Heptachlor             | SW-846 8081A          | <0.05       | UG/L                     | 0.050              | 03/28/2000          | PDP     |
| Aldrin                 | SW-846 8081A          | <0.05       | UG/L                     | 0.050              | 03/28/2000          | PDP     |
| Heptachlor epoxide     | SW-846 8081A          | <0.05       | UG/L                     | 0.050              | 03/28/2000          | PDP     |
| Endosulfan I           | SW-846 8081A          | <0.05       | UG/L                     | 0.050              | 03/28/2000          | PDP     |
| 4,4'-DDE               | SW-846 8081A          | <0.10       | UG/L                     | 0.100              | 03/28/2000          | PDP     |
| Dieldrin               | SW-846 8081A          | <0.10       | UG/L                     | 0.100              | 03/28/2000          | PDP     |
| Endrin                 | SW-846 8081A          | <0.10       | UG/L                     | 0.100              | 03/28/2000          | PDP     |
| Endosulfan II          | SW-846 8081A          | <0.10       | UG/L                     | 0.100              | 03/28/2000          | PDP     |
| 4,4'-DDD               | SW-846 8081A          | <0.10       | UG/L                     | 0.100              | 03/28/2000          | PDP     |
| Endrin aldehyde        | SW-846 8081A          | <0.10       | UG/L                     | 0.100              | 03/28/2000          | PDP     |
| Endosulfan sulfate     | SW-846 8081A          | <0.10       | UG/L                     | 0.100              | 03/28/2000          | PDP     |
| 4,4'-DDT               | SW-846 8081A          | <0.10       | UG/L                     | 0.100              | 03/28/2000          | PDP     |
| Methoxychlor           | SW-846 8081A          | <0.50       | UG/L                     | 0.500              | 03/28/2000 *        | PDP     |

Client: Meridian Alliance Group

| Sample No.: 6      | Date Collected: 03/19 | 9/2001      | Time Collecte | ed: 15:01:00       | Matrix: Groundwater |         |
|--------------------|-----------------------|-------------|---------------|--------------------|---------------------|---------|
| Description: MW-2  | Proj                  | ect Name: A | merada Hess   |                    |                     |         |
| Test               | Method                | Results     | Units         | Detection<br>Limit | Date Analyzed       | Analyst |
| Endrin ketone      | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2000          | PDP     |
| alpha-Chlordane    | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2000          | PDP     |
| gamma-Chlordane    | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2000          | PDP     |
| Toxaphene          | SW-846 8081A          | <1.0        | UG/L          | 1.000              | 03/28/2000          | PDP     |
| Sample No.: 7      | Date Collected: 03/19 | 9/2001      | Time Collecte | ed: 15:30:00       | Matrix: Grour       | ndwater |
| Description: MW-3  | Proj                  | ect Name: A | merada Hess   |                    |                     |         |
| Test               | Method                | Results     | Units         | Detection<br>Limit | Date Analyzed       | Analyst |
| 2,4,5-T            | SW-846 8151           | <0.12       | UG/L          | 0.120              | 03/27/2001          | PDP     |
| 2,4,5-Tp           | SW-846 8151           | <0.12       | UG/L          | 0.120              | 03/27/2000          | PDP     |
| 2,4-D              | SW-846 8151           | 0.221       | UG/L          | 1.200              | 03/27/2000          | PDP     |
| 2,4-Db             | SW-846 8151           | <1.2        | UG/L          | 1.200              | 03/27/2000          | PDP     |
| Dicamba            | SW-846 8151           | <0.12       | UG/L          | 0.120              | 03/27/2000          | PDP     |
| Dichloroprop       | SW-846 8151           | <1.2        | UG/L          | 1.200              | 03/27/2000          | PDP     |
| MCPA               | SW-846 8151           | 0.04        | MG/L          | 0.120              | 03/27/2000          | PDP     |
| МСРР               | SW-846 8151           | <0.12       | MG/L          | 0.120              | 03/27/2001          | PDP     |
| alpha-BHC          | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2001          | PDP     |
| beta-BHC           | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2001          | PDP     |
| gamma-BHC          | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2001          | PDP     |
| delta-BHC          | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2001          | PDP     |
| Heptachlor         | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2001          | PDP     |
| Aldrin             | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2001          | PDP     |
| Heptachlor epoxide | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2001          | PDP     |
| Endosulfan I       | SW-846 8081A          | <0.05       | UG/L          | 0.050              | 03/28/2001          | PDP     |
| 4,4'-DDE           | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2001          | PDP     |
| Dieldrin           | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2001          | PDP     |
| Endrin             | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2001          | PDP     |
| Endosulfan II      | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2001          | PDP     |
| 4,4'-DDD           | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2001          | PDP     |
| Endrin aldehyde    | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2001          | PDP     |
| Endosulfan sulfate | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2001          | PDP     |
| 4,4'-DDT           | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2001          | PDP     |
| Methoxychlor       | SW-846 8081A          | <0.50       | UG/L          | 0.500              | 03/28/2001          | PDP     |
| Endrin ketone      | SW-846 8081A          | <0.10       | UG/L          | 0.100              | 03/28/2001          | PDP     |
| alpha-Chlordane    | SW-846 8081A          | <0.05       | UG/L          | 0.500              | 03/28/2001          | PDP     |
| gamma-Chlordane    | SW-846 8081A          | <0.05       | UG/L          | 0.500              | 03/28/2001          | PDP     |
| Toxaphene          | SW-846 8081A          | <1.0        | UG/L          | 1.000              | 03/28/2001          | PDP     |

Client: Meridian Alliance Group

| Sample No.: 8      | Date Collected: 03/1 | 9/2001                     | Time Collect | ed: 14:32:00       | Matrix: Groundwater |         |
|--------------------|----------------------|----------------------------|--------------|--------------------|---------------------|---------|
| Description: WW    | Proj                 | Project Name: Amerada Hess |              |                    |                     |         |
| Test               | Method               | Results                    | Units        | Detection<br>Limit | Date Analyzed       | Analyst |
| 2,4,5-T            | SW-846 8151          | <0.12                      | UG/L         | 0.120              | 03/27/2001          | PDP     |
| 2,4,5-Tp           | SW-846 8151          | <0.12                      | UG/L         | 0.120              | 03/27/2001          | PDP     |
| 2,4-D              | SW-846 8151          | <1.2                       | UG/L         | 1.200              | 03/27/2001          | PDP     |
| 2,4-Db             | SW-846 8151          | <1.2                       | UG/L         | 1.200              | 03/27/2001          | PDP     |
| Dicamba            | SW-846 8151          | < 0.12                     | UG/L         | 0.120              | 03/27/2001          | PDP     |
| Dichloroprop       | SW-846 8151          | <1.2                       | UG/L         | 1.200              | 03/27/2001          | PDP     |
| MCPA               | SW-846 8151          | <0.12                      | MG/L         | 0.120              | 03/27/2001          | PDP     |
| MCPP               | SW-846 8151          | <0.12                      | MG/L         | 0.120              | 03/27/2001          | PDP     |
| alpha-BHC          | SW-846 8081A         | <0.05                      | UG/L         | 0.050              | 03/28/2001          | PDP     |
| beta-BHC           | SW-846 8081A         | <0.05                      | UG/L         | 0.050              | 03/28/2001          | PDP     |
| gamma-BHC          | SW-846 8081A         | <0.05                      | UG/L         | 0.050              | 03/28/2001          | PDP     |
| delta-BHC          | SW-846 8081A         | <0.05                      | UG/L         | 0.050              | 03/28/2001          | PDP     |
| Heptachlor         | SW-846 8081A         | <0.05                      | UG/L         | 0.050              | 03/28/2001          | PDP     |
| Aldrin             | SW-846 8081A         | <0.05                      | UG/L         | 0.050              | 03/28/2001          | PDP     |
| Heptachlor epoxide | SW-846 8081A         | <0.05                      | UG/L         | 0.050              | 03/28/2001          | PDP     |
| Endosulfan I       | SW-846 8081A         | < 0.05                     | UG/L         | 0.050              | 03/28/2001          | PDP     |
| 4,4'-DDE           | SW-846 8081A         | <0.10                      | UG/L         | 0.100              | 03/28/2001          | PDP     |
| Dieldrin           | SW-846 8081A         | <0.10                      | UG/L         | 0.100              | 03/28/2001          | PDP     |
| Endrin             | SW-846 8081A         | <0.10                      | UG/L         | 0.100              | 03/28/2001          | PDP     |
| Endosulfan II      | SW-846 8081A         | <0.10                      | UG/L         | 0.100              | 03/28/2001          | PDP     |
| 4,4'-DDD           | SW-846 8081A         | <0.10                      | UG/L         | 0.100              | 03/28/2001          | PDP     |
| Endrin aldehyde    | SW-846 8081A         | <0.10                      | . UG/L       | 0.100              | 03/28/2001          | PDP     |
| Endosulfan sulfate | SW-846 8081A         | <0.10                      | UG/L         | 0.100              | 03/28/2001          | PDP     |
| 4,4'-DDT           | SW-846 8081A         | <0.10                      | UG/L         | 0.100              | 03/28/2001          | PDP     |
| Methoxychlor       | SW-846 8081A         | <0.50                      | UG/L         | 0.500              | 03/28/2001          | PDP     |
| Endrin ketone      | SW-846 8081A         | <0.10                      | UG/L         | 0.100              | 03/28/2001          | PDP     |
| alpha-Chlordane    | SW-846 8081A         | <0.05                      | UG/L         | 0.050              | 03/28/2001          | PDP     |
| gamma-Chlordane    | SW-846 8081A         | <0.05                      | UG/L         | 0.050              | 03/28/2001          | PDP     |
| Toxaphene          | SW-846 8081A         | <1.0                       | UG/L         | 1.000              | 03/28/2001          | PDP     |

QC Batch ID: 170125

# QC SUMMARY REPORT

BTEX by EPA Method 8021B - Water

## Laboratory Control Sample (LCS/LCSD) Method Blank Results

|                                       | Method | Spike | L      | CS       | L      | CSD      | LCS/D | QC          | Acceptance Criteria |
|---------------------------------------|--------|-------|--------|----------|--------|----------|-------|-------------|---------------------|
| CONSTITUENT                           | Blank  | Added | Result | Recovery | Result | Recovery | RPD   | RPD         | Spike % Recovery    |
| · · · · · · · · · · · · · · · · · · · | (ppm)  | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%)   | (%)         | (Low - High Limit)  |
| MtBE                                  | <0.010 | 0.100 | 0.100  | 99.6%    | 0.099  | 99.0%    | 1%    | <u>+</u> 30 | 70 - 130            |
| Benzene                               | <0.002 | 0.100 | 0.094  | 94.4%    | 0.098  | 97.6%    | 3%    | <u>+</u> 30 | 70 - 130            |
| Toluene                               | <0.005 | 0.100 | 0.093  | 93.3%    | 0.094  | 94.1%    | 1%    | <u>+</u> 30 | 70 - 130            |
| Ethylbenzene                          | <0.005 | 0.100 | 0.091  | 90.6%    | 0.092  | 92.0%    | 2%    | <u>±</u> 30 | 70 - 130            |
| Xylenes, total                        | <0.005 | 0.300 | 0.283  | 94.2%    | 0.285  | 95.1%    | 1%    | <u>+</u> 30 | 70 - 130            |

## Sample Matrix Spike (MS)

| · · · · · · · · · · · · · · · · · · · | Sample | Spike | ٨      | 1S       | M      | ISD      | MS/D | QC /        | Acceptance Criteria |
|---------------------------------------|--------|-------|--------|----------|--------|----------|------|-------------|---------------------|
| CONSTITUENT                           | Result | Added | Result | Recovery | Result | Recovery | RPD  | RPD         | Spike % Recovery    |
|                                       | (ppm)  | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%)  | (%)         | (Low - High Limit)  |
| MtBE                                  | <0.010 | 0.100 | 0.105  | 105.2%   | 0.106  | 106.0%   | 1%   | <u>+</u> 30 | 70 - 130            |
| Benzene                               | <0.002 | 0.100 | 0.090  | 89.5%    | 0.078  | 78.1%    | 14%  | <u>+</u> 30 | 70 - 130            |
| Toluene                               | <0.005 | 0.100 | 0.095  | 94.8%    | 0.082  | 82.3%    | 14%  | ± 30        | 70 - 130            |
| Ethylbenzene                          | <0.005 | 0.100 | 0.094  | 93.6%    | 0.082  | 82.1%    | 13%  | <u>+</u> 30 | 70 - 130            |
| Xylenes, Total                        | <0.005 | 0.300 | 0.274  | 91.4%    | 0.245  | 81.7%    | 11%  | <u>+</u> 30 | 70 - 130            |

| Sequence Date(s):   | 3/21/01      |
|---------------------|--------------|
| Sample ID - MS/MSD: | 2001030123-5 |
| Data Qualifiers:    |              |

| Project(s) In Batch: | 2001030124 (2)   |  |  |  |  |  |
|----------------------|------------------|--|--|--|--|--|
|                      | 2001030122 (1-5) |  |  |  |  |  |
|                      | 2001030123 (1-5) |  |  |  |  |  |
|                      | 2001030126 (1-4) |  |  |  |  |  |
|                      | 2001030127 (1-3) |  |  |  |  |  |

QC Batch ID: 0110022

# QC SUMMARY REPORT

TPH by TX1005 Method

Water Q.C.

## Laboratory Control Sample (LCS/LCSD) Method Blank Results

|   | Method | Spike | L      | CS       | L      | CSD      | LCS/D | QC .        | Acceptance Criteria |
|---|--------|-------|--------|----------|--------|----------|-------|-------------|---------------------|
| CONSTITUENT                               | Blank  | Added | Result | Recovery | Result | Recovery | RPD   | RPD         | Spike % Recovery    |
|   | (ppm)  | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%)   | (%)         | (Low - High Limit)  |
| TPH - C <sub>6</sub> to C <sub>12</sub>   | <5.00  | 100   | 111.0  | 111.0%   | 116.0  | 116.0%   | 4%    | <u>+</u> 30 | 70 - 130            |
| TPH - >C <sub>12</sub> to C <sub>28</sub> | <5.00  | 100   | 109.0  | 109.0%   | 116.0  | 116.0%   | 6%    | <u>+</u> 30 | 70 - 130            |
|   |        |       |        |          |        |          |       |             |                     |

Sequence Date(s):

3/23/01

Batch Extraction/Prep Date: 3/21/01

0/2 1/0

Data Qualifiers: NONE - associated with this batch of samples.

Project(s) In Batch:

2001030122 2001030123 2001030125 2001030126

# QC SUMMARY REPORT

QC Batch ID: 32201

Anions by EPA Method 300.0

3/22/01

#### Laboratory Control Sample (LCS)

| Method  | Spike   | L  | CS  | QC Acceptance Criteria   |
|---|---|--|---|--|
| Blank<br>(ppm)  | Added<br>(ppm)  | Result<br>(ppm)  | Recovery<br>(%)   | Spike % Recovery<br>(Low - High Limit)   |
| <dl< td=""><td>50.00</td><td>45.648</td><td>91.0%</td><td>90 - 110</td></dl<> | 50.00   | 45.648   | 91.0%   | 90 - 110   |
| <dl< td=""><td>50.00</td><td>46.425</td><td>93.0%</td><td>90 - 110</td></dl<> | 50.00   | 46.425   | 93.0%   | 90 - 110   |
|   | Method<br>Blank<br>(ppm)<br><dl<br><dl< td=""><td>MethodSpikeBlankAdded(ppm)(ppm)<dl< td="">50.00<dl< td="">50.00</dl<></dl<></td><td>Method         Spike         L           Blank         Added         Result           (ppm)         (ppm)         (ppm)           <dl< td="">         50.00         45.648           <dl< td="">         50.00         46.425</dl<></dl<></td><td>Method         Spike         LCS           Blank         Added         Result         Recovery           (ppm)         (ppm)         (ppm)         (%)           <dl< td="">         50.00         45.648         91.0%           <dl< td="">         50.00         46.425         93.0%</dl<></dl<></td></dl<></dl<br> | MethodSpikeBlankAdded(ppm)(ppm) <dl< td="">50.00<dl< td="">50.00</dl<></dl<> | Method         Spike         L           Blank         Added         Result           (ppm)         (ppm)         (ppm) <dl< td="">         50.00         45.648           <dl< td="">         50.00         46.425</dl<></dl<> | Method         Spike         LCS           Blank         Added         Result         Recovery           (ppm)         (ppm)         (ppm)         (%) <dl< td="">         50.00         45.648         91.0%           <dl< td="">         50.00         46.425         93.0%</dl<></dl<> |

#### Sample Matrix Spikes (MS)

|                     | Sample          | Sample Dup      | Spike          | A               | IS              | QC Acceptance Criteria                 |
|---------------------|-----------------|-----------------|----------------|-----------------|-----------------|--|
| CONSTITUENT         | Result<br>(ppm) | Result<br>(ppm) | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Spike % Recovery<br>(Low - High Limit) |
| Chloride            | 2081            | 2161            | 10.00          | 2090.200        | 92.0%           | 80 -120                                |
| Sulfate             | 86.1            | 89.2            | 10.00          | 94.900          | 88.0%           | 80 -120                                |
| Sequence Date(s):   |                 | 3/22            | /01            |                 | Batch Extrac    | tion/Prep Date:                        |
| Sample ID - MS/MSD: |                 | 2001030         | 0122-5         |                 |                 |  |

Data Qualifiers:

NONE - associated with this batch of samples.

Project(s) In Batch:

# QC SUMMARY REPORT

QC Batch ID: 32100

Total Dissolved Solids by EPA 160.1

#### Laboratory Control Sample (LCS)

|                        | Method | Spike  | L      | CS       | QC Acceptance Criteria |
|------------------------|--------|--------|--------|----------|------------------------|
| CONSTITUENT            | Blank  | Added  | Result | Recovery | Spike % Recovery       |
|                        | (ppm)  | (ppm)  | (ppm)  | (%)      | (Low - High Limit)     |
| Total Dissolved Solids | <10.0  | 420.00 | 398.00 | 95.0%    | 80 - 120               |

Sample/Sample Duplicate

|                        | Sample  | Sample  | Dup      | QC Acceptance Criteria |
|------------------------|---------|---------|----------|------------------------|
| CONSTITUENT            | Result  | Dup     | Recovery | % Recovery             |
|                        | (ppm)   | (ppm)   | (%)      | (Low - High Limit)     |
| Total Dissolved Solids | 4071.00 | 3824.00 | 97.0%    | 75 - 125               |

 Sequence Date(s):
 3/21/01
 Batch Extraction/Prep Date:

 Sample ID - Sample/Dup
 2001030122-5

Data Qualifiers: NONE - associated with this batch of samples.

Project(s) In Batch: 2001030122

3/21/01

# QC SUMMARY REPORT

QC Batch ID: 32601

Metals by EPA Method 6020

#### Laboratory Control Sample (LCS) Method Blank Results

|             | Method   | Spike          | L               | .CS             | QC Acceptance Criteria                 |
|-------------|--|----------------|-----------------|-----------------|--|
| CONSTITUENT | Blank<br>(ppm)   | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Spike % Recovery<br>(Low - High Limit) |
| Sodium      | <dl< td=""><td>5.00</td><td>4.965</td><td>99.0%</td><td>75 - 125</td></dl<>  | 5.00           | 4.965           | 99.0%           | 75 - 125                               |
| Magnesium   | <dl< td=""><td>5.00</td><td>5.146</td><td>103.0%</td><td>75 - 125</td></dl<> | 5.00           | 5.146           | 103.0%          | 75 - 125                               |
| Potassium   | <dl< td=""><td>5.00</td><td>4.881</td><td>98.0%</td><td>75 - 125</td></dl<>  | 5.00           | 4.881           | 98.0%           | 75 - 125                               |
| Calcium     | <dl< td=""><td>5.00</td><td>4.976</td><td>99.0%</td><td>75 - 125</td></dl<>  | 5.00           | 4.976           | 99.0%           | 75 - 125                               |

#### Sample Matrix Spikes (MS)

|             | Sample          | Spike          | 1               | <b>N</b> S      | QC Acceptance Criteria                 |
|-------------|-----------------|----------------|-----------------|-----------------|--|
| CONSTITUENT | Result<br>(ppm) | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Spike % Recovery<br>(Low - High Limit) |
| Sodium      | 9,643           | 1.00           | 9,509           | 0.0%            | 75 - 125                               |
| Magnesium   | 482             | 1.00           | 476             | 0.0%            | 75 - 125                               |
| Potassium   | 45.2            | 1.00           | 53.7            | 849.0%          | 75 - 125                               |
| Calcium     | 1,659           | 1.00           | 1,506           | 0.0%            | 75 - 125                               |

Sequence Date(s): 3/26/01

Batch Extraction/Prep Date:

3/23/01

Sample ID - MS/MSD: 2001030122-1

Data Qualifiers: "J" denotes analyte recovery above the MDL but below the reporting limit.

No contamination is associated with this value.

Project(s) In Batch: 2001030122

Sub-Contract Chain-or-Custody Record

| Millennium La  | boratories. Inc                                |                       | Chain-of-Cu       | stody Number   | Sub               | Contract Lab:   |
|--|--|-----------------------|-------------------|----------------|-------------------|---|
| REPORT TO:   | Billing Inforr                                 | nation                | 000               | <br>           | Company:          | 2,2,2   |
| Millennium Laboratories Inc.<br>Attn: Data Control Dept. | Millennium Laboratorie<br>Attn: Accounts Payab | es Inc.<br>Ie         | HO#:              | 53178          | Address:<br>City: |   |
| 1544 Sawdust Rd., Suite 402<br>The Woodlands TY 77380    | 1544 Sawdust Rd., Su<br>The Moodlands TY 7     | ite 402<br>7380       | Date Sent:        | 5-7/21         | State:            | Zip:  |
|  |  | 000                   | Turnaround Time:  | 10 Sex         | Attn:<br>Phone:   | - (   |
| Field Sample No /Identification                          | Date and Time                                  | Sample Type           | Sample Size       | Analysis Reque | ested             | Laboratory Remarks                                    |
| 2.2/25/26  | 7-5-1  | )<br>)<br>)           |                   | 1245 6         | /H_               | beda  |
| ( .  | ,  |                       |                   |                |                   |   |
| <u>م</u> ر   |  | >                     |                   | 5              |                   |   |
| -  |  |                       |                   |                |                   |   |
|  |  |                       |                   |                |                   |   |
|  |  |                       |                   |                |                   |   |
|  |  |                       |                   |                |                   |   |
|  |  |                       |                   |                |                   |   |
| -  |  |                       |                   |                |                   |   |
|  |  |                       |                   |                |                   |   |
| (signature)  | Date: 3/3<br>Time: /3                          | z <i>i (bi</i> Receiv | ed by:            |                |                   | Date:         S/ 24×64           Time:         21.445 |
| Relinquished by: (signature)                             | Date:<br>Time:                                 | Receiv<br>(signatu    | ed by:<br>ure)    |                |                   | Date:<br>Time:  |
| Relinquished by:<br>(signature)                          | Date:<br>Time:                                 | Receiv<br>(signatu    | ed by Laboratory: |                |                   | Date:<br>Time:  |

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## PDP Analytical Services 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380

Page 1 of 1

|                  |            |        | LCS     | /LCSD SU | MMARY F  | REPORT |          |            |           |          |           |
|------------------|------------|--------|---------|----------|----------|--------|----------|------------|-----------|----------|-----------|
|                  |            |        | CHLORIN | ATED HE  | RBICIDES | BY GC/ | ECD      |            |           |          |           |
| CLIENT NAME      | :          |        |         |          |          |        | DA       | re RECEIVE | D :       |          |           |
| PROJECT NAME     | :          |        |         |          |          |        | PR       | INTED ON   | : 4,      | /6/2001  | 9:05      |
| PROJECT NUMBER   | :          |        |         |          |          |        |          |            |           |          |           |
| SAMPLE MATRIX    | LIQUID     |        |         |          |          |        | ME       | THOD REFER | ENCE : SV | V846-815 | 1A        |
| LAB CONTROL SAMP | LE         |        |         |          |          |        | LAI      | 3 CONTROL  | SAMPLE D  | UPLICAT  | Ξ         |
| LCS SAMPLE ID    | HERL103    |        |         |          |          |        | LCS      | SD SAMPLE  | 1D : HI   | RL103D   |           |
| CLIENT SAMPLE ID | :          |        |         |          |          |        | CL       | IENT SAMPL | E ID :    |          |           |
| DATE ANALYZED    | :03/27/01  |        |         |          |          |        | DA       | TE ANALYZE | D :03     | 3/27/01  |           |
| INSTRUMENT FILE  | HEA08975.D |        |         |          |          |        | IN       | STRUMENT F | ILE : H   | EA08976  | .D        |
|                  |            |        | LCS     | LCSD     | LCS      | LCSD   | LCS      | LCSD       |           |          |           |
|                  |            |        | TRUE    | TRUE     | FOUND    | FOUND  | RECOVERY | RECOVERY   |           | RPD      | QC LIMITS |
| PARAMETER        |            | UNITS  | VALUE   | VALUE    | VALUE    | VALUE  | (*)      | (%)        | RPD       | LIMIT    | REC.      |
| 2,4,5-T          |            | UG/L   | 0.100   | 0.100    | 0.734    | 0.727  | 734 *    | 727 *      | 1.0       | 25       | 19 - 342  |
| 2,4,5-TP         |            | UG/L   | 0.500   | 0.500    | 0.500    | 0.459  | 100      | 92         | 8.3       | 25       | 62 - 162  |
| 2,4-D            |            | UG/L   | 5.00    | 5.00     | 4.58     | 4.46   | 92       | 89         | 3.3       | 25       | 41 - 168  |
| 2,4-DB           |            | UG/L   | 5.00    | 5.00     | 3.81     | 3.76   | 76       | 75         | 1.3       | 25       | 56 - 148  |
| Dalapon          |            | UG/L   | 12.6    | 12.6     | 1.52     | 1.55   | 12       | 12         | 0.0       | 25       | 2 - 2E+   |
| Dicamba          |            | UG/L   | 0.500   | 0.500    | 0.409    | 0.388  | 82       | 78         | 5.0       | 25       | 26 - 154  |
| Dichloroprop     |            | UG/L   | 5.00    | 5.00     | 5.27     | 4.73   | 105      | 95         | 10.0      | 25       | 52 - 175  |
| Dinoseb          |            | UG/L   | 2.50    | 2.50     | 1.86     | 1.71   | 74       | 68         | 8.5       | 25       | 5 - 125   |
| MCPA             |            | MG/L   | 0.500   | 0.500    | 0.473    | 0.426  | 95       | 85         | 11.1      | 25       | 45 - 145  |
|                  |            | 210 /7 | 0.000   | 0.500    | 0.000    |        |          |            |           |          |           |

\* Indicate values outside of QC limits

i

RPD:0out of10outside limitsSpike Recovery:2out of20outside limits

## PDP Analytical Services 1680 Lake Front Circle, Suite B, The Woodlands, TX 77380

Page 1 of 1

|                 |            |      | LCS    | /LCSD SU | IMMARY F | REPORT  |         |            |           |          |          |
|-----------------|------------|------|--------|----------|----------|---------|---------|------------|-----------|----------|----------|
|                 |            | OR   | GANOCH | LORINE F | PESTICID | ES BY G | C/ECD   |            |           |          |          |
| CLIENT NAME     | :          |      |        |          |          |         | DA      | TE RECEIVE | :D        |          |          |
| PROJECT NAME    | :          |      |        |          |          |         | PR      | INTED ON   | : 3/      | 28/2001  | 16:04    |
| PROJECT NUMBER  | :          |      |        |          |          |         |         |            |           |          |          |
| SAMPLE MATRIX   | : LIQUID   |      |        |          |          |         | ME      | THOD REFER | ENCE : SI | 1846-808 | 1A       |
| LAB CONTROL SAM | PLE        |      |        |          |          |         | LA      | B CONTROL  | SAMPLE (  | UPLICAT  | E        |
| LCS SAMPLE ID   | : PESL599  |      |        |          |          |         | LC      | SD SAMPLE  | ID : PE   | SL599D   |          |
| CLIENT SAMPLE I | D :        |      |        |          |          |         | CL      | IENT SAMPL | E ID :    |          |          |
| DATE ANALYZED   | : 03/28/01 |      |        |          |          |         | DA      | TE ANALYZE | D : 03    | 5/28/01  |          |
| INSTRUMENT FILE | : F11732.D |      |        |          |          |         | IN      | STRUMENT P | ILE : F   | 11733.D  |          |
|                 |            |      | LCS    | LCSD     | LCS      | LCSD    | LCS     | LCSD       | . 1       |          |          |
|                 |            |      | TRUE   | TRUE     | FOUND    | FOUN    | RECOVER | RECOVERY   |           | RPD      | QC LIMIT |
| PARAMETER       |            | UNIT | VALUE  | VALUE    | VALUE    | VALUE   | (%)     | (%)        | RPD       | LIMIT    | REC.     |
| 4,4`-DDT        |            | UG/L | 0.400  | 0.400    | 0.382    | 0.448   | 96      | 112        | 15.4      | 25       | 57 - 126 |
| Aldrin          |            | UG/L | 0.400  | 0.400    | 0.316    | 0.359   | 79      | 90         | 13.0      | 25       | 42 - 144 |
| Dieldrin        |            | UG/L | 0.400  | 0.400    | 0.371    | 0.407   | 93      | 102        | 9.2       | 25       | 49 - 125 |
| Endrin          |            | UG/L | 0.400  | 0.400    | 0.352    | 0.401   | 88      | 100        | 12.8      | 25       | 59 - 127 |
| gamma-BHC       |            | UG/L | 0.400  | 0.400    | 0.329    | 0.371   | 82      | 93         | 12.6      | 25       | 46 - 159 |
| Heptachlor      |            | UG/L | 0.400  | 0.400    | 0.333    | 0.378   | 83      | 95         | 13.5      | 25       | 49 - 172 |

\* Indicate values outside of QC limits

RPD:0out of6outside limitsSpike Recovery :0out of12outside limits

|             | Sage -        |                       | wher each chain     | per project | ine sample with                                  | st C <sub>10</sub> -C <sub>28</sub><br>ation | tal) - If TPH is non-<br>BTEX (notal)                      |  | (PP                            |           | 6                   | duib;              | ••• •<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>• | ners<br>unbe<br>imbe  | ontain<br>otal Nu<br>2 0 2 |         | 8         |   | 9       | 8       | 9       |   |      |      | <br>ie(s) Rec'd At           | Yes No                 |                              | 517 N                     |
|-------------|---------------|-----------------------|---------------------|-------------|--|--|--|--|--------------------------------|-----------|---------------------|--------------------|---|---|----------------------------|---------|-----------|---|---------|---------|---------|---|------|------|------------------------------|------------------------|------------------------------|---------------------------|
|             | ect Number    |                       | ×                   |             | ppm Analyze (                                    | pm concentr                                  | oling point based on TPH (To<br>Invest aromatic createst o | No   | Level III T                    |           |                     |                    | omments                                       |   |                            |         |           |   |         |         |         |   |      |      | Condition of Sam<br>Lab      | Custody Seal<br>Intact | Sample(s) Rec'd<br>Iced/Cool | Sample(s):                |
|             | Labs - Proj   |                       | AB USE ONL          | 3           | C6-C28 total > 100                               | C6-C28 total >5.0 p                          | the cleanest same<br>select sample with                    | Yes  | rel: Level II                  | 00<br>547 | Str P               | s/ca<br>hellog     | 0<br>N P-                                     | og voj  | 24°<br>2'8                 |         | /         | 1 | 1       |         |         |   |      |      | Time:                        | Time:                  | Time:                        | ncig                      |
|             | Aillennium I  |                       | 5                   | う - 7 00    | PAH-Soft: If, (                                  | PAH-water: If, (                             | DS: Analyze  | tx Results:                                  | porting Lev                    | )<br>     | ہ<br>۲۲ ـ<br>بر 162 | عده<br>(_۲,<br>۲۲۶ | ۲<br>۲<br>۲<br>۲<br>۲<br>۲<br>۲<br>۲          | 21-01<br>2-20<br>2-20<br>2-20<br>2-20<br>2-20<br>2-20<br>2-20 |                            | -       |           |   | 1 1     | -       | 1 1     |   |      |      | te:                          | te:                    | ate:                         | Le-1                      |
|             | <u>~</u>      | 191 Fax               | RMATION             | 4           | l sset   | me(s) Below                                  | Ind/ac   |  | Personnel Re                   |           | 1.8<br>0            | 8310<br>8310       | / 023<br>/ 50                                 | 01 H<br>28 H  | AT<br>Ag                   |         |           |   |         |         |         |   |      |      | <br>Da                       | Da                     | <u>um Labs:</u> Da           | C                         |
| d Suite 402 | Texas 77380   | (281) 362-84          | ROJECT INFOR        | TCOOSS3     | iame ada   | mpled by: Print Nar                          | Too M  |  | Meridian-Alliance  <br>Yes X N |           |                     |                    | OS  | EX<br>So<br>So<br>So<br>So<br>So                              | BT<br>Vater                |         |           |   |         | ~       |         |   |      |      | <br>                         |                        | d by Millenni                |                           |
| Sawdust     | Voodlands,    | 00 Phone              | Id NO               | Polor<br>O  | c per Site h                                     | л.<br>Х                                      | ation with   | thorized to 2                                | er to<br>narks                 |           | ſ.8<br>0            | 1158               | / 0/2   | H 85  | ATP<br>Groundw             | 1       |           |   |         |         |         |   |      | <br> | <br>Received by              | Received by            | Received                     | 1 miles                   |
| 1544        | The V         | (281) 362-849         | <b>VG INFORMATI</b> | 205537 - 14 | e-Imbursement Site - Invoic<br>Aliance agreement | led Project Site - Invoice per<br>/quote     | ing to Client - Include inform<br>Justody                  | oject - Millennium Labs is au<br>: Rush Fees | oject Manager                  |           | around Time         | ) Working Days     | 5 Working Days                                | - ХЭ.   | trix Method BT<br>S X G C  |         |           |   | ×       | - X     | X       |   |      |      | <br>1 <sup>TIMe:</sup> /7:05 | Time:                  | & instructions]              | From Client               |
| ES          |               |                       | INVOICIN            | .o.#: D7cc  | TNRCC R<br>Meridian-A                            | Non-Fund                                     | Direct Billi<br>Chain of C                                 | Priority Pr<br>invoice for                   | end Invoice                    |           | Dr Tum              |                    | ð   | Ĵ   | ted Mat<br>Time W          | X hosh  | 13 :33 (S |   | 12:012  | 15:30 × | 14:32 X | * |      | <br> | <br>Date: 3-19-0             | Jate:                  | pping address §              | Laboratory<br>Personnel   |
| RATORI      | •             | 0.                    |                     | 1           |  | 4  |  | <br>   | S E                            |           | t und               |                    |   |   | Collec<br>Date             | 3/19/01 | 3/19/01   |   | 3/19/01 | 11/1/01 | 3/9/01  |   | <br> |      | <br>le la                    |                        | ck copy for shi              | Contract                  |
| UM LABOF    | USTODY RECORD | <b>NLLIANCE GROUF</b> | REPORT TO:          |             |  | Mark Erlici                                  |  |  |                                |           | nun tes             | certion            |   |   | ple Identification.        | 1-01    | マーチ       |   | なっと     | w-J     | 5       |   |      |      | In Mue                       |                        | hipment: [see bac            | Next-day Air<br>FedEx-UPS |
| MILLEN      | CHAIN OF CI   | <b>MERIDIAN-A</b>     |                     | Houston     | Arlington  | 🔀 Midland 🖌                                  | Tyler  | Other Location:                              | Other Location:                | Remarks:  | 10950               | other              |   |   | Lab<br>No. Sam             | 1 M     | 2 11      |   | ~       | H MI    | S<br>S  |   |      |      | <br>Relinquished by:         | Relinquished by        | Method of Si                 | Express                   |

| R          | 2                   |           | each chain<br>Iroject | mple with                        | ې                                      | TPH Is non-                                     | (1010)                             |                     |        | e        | duip       | 2 to 1  | imbe:          | lotal Nr<br>Contain | 2     | Ч      | 2      |   |      |      |       |   | Rec'd At         |                        |                              | S              |
|------------|---------------------|-----------|-----------------------|----------------------------------|--|---|------------------------------------|---------------------|--------|----------|------------|---------|----------------|---------------------|-------|--------|--------|---|------|------|-------|---|------------------|------------------------|------------------------------|----------------|
| - bage     | đ                   |           | Number of per p       | alyze one sa                     | highest C <sub>10</sub><br>icentration | (PH (Total) - If<br>tent on BTEX (              |                                    | TRPP                |        | • •      | - 0        | ~ C     | ) - ;          | 5 @ 5               |       |        |        |   |      |      |       |   | Sample(s)<br>Lab |                        |                              | 11<br>11<br>11 |
| N. mbor    | ject number         | ×.        | 2                     | ppm And                          | opm con                                | pling point based on 1<br>I lowest aromatic con | No                                 | Level III           |        |          |            | omments |                |                     |       |        |        |   |      |      |       |   | Condition of     | Custody Seal<br>Intact | Sample(s) Rec'd<br>Iced/Cool | Tampar         |
| ahe - Droi | aus - Proj          | B USE ONL | 20                    | %-C28 total > 100                | 6-C28 total >5.0 t                     | the cleanest sam<br>elect sample with           | Yes                                | el: Level II        |        |          |            |         |                |                     |       |        |        |   |      |      |       |   | Time:            | Time:                  | Time:                        |                |
|            |                     | Γ         | )<br>J                | -Soit: If, C                     | -Water: If, C                          | S: Analyze #<br>detect.se                       | sults:                             | ng Leve             | 5.     | p,<br>S  | <u>יכי</u> | 9       | 12             | H                   |       |        |        |   |      |      |       |   |                  |                        |                              |                |
| Milla      |                     |           | 200                   | ∎¥<br>□                          |  |   | Fax Re                             | Reporti             |        | 5.       | <u>р</u>   | hnics   | looTo<br>looto | 9<br>99             |       |        |        |   |      |      |       |   | Date:            | Date:                  | Date:                        |                |
|            | Fax                 | TION      | 22                    | \$                               | Below:                                 | seles   |                                    | onnel               |        | (        | )158       | / 0/    | 78 H           | Vd<br>Solution      |       |        |        |   |      |      |       | - |                  |                        | <u>Labs:</u>                 |                |
| 402        | 380<br>2-8491       | VFORMA    | 5.500                 | H                                | nt Name(s)                             | 9.14  |                                    | ance Perso<br>No    |        | 1.8      | ;I+ ,      | / \$0   | H 10<br>EX     | TB<br>TP            |       |        |        |   |      |      |       |   |                  |                        | <u>ennium</u>                |                |
| d, Suite   | )Xas //<br>(281) 36 | JECT IN   | lumber                | e e e                            | oled by: Pri                           | N De  |                                    | ves                 |        |          |            | ·OS     | S0             | LL<br>IL            |       |        |        |   |      |      |       |   |                  |                        | oy Mill€                     |                |
| ust 🖌      | ands, 16<br>one (   | PRC       | Project               | Site Ng                          | Samp                                   | ۲.<br>-   | 10                                 | ž                   |        | 0        | 158        | / 0/3   | 28 H           | A¶<br>Mundwa        |       |        |        |   |      |      |       |   | <br>ived by:     | ived by:               | ceived [                     |                |
| 4 Sawd     | 490 Ph              | NOI       | h1- 0                 | voice per                        | ¥.                                     | ormation with                                   | authorized to                      | lefer to<br>temarks |        | 1.8      | / †ا<br>BE | TM -    | н 10<br>- хэ.  | TH<br>TT            |       |        |        |   |      |      |       |   | 9 Rece           | Rece                   | Rec                          |                |
| 154<br>The | 1 ne<br>1) 362-8    | FORMAT    | \$37                  | rment Site - In<br>reement       | Site - Invoice                         | nt - Include inf                                | lennium Labs i<br>s                | nager M             |        | 1 Time   | ng Days    | ng Days |                | Method<br>G C       | メ     | メ      | X      |   |      |      | <br>  |   | <br>": 17,0      |                        | uctions]                     | TC Colline     |
|            | (28-                | NI SNIC   | 000                   | CC Re-Imburst<br>ian-Alliance ag | Funded Project<br>nent/quote           | t Billing to Che<br>of Custody                  | ry Project - Mil<br>e for Rush Fee | Project Ma          |        | umaround | 10 Worki   | 5 Worki | Other:         | Matrix              |       |        |        |   |      | <br> | <br>: |   | TIM /            | ц<br>Ті                | ss & instr                   | Ĺ              |
|            |                     | IOVNI     | # 07                  | TNR(<br>Merid                    | Non-I<br>agreet                        | Direct  | Priori                             | voice 🕅             |        |          | 2<br>2     |         |                | e<br>N              | X 10  | X ac   | 32 X   |   | <br> | <br> | <br>  | _ | 3-19             |                        | ig addres                    |                |
| RIES       |                     |           | P.O.                  |                                  | X                                      |   |                                    | Send In<br>to:      |        |          |            | 2       |                | ollected<br>9 Tin   | 6115  | 0/ 15: | 6/ 14. | _ | <br> | <br> | <br>  |   | <br>Date         | Date:                  | r shippir                    | L              |
| RATO       |                     |           |                       |                                  | ich                                    |   |                                    |                     |        | tor      |            | ttach . |                | C<br>Date           | 3/19/ | 3/9/   | )er/   |   | <br> | <br> | <br>  |   | <br>R            |                        | k copy fo                    | L              |
| ABOI       | GROUP               | ö         |                       |                                  | Erl                                    |   |                                    |                     |        | test     | 4          | 9       |                | cation              |       |        | 16     |   |      |      |       |   | hul              |                        | [see bac                     | - **           |
| UM L       | IANCE               | EPORT 1   |                       |                                  | sk                                     |   |                                    |                     |        | 200      | an         | 5.5     |                | Identifi            | 1-1   | U.J    | 4<br>K |   |      |      |       |   | he M             |                        | ment:                        | L              |
| Nin al     | N-ALL               | R         | c                     | u                                | a Ma                                   |   | ä                                  | ij                  |        | s<br>S   | cide.      | ides    | 5              | Sample              | MM    | ML     | AL A   |   |      |      |       |   | 1 by:            | by                     | of Ship                      | L              |
| TAIN O     | ERIDIA              |           | Houstor               | Arlingt                          | 🗶 Midlan                               | ☐ Tyler   | her Locatio                        | her Locatio         | marks: | 0109     | erbi       | estes   | eH.            | <u>ه</u> .          |       | 2      |        | - | <br> | <br> | <br>  |   | <br>linquished   | linquished             | ethod (                      | A Greathe      |

# **MILLENNIUM Laboratories, Inc.**

1544 SAWDUST ROAD \* SUITE 402 \* THE WOODLANDS, TEXAS 77380 \* 281-362-8490

CLIENT: Curt Henderson Meridian Alliance Group 306 West Wall Suite 600 Midland, TX 79701 Report No.:2001030119Report Date:03/27/2001

Phone: 915-682-5557

Fax: 915-682-5593

Project Name: Amerada-Hess Byrd Lease Project Number: 07C005537 Received: 03/19/2001 Sampled by: A. Hale

Lab Number 2001030119-1 2001030119-2 2001030119-3 2001030119-4 2001030119-5 2001030119-6 Sample Identification MW-1@25-27 MW-2@25-27 MW-3@20-22 MW-3@25-27 MW-4@25-27 Drum Comp

Our letters and reports are for the exclusive use of the client to whom they are addressed and shall not be reproduced except in full with out the approval of the testing laboratory. The use of our name must receive our prior written approval. Our letters and reports apply only to the samples tested and are not necessarily indicative of the qualities of apparently identical or similar samples.

Technical - QA/QC review by : Matt Steere/Theresa Sorrells MILLENNIUM LABORATORIES, Inc.

Amanda Bourgeois/Daniel Duplechien Project Manager



MILLENNIUM LABORATORIES, INC.

March 27, 2001

Meridian Alliance Group Attn: Mr. Curt Henderson 306 West Wall, Suite 600 Midland, TX 79701

Millennium Labs Order Number: 2001030119 Project Name: Amerada-Hess Byrd Lease Project Number: 07C005537

Dear Mr. Henderson:

Enclosed you find the results of the samples submitted to Millennium Laboratories on 03/19/01 from the site referenced above.

Your sample "MW-4 @25-27" (Millennium ID: 2001030119-5) was randomly chosen for use in Millennium's Quality Control Program for Chloride by method 300.0. The Matrix Spike recovery was outside the quality control limits, due to the elevated concentration of the original sample. A Laboratory Control Sample (LCS) was analyzed as part of the analytical batch and all recoveries were within acceptable limits.

All procedures and analyses have been reviewed and meet the Quality Control limits established at Millennium Laboratories.

This report retains its validity and integrity only when reported in full and accompanied by this letter. Any other use of this report must be granted, in writing, by Millennium Laboratories. All samples pertaining to this Order Number will be disposed of 60 days after the date of receipt, unless otherwise arranged in writing.

Please do not hesitate to contact us if you have any questions or comments concerning this report. Please reference the above Work Order Number.

Sincerely,

Danie Duplechien Project Manager

| MELENNIUM LABORATORIES, INC. | 1544 Sawdust Road, Suite 402. The Woodlands, Texas 77380. ph. 281-362-8490. fax 281-362-8491. |
|------------------------------|---|

Report No: 2001030119

Client: Meridian Alliance Group Project Name: Amerada-Hess Project Number: 07C005537

**MBTEX/TPH Summary Report** 

| ample<br>umber | Sample<br>Description | Sample<br>Matrix | Benzene | Toluene | Ëthylbenzene | Xylenes,<br>total | Total<br>BTEX* | MtBE | трн<br>С6-С12 | ТРН<br>С12-С28 | TPH<br>C6-C28 | Lead | units |
|----------------|-----------------------|------------------|---------|---------|--------------|-------------------|----------------|------|---------------|----------------|---------------|------|-------|
| -              | ,<br>MW-1@25-27       | Soil             | <0.125  | <0.125  | <0.125       | <0.125            | QN             | N/A  | N/A           | N/A            | N/A           | N/A  | mg/Kg |
| 2              | MW-2@25-27            | Soil             | <0.125  | <0.125  | <0.125       | <0.125            | QN             | N/A  | N/A           | N/A            | N/A           | N/A  | mg/Kg |
| e              | MW-3@20-22            | Soil             | <0.125  | <0.125  | 0.109        | 2.44              | 2.549          | N/A  | N/A           | N/A            | N/A           | N/A  | mg/Kg |
| 4              | MW-3@25-27            | Soil             | <0.125  | <0.125  | 0.228        | 3.14              | 3.368          | N/A  | N/A           | N/A            | N/A           | N/A  | mg/Kg |
| S              | MW-4@25-27            | Soil             | <0.125  | <0.125  | <0.125       | <0.125            | QN             | N/A  | N/A           | N/A            | N/A           | N/A  | mg/Kg |
| 9              | Drum Comp             | Soil             | <0.125  | <0.125  | <0.125       | <0.125            | QN             | N/A  | N/A           | N/A            | N/A           | N/A  | mg/Kg |
|                |                       |                  |         |         |              |                   |                |      |               |                |               |      |       |

\* Total BTEX calculation does not include MtBE ND = Not Detected N/A = Analysis not requested

Report Date 04/12/2001

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#### Report No.: 2001030119 04/12/2001

Client: Meridian Alliance Group

| Sample No.:    | 1          | Date Collected: 03/14/2001 Time Collected: 12:30:00 |            |                |                    | Matrix: Soil  |         |  |
|----------------|------------|---|------------|----------------|--------------------|---------------|---------|--|
| Description:   | MW-1@25-27 | Projec  |            |                |                    |               |         |  |
| Test           | · · ·      | Method  | Results    | Units          | Detection<br>Limit | Date Analyzed | Analyst |  |
| Benzene        |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Toluene        |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Ethylbenzene   |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Xylenes, total |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Chloride       |            | EPA 300.0   | 1045       | mg/Kg          | 0.100              | 03/20/2001    | TW      |  |
| TPH (418.1)    |            | 418.1   | <10.0      | mg/Kg          | 10.000             | 03/26/2001    | MAT     |  |
| Sample No.:    | 2          | Date Collected: 03/14/2                             | 2001       | Time Collect   | ed: 15:50:00       | Matrix: Soil  |         |  |
| Description:   | MW-2@25-27 | Projec  | t Name: Ar | nerada-Hess By | yrd Lease          |               |         |  |
| Test           |            | Method  | Results    | Units          | Detection<br>Limit | Date Analyzed | Analyst |  |
| Benzene        |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Toluene        |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Ethylbenzene   |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Xylenes, total |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Chloride       |            | EPA 300.0   | 90.3       | mg/Kg          | 0.100              | 03/20/2001    | TW      |  |
| TPH (418.1)    |            | 418.1   | <10.0      | mg/Kg          | 10.000             | 03/26/2001    | MAT     |  |
| Sample No.:    | 3          | Date Collected: 03/14/2                             | 2001       | Time Collect   | ed: 16:40:00       | Matrix: Soil  |         |  |
| Description:   | MW-3@20-22 | Project   | t Name: Ar | nerada-Hess By | yrd Lease          |               |         |  |
| Test           |            | Method  | Results    | Units          | Detection<br>Limit | Date Analyzed | Analyst |  |
| Benzene        |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Toluene        |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Ethylbenzene   |            | SW-846 5030B/8021B                                  | 0.109      | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Xylenes, total |            | SW-846 5030B/8021B                                  | 2.44       | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Chloride       |            | EPA 300.0   | 29.2       | mg/Kg          | 0.100              | 03/20/2001    | TW      |  |
| TPH (418.1)    |            | 418.1   | 1530       | mg/Kg          | 100.000            | 03/26/2001    | MAT     |  |
| Sample No.:    | 4          | Date Collected: 03/14/2                             | 2001       | Time Collecto  | ed: 16:45:00       | Matrix: Soil  |         |  |
| Description:   | MW-3@25-27 | Project   | t Name: Ar | nerada-Hess By | rd Lease           |               |         |  |
| Test           |            | Method  | Results    | Units          | Detection<br>Limit | Date Analyzed | Analyst |  |
| Benzene        |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Toluene        |            | SW-846 5030B/8021B                                  | <0.125     | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |
| Ethylbenzene   |            | SW-846 5030B/8021B                                  | 0.228      | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |

Report No.: 2001030119 04/12/2001

Client: Meridian Alliance Group

| Sample No.:   | 4          | Date Collected: 03/14/ | 2001                                  | Time Collecte  | ed: 16:45:00       | Matrix: Soil  |         |  |  |  |
|---|------------|------------------------|---------------------------------------|----------------|--------------------|---------------|---------|--|--|--|
| Description: MW-3@25-27 Project Name: Amerada-Hess Byrd Lease |            |                        |                                       |                |                    |               |         |  |  |  |
| Test  |            | Method                 | Results                               | Units          | Detection<br>Limit | Date Analyzed | Analyst |  |  |  |
| Xylenes, total  |            | SW-846 5030B/8021B     | 3.14                                  | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |  |  |
| Chloride  |            | EPA 300.0              | 36.2                                  | mg/Kg          | 0.100              | 03/20/2001    | TW      |  |  |  |
| ГРН (418.1)   |            | 418.1                  | 2020                                  | mg/Kg          | 100.000            | 03/26/2001    | MAT     |  |  |  |
| Sample No.:   | 5          | Date Collected: 03/15/ | 2001                                  | Time Collecte  | ed: 09:20:00       | Matrix: Soil  |         |  |  |  |
| Description:  | MW-4@25-27 | Projec                 | Project Name: Amerada-Hess Byrd Lease |                |                    |               |         |  |  |  |
| Test  |            | Method                 | Results                               | Units          | Detection<br>Limit | Date Analyzed | Analyst |  |  |  |
| Benzene   |            | SW-846 5030B/8021B     | <0.125                                | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |  |  |
| Toluene   |            | SW-846 5030B/8021B     | <0.125                                | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |  |  |
| Ethylbenzene  |            | SW-846 5030B/8021B     | <0.125                                | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |  |  |
| Xylenes, total  |            | SW-846 5030B/8021B     | <0.125                                | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |  |  |
| Chloride  |            | EPA 300.0              | 666                                   | mg/Kg          | 0.100              | 03/20/2001    | TW      |  |  |  |
| ГРН (418.1)   |            | 418.1                  | <10.0                                 | mg/Kg          | 10.000             | 03/26/2001    | MAT     |  |  |  |
| Sample No.:   | 6          | Date Collected: 03/15/ | 2001                                  | Time Collecte  | ed: 10:00:00       | Matrix: Soil  |         |  |  |  |
| Description:  | Drum Comp  | Projec                 | et Name: Ar                           | nerada-Hess By | rd Lease           |               |         |  |  |  |
| Test  |            | Method                 | Results                               | Units          | Detection<br>Limit | Date Analyzed | Analyst |  |  |  |
| Benzene   |            | SW-846 5030B/8021B     | <0.125                                | mg/Kg          | 0.130              | 03/21/2001    | MEP     |  |  |  |
| Toluene   |            | SW-846 5030B/8021B     | <0.125                                | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |  |  |
| Ethylbenzene  |            | SW-846 5030B/8021B     | <0.125                                | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |  |  |
| Xylenes, total  |            | SW-846 5030B/8021B     | <0.125                                | mg/Kg          | 0.125              | 03/21/2001    | MEP     |  |  |  |
| TPH (418.1)   |            | 418.1                  | <10.0                                 | mg/Kg          | 10.000             | 03/26/2001    | MAT     |  |  |  |



QC Batch ID: 0120021A

# QC SUMMARY REPORT

BTEX by EPA Method 8021B - Soil

## Laboratory Control Sample (LCS/LCSD) Method Blank Results

|                | Method         | ethod Spike    |                 | LCS             |                 | LCSD            |            | QC Acceptance Criteria |  |
|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------|------------------------|--|
| CONSTITUENT    | Blank<br>(ppm) | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Result<br>(ppm) | Recovery<br>(%) | RPD<br>(%) | RPD<br>(%)             | Spike % Recovery<br>(Low - High Limit) |
| Benzene        | <0.125         | 2.50           | 2.36            | 94.5%           | 2.58            | 103.2%          | 9%         | <u>+</u> 30            | 70 - 130                               |
| Toluene        | <0.125         | 2.50           | 2.30            | 91.9%           | 2.51            | 100.5%          | 9%         | <u>+</u> 30            | 70 - 130                               |
| Ethylbenzene   | <0.125         | 2.50           | 2.22            | 88.7%           | 2.39            | 95.6%           | 7%         | <u>+</u> 30            | 70 - 130                               |
| Xylenes, total | <0.125         | 7.50           | 6.82            | 91.0%           | 7.40            | 98.6%           | 8%         | <u>+</u> 30            | 70 - 130                               |

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#### Sample Matrix Spikes (MS/MSD)

|                | Sample Spike    |                | MS              |                 | MSD             |                 | MS/D       | QC Acceptance Criteria |  |
|----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------|------------------------|--|
| CONSTITUENT    | Result<br>(ppm) | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Result<br>(ppm) | Recovery<br>(%) | RPD<br>(%) | RPD<br>(%)             | Spike % Recovery<br>(Low - High Limit) |
| Benzene        | <0.125          | 2.50           | 1.44            | 57.5%           | 2.19            | 87.5%           | 41%        | <u>+</u> 30            | 65 - 135                               |
| Toluene        | 11.5            | 2.50           | 18.08           | 261.1%          | 26.24           | 587.8%          | 37%        | <u>+</u> 30            | 65 - 135                               |
| Ethylbenzene   | 10.1            | 2.50           | 19.25           | 364.7%          | 25.69           | 622.2%          | 29%        | <u>+</u> 30            | 65 - 135                               |
| Xylenes, Total | 51.1            | 7.50           | 98.89           | 637.4%          | 130.34          | 1056.7%         | 27%        | <u>+</u> 30            | 65 - 135                               |

3/21/01

Batch Extraction/Prep Date: 3/2

3/20/01

Sample ID - MS/MSD: 2001030116-7

Data Qualifiers:

Sequence Date(s):

Project(s) In Batch:

2001030119 (1-6) 2001030116 (4-8)



QC Batch ID: 032601S

# QC SUMMARY REPORT

TPH by 418.1

#### Laboratory Control Sample (LCS/LCSD)

|  |         | Method | Spike | L     | CS     | L        | CSD    | LCS/D    | QC  | Acceptance Criteria |                    |
|--|---------|--------|-------|-------|--------|----------|--------|----------|-----|---------------------|--------------------|
|  | CONSTIT | TUENT  | Blank | Added | Result | Recovery | Result | Recovery | RPD | RPD                 | Spike % Recovery   |
|  |         |        | (ppm) | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%) | (%)                 | (Low - High Limit) |
|  | 418.1   | •      | <10.0 | 500   | 429    | 85.8%    | 445    | 89.0%    | 4%  | <u>+</u> 30         | 70 - 130           |
|  |         |        |       |       |        |          |        |          |     |                     |                    |

Sample Matrix Spikes (MS/MSD)

|             | Sample | Spike | ٨      | AS .     | M      | ISD      | MS/D | QC          | Acceptance Criteria |
|-------------|--------|-------|--------|----------|--------|----------|------|-------------|---------------------|
| CONSTITUENT | Result | Added | Result | Recovery | Result | Recovery | RPD  | RPD         | Spike % Recovery    |
|             | (ṕpm)  | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%)  | (%)         | (Low - High Limit)  |
| 418.1       | <10.0  | 500   | 375    | 75.0%    | 405    | 81.0%    | 8%   | <u>+</u> 30 | 70 - 130            |
|             |        |       |        |          |        |          |      |             |                     |

Sequence Date(s):

(s): 3/26/01

Batch Extraction/Prep Date: 3/

3/26/01

Data Qualifiers: NONE - associated with this batch of samples.

Sample Spiked: 2001030120-2

Project(s) In Batch:

2001030119

# QC SUMMARY REPORT

QC Batch ID: 32001

Anions by EPA Method 300.0

#### Laboratory Control Sample (LCS)

|             | Method  | Spike | L      | cs       | QC Acceptance Criteria |  |
|-------------|---|-------|--------|----------|------------------------|--|
| CONSTITUENT | Blank   | Added | Result | Recovery | Spike % Recovery       |  |
| •.          | (ppm)   | (ppm) | (ppm)  | (%)      | (Low - High Limit)     |  |
| Chloride    | <dl< td=""><td>50.00</td><td>45.627</td><td>91.0%</td><td>90 - 110</td></dl<> | 50.00 | 45.627 | 91.0%    | 90 - 110               |  |

Sample Matrix Spikes (MS)

|             | Sample | Sample Dup | Spike | MS      |          | QC Acceptance Criteria |
|-------------|--------|------------|-------|---------|----------|------------------------|
| CONSTITUENT | Result | Result     | Added | Result  | Recovery | Spike % Recovery       |
|             | (ppm)  | (ppm)      | (ppm) | (ppm)   | (%)      | (Low - High Limit)     |
| Chloride    | 666    | 516        | 10.00 | 670.000 | 40.0%    | 80 -120                |

Sequence Date(s):

3/20/01

Batch Extraction/Prep Date:

3/20/01

Sample ID - MS/MSD:

2001030119-5

Data Qualifiers:

NONE - associated with this batch of samples.

Project(s) In Batch:
| Test Methods, Phone N  | Vumbers & Shippin   | анну саприну счернос,<br>g Information.                               | Chain-of-Custody Record   | Millennium Labs - Pr                                 | oject Number Page of  |          |
|--|---------------------|---|---|--|---|----------|
|  |                     | A PINCER (NIZORIAN PICON  |   | 20 LAB USE O   | NLY Dang ther Each Chain  |          |
| Houston Attn:  | PO No.:             | 070005537-1   | 14   Number   07 CO05531  | 10000  | PER PROJECT ONLY  |          |
| Arlington Attn:  |                     | INRCC.Re-Imbursement Site: Invoid<br>Meridian-Alilance agreement      | ce per Site Name Ilimited to 20 characters!                                 | PAH-Soil: If, C <sub>6</sub> -C <sub>28</sub> to     | tal >100 ppm; Analyze one sample with the   | T        |
| Midland Attn: Last Henriecsen  |                     | Non-Funded Project/Site: Involce as<br>agreement/quote                |   | PAH-Water: If, C6-C28 tot                            | al > 5.0 ppm; highest C <sub>10</sub> -C <sub>28</sub> concentration  |          |
| Tyler Attn:  |                     | Direct Billing To Cilent: Attach sheet<br>Remarks section for details | It or use Sampled by: Meridian-Alliance Person<br>Print Normets Balow CSC D | anel TDS: Analyze the cleanest select sample with lo | sampling point based on TPH-total; if TPH is non-detect;<br>west aromatic content [total BTEX]  | 2        |
| Austin Attn:   |                     | Priority Project - Lab is Authorized to<br>invoice for RUSH FEES      | 1. A. Hal   | TCLP-Metals: Based on T parameters                   | otal Metals results; run TCLP Extraction on samples with<br>i which exceed 20 times the TCLP Limits   | Ē        |
| New Location: Contact Lab To Set-up Account  | Send<br>Invoice To: | Manager See Rem   | narks 2. M. Ehrlich   | TCLP-Volatiles: Based on V                           | rOC results; run TCLP Extraction on samples with<br>s which exceed: [attach sheet or use remarks section]   |          |
| Bemarks:   |                     | Inmerchine time B<br>X Standard TAT                                   | <br>  | Additional Parameters<br>List by EPA Method          | I   | 1        |
|  |                     | Rush-results by:  | 8 <i>1</i> <del>1,</del>  | -9   |   |          |
|  |                     | Σ<br>   |   | יייק <i>ר</i><br>יייקר                               | COMMENLS 0 Lotal Number of  | ě        |
| Lab Sample (dentification Date<br>No.  | olisisted to a      | Matrix Method E<br>W S X G C  | H H 4 S X H H<br>Goundwater Son   | )  <u>1</u> ,7                                       | Please use space below or L Bottles<br>attach additional sheet(s) per<br>D Incration  |          |
| 1 mw-1 C 25 27 3-14  | 1230                | XX  | ×<br>×  | X  |   |          |
| 2 mw 202527 3-14   | 1550                | XX  | +   | ×  |   | 1        |
| > mw-3 C 20-22 3.14  | 040)1               | ×   | × ×   | ×  |   | T        |
| 4 mm.3 C 25-27 3-14  | 21201 1             | XX  | XX  | 7  | -   | T        |
| 5 mu.4 e 25.27 3-15  | 5 0920              | X X   | XX  | X  |   | T        |
| 6 Drum Lemp 3-15   | 5 1000              | XXX   | X X   |  |   | <u> </u> |
|  |                     | •   |   |  |   | <u></u>  |
|  |                     |   |   |  |   | 1        |
|  |                     |   |   |  |   |          |
|  |                     |   |   |  |   |          |
|  |                     |   |   |  |   |          |
|  |                     |   |   |  |   |          |
|  |                     |   |   |  |   |          |
|  |                     |   |   |  |   |          |
|  |                     |   |   |  |   |          |
| Relinquished by M. Chille  | Date: <b>3</b> -    | 16-01 Time:0830   | Received by:  | Date: Time:  | Condition of Sample(s) Rec'd <u>At</u> Lab  | -        |
| Relinquished by  | Date:               | Time:   | Received by:  | Date: Time:  | Custody Seal Intact   |          |
| Relinquished by  | Date:               | Time:   | Received At Millennium Labs by  | · Date: Time:  | Sample(s) Rec'd   |          |
| Method of Shipment: [see back copy for :<br>Methound Next-day Air Contract<br>Express FedEx-UPS Contract | : shipping add      | ress & instructions]<br>pratory OTC-Delivery<br>sonnel From Client    |   | m:)//  | Log-in encountered problems with this sample set.<br>A Variance Log-in Form was completed identifying<br>the type of problemits & corrective action taken. Copy be mailed<br>with the final Report. | 4:00 8   |
|  |                     |   |   |  | lec J Crr   | ٦        |

|   |  | GAN  | DY•MARLEY, I<br>P.O. Box 1658<br>Roswell, NM 88202<br>(505) 625-9206<br>Fax (505) 625-9706                                   | NC.   | 3249  |
|---|--|--|--|---|---|
|   | PERATOR/SH   | IPPER/COM  | PANY: America  | to Hess   |   |
|   |  | ed less  | P  |   |   |
| TRANSP  | ORTER COMP   | ANY:   | Mailer   | TIME: 4   | 30AM/EM   |
| DATE: <sup>(</sup>  | 1/17/1   | VEHIC  | LE NO.: /  | DRIVER  | NO.:  |
| CHARGE  | TO: MAG  | s ≠ 07   | 005537   |   | · · · · · · · · · · · · · · · · · · ·   |
|   | · · · · · · · · · · · · · · · · · · ·  | TY   | PE OF MATERIAL   |   |   |
|   | n an the second se | · .  | OCD  | . · · ·   |   |
| Descripti   | on: $S_{O_1}$ (C   | [] Contamina<br>[] BS&W cont<br>   |  | No.   | cter to 7   |
| OLUME   |  | L[]:XABOS  | 4 0/115 CE   | LL# <u>/3</u>   | []  |
| AS A CON  | VDITION TO GANDY<br>SHIPPER REPRESE  | •MARLEY, INC.'S<br>ENTS AND WARR<br>E, CONSERVATIC<br>I HEALTH AND SA  | ACCEPTANCE OF THE MA<br>ANTS THAT THE WASTE M<br>N AND RECOVERY ACT C<br>F. CODE, §361.001, et seq.<br>MINATED SOILS AND OTH | ATERIALS SHIPPED WI<br>IATERIAL SHIPPED HEP<br>OF 1976, AS AMENDED<br>AND REGULATIONS RE  | TH THIS JOB TICKET,<br>REWITH IS MATERIAL<br>FROM TIME TO TIME,<br>LATED THERETO, BY  |
| EXEMPT FR<br>10 U.S.C. §69<br>/IRTUE OF T<br>RATION, DE   | 901, et seq., THE NM<br>THE EXEMPTION AF<br>VELOPMENT OR PF  | FORDED CONTA   | CRUDE OIL OR NATURAL   | GAS OR GEOTHERMAL   | D WITH THE EXPLO-<br>ENERGY.  |
| EXEMPT FR<br>10 U.S.C. §69<br>/IRTUE OF 1<br>RATION, DE<br>ALSO AS<br>FICKET, TRA<br>PER TO TRA   | 901, et seq., THE NM<br>THE EXEMPTION AF<br>VELOPMENT OR PF<br>A CONDITION TO (<br>NSPORTER REPRE<br>NSPORTER IS NOW   | FORDED CONTA<br>RODUCTION OF (<br>GANDY•MARLEY,<br>ESENTS AND WAR<br>/ DELIVERED BY  | CRUDE OIL OR NATURAL<br>INC.'S ACCEPTANCE OF<br>RRANTS THAT ONLY THE M<br>TRANSPORTER TO GAND                                | GAS OR GEOTHERMAI<br>THE MATERIALS SHIP<br>MATERIAL DELIVERED<br>Y+MARLEY, INC 'S FACI  | D WITH THE EXPLO-<br>ENERGY.<br>PED WITH THIS JOB<br>BY OPERATOR/SHIP-<br>LITY FOR DISPOSAL.  |
| EXEMPT FR<br>IO U.S.C. §63<br>/IRTUE OF 1<br>RATION, DE<br>ALSO AS<br>FICKET, TRA<br>PER TO TRA<br>THIS WIL<br>described loc<br>added to this             | 901, et seq., THE NM<br>THE EXEMPTION AF<br>VELOPMENT OR PF<br>A CONDITION TO (<br>INSPORTER REPRE<br>INSPORTER IS NOW<br>L CERTIFY that the a<br>sation, and that it was<br>load, and that the m  | FORDED CONTA<br>RODUCTION OF (<br>GANDY•MARLEY,<br>SENTS AND WAF<br>/ DELIVERED BY<br>above Transporter<br>s tendered by the a<br>aterial was deliver    | CRUDE OIL OR NATURAL   | GAS OR GEOTHERMAI<br>THE MATERIALS SHIP<br>MATERIAL DELIVERED<br>Y•MARLEY, INC.'S FACI<br>nted by this Transporter S<br>his will certify that no ad   | D WITH THE EXPLO-<br>ENERGY.<br>PED WITH THIS JOB<br>BY OPERATOR/SHIP-<br>LITY FOR DISPOSAL.<br>Statement at the above<br>ditional materials were |
| EXEMPT FR<br>IO U.S.C. §69<br>/IRTUE OF 1<br>RATION, DE<br>ALSO AS<br>FICKET, TRA<br>PER TO TRA<br>THIS WIL<br>described loc<br>added to this<br>DRIVER:  | 901, et seq., THE NM<br>THE EXEMPTION AF<br>VELOPMENT OR PF<br>A CONDITION TO (<br>NNSPORTER REPRE<br>NSPORTER IS NOW<br>L CERTIFY that the a<br>cation, and that it was<br>load, and that the m   | FORDED CONTA<br>RODUCTION OF (<br>GANDY•MARLEY,<br>ESENTS AND WAF<br>V DELIVERED BY<br>above Transporter<br>s tendered by the a<br>vaterial was deliver  | CRUDE OIL OR NATURAL   | GAS OR GEOTHERMAI<br>THE MATERIALS SHIP<br>MATERIAL DELIVERED<br>Y•MARLEY, INC.'S FACI<br>Inted by this Transporter S<br>his will certify that no ad  | D WITH THE EXPLO-<br>ENERGY.<br>PED WITH THIS JOB<br>BY OPERATOR/SHIP-<br>LITY FOR DISPOSAL.<br>Statement at the above<br>ditional materials were |
| EXEMPT FR<br>10 U.S.C. §63<br>VIRTUE OF 1<br>RATION, DE'<br>ALSO AS<br>FICKET, TRA<br>PER TO TRA<br>THIS WIL<br>described loc<br>added to this<br>DRIVER: | 901, et seq., THE NM<br>THE EXEMPTION AF<br>VELOPMENT OR PF<br>A CONDITION TO (<br>INSPORTER REPRE<br>INSPORTER IS NOW<br>L CERTIFY that the a<br>sation, and that it was<br>load, and that the m  | FORDED CONTA<br>RODUCTION OF (<br>GANDY•MARLEY,<br>ESENTS AND WAF<br>V DELIVERED BY<br>above Transporter<br>is tendered by the a<br>vaterial was deliver | CRUDE OIL OR NATURAL   | GAS OR GEOTHERMAI<br>THE MATERIALS SHIP<br>MATERIAL DELIVERED<br>Y+MARLEY, INC.'S FACI<br>Inted by this Transporter S<br>This will certify that no ad | D WITH THE EXPLO-<br>ENERGY.<br>PED WITH THIS JOB<br>BY OPERATOR/SHIP-<br>LITY FOR DISPOSAL.<br>Statement at the above<br>ditional materials were |
| EXEMPT FR<br>10 U.S.C. §63<br>VIRTUE OF 1<br>RATION, DE<br>ALSO AS<br>FICKET, TRA<br>PER TO TRA<br>THIS WILL<br>described loc<br>added to this<br>DRIVER: | 901, et seq., THE NM<br>THE EXEMPTION AF<br>VELOPMENT OR PF<br>A CONDITION TO (<br>INSPORTER REPRE<br>INSPORTER IS NOW<br>L CERTIFY that the a<br>cation, and that it was<br>load, and that the m  | FORDED CONTA<br>RODUCTION OF (<br>GANDY•MARLEY,<br>ESENTS AND WAF<br>V DELIVERED BY<br>above Transporter<br>is tendered by the a<br>vaterial was deliver | CRUDE OIL OR NATURAL   | GAS OR GEOTHERMAI<br>THE MATERIALS SHIP<br>MATERIAL DELIVERED<br>Y•MARLEY, INC.'S FACI<br>Inted by this Transporter S<br>This will certify that no ad | D WITH THE EXPLO-<br>ENERGY.<br>PED WITH THIS JOB<br>BY OPERATOR/SHIP-<br>LITY FOR DISPOSAL.<br>Statement at the above<br>ditional materials were |



EXEMPT OCD

Origin: 07005537

P.O. Box 1658 Roswell, NM 88202 Phone 505-625-9206 Fax 505-625-9706 Meridian Alliance Group LLC 306 W. Wallstreet Suite 600 Midland, TX 79701

Detailed Report of material for Invoices 3037 thru 3037

| Date:    | Ticket No: | Discription:       | Transporter:         | Cell: | Units | Unit Type: |
|----------|------------|--------------------|----------------------|-------|-------|------------|
| 4/17/01  | 3249       | OCD EXEMPT SOILS   | Bill Marley          | 13    | 4     | BBLS       |
|          |            | 07005537           | ′ Total BBLS.        |       | 4 BE  | BLS        |
|          |            | E                  | EXEMPT OCD Total BBL | .S.   | 4 BE  | BLS        |
| Origin:  | 07005537   |                    |                      |       |       |            |
| Date:    | Ticket No: | Discription:       | Transporter:         | Cell: | Units | Unit Type: |
| 4/17/01  | 3249       | OCD EXEMPT LIQUIDS | Bill Marley          |       | 55    | GAL        |
|          |            | 07005537           | Total GAL.           |       | 55 GA | 4L         |
|          |            | E                  | EXEMPT OCD Total GAL |       | 55 G/ | ٩L         |
|          |            | E                  | XEMPT OCD Total Unit | S.    | 59 Ur | nits       |
| Meridiar | n Alliance | Group LLC Total L  | Inits.               |       | 59 Un | its        |

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4/18/01

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## PHASE II SITE ASSESSMENT REPORT

Amerada Hess Corporation Project No.: OPF00ES004 Meridian Alliance Group, LLC. Project No.: 07F005537

> Amerada Hess Corporation W.P. Byrd Lease SECTION 12, T-20-S, R-36-E, LEA COUNTY, NEW MEXICO

> > August 29, 2001

Prepared for:

**Amerada Hess Corporation** 

Prepared by:



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## **1.0 SITE ASSESSMENT**

## 1.1 Scope of Services

Meridian Alliance Group, LLC (MAG) has completed the approved Site Assessment Reporting activities for the Amerada Hess Corporation (Amerada Hess), Byrd Lease, located in Section 12, T-20-S, R-36-E, Lea County New Mexico. After consultation with Amerada Hess personnel, it was agreed that four (4) additional soil borings would be drilled at predetermined locations around the Byrd tank battery. Soil samples were collected from the appropriate intervals to assist with the definition of any potential vertical hydrocarbon or produced water contamination associated with the area. These soil borings were completed as groundwater monitor wells. The site monitor wells were gauged, purged of appropriate volumes of groundwater and sampled for various constituents according to the current United States Environmental Protection Agency (EPA) guidelines, to determine the possible horizontal extent of hydrocarbon and produced water contamination. Solid and liquid wastes produced during these assessment activities were disposed of at an NMOCD approved facility.

## **1.2** Soils Investigation

The subject area is situated on the High Plains of Eastern New Mexico and is associated with the Ogallala Formation. Pleistocene and recent soils form a thin mantle over the Ogallala Formation. Topsoils consist of three major textural types: fine sandy and silty loams, clay and clay loams, and fine sandy loams.

The investigation site encircles the Byrd tank battery. High chloride concentrations have been found in the previous four (4) monitor wells drilled during this project. Total Petroleum Hydrocarbons (TPH) and Benzene, Toluene, Ethyl benzene and Xylene (BTEX) have also been found during this investigation.

MAG and Amerada Hess agreed upon the placement of the additional four soil boring/monitor wells. Monitor Well No. 5 (MW-5) was predetermined to be drilled northwest of MW-4. MW-6 would be drilled in an approximate center of an old pit area northeast of the tank battery. MW-7 would be drilled south of MW-1 and MW-8 would be drilled east of MW-7.

On June 25, 2001, MAG Personnel and White Drilling Company (White) drilled four (4) soil boring/monitor wells in an attempt to further delineate the site. During the drilling, MAG Personnel collected soil samples at five (5) foot intervals to maximum depths of forty (40) feet. The collected soil samples were field screened using an Organic Vapor Monitor (OVM) to determine which soil samples to submit for laboratory analytical analysis. It was determined that in all of the soil borings, the 25-31 foot sample directly above the groundwater interface would be submitted. These samples were submitted to Millennium Laboratories, Inc. (Millennium) for analytical testing. In addition, in each

soil boring, the sample containing the highest OVM reading was submitted for analytical testing.

The lithology of the soil borings is silty-sand and sand from the surface to the maximum depths of forty (40) feet. In Monitor Well No. 6 a hydrocarbon odor was noted in the samples from 5 - 12 feet.

Soil samples collected from the soil borings submitted to Millennium were analyzed for BTEX (Benzene, Toluene, Ethyl benzene and Xylene, Method SW-846 5030B/8021B), Chloride (Method EPA 300.0) and Total Petroleum Hydrocarbons (Method 418.1).

Soil samples analyzed in boring/MW-5 were from the 10-12 foot and 27-28.5 foot intervals. The reports from Millennium documented that MW-5 BTEX levels were <0.125 mg/kg in both samples. Chloride values were tested at 500 mg/kg and 1,403 mg/kg, respectively. Total Petroleum Hydrocarbons (TPH) were documented as <10.0 mg/kg in each interval sampled.

The interval from 5-7 feet in boring/MW-6 was contained <0.125 mg/kg Benzene, 1.04 mg/kg Toluene, 0.995 mg/kg Ethyl benzene and 2.23 mg/kg total Xylene (4.265 mg/kg Total BTEX). Chloride values were 229.0 mg/kg and TPH values were 51,500.0 mg/kg in this soil-boring sample. The sample gathered from the 25-27 foot interval contained hydrocarbon constituents in the following concentrations: Benzene <0.125 mg/kg, Toluene <0.125 mg/kg, Ethyl benzene <0.125 mg/kg, total Xylenes <0.125 mg/kg. Chlorides and TPH were found to be 314.0 mg/kg and 414.0 mg/kg, respectively.

Soil boring/MW-7 samples were taken from 5-7 feet and 30-32 feet. In both sampled intervals Benzene, Toluene, Ethyl benzene and Xylene were recorded <0.125 mg/kg. Chloride values were found as 102.0 mg/kg and 3,797.0 mg/kg, respectively. In addition, TPH was <10.0 mg/kg in each sample

In soil boring/MW-8 samples were gathered from 5-7 feet and 29-31 feet. BTEX were documented to be <0.125 mg/kg in each sample. Chloride values were 126 mg/kg and 719.0 mg/kg, respectively. TPH was <10.0 mg/kg in each sample interval.

Soil cuttings were disposed by Gandy Marley in their approved NMOCD facility near Tatum, New Mexico.

Figure 1 contains Soil Laboratory Analytical Results.

## 1.3 Groundwater Investigation

Groundwater at the site is associated with the Ogallala (High Plains) Aquifer. The Ogallala Formation of late Miocene to Pliocene age uncomfortably overlies Cretaceous, Jurassic, Triassic, and Permian rocks and consists primarily of sand, silt, clay, and gravel

derived from the southern Rocky Mountains to the west. The Ogallala is the major water-bearing unit of the High Plains of Eastern New Mexico. Hydraulic continuity occurs between the Ogallala Formation and both the underlying Cretaceous, Jurassic, and Triassic rocks in many areas of the High Plains, and the Quaternary deposits, where present. The High Plains Aquifer consists of the saturated sediments of the Ogallala Formation and those geologic units that contain potable water and are in hydraulic continuity with the Ogallala.

Subsequent to the completion of drilling activities for the four (4) additional soil borings, were completed as monitor wells as requested by Amerada Hess. The monitor wells are constructed of 2.0-inch diameter poly vinyl chloride (PVC) and completed to total depths of forty (40) feet below the ground surface (BGS). From forty (40) feet BGS to twenty (20) feet BGS, White Drilling installed 2.0-inch diameter, Schedule 40, threaded, slotted 0.010 PVC well screen. From twenty (20) feet BGS to approximately thirty-two (32) inches above the ground surface (AGS), White installed 2.0-inch diameter, Schedule 40, threaded, PVC riser pipe. From forty (40) feet BGS to eighteen (18) feet BGS, 8/16 sand was poured down the 5.0-inch diameter soil boring around the PVC pipe. From eighteen (18) feet BGS to sixteen (16) feet BGS, a Bentonite Pellet Seal was put in place to seal off the boring from possible surface contamination. From sixteen (16) feet BGS to the ground surface, a non-shrink grout was poured to further to seal off the boring from possible surface contamination and to set the monitor well. On the surface, a 2 x 2 foot concrete pad was installed with an upright metal vault to protect the PVC Riser Pipe from damage. A locking sealed well cap was placed on the PVC pipe and a lock was placed on the upright vault.

A surveyor registered in the State of New Mexico surveyed the newly installed monitor wells. Ground surface, top of casing elevations, and monitor well locations were provided by Topographic of Midland, Texas.

On July 3, 2001, and July 24, 2001, MAG Personnel gauged each of the eight monitoring wells at the site and then manually purged each monitoring well of three well volumes using new, dedicated 1.5-inch diameter disposable polyethylene bailers. Groundwater samples were collected after purging. This evacuation procedure allows representative groundwater to enter the well. Samples collected for the laboratory analysis were placed in proper containers with Teflon®-lined lids. All groundwater samples were stored on ice and shipped to Millennium Laboratories, Inc. following strict chain-of-custody procedures.

All reusable equipment was thoroughly cleaned with an Alconox® wash and rinsed with distilled water between each well sampling.

During the groundwater-monitoring event, depth to groundwater in MW-1, MW-2, MW-3 and MW-4 was gauged at 32.97 feet, 32.40 feet, 33.98 feet, and 33.73 feet below the top of casing (TOC), respectively. Monitor wells MW-5, MW-6, MW-7 and MW-8 were gauged at 33.96 feet, 33.51 feet, 32.49 feet and 32.43 feet, respectively. The site-specific groundwater gradient for the site is 0.0016 ft/ft ( $1.5 \times 10^{-3}$  ft/ft), trending to the Southeast.

Phase-separated hydrocarbon was noted in monitor well MW-1 (sheen) and MW-3 (2.74 feet). Groundwater analyzed in Monitor Well No. 1 found <0.010 mg/L Benzene, <0.002 mg/L Toluene, <0.005 mg/L Ethyl benzene and <0.005 mg/L Xylene (ND for BTEX). Chloride values were 16,971.0 mg/L and TPH was <1.0 mg/L.

Monitor Well No. 2 found the following values for BTEX: Benzene 0.025 mg/L, Toluene <0.005 mg/L, Ethyl benzene <0.005 mg/L, and total Xylene <0.005 mg/L. Total BTEX values were 0.025 mg/L. Chloride values were tested 19,108.0 mg/L while TPH, was confirmed as 69.8 mg/L.

Monitor Well No. 3 found the following values for BTEX constituents: <0.113 mg/LBenzene, <0.005 mg/L Toluene, 0.016 mg/L Ethyl benzene, and  $0.034^{\circ} \text{ mg/L}$  total Xylene. Total BTEX was 0.163 mg/L. Chloride values were found to be 11,865.0 mg/L and the TPH analysis was 1,960.0 mg/L.

In Monitor Well No. 4 BTEX was 0.038 mg/L and summarizes as follows: 0.038 mg/L Benzene, <0.005 mg/L Toluene, <0.005-mg/L Ethyl benzene and <0.005 Xylene. Chloride values were determined to be 11,865.0 mg/L and TPH were 11.1 mg/L.

Monitor Well No. 5 tested Non-detect (ND) for BTEX. Chloride values were found to be 14,334.0 mg/L and TPH was <1.0 mg/L.

Water in Monitor Well No. 6 was found to contain 0.015 mg/L Benzene, <0.005 mg/L Toluene, <0.005 mg/L Ethyl benzene and <0.005 mg/L Xylene. Total BTEX was 0.015 mg/L. Chloride values were tested at 12,015.0 mg/L and TPH was found to be <1.0 mg/L in this monitor well.

Monitor Well MW-7 was Non-detect (ND) for BTEX. Chloride values were 16,669.0 mg/L and TPH was <1.0 mg/L.

Monitor Well No. 8 was also Non-detect (ND) for BTEX. Chloride values were tested at 7,875.0 mg/L. TPH values were found to be <1.0 mg/L.

Please refer to Figure 3 for Groundwater Laboratory Analytical Results and Attachments 1, 2 and 3.

## 1.4 Waste Management and Disposition

Soil cuttings generated from the drilling activities on June 25, 2001, and purged ground water on July 3 and 24, 2001, was contained within 55-gallon sealed drums on location. Disposal of the drums has been completed, however, this office is awaiting confirmation paperwork from Gandy-Marley, Inc. This information will be forwarded when it arrives.

## 1.5 Limitations

It should be noted that all environmental investigations are inherently limited in the sense that conclusions are drawn from observations and conversations only at specific locations and times designated in the report. Also, the passage of time may result in a change of conditions.

Our professional services have been performed in accordance with generally accepted environmental principals and practices. Meridian Alliance Group, LLC is not responsible for independent conclusions, opinions or recommendations made by others based on the information contained herein. Should any new information regarding the site become available during future investigations, we request that this information be presented to us so that we can review this data and make any necessary modification to this report in a timely and professional manner.

J. Curtis Henderson District Manager

Mark A. Ehrlich Project Manager









|                                  |          | Amer    | Soil Labora<br>ada Hess Co<br>SECTION<br>LEA COU | Figure 1<br>ntory Analy<br>orporation<br>V 12, T-20-4<br>JNTY, NEW | tical Resul<br>- W.P. Byr<br>S, R-36-E,<br>V MEXICO | tts<br>d Lease   |        |          |                        |
|----------------------------------|----------|---------|--|--|---|------------------|--------|----------|------------------------|
| Location                         | Date     | Depth   | Benzene  | Toluene  | Ethyl-<br>benzene                                   | Total<br>Xylenes | втех   | Chloride | TPH<br>418.1           |
| MW-1                             | 03/14/01 | 25-27   | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 | 1,045.00 | <10.0                  |
| MW-2                             | ×        | 25-27   | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 | 90.30    | <10.0                  |
| MW-3                             | н        | 20-22   | <0.125   | <0.125   | 0.109   | 2.440            | 2.549  | 29.20    | 1,530.00               |
|                                  |          | 25-27   | <0.125   | <0.125   | 0.228   | 3.140            | 3.368  | 36.20    | 2,020.00               |
| MW-4                             |          | 25-27   | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 | 666.00   | <10.0                  |
| Drum Composite                   | 03/14/01 |         | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 |          | <50.0                  |
| MW-5                             | 06/25/01 | 10-12   | <0.125   | <.0125   | <0.125  | <0.125           | <0.125 | 500.00   | <10.0                  |
|                                  | z        | 27-28.5 | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 | 1,403.00 | <10.0                  |
| MW-6                             |          | 5-7     | <0.125   | 1.0400   | 0.9950  | 2.2300           | 4.2650 | 229.00   | 51,500.00              |
|                                  | -        | 25-27   | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 | 314.00   | 414.00                 |
| MW-7                             |          | 5-7     | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 | 102.00   | <10.0                  |
|                                  |          | 30-32   | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 | 3,797.00 | <10.0                  |
| MW-8                             | :        | 5-7     | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 | 126.00   | <10.0                  |
|                                  | =        | 29-31   | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 | 719.00   | <10.0                  |
| Drum Composite                   | 06/25/01 |         | <0.125   | <0.125   | <0.125  | <0.125           | <0.125 |          | <10.0                  |
| IOTES:<br>I values reported in I | mg/ka.   |         |  |  |   |                  |        | 2        |                        |
|                                  |          |         |  |  |   |                  |        | 4        | Meridian               |
|                                  |          |         |  |  |   |                  |        |          | Alliance<br>Group, LLC |
|                                  |          |         |  |  |   |                  |        | 1        |                        |

| Location | Date     | TOC Elev.<br>Feet | Depth to<br>Water<br>Feet | PSH<br>Thickness<br>Feet | Corrected<br>GW Elev<br>Feet | Screened<br>Interval |
|----------|----------|-------------------|---------------------------|--------------------------|------------------------------|----------------------|
| MW-1     | 07/03/01 | 3559.30           | 32.97                     | 0.00                     | 3526.33                      | 20-40'               |
| MW-2     | 07/03/01 | 3558.40           | 32.40                     | 0.00                     | 3526.00                      | 20-40'               |
| MW-3     | 07/03/01 | 3558.20           | 33.98                     | 2.74                     | 3526.63                      | 20-40'               |
| MW-4     | 07/03/01 | 3560.70           | 33.73                     | 0.00                     | 3526.97                      | 20-40'               |
| MW-5     | 07/03/01 | 3561.10           | 33.95                     | 0.00                     | 3527.15                      | 20-40'               |
| MW-6     | 07/03/01 | 3560.30           | 33.51                     | 0.00                     | 3526.79                      | 20-40'               |
| MW-7     | 07/03/01 | 3558.00           | 32.49                     | 0.00                     | 3525.51                      | 20-40'               |
| MW-8     | 07/03/01 | 3557.60           | 32.43                     | 0.00                     | 3525.17                      | 20-40'               |

|  |  |                     | Groundwa<br>Amerada H<br>SE<br>LE | Figures Corporation 12, 7<br>COTION 12, 7<br>A COUNTY, | re 3<br>sry Analytica<br>tion - W.P. B<br>-20-S, R-364<br>NEW MEXIC | al Results<br>yrd Lease |                |                                   |             |
|--|--|---------------------|-----------------------------------|--|---|-------------------------|----------------|-----------------------------------|-------------|
| Location   | Dete   | MTBE                | Benzene                           | Toluene  | Ethyl-<br>benzene   | Total<br>Xvienes        | Total BTEX     | Chloride                          | TPH (418.1) |
| I-WW   | 03/19/01<br>07/07/01   | <0.010              | <0.002                            | \$00.05<br>\$00.05                                     | <0.005<br><0.005  | \$0.00<br>\$0.005       | 99             | 18,971.0                          | 4.0         |
| MW-2   | 03/19/01<br>07/07/01   | <0.010<br><0.010    | 0.097                             | <0.005   | 40.005  | \$00.05<br>≤0.005       | 0.097          | 19,108.0<br>8,513.0               | 8.89        |
| S-WM   | 03/19/01<br>07/07/01   | <0.010              | 0.054                             | <0.005   | <0.005<br>0.0180  | <0.005                  | 0.054          | 14,623.0<br>11,865.0              | 1,960.0     |
| MW4  | 03/19/01   | <0.010              | 0.018                             | 40.005<br>40.005                                       | €0.00<br>2000   | <0.005                  | 0.018<br>0.038 | 15,209.0                          | 1.11        |
| S-WM   | 07/07/01   | <0.010              | <0.002                            | <0.005   | <0.005  | \$00.00                 | Q              | 14,334.0                          | <1.0        |
| 8-WW   | 10/20/20   | <0.010              | 0.015                             | <0.005   | <0.005  | <0.005                  | 0.015          | 12,015.0                          | <1.0        |
| 7-WM   | 07/07/01   | <0.010              | <0.002                            | <0.005   | 40.005  | <0.005                  | R              | 16,669.0                          | 410         |
| 8-MW   | 07/07/01   | <0.010              | <0.002                            | <0.005   | <0.005  | <0.005                  | Q              | 7,875.0                           | <1.0        |
| NOTES:<br>All concentri<br>ND - Not Der<br>TDS - Total I<br>* - % Recove | titions presented<br>tected<br>Dissolved Solids<br>ny<br>Petroleum Hydro | in mg/l.<br>carbons |                                   |  |   |                         |                | Aendian<br>Alliance<br>Sroup, LLC | _           |

| ~   | Q N                                    | leridia                   | m                      |                         |  |   | Project Number:<br>07C005537  | Monito    | or Well: MW-5              | Sheet 1 of                       | 1  |
|---|--|---------------------------|------------------------|-------------------------|--|---|---|-----------|----------------------------|----------------------------------|--|
|   |  | lliance<br>roup,          |                        | 4                       |  |   | Contractor:<br>White Drilling Company   |           | Drilling Mo<br>Air Coring  | ethod:                           |  |
| Project   | t Name/L                               | ocation:                  |                        |                         |  |   | Driller:<br>Bo  |           | Location:<br>Northwest     | of MW-4                          |  |
| Amera<br>W.P. H<br>SECTI                          | ida Hess (<br>Byrd Leas<br>ION 12, T   | Corpora<br>e<br>'-20-S, F | tion<br>2-36-H         | E,                      |  |   | Date Start:<br>6/25/01  |           | Date Comp<br>6/25/01       | leted:                           |  |
| LEAC  | JUNIT,                                 | , INEW I                  | VIEAI                  | CO                      |  |   | Top of Casing Elevation:<br>3561.1'   |           | Logged By:<br>Mark Ehrli   | ich                              |  |
|   | rval                                   | Śravo                     | æ                      | ication                 |  |   |   |           | N<br>Con                   | Monitor Well<br>struction Detail | 1  |
| Dept  | sample Inte<br>FT)                     | kample Rec<br>FT)         | Sample Tyj             | soil Classif            | ELD SCREENING<br>STRUMENT:<br>D/OVM UNITS: p |   | Sample Description<br>and Conditions  | Lithology | 32"                        |                                  | Locking Top Cup<br>                        |
|   | S C                                    | S C                       |                        |                         |  |   |   |           | 0'                         |                                  | Ground Surface                             |
|   | 5-7'                                   | ľ                         | ST                     | SM                      | 2.5  | SILTY SAN<br>nodules; vei                         | ND: Fine to v. fine grained; 20% caliche<br>y pale orange (10YR8/2).  |           | 2.0" ID-Schadela 46        |                                  |  |
| 10'   | *10-12                                 | 0.5                       | SS                     | SM                      | 4.3  | SILTY SA  | ND: Fine to v. fine grained; caliche<br>very pale orange (10YR8/2).   |           | Threaded PVC Riser<br>Pipe |                                  |  |
|   | 15-17                                  | ľ                         | SS                     | SM                      | 1.6  | SILTY SAI   | ND: Fine to v. fine grained; caliche<br>very pale orange (10YR8/2)  |           | 16'                        |                                  | Restantio Palles Cod                       |
| 20'   | 20-22                                  | 1.0                       | 22                     | Sb                      | 1.4  | SILTY SA  | NID: Fine to y, fine grained:   | STAL ST   | 18'<br>20'                 |                                  | franting f part dea                        |
|   |  | 1.5                       |                        |                         |  | caliche ind<br>light brown                        | urated; very pale orange to<br>1 (SYR5/6)   |           | -                          |                                  |  |
|   | 25-27'<br>*27-28.5'                    | 1.0'<br>1.0'              | SS<br>SS               | SM<br>SM                | 1.4  | SILTY SA<br>light brown<br>SILTY SA<br>indurated, | ND: Fine to v. fine grained; moist;<br>1 (5YR6/4).<br>ND: Fine to v. fine grained; caliche<br>orange to light brown with .5" LS |           |                            |                                  | Threaded, Slotted 0.010<br>PVC Well Screen |
| 30'   |  |                           |                        |                         |  | nodules; ve                                       | ry moist (5YR5/6)   |           | -                          |                                  |  |
|   |  |                           |                        |                         |  | _   |   |           |                            |                                  |  |
| 40'   |  |                           |                        |                         |  |   |   |           | 40'                        |                                  | Kod Cap                                    |
|   |  |                           |                        |                         |  | -   |   |           |                            |                                  |  |
|   |  |                           |                        |                         |  | -   |   |           |                            |                                  |  |
| Si  | umple Typ                              | pes                       | NOT                    | TES:                    | 10   | 2 9900  |   |           |                            |                                  |  |
| SS - split<br>SB - split<br>ST - shel<br>RC - roc | spoon<br>t barrel<br>by tube<br>k core |                           | * - si<br>Bott<br>Bott | ample<br>om of<br>om of | e subm<br>Borin<br>Monit                     | itted for<br>g @ 40.0<br>tor Well                 | analytical analysis<br>@ 40.0'  |           |                            |                                  |  |

| Γ       | ~  |   | Meridis                               | an                                  |   |  | Project Number:<br>07C005537   | Monit     | or Well: MW-6                              | Sheet 1 of 1  |
|---------|--|---|---------------------------------------|-------------------------------------|---|--|--|-----------|--|---|
|         | 2  | D   | Alliance<br>Group,                    | e<br>LLC                            |   |  | Contractor:<br>White Drilling Company  | 2         | Drilling Me<br>Air Coring                  | thod:   |
| ľ       | Projec   | t Name/I  | _ocation:                             |                                     |   |  | Driller:<br>Bo   |           | Location:<br>Northeast o                   | f Tank Battery  |
| 1 2 2 1 | Mera<br>W.P. I<br>SECT<br>LEA (                                | ada Hess<br>Byrd Lea<br>ION 12, '<br>COUNTY                         | Corpora<br>se<br>T-20-S, I<br>, NEW 1 | tion<br>R-36-1<br>MEXI              | E,<br>ICO                               |  | Date Start:<br>6/25/01   |           | Date Comp<br>6/25/01                       | leted:  |
|         |  |   |                                       |                                     |   |  | Top of Casing Elevation:<br>3560.3"  |           | Logged By:<br>Mark Ehrli                   | ch  |
|         | đ  | erval   | covery                                | be                                  | fication                                | C) mild  | Sevenie Description  |           | N<br>Con                                   | Aonitor Well<br>struction Detail                                    |
|         | Dept   | Sample Int<br>(FT)  | Sample Re<br>(FT)                     | Sample Ty                           | Soil Classi                             | FIELD SCREENIN<br>INSTRUMENT:<br>FILOUM UNITS: | and Conditions   | Lithology | 32"  | Lacking Top Cap<br>Upright Vanit<br>Ground Surface                  |
| Γ       |  |   |                                       |                                     |   |  |  |           | 0'   | New Skrink Grout  |
|         |  | *5-7  | ľ                                     | ST                                  | SM                                      | 2600   | SILTY SAND: Fine to v. fine grained; caliche<br>indurated; pale yellowish brown;<br>slight hydrocarbon odor (10YR6/2). |           | 2.0" LD, Schedule 40<br>Threaded PVC Riser | 5.6" Dimeter Hale   |
|         | 10'  | 10-12   | 0.5                                   | SS                                  | SM                                      | 2406   | SILTY SAND: Fine to v. fine grained, 10%<br>chert nodules, Yellowish gray, light<br>hydrocarbon odor (5Y7/2).          |           |  |   |
| þ       | )  | 15-17   | 1.5'                                  | SS                                  | SM                                      | 21.3   | SILTY SAND: Fine sand, light bluish gray,<br>(SB7/1)   |           | 16'  | Benfaulte Pellet Seal   |
|         | 20'  | 20-22   | 1.5                                   | SS                                  | SM                                      | 18.4   | SILTY SAND: Fine sand; light bluish gray;<br>(5B7/1)   |           | 20'  | b/15 Sand   |
|         |  | *25-27'   | .5'                                   | SS                                  | SM                                      | 48.2   | SILTY SAND: Fine sand with 1/4° gravel,<br>pale yellow brown, moist @ 26' (10YR6/2)                                    |           |  | 2.0" I.D. Schedale 40<br>Threaded, Shetrad 0.010<br>PVC Well Screen |
|         | 30'  | 30-32   | 1.0'                                  | SS                                  | SC                                      | 30.6   | SILTY CLAY: clay and silt mixture; moist,<br>light blue to gray (5B/7/1)   |           |  |   |
|         |  | 35-37'  | 1.0'                                  | SS                                  | SC                                      | 1.2  | SILTY CLAY: clay, sand and silt mixture, moist,<br>light blue to gray, 1/4* limestone<br>nodules (5B/7/1)              |           |  |   |
|         | 40'  |   |                                       |                                     |   |  | -  |           | 40'  | Fad Cap   |
|         |  |   |                                       |                                     |   |  |  |           |  |   |
|         |  |   |                                       |                                     |   |  |  |           |  |   |
| SSSES   | Sa<br>S - split<br>B - split<br>T - shel<br>C - roc<br>H - sho | ample Ty<br>spoon<br>t barrel<br>by tube<br>k core<br>vel (surface) | pes                                   | NOT<br>* - s<br>Bott<br>Bott<br>Gro | FES:<br>ample<br>om of<br>om of<br>undw | e subm<br>Boring<br>Monit<br>ater @            | itted for analytical analysis<br>g @ 40.0'<br>or Well @ 40.0'<br>~ 29.0  |           |  |   |

| ~  | a,   | /leridia                   | m                            |                                 |   | Project Number:<br>07C005537  | Monit     | or Well: MW-7             | Sheet 1 of 1  |
|--|--|----------------------------|------------------------------|---------------------------------|---|---|-----------|---------------------------|---|
|  | Da   | lliance<br>Froup,          |                              | 2                               |   | Contractor:<br>White Drilling Company   |           | Drilling Me<br>Air Coring | thod:   |
| Projec   | t Name/L   | ocation:                   |                              |                                 |   | Driller:<br>Bo  |           | Location:<br>South, south | heast of MW-1   |
| Amer<br>W.P.<br>SECT                           | ada Hess<br>Byrd Lea<br>TON 12, 7  | Corpora<br>se<br>F-20-S, F | tion<br>R-36-I               | E,                              |   | Date Start:<br>6/25/01  |           | Date Comp<br>6/25/01      | leted:  |
| LEA  | COUNTY   | , 142.00 1                 | VIEAI                        |                                 |   | Top of Casing Elevation:<br>3558.0'   |           | Logged By:<br>Mark Ehrli  | ch  |
|  | erval  | covery                     | pe                           | fication                        |   | Sample Description  |           | N<br>Con                  | Aonitor Well<br>struction Detail                                  |
| Dept   | Sample Int<br>(FT)   | Sample Re<br>(FT)          | Sample Ty                    | Soil Classi                     | FILLD SCREENIN<br>INSTRUMENT:<br>FILLOVM UNITS: | and Conditions  | Lithology | 32"                       | Locking Top Cup<br>Upright Vanit<br>Ground Surface                |
|  |  |                            |                              |                                 |   |   |           | 0'                        | Nuu-Shrink Grunt  |
|  | *5-7'  | 1.5'                       | ST                           | SM                              | 7.9   | SILTY SAND: Fine to v. fine grained;<br>grayish orange (10YR7/4).                                     |           | 2.8" LD. Schedule 48      |   |
| 10'  | 10-12  | 1.5                        | SS                           | SM                              | 1.1   | SILTY SAND: Fine to v. fine grained,<br>gray to very pale orange; (10YR8/2).                          |           | Fige                      | 5.4" Diameter Hole  |
|  | 15- <u>17</u> '  | 1.5                        | SS                           | SM                              | 1.3   | SILTY SAND: Fine to v. fine grained,<br>gray to very pale orange; (10YR8/2).                          |           | 16'                       | Restants Fellet Real  |
| 20'  | 20-22  | 1.0'                       | SS                           | SM                              | 1.3   | SILTY SAND: Fine to v. fine; pale to medium<br>yellowish grange (10YR8/6)                             |           | 18'<br>20'                |   |
|  | 25-27  | 1.5'                       | SS                           | SM                              | 0.9   | SILTY SAND: Fine to v. fine grained with 1/4* limestone<br>nodules, very pale orange, moist (10YR8/2) |           |                           | 2.6" LD. Schodule 40<br>Threaded, Shatad 5.010<br>PVC Well Screen |
|  | 27-28.5  | 1.5'                       | SS                           | SM                              | 0.7   | SILTY SAND: Fine to v. fine grained with 1/4" imestone<br>nodules, very pale orange, moist (10YR8/2)  |           |                           |   |
| 30'  | *30-32'  | 1.0'                       | SS                           | SM                              | 0.9   | SILTY SAND: Fine to v. fine grained with 1/4" limestone<br>nodules, very pale orange, moist (10YR8/2) |           |                           |   |
|  |  |                            |                              |                                 |   | -   |           |                           |   |
| 40'  |  |                            |                              |                                 |   |   |           | 40'                       | End Cap   |
|  |  |                            |                              |                                 |   |   |           |                           |   |
| SS - spli<br>SB - spli<br>ST - she<br>RC - roc | ample Ty<br>t spoon<br>it barrel<br>lby tube<br>ck core<br>wel (surface) | pes                        | NOT<br>* - s<br>Bott<br>Bott | TES:<br>ample<br>om of<br>om of | subm<br>Borin<br>Monit                          | itted for analytical analysis<br>g @ 40.0'<br>or Well @ 40.0'<br>~ 32.0'                              |           |                           |   |

| -  |   | Aeridia                    | m                              |  |                             | Proj<br>07C  | ect Number:<br>005537  | Moni    | tor Well: MW-8                                     | Sheet 1 of 1   |
|--|---|----------------------------|--------------------------------|--|-----------------------------|--|--|---------|--|--|
|  | D   | Alliance<br>Group,         |                                |  |                             | Con<br>Whi   | tractor:<br>te Drilling Company  |         | Drilling Me<br>Air Coring                          | ethod:   |
| Projec   | ct Name/I   | ocation:                   |                                |  |                             | Drill<br>Bo  | ler:   |         | Location:<br>East of MW                            | /-7  |
| Amer<br>W.P.<br>SECI                                       | ada Hess<br>Byrd Lea<br>TON 12, 7   | Corpora<br>se<br>F-20-S, I | tion<br>R-36-1                 | E,                                       |                             | Date<br>6/25   | Start:<br>/01  |         | Date Comp<br>6/25/01                               | leted:   |
| LEA  | COUNTY  | , NEW                      | MEXI                           | ico                                      |                             | Тор<br>3557  | of Casing Elevation:<br>7.6'   |         | Logged By:<br>Mark Ehrli                           | ch   |
| bepth  | Interval  | Recovery                   | Type                           | assification                             | ENTING<br>TI:<br>BUTS: peer | Sam  | ple Description  | )gy     | N<br>Con:<br>32" [                                 | Aonitor Well<br>struction Detail                                   |
| Д  | Sample<br>(FT)  | Sample<br>(FT)             | Sample                         | Soil Cla                                 | FIELD SCRE<br>PUSTRUMEN     | 41   | a contractions   | Litholc |  | Upright V solt<br>Ground Surface                                   |
|  |   |                            |                                |  |                             |  |  |         | 0*   | Non-Shrink Grout   |
|  | *5-7'   | 1.0'                       | ST                             | SM                                       | 2.2                         | SILTY SAND: Fine t<br>pale yellowish brown                       | o v. fine grained;<br>(10YR6/2).   |         | 2.0° LD. Scheduln 40<br>Throndod PVC Blaor<br>Fijo |  |
| 10'  | 10-12   | 1.0                        | SS                             | SM                                       | 0.9                         | SILTY SAND: Fine<br>calliche indurated; w                        | to v. fine grained;<br>ery pale orange; (10YR8/2).   |         |  |  |
| ¢  | 15-17   | 1.0'                       | SS                             | SM                                       | 0.7                         | SILTY SAND: Fine t<br>calliche indurated, ve                     | o v. fine grained;<br>ry pale orange; (10YR8/2).   |         | 16'  | Bostachte Pellet Keul  |
| 20'  | 20-22'  | 1.5'                       | SS                             | SM                                       | 1.1                         | SILTY SAND: Fine<br>orange (10YR8/6)                             | to v. fine; pale to medium   |         | 20'  | 5/16 Sand  |
|  | 25-27   | 1.5'                       | SS                             | SM                                       | 1.1                         | SILTY SAND: Fine<br>pale to medium oran                          | to v. fine grained, caliche indurated,<br>age, moist (10YR8/6)<br>to v. fine grained with 1/4" limestone |         |  | 2.6" LD. Schodulo 48<br>Threaded, Slotted 0.018<br>PVC Well Screen |
| 30'  | 27-29<br>*29-31'  | 1.5'                       | SS<br>SS                       | SM<br>SM                                 | 0.5                         | nodules, pale orange<br>SILTY SAND: Fine<br>nodules, pale orange | to v. fine grained; 1* linestone<br>brown, moist (5YR 6/4)   |         |  |  |
|  |   |                            |                                |  |                             |  |  |         |  |  |
| 40'  |   |                            |                                |  |                             |  |  |         | 40'  | End Cap  |
|  |   |                            |                                |  |                             |  |  |         |  |  |
|  |   |                            |                                |  |                             |  |  |         |  |  |
| SS - spli<br>SB - spli<br>ST - she<br>RC - roo<br>SH - she | ample Ty<br>t spoon<br>it barrel<br>lby tube<br>ck core<br>ovel (surface) | pes                        | NOT<br>* - si<br>Botti<br>Grou | TES:<br>ample<br>om of<br>om of<br>undwa | e subm<br>Boring<br>Monit   | itted for analy<br>g @ 40.0'<br>or Well @ 40.0<br>~ 30.0'        | tical analysis<br>0'   |         |  |  |

| Well          | Northing | Easting | Top of Ground | Top of Casing | Depth to              | Water Elev. | HSd                |
|---------------|----------|---------|---------------|---------------|-----------------------|-------------|--------------------|
| lentification |          |         | (feet)        | (feet)        | Groundwater<br>(feet) | (feet)      | Thicknes<br>(feet) |
| MW-1          | 580176   | 816099  | 3556.90       | 3559.30       | 32.97                 | 3526.33     | 0.00               |
| MW-2          | 580091   | 816331  | 3555.80       | 3558.40       | 32.40                 | 3526.00     | 00'0               |
| MW-3          | 580302   | 816257  | 3555.70       | 3558.20       | 33.98                 | 3526.63     | 2.74               |
| MW-4          | 580586   | 815899  | 3558.10       | 3560.70       | 33.73                 | 3526.97     | 00'0               |
| MW-5          | 580677   | 815573  | 3558.50       | 3561.10       | 33.95                 | 3527.15     | 0.00               |
| MW-6          | 580518   | 816178  | 3557.70       | 3560.30       | 33.51                 | 3526.79     | 00.0               |
| 7-WM          | 579793   | 816230  | 3555.50       | 3558.00       | 32.49                 | 3525.51     | 0.00               |
| MW-8          | 579801   | 816448  | 3552.20       | 3557.60       | 32.43                 | 3525.17     | 0.00               |
|               |          |         |               |               |                       |             |                    |
|               |          |         |               |               |                       |             |                    |
|               |          |         |               |               |                       |             |                    |
|               |          |         |               |               |                       |             |                    |
|               |          |         |               |               |                       |             |                    |

|  |  | $\mathcal{D}_{\mathcal{D}} = \{ \mathcal{D}_{\mathcal{D}} : \mathcal{D}_{\mathcal{D}} \}$ | Revised June 1972 |
|--|--|---|-------------------|
| $W_{ij} = M_{ij} + \frac{1}{2} \left( \frac{1}{2} - \frac{1}{2} \right) \left($ | STATE ENGINEER OFFICE                    | · ·   |                   |
| · · ·  | WELL RECORD                              |   |                   |
|  |  | ( James   |                   |
|  | Section 1. GENERAL INFORMATION           |   |                   |
| (A) Owner of well Amerada Hess   | Corporation(Byrd Lease)                  | Owner's Well N  | 10. <u>MW-5</u>   |
| Street or Post Office Address P.O.   | Box 840                                  | · · · · · · · · · · · · · · · · · · ·   |                   |
| City and State Semi  | GPS:1                                    | N-32-35-27-8  |                   |
| Well was drilled under Permit No.  | and is located i                         | in the: W-103-18-24   | 8.3               |
| a  | ¼ of Section Township                    | -20-5 Range R-3   | 6-EN.M.P.M.       |
| b. Tract No of Map No.   | of the                                   |   |                   |
| c. Lot No of Block No  | of the                                   |   |                   |
| Subdivision, recorded in   | County.                                  |   | · .               |
| d V- feat V-   | feet N.M. Coordinate S                   | uctem   | Zone in           |
| the  | reet, iv.m. Coordinate 3                 | ystem   | Crant.            |
| (B) Drilling Contractor White Dri  | 11ing Company                            | License No. WD-1  | 456               |
| Address P.O. Box 906, Cly  | de, TX 79510                             |   |                   |
| Drilling Began 6/25/01 Comp  | leted6/25/01Type tools                   | Size  | of hole 5.0 in.   |
| Elevation of land surface or top of "Ca  | sing elevation <sub>ell is</sub> 3561.1' | _ ft. Total depth of well_  | 40.0 ft.          |
| Completed well is Shallow . a  | tesian Monitor Weldepth to water         | upon completion of well.  | 28.5ft.           |
| Sect   | ion 2. PRINCIPAL WATER-BEARING ST        | RATA  |                   |
| Depth in Feet Thickness  | Description of Water Bearing F           | E   | stimated Yield    |
| From To in Feet  |  | Amation (gal  | lons per minute)  |
| 28.5   | Orange to Lt. brown si                   | lty sand/w/cal  | iche              |
|  |  |   | ···               |
|  |  |   |                   |
| · · ·  |  |   |                   |
|  | - <u>I</u>                               | <u> </u>  |                   |

| Section | 2  | DECODD | OF | C   | CINIC |
|---------|----|--------|----|-----|-------|
| Section | 3. | RECORD | UF | CA: | SING  |

|          |          | •       | Sectio | n 3. RECORD ( | JF CASING |                                       |              |              |      |    |
|----------|----------|---------|--------|---------------|-----------|---------------------------------------|--------------|--------------|------|----|
| Diameter | Pounds   | Threads | Depth  | in Feet       | Length    | Turne of Chee                         | Perforations |              |      |    |
| (inches) | per foot | per in. | Тор    | Bottom        | (feet)    | (feet)                                | (feet)       | Type of Shoe | From | То |
| 2.0      |          | - 4     | 0.0    | 40.0          | 20.0      | point                                 | 20.0         | 40.0         |      |    |
|          |          |         |        |               |           | · · · · · · · · · · · · · · · · · · · |              |              |      |    |
|          |          |         |        |               |           | · · · · · · · · · · · · · · · · · · · |              |              |      |    |
|          |          |         |        |               |           |                                       | ·            |              |      |    |

Section 4. RECORD OF MUDDING AND CEMENTING

| Depth | in Feet | Hole     | Sacks  | Cubic Feet |      | Matheast of Discourses |
|-------|---------|----------|--------|------------|------|------------------------|
| From  | То      | Diameter | of Mud | of Cement  |      | Method of Placement    |
| 40.0  | 18.0    | 5.0      | 5.5    | gravel pa  | ckeđ | poured                 |
| 18.0  | 16.0    | 5.0      | 1.0    | Bent. pel  | lets | poured                 |
| 16.0  | 0.0     | 5.0      | 6.5    | cement     |      | poured                 |

### Section 5. PLUGGING RECORD

| Plugging ContractorAddress    | -<br> | Depth | in Feet | Cubic Feet |
|-------------------------------|-------|-------|---------|------------|
| Plugging Method               | NO.   | Тор   | Bottom  | of Cement  |
| Date Well Plugged             | - 1   |       | 1       |            |
| Plugging approved by:         | 2     |       |         |            |
| State Engineer Representative | - 3 4 |       |         |            |

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Date Received

File No.

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# FOR USE OF STATE ENGINEER ONLY Quad \_\_\_\_

#### \_\_\_\_ FWL \_\_\_\_

\_\_ Location No.\_

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\_\_\_\_\_ FSL\_\_

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|  | 1 22644514T | 40071 49 |          |
|--|-------------|----------|----------|
| Color and Type of Material Encountered   | in Feet     | To       | From     |
| Pale orange silty sand w/ caliche  | 0.05        | 20.0     | 0.0      |
| Very pale orange to it. brown silty sand w/callch  | 0.2         | 25.0     | 50.0     |
| bres vills nword .il   | 5.0         | 0-75     | 0.25     |
| Orange to it. brown silty sand w/caliche   | 13.0        | 0°0Þ     | 27.0     |
| and a second sec |             |          |          |
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| and the second   |             |          | <u> </u> |
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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

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INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is defined, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Revised June 1972

## STATE ENGINEER OFFICE WELL RECORD

#### Section 1. GENERAL INFORMATION

- Owner's Well No. MW-6 Amerada Hess Corporation(Byrd Lease) (A) Owner of well \_\_\_\_\_ Street or Post Office Address P.O. Box 840 Seminole, TX 79360 City and State \_

GPS:N-32-35-27.8 \_ and is located in the: W-103-18-28.3

\_\_\_ ¼ \_\_\_\_\_ ¼ \_\_\_\_\_¼ of Section <u>12</u> Township <u>T-20-S</u> Range <u>R-36-E</u> N.M.P.M. a. \_\_

\_\_\_\_\_ of Map No. \_\_\_\_ \_\_\_\_\_ of the \_\_\_\_ b. Tract No.\_\_\_\_

Well was drilled under Permit No.\_\_\_\_

c. Lot No. \_\_\_\_\_ of Block No. \_\_\_\_\_ of the Subdivision, recorded in . \_\_\_ County.

\_\_\_\_\_ feet, N.M. Coordinate System\_ \_\_\_\_ feet, Y=\_\_ Zone in d. X= \_\_\_\_ Grant. the.

(B) Drilling Contractor \_\_\_\_\_ White Drilling Company License No. WD-1456

Address P.O. Box 906, Clyde, TX 79510

Drilling Began \_\_\_\_\_\_ Completed \_\_\_\_\_\_ Type tools \_\_\_\_\_ \_\_\_\_ Size of hole \_\_\_\_\_ in. Elevation of land surface or top of casing elevation and surface or top of casing elevation of land surface or top of casing elevation of the surface of the Completed well is, is shallow artesian. Monitor Welbepth to water upon completion of well 29.0 ft.

|       |         | Sectio                                | on 2. PRINCIPAL WATER-BEARING STRATA   |                      |
|-------|---------|---------------------------------------|--|----------------------|
| Depth | in Feet | Thickness                             |  | Estimated Yield      |
| From  | То      | in Feet                               | Description of Water-Bearing Formation | (gallons per minute) |
| 29.0  |         |                                       | Pale yellow brown silty sand &         | gravel               |
|       |         |                                       |  | •••••                |
| • •   |         |                                       |  |                      |
|       |         | · · · · · · · · · · · · · · · · · · · |  |                      |

#### Section 3. RECORD OF CASING

| Diameter | Pounds   | Threads | Depth | in Feet | Length | Turns of Shop | Perfor | ations |
|----------|----------|---------|-------|---------|--------|---------------|--------|--------|
| (inches) | per foot | per in. | Тор   | Bottom  | (feet) | Type of Shoe  | From   | To     |
| 2.0      | . , .    | - 4_    | 0.0   | 40.0    | 20.0   | point         | 20.0   | 40.0   |
|          |          | ,       |       |         |        | м             |        |        |
|          |          |         |       |         |        |               |        |        |

#### Section 4. RECORD OF MUDDING AND CEMENTING

| Depth | in Feet | Hole     | Sacks  | Cubic Feet | -   | Math ad af Blasses  |
|-------|---------|----------|--------|------------|-----|---------------------|
| From  | To      | Diameter | of Mud | of Cement  |     | Method of Placement |
| 40.0  | 18.0    | 5.0      | 5.5    | gravel pac | ked | poured              |
| 18.0  | 16.0°   | 5.0      | 1.0    | Bent. pell | ets | poured              |
| 16.0  | 0.0     | 5.0      | 6.5    | cement     |     | poured              |

#### Section 5. PLUGGING RECORD

| Address               | · · · · · · · · · · · · · · · · · · ·  | -            | Depth  | in Feet           | Cubic Feet |
|-----------------------|--|--------------|--------|-------------------|------------|
| Plugging Method       | ······································ | - <u>NO.</u> | Тор    | Bottom            | of Cement  |
| Date Well Plugged     | · · · · · · · · · · · · · · · · · · ·  | - 1          |        | · ·               | -          |
| Plugging approved by: | 1 · · · · ·                            | 2            | 101 A  |                   |            |
|                       |  | - 3          |        |                   |            |
|                       | State Engineer Representative          | 4            | 1 - 35 | 1 1 1 1 1 1 1 1 1 |            |

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### FOR USE OF STATE ENGINEER ONLY

Quad \_\_\_\_\_

File No ...

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\_ FSL\_

|                                       |         |           | Section 6. LOG OF HOLE                          |  |  |  |
|---------------------------------------|---------|-----------|---|--|--|--|
| Depth                                 | in Feet | Thickness | Color and Type of Material Encountered          |  |  |  |
| From                                  | To      | in Feet   |   |  |  |  |
| 0.0                                   | 10.0    | 10        | Pale yellowish brown silty sand w/caliche       |  |  |  |
| 10.0                                  | 15.0    | 5         | Yellowish gray silty sand w/chert nodules       |  |  |  |
| 15.0                                  | 25.0    | 10        | Lt: bluish gray silty/sand                      |  |  |  |
| 25.0                                  | 30.0    | 5         | Pale yellow brown silty sand w/gravel           |  |  |  |
| 30.0                                  | 35.0    | 5         | Lt. blue to gray silty clay                     |  |  |  |
| 35.0                                  | 40.0    | 5         | Lt. blue to gray silty clay w/limestone nodules |  |  |  |
|                                       |         |           |   |  |  |  |
| ······                                |         |           |   |  |  |  |
| · · · · · · · · · · · · · · · · · · · |         |           |   |  |  |  |
|                                       |         |           |   |  |  |  |
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| <u> </u>                              |         |           |   |  |  |  |
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Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned here by certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed

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Revised June 1972

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# STATE ENGINEER OFFICE

| Section | 1. | GENERAL | INFORMATION |
|---------|----|---------|-------------|
|---------|----|---------|-------------|

| (A) Owner of     | well Am             | erada Hess                             | Corporat:               | ion(Byrd Le                           | <u>ase)</u> c                          | wner's Well NoM                       | W-7            |
|------------------|---------------------|--|-------------------------|---------------------------------------|--|---------------------------------------|----------------|
| Street or        | Post Office Ad      | dress P.U.                             | BOX 840                 | 70260                                 |  |                                       |                |
| City and         | State               | Semin                                  | loie, ix                | /9300                                 |  |                                       |                |
|                  |                     |  |                         |                                       | GPS:N-                                 | 32-35-27.8                            |                |
| Well was drilled | under Permit        | No                                     | ·····                   | and is loca                           | ited in the: $W_{-}$                   | 103-18-28.3                           |                |
| a                | ¼ ¼                 | ¼                                      | _ ¼ of Section          | 12 Townshij                           | p_T-20-S_                              | Range <u>R-36-E</u>                   | N.M.P.W.       |
| b. Tract         | No                  | of Map No                              |                         | of the                                |  |                                       |                |
| c. Lot N         | 0                   | of Block No                            |                         | of the                                | ······································ | · · · · · · · · · · · · · · · · · · · |                |
| Subdi            | vision, recorded    | l ín                                   |                         | County.                               |  |                                       |                |
|                  |                     |  |                         |                                       |  |                                       |                |
| d. X=            |                     | _ feet, Y=                             | I                       | feet, N.M. Coordina                   | ate System                             |                                       | Zone in        |
| the              |                     | ······································ |                         |                                       |  |                                       | Grant.         |
| (B) Drilling (   | Contractor <u>W</u> | hite Drill                             | ing Compa               | ny                                    | License N                              | o. WD-1456                            | ·              |
| Address          | P.O. B              | ox 906, C1                             | yde, TX                 | 79510                                 |  |                                       |                |
| Drilling Began   | 6/25/01             | Complet                                | ed 6/25/01              | Type tools                            | s                                      | Size of hole                          | <u>5.0</u> in. |
| Elevation of la  | nd surface or $t$   | op of casi                             | lng elevat              | ignell is_3558                        | 3.0' ft. Total d                       | epth of well4                         | 0.0ft.         |
| Completed wel    | lis, 🗖 st           | allow 🔲 arte                           | <sub>sian.</sub> Monito | r Weblpth to wa                       | ater upon compl                        | etion of well <u>3</u>                | 2.0 ft.        |
|                  |                     | Section                                | n 2. PRINCIPAL          | WATER-BEARING                         | STRATA                                 |                                       |                |
| Depth            | in Feet             | Thickness                              |                         |                                       |  | Estimate                              | d Yield        |
| From             | То                  | in Feet                                | Descript                | ion of Water-Bearin                   | ng Formation                           | (gallons pe                           | r minute)      |
| 32.0             |                     |  | Very pale               | orange sil                            | Lty sand w                             | /limestone                            |                |
|                  |                     |  | T                       |                                       |  |                                       |                |
|                  |                     |  | † · · ·                 | · · · · · · · · · · · · · · · · · · · |  |                                       |                |
|                  | <b> </b>            | · · · · · · · · · · · · · · · · · · ·  | ·····                   |                                       |  |                                       | <u> </u>       |

## Section 3. RECORD OF CASING

| Diameter Pounds |          | Threads Depth in Feet |     | Length | Trues of Shas | Perforations |      |      |
|-----------------|----------|-----------------------|-----|--------|---------------|--------------|------|------|
| (inches)        | per foot | per in.               | Тор | Bottom | (feet)        | Type of Shoe | From | To   |
| 2.0             |          | • 4                   | 0.0 | 40.0   | 20.0          | point        | 20.0 | 40.0 |
|                 |          |                       |     |        |               |              |      |      |
|                 |          |                       |     |        |               |              |      |      |

### Section 4. RECORD OF MUDDING AND CEMENTING

| Depth | Depth in Feet |          | Sacks  | Cubic Feet    | Martha de Ciblera and |
|-------|---------------|----------|--------|---------------|-----------------------|
| From  | То            | Diameter | of Mud | of Cement     | Method of Placement   |
| 40.0  | 18.0          | 5.0      | 5.5    | gravel packed | poured                |
| 18.0  | 16.0          | 5.0      | 1.0    | Bent. pellets | poured                |
| 16.0  | 0.0           | 5.0      | 6.5    | cement        | poured                |

### Section 5. PLUGGING RECORD

| Address                               |                      | - No | 1 | Depth i | Cubic Feet |           |
|---------------------------------------|----------------------|------|---|---------|------------|-----------|
| Plugging Method                       |                      | 10.  |   | Тор     | Bottom     | of Cement |
| Date Well Plugged                     | ·                    | - 1  |   |         |            | · · · · · |
| Plugging approved by:                 |                      | 2    | 1 |         |            |           |
| · · · · · · · · · · · · · · · · · · · |                      | - 3  |   |         | · · · ·    |           |
| State Eng                             | ineer Representative | 4    |   |         | 4.5        |           |

## FOR USE OF STATE ENGINEER ONLY

Use

Date Received

#### Quad \_\_\_\_\_

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|          |           |                                       | Section 6. LOG OF HOLE                          |
|----------|-----------|---------------------------------------|---|
| Depth    | in Feet   | Thickness                             | Color and Type of Material Encountered          |
| From     | To        | III Feet                              |   |
| 0.0      | 10.0      | 10.0                                  | Gravish orange silty sand                       |
| 10.0     | 20.0      | 10.0                                  | Gray ot very pale orange silty sand             |
| 20.0     | 25.0      | 5.0                                   | Pale to med. yellowish orange silty sand        |
| 25.0     | 40.0      | 15.0                                  | Very pale orange silty sand w/limestone nodules |
|          |           |                                       |   |
|          |           |                                       |   |
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Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

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# STATE ENGINEER OFFICE

**Revised June 1972** 

### Section 1. GENERAL INFORMATION

 (A) Owner of well <u>Amerada Hess Corporation(Byrd Lease)</u> Owner's Well No. <u>MW-8</u>

 Street or Post Office Address <u>P.O. Box 840</u>

 City and State <u>Seminole, TX 79360</u>

GPS: N-32-35-27.8 Well was drilled under Permit No.\_\_\_\_\_\_ and is located in the: W-103-18-28.3

a. \_\_\_\_\_ ¼ \_\_\_\_ ¼ \_\_\_\_ ¼ of Section <u>12</u> Township <u>T-20-S</u> Range <u>R-36-E</u> N.M.P.M.

b. Tract No,\_\_\_\_\_\_ of Map No, \_\_\_\_\_\_ of the \_\_\_\_\_\_

Subdivision, recorded in \_\_\_\_\_ County.

d. X=\_\_\_\_\_\_feet, Y=\_\_\_\_\_feet, N.M. Coordinate System\_\_\_\_\_Zone in the \_\_\_\_\_\_Grant.

(B) Drilling Contractor \_\_\_\_\_ White Drilling Company \_\_\_\_\_ License No. WD-1456

Address P.O. Box 906, Clyde, TX 79510

Drilling Began <u>6/25/01</u> Completed <u>6/25/01</u> Type tools <u>Size of hole 5.0</u> in. Elevation of land surface or top of casing elevating well is <u>3557.6'</u> ft. Total depth of well <u>40.0</u> ft. Completed well is <u>shallow</u> artesian. Monitor well bepth to water upon completion of well <u>30.0</u> ft.

#### Section 2. PRINCIPAL WATER-BEARING STRATA

| Depth in Feet Thickness |    |         | Description of Water-Bearing Formation | Estimated Yield      |  |  |  |  |
|-------------------------|----|---------|--|----------------------|--|--|--|--|
| From                    | To | in Feet |  | (gailons per minute) |  |  |  |  |
| 30.0                    |    |         | Pale orange brown silty sand           | · · · · · · · · ·    |  |  |  |  |
|                         |    |         | w/limestone nodules                    |                      |  |  |  |  |
|                         |    |         |  | -                    |  |  |  |  |
|                         |    |         |  |                      |  |  |  |  |

#### Section 3. RECORD OF CASING

| Diameter Pounds |          | Threads Depth in Feet |     |                 | Length | Tune of Shee | Perforations |      |  |
|-----------------|----------|-----------------------|-----|-----------------|--------|--------------|--------------|------|--|
| (inches)        | per foot | per in.               | Тор | p Bottom (feet) |        | Type of Shoe | From         | To   |  |
| 2.0             |          | 4                     | 0.0 | 40.0            | 20.0   | point        | 20.0         | 40.0 |  |
|                 |          |                       |     |                 |        |              |              |      |  |
|                 |          |                       |     |                 |        |              |              |      |  |

#### Section 4. RECORD OF MUDDING AND CEMENTING

| Depth | in Feet | Hole     | Sacks  | Cubic Feet    | Mathed of Blassmant  |
|-------|---------|----------|--------|---------------|----------------------|
| From  | То      | Diameter | of Mud | of Cement     | Metilod of Placement |
| 40.0  | 18.0    | 5.0      | 5.5    | gravel packed | poured               |
| 18.0  | 16.0    | 5.0      | 1.0    | Bent. pellets | poured               |
| 16.0  | 0.0     | 5.0      | 6.5    | cement        | poured               |

#### Section 5. PLUGGING RECORD

| Address     Depth in Feet     Cubic Feet       Plugging Method     Top     Bottom     of Cement       Date Well Plugged     1     2     2       Plugging approved by:     2     0 | Plugging Contractor                   |          |      |               | ,         |  |  |
|---|---------------------------------------|----------|------|---------------|-----------|--|--|
| Plugging Method     No.     Top     Bottom     of Cement       Date Well Plugged     1     1     1     1       Plugging approved by:     2     1     1                            | Address                               |          | Dept | Depth in Feet |           |  |  |
| Date Well Plugged     1       Plugging approved by:     2   | Plugging Method                       | No.      | Тор  | Bottom        | of Cement |  |  |
| Plugging approved by:   | Date Well Plugged                     | <u>1</u> |      |               | -         |  |  |
|   | Plugging approved by:                 | 2        |      |               | 1         |  |  |
| 3   | · · · · · · · · · · · · · · · · · · · | 3        |      | 1             |           |  |  |
| State Engineer Representative   | State Engineer Representative         | 4        |      |               |           |  |  |

#### FOR USE OF STATE ENGINEER ONLY

\_ Use \_

Date Received

File No.

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|         |                                       |                      | Section 6. LOG OF HOLE                           |
|---------|---------------------------------------|----------------------|--|
| Depth   | in Feet                               | Thickness<br>in Feet | Color and Type of Material Encountered           |
| 0.0     | 10.0                                  | 10                   | Pale yellowish brown silty sand                  |
| 10.0    | 20.0                                  | 10                   | Very pale orange silty sand w/caliche            |
| 20.0    | 25.0                                  | 5                    | Pale to Med. orange silty sand                   |
| 25.0    | 27.0                                  | 2                    | Pale to Med. orange silty sand w/caliche         |
| 27.0    | 40.0                                  | 13                   | Pale orange to; lt. brown silty sand w/limestone |
|         |                                       |                      |  |
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Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

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**Amerada Hess Corporation** W. P. Byrd Lease Section 12, T-20-S, R-36-E Lea County, New Mexico



Drilling Monitor Well No. 5, June 25, 2001



Drilling Monitor Well No. 6, June 25, 2001



Meridian Alliance Group, LLC

Amerada Hess Corporation W. P. Byrd Lease Section 12, T-20-S, R-36-E Lea County, New Mexico



Drilling Monitor Well No. 7, June 25, 2001



Drilling Monitor Well No. 8, June 25, 2001





MILLENNIUM LABORATORIES, INC. 1544 Sawdust Road, Suite 402. The Woodlands, Texas 77380. ph. 281-362-8490. fax 281-362-8491.

#### Report No: 2001070089

Client: Meridian Alliance Group Project Name: Byrd Tank Project Number:07C005537

### **MBTEX/TPH Water Summary Report**

| Sample<br>Number | Sample<br>Description | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Total<br>Xylenes<br>(mg/L) | Total<br>BTEX*<br>(mg/L) | MtBE<br>(mg/L) | TPH<br>C6-C12<br>(mg/L) | TPH<br>C12-C28<br>(mg/L) | TPH<br>C6-C28<br>(mg/L) |
|------------------|-----------------------|-------------------|-------------------|------------------------|----------------------------|--------------------------|----------------|-------------------------|--------------------------|-------------------------|
| 1                | MW-1                  | <0.002            | <0.005            | <0.005                 | <0.005                     | ND                       | <0.010         | N/A                     | N/A                      | N/A                     |
| 2                | MW-2                  | 0.025             | <0.005            | <0.005                 | <0.005                     | 0.025                    | <0.010         | N/A                     | N/A                      | N/A                     |
| 3                | MW-3                  | 0.113             | <0.005            | 0.016                  | 0.034                      | 0.163                    | <0.010         | N/A                     | N/A                      | N/A                     |
| 4                | MW-4                  | 0.038             | <0.005            | <0.005                 | <0.005                     | 0.038                    | <0.010         | N/A                     | N/A                      | N/A                     |
| 5                | MW-5                  | <0.002            | <0.005            | <0.005                 | <0.005                     | ND                       | <0.010         | N/A                     | N/A                      | N/A                     |
| 6                | MW-6                  | 0.015             | <0.005            | <0.005                 | <0.005                     | 0.015                    | <0.010         | N/A                     | N/A                      | N/A                     |
| 7                | MW-7                  | <0.002            | <0.005            | <0.005                 | <0.005                     | ND                       | <0.010         | N/A                     | N/A                      | N/A                     |
| 8                | MW-8                  | <0.002            | <0.005            | <0.005                 | <0.005                     | ND                       | <0.010         | N/A                     | N/A                      | N/A                     |



\* = Total BTEX calculation does not include MtBE ND = Not Detected N/A = Analysis not requested

Report Date: 07/17/2001

|                            |  |                              | $\frown$         | ŀ      |        |        |        |        |        |        |           |        |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
|----------------------------|--|------------------------------|------------------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|-----|-----|-----|-----|----------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|---|---|-----|---------|--------|--------|------|--------|--------|--------|--------|--------|--------|--|
|                            |  |                              | units            | mg/Kg     | mg/Kg  |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
| 13                         | e Group<br>05537                         |                              | Lead             | N/A       | N/A    |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
| 20010602                   | ridian Allianc<br>ne: Byrd<br>nber: 07C0 |                              | TPH<br>C6-C28    | N/A       | N/A    |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
| Report No:                 | Client: Me<br>Project Nan<br>Project Nun | Project Nar<br>Project Nur   |                  |        |        |        |        |        |        |        |           |        |     |     |     |     | TPH<br>C12-C28 | N/A     | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    | N/A    |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
|                            |  |                              | TPH<br>C6-C12    |        |        |        |        |        |        | N/A    | N/A       | N/A    | N/A | N/A | N/A | N/A | N/A            | N/A     |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
|                            |  |                              | MtBE             | N/A       | N/A    |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
| LENNIUM LABORATORIES, INC. | port                                     | Total<br>BTEX*               | QN               | QN     | 4.265  | QN     | QN     | QN     | QN     | QN     | QN        |        |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
|                            | Summary Re                               | Xylenes,<br>total            | <0.125           | <0.125 | 2.23   | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125    |        |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
|                            | MBTEX/TPH 5                              | MBTEX/TPH                    | Ethylbenzene     | <0.125 | <0.125 | 0.995  | <0.125 | <0.125 | <0.125 | <0.125 | <0.125    | <0.125 |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
|                            |  |                              |                  |        |        |        |        |        |        |        |           |        |     |     |     |     |                | Ł       | [      | 4      |        |        |        |        |        |        |        |  | ~ | Σ | MBT | Toluene | <0.125 | <0.125 | 1.04 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 |  |
|                            |  |                              |                  |        |        |        |        |        |        |        |           |        |     |     |     |     |                | Benzene | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
|                            |  | Samp <del>le</del><br>Matrix | Soil             | Soil   | Soil   | Soil   | Soil   | Soil   | Soil   | Soil   | Soil      |        |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
|                            |  | Sample<br>Description        | MW-5             | MW-5   | MW-6   | MW-6   | 7-WM   | 7-WM   | MW-8   | MW-8   | Composite |        |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |
| I544 Saw                   |  |                              | Sample<br>Number | -      | 7      | ო      | 4      | 5      | 9      | 7      | œ         | 6      |     |     |     |     |                |         |        |        |        |        |        |        |        |        |        |  |   |   |     |         |        |        |      |        |        |        |        |        |        |  |

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\* Total BTEX calculation does not include MtBE ND = Not Detected N/A = Analysis not requested

Report Date 07/18/2001

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| -       | Page of the second seco |              |               | r each chain<br>project | ample with                 | 10-C28                                    | If TPH is non-<br>( (Tatal)                   | (100)                           |                                |         | 8           | awb                 | s to 1         | admı.   | otal Nu<br>Sontair | ° ^                | m     | M         | m      | M    | m      | m      | m    |          |        |   |      | s) Rec'd At        |                        |                              | es no l       |        |         |
|---------|--|--------------|---------------|-------------------------|----------------------------|---|---|---------------------------------|--------------------------------|---------|-------------|---------------------|----------------|---------|--------------------|--------------------|-------|-----------|--------|------|--------|--------|------|----------|--------|---|------|--------------------|------------------------|------------------------------|---------------|--------|---------|
|         |  |              | Number        |                         | nalyze one s               | ie highest C <sub>1</sub><br>oncentratior | in TPH (Total) -<br>ontent on RTF)            |                                 | TRPP                           |         | <u>م</u> .  | - 0                 | v 0            |         | > 0 T              | ' <br>             |       |           |        |      | <br>   |        |      |          | <br>   |   | <br> | of Sample(s<br>Lab |                        |                              | ۔<br>۲        |        |         |
|         | ject Numbe   |              | ۲۲            | r<br>V                  | 0 ppm                      |   | mpling point based o<br>Ith lowest aromatic c | No                              | Level III                      |         |             |                     | Comments       |         |                    |                    |       |           |        |      |        |        |      |          |        |   |      | Condition o        | Custody Seaf<br>Intact | Sample(s) Rec'i<br>Iced/Cool | in the second |        |         |
|         | -abs - Pro   |              | AB USE ON     | 700                     | Co-C28 total > 10          | Se <sup>-</sup> C₂8 total >5.0            | the cleanest sar<br>elect sample w            | Yes                             | el: Level II                   |         |             |                     |                | _       |                    |                    |       |           |        |      |        |        |      |          |        |   |      | Time:              | Time:                  | Time:                        |               |        |         |
|         | nnium L  |              | <b>1</b>      | <u>, 0</u>              | VH-Solt: If, C             | NH-Water: If, C                           | TDS: Analyze<br>detect, s                     | Results:                        | ting Leve                      |         |             |                     |                |         | Othe               |                    |       |           |        |      |        |        |      |          |        |   |      |                    |                        |                              |               |        |         |
|         | Mille  |              |               | 200                     |                            |   |   | Fax F                           | Repor                          |         |             | ր                   | puic           | ээТо    | ъЭ                 |                    |       |           |        |      |        |        |      |          |        |   |      | Date:              | Date:                  | Date:                        |               |        |         |
|         |  | Fax          | TION          | 537                     | ¥                          | Below                                     | くらくつ  |                                 | Innel                          |         | (           | 8310                | / 0/           | 78 H    | Vd<br>S            |                    |       | <br>      |        |      |        |        |      |          |        |   |      |                    |                        | <u>Labs:</u>                 |               |        |         |
| 102     | 80   | -8491        | FORMA         | 80                      |                            | t Name(s)                                 | 14  |                                 | lian-Alliance Perso<br>'esX No | vesX No | 1.814 \     |                     | LLH 1002 /<br> |         | TTP<br>TTP         |                    |       |           |        |      | ╉      |        |      | ┝─┼      |        | ╀ |      |                    |                        | <u>nnium</u>                 |               |        |         |
| Suite 4 | s 773  | 362 (11)     | PROJECT IN    | Per C J                 | BYRI                       | by: Print                                 | 5.12  |                                 |                                |         |             |                     |                | S       | IL                 |                    |       |           |        | 1    |        |        |      |          |        |   |      |                    |                        | Miller                       |               |        |         |
| ġ       | s, Texi  | ŝ            |               | oject Num               | te Name                    | Sampler                                   | 5   |                                 | Merio                          |         |             | <del>4</del><br>831 | OS<br>/ 0/3    | / £C    |                    |                    |       |           |        |      |        |        |      |          |        |   |      | by:                | by:                    | 'ed <u>b</u> y               |               |        |         |
| wdust   | odland   | Phone        |               | <u>*</u>                | S<br>N                     |   | n with  | ized to 2                       |                                | ſ       | (1.8        | 17                  | 50             | 01 H    | ar P               |                    | ~     | ~         | ~      | 1    | -      |        | /    |          | _      |   |      | Received           | Received               | Receiv                       |               |        |         |
| 544 Se  | The Wo   | 31) 362-8490 | IATION        | 37                      | - Invoice pe               | oice per                                  | le informatio                                 | Labs is autho                   | Refer to<br>Remark             | Remar   | <b>&gt;</b> | BE                  | WLBE           | I - XHI | LEI<br>C           | $\cap$             | 5     | 2         | 2      | 7    | 3      | 2      | 2    |          |        |   |      | 38                 |                        | [s]                          | -             |        |         |
| -       |  |              | NFORM         | 555,                    | rsement Site<br>agreement  | ect Site - Inv                            | lient - Includ                                | Villennium I.<br>tees           | Aanager [                      |         | nd Time     | king Day            | king Day       |         | Metho              |                    |       |           |        |      |        |        |      | Τ        |        |   |      | nei 7.             | ne:                    | truction                     |               |        |         |
|         |  | <u>8</u>     | I DNIC        | ğ                       | CC Re-Imbu<br>ian-Ailiance | Funded Proj<br>nent/quote                 | t Billing to C<br>of Custody                  | ty Project - I<br>te for Rush F | Project A                      |         | Inmaroui    | 10 Wor              | 5 Wor          | Other:  | Matrix             |                    |       |           |        |      |        |        |      |          |        |   |      | 1<br>1<br>1<br>0   | Ē                      | ss & ins                     |               |        |         |
|         |  |              | INVOI         | 0                       | TNR(<br>Merid              | Non-                                      | Direc<br>Chain                                | Priori                          | 1 <u>1</u>                     |         |             |                     |                |         | ≥<br>              | X                  | S   K | V o       | ×<br>8 | blx  | X<br>Q | א<br>8 | 0 X  | <u>.</u> |        |   |      | 7-7.               |                        | ) addre:                     |               |        |         |
| IES     |  |              |               | P.O.#                   | অ                          |   |   |                                 | Send Inve<br>to:               |         |             |                     |                |         | ected<br>Tim       | 12:0               | 1:11  | 12.3      | 12:0   | l0′3 | 13:30  | 10:4   | 9.2  | n. ;     |        | - |      | Date:              | Date:                  | shipping                     |               |        |         |
| TOR     |  |              |               |                         |                            |   |   |                                 |                                |         |             |                     |                |         |                    | Col<br>Date        | 7.7   | 7-7       | セ・モ    | 7-7  | 7-7    | 7-7    | f-f  | t-t      |        |   |      |                    |                        |                              | opy for s     |        |         |
| ORA     | ORD  | OUP          | <b>хт то:</b> | Т ТО:                   | т то:                      |   |   | 202                             |                                |         |             |                     |                |         |                    |                    | ud    |           |        |      |        |        |      |          |        |   |      |                    |                        | }                            |               | back c |         |
| LAB     | Y RECC   | CE GRO       |               |                         |                            | т то:                                     |   |                                 | NDER                           |         |             |                     |                |         |                    |                    |       | tificatio |        |      |        |        |      |          |        | ~ |      |                    |                        | $\mathbb{N}$                 | 7             | )      | t: [see |
| MD      | STODY  | TIANC        | REPOR         |                         |                            | er He                                     |   |                                 |                                |         |             |                     |                |         | le Iden            | 5                  | ער-2  | 5-1       | 7-1    | 14-5 | 10.6   | 1 - 1  | 3-20 |          |        |   |      |                    |                        | pmen                         | ſ             |        |         |
| EN      | OF CU  | AN-AL        |               | uc                      | ton                        | 10) pr                                    |   | ion:                            | ion:                           |         |             |                     |                |         | Sampl              | S                  | ξ     | A         | æ      | Ś    | ٤      | X      | ٤    |          |        |   |      | J<br>Aq<br>P       | d by:                  | of Shi                       |               |        |         |
| ILLL    | HAIN   | ERIDI        |               | Houst                   | ☐ Arling                   | Midlar Nidlar                             | ] Tyler                                       | her Locati                      | her Locati                     | marks:  |             |                     |                |         | ab<br>o.           | $\left  - \right $ |       |           |        |      |        | N.Y    | ~    |          | $\neg$ |   |      | linquishe          | linquishe              | ethod                        | ł             |        |         |

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Report No.: 2001070089 07/17/2001

Client: Meridian Alliance Group

# TEST RESULTS BY SAMPLE

| Sample No.:                 | 1         | Date Collected: 07/07/2           | 2001               | Time Collect            | ted: 12:00:00      | Matrix: Groundwater |         |  |  |
|-----------------------------|-----------|-----------------------------------|--------------------|-------------------------|--------------------|---------------------|---------|--|--|
| Description:                | MW-1      | Projec                            | t Name: By         | rd Tank                 |                    |                     |         |  |  |
| Test                        |           | Method                            | Results            | Units                   | Detection<br>Limit | Date Analyzed       | Analyst |  |  |
| MtBE                        |           | SW-846 5030B/8021B                | <0.010             | mg/L                    | 0.010              | 07/14/2001          | TRE     |  |  |
| Benzene                     |           | SW-846 5030B/8021B                | <0.002             | mg/L                    | 0.002              | 07/14/2001          | TRE     |  |  |
| Toluene                     |           | SW-846 5030B/8021B                | <0.005             | mg/L                    | 0.005              | 07/14/2001          | TRE     |  |  |
| Ethylbenzene                |           | SW-846 5030B/8021B                | < 0.005            | mg/L                    | 0.005              | 07/14/2001          | TRE     |  |  |
| Xylenes, total              |           | SW-846 5030B/8021B                | < 0.005            | mg/L                    | 0.005              | 07/14/2001          | TRE     |  |  |
| TPH (418.1)                 |           | 418.1                             | <1.0               | mg/L                    | 1.000              | 07/17/2001          | MAT     |  |  |
| Sample No.:                 | 2         | Date Collected: 07/07/2           | 2001               | Time Collect            | ted: 11:15:00      | Matrix: Groun       | ndwater |  |  |
| Description:                | MW-2      | Projec                            | t Name: By         | rd Tank                 |                    |                     |         |  |  |
| Test                        |           | Method                            | Results            | Units                   | Detection<br>Limit | Date Analyzed       | Analyst |  |  |
| MtBE                        |           | SW-846 5030B/8021B                | <0.010             | mg/L                    | 0.010              | 07/14/2001          | TRE     |  |  |
| Benzene                     |           | SW-846 5030B/8021B                | 0.025              | mg/L                    | 0.002              | 07/14/2001          | TRE     |  |  |
| Toluene                     |           | SW-846 5030B/8021B                | < 0.005            | mg/L                    | 0.005              | 07/14/2001          | TRE     |  |  |
| Ethylbenzene                | 0,358     | SW-846 5030B/8021B                | < 0.005            | mg/L                    | 0.005              | 07/14/2001          | TRE     |  |  |
| Xylenes, total              |           | SW-846 5030B/8021B                | < 0.005            | mg/L                    | 0.005              | 07/14/2001          | TRE     |  |  |
| TPH (418.1)                 |           | 418.1                             | 69.8               | mg/L                    | 1.000              | 07/17/2001          | MAT     |  |  |
| Sample No.:<br>Description: | 3<br>MW-3 | Date Collected: 07/07/2<br>Projec | 2001<br>t Name: By | Time Collect<br>rd Tank | ted: 12:30:00      | Matrix: Grour       | ndwater |  |  |
| Test                        |           | Method                            | Results            | Units                   | Detection<br>Limit | Date Analyzed       | Analyst |  |  |
| MtBE                        |           | SW-846 5030B/8021B                | <0.010             | mg/L                    | 0.010              | 07/14/2001          | TRE     |  |  |
| Benzene                     |           | SW-846 5030B/8021B                | 0.113              | mg/L                    | 0.002              | 07/14/2001          | TRE     |  |  |
| Toluene                     | 0.057     | SW-846 5030B/8021B                | < 0.005            | mg/L                    | 0.005              | 07/14/2001          | TRE     |  |  |
| Ethylbenzene                |           | SW-846 5030B/8021B                | 0.016              | mg/L                    | 0.005              | 07/14/2001          | TRE     |  |  |
| Xylenes, total              |           | SW-846 5030B/8021B                | 0.034              | mg/L                    | 0.005              | 07/14/2001          | TRE     |  |  |
| TPH (418.1)                 |           | 418.1                             | 1960               | mg/L                    | 100.000            | 07/17/2001          | MAT     |  |  |
| Sample No.:                 | 4         | Date Collected: 07/07/2           | 2001               | Time Collect            | ted: 13:00:00      | Matrix: Grour       | ndwater |  |  |
| Description:                | MW-4      | Project                           | t Name: By         | rd Tank                 |                    |                     |         |  |  |
| Test                        |           | Method                            | Results            | Units                   | Detection<br>Limit | Date Analyzed       | Analyst |  |  |
| MtBE                        |           | SW-846 5030B/8021B                | <0.010             | mg/L                    | 0.010              | 07/14/2001          | TRE     |  |  |
| Benzene                     |           | SW-846 5030B/8021B                | 0.038              | mg/L                    | 0.002              | 07/14/2001          | TRE     |  |  |
Report No.: 2001070089 07/17/2001 Client: Meridian Alliance Group

| Sample No.:    | 4    | Date Collected: 07/07/2001 Time Collected: 13:00:00 |   |              |                    | Matrix: Groundwater |         |  |
|----------------|------|---|---|--------------|--------------------|---------------------|---------|--|
| Description:   | MW-4 | Projec  | t Name: By  | vrd Tank     |                    |                     |         |  |
| Test           |      | Method  | Results   | Units        | Detection<br>Limit | Date Analyzed       | Analyst |  |
| Toluene        |      | SW-846 5030B/8021B                                  | <0.005  | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| Ethylbenzene   | 347  | SW-846 5030B/8021B                                  | < 0.005   | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| Xylenes, total |      | SW-846 5030B/8021B                                  | <0.005  | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| ГРН (418.1)    |      | 418.1   | 11.1  | mg/L         | 1.000              | 07/17/2001          | MAT     |  |
| Sample No.:    | 5    | Date Collected: 07/07/2                             | Date Collected: 07/07/2001 Time Collected: 10:30:00 |              |                    |                     | ndwater |  |
| Description:   | MW-5 | Projec  |   |              |                    |                     |         |  |
| Test           |      | Method  | Results   | Units        | Detection<br>Limit | Date Analyzed       | Analyst |  |
| MtBE           |      | SW-846 5030B/8021B                                  | <0.010  | mg/L         | 0.010              | 07/14/2001          | TRE     |  |
| Benzene        |      | SW-846 5030B/8021B                                  | < 0.002   | mg/L         | 0.002              | 07/14/2001          | TRE     |  |
| Foluene        |      | SW-846 5030B/8021B                                  | < 0.005   | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| Ethylbenzene   |      | SW-846 5030B/8021B                                  | <0.005  | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| Xylenes, total |      | SW-846 5030B/8021B                                  | < 0.005   | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| ГРН (418.1)    |      | 418.1   | <1.0  | mg/L         | 1.000              | 07/17/2001          | MAT     |  |
| Sample No.:    | 6    | Date Collected: 07/07/2                             | 2001  | Time Collect | ed: 13:30:00       | Matrix: Groun       | idwater |  |
| Description:   | MW-6 | Projec  | t Name: By  | rd Tank      |                    |                     |         |  |
| Test           |      | Method  | Results   | Units        | Detection<br>Limit | Date Analyzed       | Analyst |  |
| MtBE           |      | SW-846 5030B/8021B                                  | <0.010  | mg/L         | 0.010              | 07/14/2001          | TRE     |  |
| Benzene        |      | SW-846 5030B/8021B                                  | 0.015   | mg/L         | 0.002              | 07/14/2001          | TRE     |  |
| ſoluene        |      | SW-846 5030B/8021B                                  | < 0.005   | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| Ethylbenzene   |      | SW-846 5030B/8021B                                  | < 0.005   | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| Xylenes, total |      | SW-846 5030B/8021B                                  | <0.005  | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| FPH (418.1)    |      | 418.1   | <1.0  | mg/L         | 1.000              | 07/17/2001          | MAT     |  |
| Sample No.:    | 7    | Date Collected: 07/07/2                             | 2001  | Time Collect | ed: 10:00:00       | Matrix: Groun       | Idwater |  |
| Description:   | MW-7 | Project   | t Name: By  | rd Tank      |                    |                     |         |  |
| Test           |      | Method  | Results   | Units        | Detection<br>Limit | Date Analyzed       | Analyst |  |
| MtBE           |      | SW-846 5030B/8021B                                  | <0.010  | mg/L         | 0.010              | 07/14/2001          | TRE     |  |
| Benzene        |      | SW-846 5030B/8021B                                  | <0.002  | mg/L         | 0.002              | 07/14/2001          | TRE     |  |
| Foluene        |      | SW-846 5030B/8021B                                  | < 0.005   | mg/L         | 0.005              | 07/14/2001          | TRE     |  |
| Ethylbenzene   |      | SW-846 5030B/8021B                                  | < 0.005   | mg/L         | 0.005              | 07/14/2001          | TRE     |  |

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| Sample No.:<br>Description:  | 7<br>MW-7 | Date Collected: 07/07/2<br>Projec  | Date Collected: 07/07/2001<br>Project Name: By            |   |   | Matrix: Groundwater   |   |  |
|--|-----------|--|---|---|---|---|---|--|
| Test   |           | Method   | Results   | Units   | Detection<br>Limit  | Date Analyzed   | Analyst   |  |
| Xylenes, total   |           | SW-846 5030B/8021B   | SW-846 5030B/8021B <0.005                                 |   | 0.005   | 07/14/2001  | TRE   |  |
| ГРН (418.1)  |           | 418.1  | <1.0  | mg/L  | 1.000   | 07/17/2001  | MAT   |  |
| Sample No.:<br>Description:  | 8<br>MW-8 | Date Collected: 07/07/2<br>Projec  | 2001<br>t Name: By  | Time Collecte<br>rd Tank                      | ed: 09:30:00  | Matrix: Groundwater   |   |  |
|  |           | 5  | •   |   |   |   |   |  |
| Test   |           | Method   | Results   | Units   | Detection<br>Limit  | Date Analyzed   | Analyst   |  |
| <b>Test</b><br>MtBE  |           | <b>Method</b><br>SW-846 5030B/8021B  | <b>Results</b> <0.010                                     | Units<br>mg/L                                 | Detection<br>Limit  | <b>Date Analyzed</b><br>07/14/2001  | Analyst<br>TRE                                    |  |
| Test<br>MtBE<br>Benzene  |           | Method<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B   | <b>Results</b> <0.010 <0.002                              | Units<br>mg/L<br>mg/L                         | Detection<br>Limit<br>0.010<br>0.002                            | <b>Date Analyzed</b><br>07/14/2001<br>07/14/2001                                    | Analyst<br>TRE<br>TRE                             |  |
| Test<br>MtBE<br>Benzene<br>Foluene                                   |           | Method<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B   | <b>Results</b> <0.010 <0.002 <0.005                       | Units<br>mg/L<br>mg/L<br>mg/L                 | Detection<br>Limit<br>0.010<br>0.002<br>0.005                   | Date Analyzed<br>07/14/2001<br>07/14/2001<br>07/14/2001                             | Analyst<br>TRE<br>TRE<br>TRE                      |  |
| Test<br>MtBE<br>Benzene<br>Foluene<br>Ethylbenzene                   |           | Method<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B                       | Results<br><0.010<br><0.002<br><0.005<br><0.005           | Units<br>mg/L<br>mg/L<br>mg/L<br>mg/L         | Detection<br>Limit<br>0.010<br>0.002<br>0.005<br>0.005          | Date Analyzed<br>07/14/2001<br>07/14/2001<br>07/14/2001<br>07/14/2001               | Analyst<br>TRE<br>TRE<br>TRE<br>TRE<br>TRE        |  |
| Test<br>MtBE<br>Benzene<br>Foluene<br>Ethylbenzene<br>Kylenes, total |           | Method<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B<br>SW-846 5030B/8021B | Results<br><0.010<br><0.002<br><0.005<br><0.005<br><0.005 | Units<br>mg/L<br>mg/L<br>mg/L<br>mg/L<br>mg/L | Detection<br>Limit<br>0.010<br>0.002<br>0.005<br>0.005<br>0.005 | Date Analyzed<br>07/14/2001<br>07/14/2001<br>07/14/2001<br>07/14/2001<br>07/14/2001 | Analyst<br>TRE<br>TRE<br>TRE<br>TRE<br>TRE<br>TRE |  |

QC Batch ID: 0170281

# QC SUMMARY REPORT

BTEX by EPA Method 8021B - Water

#### Laboratory Control Sample (LCS/LCSD) Method Blank Results

|                | Method Spike LCS |       | CS     | LC       | CSD    | LCS/D    | QC  | Acceptance Criteria |                    |
|----------------|------------------|-------|--------|----------|--------|----------|-----|---------------------|--------------------|
| CONSTITUENT    | Blank            | Added | Result | Recovery | Result | Recovery | RPD | RPD                 | Spike % Recovery   |
|                | (ppm)            | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%) | (%)                 | (Low - High Limit) |
| MtBE           | <0.010           | 0.100 | 0.110  | 109.6%   | 0.117  | 117.2%   | 7%  | <u>+</u> 30         | 70 - 130           |
| Benzene        | <0.002           | 0.100 | 0.099  | 98.8%    | 0.103  | 103.0%   | 4%  | <u>+</u> 30         | 70 - 130           |
| Toluene        | <0.005           | 0.100 | 0.105  | 105.0%   | 0.109  | 109.1%   | 4%  | <u>+</u> 30         | 70 - 130           |
| Ethylbenzene   | <0.005           | 0.100 | 0.104  | 103.9%   | 0.110  | 109.6%   | 5%  | <u>+</u> 30         | 70 - 130           |
| Xylenes, total | <0.005           | 0.300 | 0.320  | 106.6%   | 0.341  | 113.5%   | 6%  | <u>+</u> 30         | 70 - 130           |

#### Sample/Sample Duplicate

|                | Sample | Sample Dup. | Dup. | QC Acceptance Criteria |
|----------------|--------|-------------|------|------------------------|
| CONSTITUENT    | Result | Result      | RPD  | RPD                    |
|                | (ppm)  | om) (ppm)   |      | (%)                    |
| MtBE           | 0.667  | 0.683       | 2%   | <u>+</u> 30            |
| Benzene        | <0.002 | <0.002      | N/A  | <u>+</u> 30            |
| Toluene        | <0.005 | <0.005      | N/A  | <u>+</u> 30            |
| Ethylbenzene   | <0.005 | <0.005      | N/A  | <u>+</u> 30            |
| Xylenes, Total | <0.005 | <0.005      | N/A  | <u>+</u> 30            |

#### Sample Matrix Spike (MS)

|                | Sample          | Spike          |                 | NS              | QC Acceptance Criteria                 |
|----------------|-----------------|----------------|-----------------|-----------------|--|
| CONSTITUENT    | Result<br>(ppm) | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Spike % Recovery<br>(Low - High Limit) |
| MtBE           | <0.010          | 0.100          | 0.124           | 124.0%          | 70 - 130                               |
| Benzene        | 0.0383          | 0.100          | 0.152           | 113.6%          | 70 - 130                               |
| Toluene        | <0.005          | 0.100          | 0.121           | 121.1%          | 70 - 130                               |
| Ethylbenzene   | <0.005          | 0.100          | 0.123           | 122.8%          | 70 - 130                               |
| Xylenes, Total | <0.005          | 0.300          | 0.371           | 123.5%          | 70 - 130                               |

| Sequence Date(s):      | 7/13/01      |
|------------------------|--------------|
| Sample ID - MS:        | 2001070089-4 |
| Sample ID - Duplicate: | 2001070086-1 |

Project(s) In Batch: 2001070082 (3-5) 2001070085 (1) 2001070086 (1) 2001070087 (1-2) 2001070088 (1-3) 2001070089 (1-8) 200170090 (1-2)



#### QC Batch ID: 071701W

# QC SUMMARY REPORT

TPH by 418.1 Method

#### Laboratory Control Sample (LCS/LCSD) Method Blank Results

|             | Method | Spike | L      | LCS      |        | LCSD     |     | QC          | Acceptance Criteria |
|-------------|--------|-------|--------|----------|--------|----------|-----|-------------|---------------------|
| CONSTITUENT | Blank  | Added | Result | Recovery | Result | Recovery | RPD | RPD         | Spike % Recovery    |
|             | (ppm)  | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%) | (%)         | (Low - High Limit)  |
| ТРН - 418.1 | <1.0   | 50.0  | 43.1   | 86.2%    | 44.2   | 88.4%    | 3%  | <u>+</u> 30 | 70 - 130            |

Sample Matrix Spikes (MS/MSD)

|             | Sample | Spike | MS     |          | MSD    |          | MS/D | QC Acceptance Criteria |                    |
|-------------|--------|-------|--------|----------|--------|----------|------|------------------------|--------------------|
| CONSTITUENT | Result | Added | Result | Recovery | Result | Recovery | RPD  | RPD                    | Spike % Recovery   |
|             | (ppm)  | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%)  | (%)                    | (Low - High Limit) |
| ТРН - 418.1 | <1.0   | 50.0  | 43.6   | 87.2%    | 44.5   | 89.0%    | 2%   | <u>+</u> 30            | 70 - 130           |

Sample Used for MS/MSD: 2001050211-1

Sequence Date(s): 7/17/2001

Batch Extraction/Prep Date: 7/17/2001

Data Qualifiers: NONE - associated with this batch of samples.

Project(s) In Batch:

2001070084 2001070089 2001070090 2001070097 Report No.: 2001060213 07/17/2001

Client: Meridian Alliance Group

Date Analyzed

07/03/2001

07/03/2001

Analyst

MEP

MEP

|                                    | <u>TI</u>                         | EST RESU             | JLTS BY SAN   | APLE               |               |                                       |  |
|------------------------------------|-----------------------------------|----------------------|---------------|--------------------|---------------|---------------------------------------|--|
| Sample No.: 1<br>Description: MW-5 | Date Collected: 06/25/2<br>Projec | Matrix: Soil         | Matrix: Soil  |                    |               |                                       |  |
| Test                               | Method                            | Results              | Units         | Detection<br>Limit | Date Analyzed | Analyst                               |  |
| Benzene                            | SW-846 5030B/8021B                | <0.125               | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| Toluene                            | SW-846 5030B/8021B                | <0.125               | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| Ethylbenzene                       | SW-846 5030B/8021B                | <0.125               | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| Xylenes, total                     | SW-846 5030B/8021B                | <0.125               | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| ГРН (418.1)                        | 418.1                             | <10.0                | mg/Kg         | 10.000             | 07/09/2001    | MAT                                   |  |
| Chloride                           | EPA 300.0                         | 1,403                | mg/Kg         | 0.100              | 07/14/2001    | KF                                    |  |
| Sample No.: 2                      | Date Collected: 06/25/2           | 2001                 | Time Collecte | d: 13:25:00        | Matrix: Soil  | · · · · · · · · · · · · · · · · · · · |  |
| Description: MW-5                  | Project                           | t Name: By           | ٧rd           |                    |               |                                       |  |
| Test                               | Method                            | Method Results Units |               | Detection<br>Limit | Date Analyzed | Analyst                               |  |
| Benzene                            | SW-846 5030B/8021B                | <0.125               | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| Toluene                            | SW-846 5030B/8021B                | <0.125               | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| Ethylbenzene                       | SW-846 5030B/8021B                | <0.125               | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| Kylenes, total                     | SW-846 5030B/8021B                | <0.125               | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| ГРН (418.1)                        | 418.1                             | <10.0                | mg/Kg         | 10.000             | 07/09/2001    | MAT                                   |  |
| Chloride                           | EPA 300.0                         | 500                  | mg/Kg         | 0.100              | 07/14/2001    | KF                                    |  |
| Sample No.: 3                      | Date Collected: 06/25/2           | 2001                 | Time Collecte | d: 10:07:00        | Matrix: Soil  | · · · · · · · · · · · · · · · · · · · |  |
| Description: MW-6                  | Project                           | t Name: By           | rd            |                    |               |                                       |  |
| Test                               | Method                            | Results              | Units         | Detection<br>Limit | Date Analyzed | Analyst                               |  |
| Benzene                            | SW-846 5030B/8021B                | <0.125               | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| Toluene                            | SW-846 5030B/8021B                | 1.04                 | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| Ethylbenzene                       | SW-846 5030B/8021B                | 0.995                | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| Vylenes, total                     | SW-846 5030B/8021B                | 2.23                 | mg/Kg         | 0.125              | 07/03/2001    | MEP                                   |  |
| ЪН (418.1)                         | 418.1                             | 51500                | mg/Kg         | 1000.000           | 07/09/2001    | MAT                                   |  |
| Chloride                           | EPA 300.0                         | 229                  | mg/Kg         | 0.100              | 07/14/2001    | KF                                    |  |
| Sample No.: 4                      | Date Collected: 06/25/2           | .001                 | Time Collecte | d: 10:30:00        | Matrix: Soil  |                                       |  |
|                                    | Project                           | . name: By           | iu            |                    |               |                                       |  |



Test

Benzene

Toluene

Method Units Results SW-846 5030B/8021B mg/Kg

< 0.125 SW-846 5030B/8021B < 0.125 mg/Kg

Limit

0.125

0.125

Report No.: 2001060213 07/17/2001

Client: Meridian Alliance Group

#### **TEST RESULTS BY SAMPLE**

| Sample No.:    | 4    | Date Collected: 06/25/2 | Date Collected: 06/25/2001 Time Collected: 10:30:00 |               |                    |               |         |
|----------------|------|-------------------------|---|---------------|--------------------|---------------|---------|
| Description:   | MW-6 | Project                 | t Name: By  | vrd           |                    |               |         |
|                |      |                         |   |               | Detection          |               |         |
| Test           |      | Method                  | Results   | Units         | Limit              | Date Analyzed | Analyst |
| Ethylbenzene   |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/03/2001    | MEP     |
| Xylenes, total |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/03/2001    | MEP     |
| TPH (418.1)    |      | 418.1                   | 414   | mg/Kg         | 10.000             | 07/09/2001    | MAT     |
| Chloride       |      | EPA 300.0               | 314   | mg/Kg         | 0.100              | 07/14/2001    | KF      |
| Sample No.:    | 5    | Date Collected: 06/25/2 | Date Collected: 06/25/2001 Time Collected: 15:13:00 |               | ed: 15:13:00       | Matrix: Soil  |         |
| Description:   | MW-7 | Project                 | t Name: By  | vrd           |                    |               |         |
| Test           |      | Method                  | Results   | Units         | Detection<br>Limit | Date Analyzed | Analyst |
| Benzene        |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/03/2001    | MEP     |
| Toluene        |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/03/2001    | MEP     |
| Ethylbenzene   |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/03/2001    | MEP     |
| Xylenes, total |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/03/2001    | MEP     |
| TPH (418.1)    |      | 418.1                   | <10.0   | mg/Kg         | 10.000             | 07/09/2001    | MAT     |
| Chloride       |      | EPA 300.0               | 102   | mg/Kg         | 0.100              | 07/14/2001    | KF      |
| Sample No.:    | 6    | Date Collected: 06/25/2 | 001   | Time Collecte | ed: 15:39:00       | Matrix: Soil  |         |
| Description:   | MW-7 | Project                 | Name: By  | rd            |                    |               |         |
| Test           |      | Method                  | Results   | Units         | Detection<br>Limit | Date Analyzed | Analyst |
| Benzene        |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/04/2001    | MEP     |
| Toluene        |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/04/2001    | MEP     |
| Ethylbenzene   |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/04/2001    | MEP     |
| Xylenes, total |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/04/2001    | MEP     |
| TPH (418.1)    |      | 418.1                   | <10.0   | mg/Kg         | 10.000             | 07/09/2001    | MAT     |
| Chloride       |      | EPA 300.0               | 3,797   | mg/Kg         | 0.100              | 07/14/2001    | KF      |
| Sample No.:    | 7    | Date Collected: 06/25/2 | 001   | Time Collecte | ed: 16:25:00       | Matrix: Soil  |         |
| Description:   | MW-8 | Project                 | Name: By  | rd            |                    |               |         |
| Test           |      | Method 1                | Results   | Units         | Detection<br>Limit | Date Analyzed | Analyst |
| Benzene        |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/04/2001    | MEP     |
| Toluene        |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/04/2001    | MEP     |
| Ethylbenzene   |      | SW-846 5030B/8021B      | <0.125  | mg/Kg         | 0.125              | 07/04/2001    | MEP     |
| Xylenes, total |      | SW-846 5030B/8021B      | < 0.125   | mg/Kg         | 0.125              | 07/04/2001    | MEP     |



Report No.: 2001060213 07/17/2001

TPH (418.1)

Client: Meridian Alliance Group

#### **TEST RESULTS BY SAMPLE**

| Sample No.:    | 7         | Date Collected: 06/25/ | 2001               | Time Collecte | ed: 16:25:00       | Matrix: Soil  |         |  |  |
|----------------|-----------|------------------------|--------------------|---------------|--------------------|---------------|---------|--|--|
| Description:   | MW-8      | Projec                 | t Name: B          | yrd           |                    |               |         |  |  |
| Test           |           | Method                 | Results            | Units         | Detection<br>Limit | Date Analyzed | Analyst |  |  |
| ГРН (418.1)    |           | 418.1                  | <10.0              | mg/Kg         | 10.000             | 07/09/2001    | MAT     |  |  |
| Chloride       |           | EPA 300.0              | 126                | mg/Kg         | 0.100              | 07/14/2001    | KF      |  |  |
| Sample No.:    | 8         | Date Collected: 06/25/ | 2001               | Time Collecte | ed: 16:53:00       | Matrix: Soil  |         |  |  |
| Description:   | MW-8      | Projec                 | Project Name: Byrd |               |                    |               |         |  |  |
| Test           |           | Method                 | Results            | Units         | Detection<br>Limit | Date Analyzed | Analyst |  |  |
| Benzene        |           | SW-846 5030B/8021B     | <0.125             | mg/Kg         | 0.125              | 07/04/2001    | MEP     |  |  |
| Toluene        |           | SW-846 5030B/8021B     | <0.125             | mg/Kg         | 0.125              | 07/04/2001    | MEP     |  |  |
| thylbenzene    |           | SW-846 5030B/8021B     | <0.125             | mg/Kg         | 0.125              | 07/04/2001    | MEP     |  |  |
| Kylenes, total |           | SW-846 5030B/8021B     | <0.125             | mg/Kg         | 0.125              | 07/04/2001    | MEP     |  |  |
| TPH (418.1)    |           | 418.1                  | <10.0              | mg/Kg         | 10.000             | 07/09/2001    | MAT     |  |  |
| Chloride       |           | EPA 300.0              | 719                | mg/Kg         | 0.100              | 07/14/2001    | KF      |  |  |
| Sample No.:    | 9         | Date Collected: 06/25/ | 2001               | Time Collecte | :d: 10:00:00       | Matrix: Soil  |         |  |  |
| Description:   | Composite | Projec                 | t Name: By         | vrd           |                    |               |         |  |  |
| Test           |           | Method                 | Results            | Units         | Detection<br>Limit | Date Analyzed | Analyst |  |  |
| Benzene        |           | SW-846 5030B/8021B     | <0.125             | mg/Kg         | 0.125              | 07/04/2001    | MEP     |  |  |
| oluene         |           | SW-846 5030B/8021B     | <0.125             | mg/Kg         | 0.125              | 07/04/2001    | MEP     |  |  |
| Sthylbenzene   |           | SW-846 5030B/8021B     | <0.125             | mg/Kg         | 0.125              | 07/04/2001    | MEP     |  |  |
| Kylenes, total |           | SW-846 5030B/8021B     | <0.125             | mg/Kg         | 0.125              | 07/04/2001    | MEP     |  |  |

<10.0

mg/Kg

10.000

07/09/2001

MAT

418.1

QC Batch ID: 0120099C

# QC SUMMARY REPORT

BTEX by EPA Method 8021B - Soil

#### Laboratory Control Sample (LCS/LCSD) Method Blank Results

|                | Method         | Spike          | LCS             |                 | LCSD            |                 | LCS/D      | QC Acceptance Criteria |  |
|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------|------------------------|--|
| CONSTITUENT    | Blank<br>(ppm) | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Result<br>(ppm) | Recovery<br>(%) | RPD<br>(%) | RPD<br>(%)             | Spike % Recovery<br>(Low - High Limit) |
| Benzene        | <0.125         | 2.50           | 2.32            | 92.8%           | 2.03            | 81.1%           | 13%        | <u>+</u> 30            | 70 - 130                               |
| Toluene        | <0.125         | 2.50           | 3.01            | 120.2%          | 2.70            | 108.0%          | 11%        | <u>+</u> 30            | 70 - 130                               |
| Ethylbenzene   | <0.125         | 2.50           | 3.02            | 120.9%          | 2.75            | 109.8%          | 10%        | <u>+</u> 30            | 70 - 130                               |
| Xylenes, total | <0.125         | 7.50           | 8.93            | 119.0%          | 8.12            | 108.3%          | 9%         | <u>+</u> 30            | 70 - 130                               |

#### Sample Matrix Spikes (MS/MSD)

|                | Sample          | Spike          | 1               | <b>NS</b>       | M               | ISD             | MS/D       | QC.         | Acceptance Criteria                    |
|----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------|-------------|--|
| CONSTITUENT    | Result<br>(ppm) | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Result<br>(ppm) | Recovery<br>(%) | RPD<br>(%) | RPD<br>(%)  | Spike % Recovery<br>(Low - High Limit) |
| Benzene        | <0.125          | 2.50           | 2.17            | 86.7%           | 2.23            | 89.0%           | 3%         | <u>+</u> 30 | 65 - 135                               |
| Toluene        | <0.125          | 2.50           | 2.68            | 107.2%          | 2.73            | 109.2%          | 2%         | <u>+</u> 30 | 65 - 135                               |
| Ethylbenzene   | <0.125          | 2.50           | 2.64            | 105.6%          | 2.69            | 107.6%          | 2%         | <u>+</u> 30 | 65 - 135                               |
| Xylenes, Total | <0.125          | 7.50           | 7.50            | 100.0%          | 7.75            | 103.4%          | 3%         | <u>+</u> 30 | 65 - 135                               |

Sequence Date(s):

7/3/01

2001060213-1

Batch Extraction/Prep Date:

7/1/01

Sample ID - MS/MSD:

Data Qualifiers:

Project(s) In Batch: 2001060204 (4) 2001060213 (1-9) 2001060214 (1-6) .2001060225 (1-4)

QC Batch ID: 070901S

# QC SUMMARY REPORT

TPH by 418.1 Method

#### Laboratory Control Sample (LCS/LCSD) Method Blank Results

|             | Method | Spike | L      | CS       | LCSD   |          | LCS/D | QC Acceptance Criteria |                    |  |
|-------------|--------|-------|--------|----------|--------|----------|-------|------------------------|--------------------|--|
| CONSTITUENT | Blank  | Added | Result | Recovery | Result | Recovery | RPD   | RPD                    | Spike % Recovery   |  |
|             | (ppm)  | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%)   | (%)                    | (Low - High Limit) |  |
| TPH - 418.1 | <10.0  | 500.0 | 421    | 84.2%    | 436    | 87.2%    | 4%    | <u>+</u> 30            | 70 - 130           |  |

Sample Matrix Spikes (MS/MSD)

|             | Sample | Spike | N      | IS       | MSD    |          | MS/D | QC          | Acceptance Criteria |
|-------------|--------|-------|--------|----------|--------|----------|------|-------------|---------------------|
| CONSTITUENT | Result | Added | Result | Recovery | Result | Recovery | RPD  | RPD         | Spike % Recovery    |
|             | (ppm)  | (ppm) | (ppm)  | (%)      | (ppm)  | (%)      | (%)  | (%)         | (Low - High Limit)  |
| TPH - 418.1 | <10.0  | 500.0 | 441    | 88.2%    | 449    | 89.8%    | 2%   | <u>+</u> 30 | 70 - 130            |

Sample Used for MS/MSD: 2001060213-9

Sequence Date(s):

Batch Extraction/Prep Date: 7/9/2001

Data Qualifiers: NONE - associated with this batch of samples.

7/9/2001

Project(s) In Batch:

2001060213 2001060214

# QC SUMMARY REPORT

QC Batch ID: 71401

Anions by EPA Method 300.0

### Laboratory Control Sample (LCS)

|             | Method  | Spike | L      | CS       | QC Acceptance Criteria |
|-------------|---|-------|--------|----------|------------------------|
| CONSTITUENT | Blank   | Added | Result | Recovery | Spike % Recovery       |
|             | (ppm)   | (ppm) | (ppm)  | (%)      | (Low - High Limit)     |
| Chloride    | <dl< td=""><td>50.00</td><td>45.556</td><td>91.0%</td><td>85 - 115</td></dl<> | 50.00 | 45.556 | 91.0%    | 85 - 115               |

Sample Matrix Spikes (MS)

|  | Sample                  | Sample Dup          | Spike          | A               | //S             | QC Acceptance Criteria                 |
|--|-------------------------|---------------------|----------------|-----------------|-----------------|--|
| CONSTITUENT                              | Result<br>(ppm)         | Result<br>(ppm)     | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Spike % Recovery<br>(Low - High Limit) |
| Chloride                                 | 3,797                   | 3,633               | 10.00          | 3808.7          | 117.0%          | 75 - 125                               |
| Sequence Date(s):<br>Sample ID - MS/DUP: | 7/14/01<br>2001060213-6 |                     | Batch Extra    | ction/Prep I    | Date:           | 7/14/01                                |
| Data Qualifiers:                         | NONE - associated       | l with this batch o | f samples.     |                 |                 |  |
| Project(s) In Batch:                     | 2001060213              |                     |                |                 |                 |  |
|  | 2001060214              |                     |                |                 |                 |  |

| t Number   |               | Number each chain | Analyze one sample with                   | the highest C <sub>10</sub> -C <sub>28</sub><br>concentration | <pre>3 point based on TPH (fotal) - If TPH is non-<br/>test aromatic content on BIFX (fotal)</pre> | No  | Level III TRPP         |        | e)(        | c o       | iments •    |                    | a a <                 | Ice Z | 2 0    | ~ ~     | 2 ~    | 2 1     | 2 1    | 2 "        | 1 2    | ( , ,     |      | Condition of Sample(s) Rec'd At | Lab          | ustody SealYesNo | ustody Seal Lab Intact No amount of Action No Action No Action Control International I |
|--|---------------|-------------------|---|---|--|---|------------------------|--------|------------|-----------|-------------|--------------------|-----------------------|-------|--------|---------|--------|---------|--------|------------|--------|-----------|------|---------------------------------|--------------|------------------|--|
| Labs - Project   | AB USE ONLY   | 2070              | C6-C28 total > 100 ppm                    | Co-C26 total >5.0 ppm   | the cleanest sampling select sample with lowe  | Yes X   | vel: Level II          |        |            |           | Com         |                    |                       |       |        |         |        |         |        |            |        |           |      | Time:                           |              | Time:            | Time:<br>Time:<br>Sa   |
| Millennium   |               | 200 / - 2         | PAH-Solt: If,                             | PAH-Water: If.  | TDS: Andiyze   | Fax Results:                                      | Reporting Lev          | )<br>  | ć          | la<br>d   | puice:      | <b>9/9</b><br>ээдс | Gew<br>Othe           | ×     | ×      | ×       | X      | X       | ×      | ×          | X      |           | <br> | Date:                           |              | Date:            | Date:<br>Date:   |
| ie 402<br>17380<br>162 8401 Eou                                    | 1052-8491 Fax | 905537            | BVED                                      | rint Name(s) Below  | Ehrlick  |   | diance Personnel<br>No |        | 0          | 1158      | / 0/3       | H 85<br>H 10<br>K  |                       | ××    | X<br>X | ××      | X<br>X | XX      | XX     | XX         | XX     | XX        |      |                                 |              |                  | lennium Labs:  |
| dust ad, Suit<br>llands, Texas 7                                   |               | Project Number    | Site Name                                 | Sampled by: 1   | the Mark   | to<br>5   | Meridian-A<br>Yes      |        | 0          | t<br>158  | OS<br>/ 0/2 | S<br>/ £(<br>Z8 H  | DUndwater             |       |        |         |        |         |        |            |        |           |      | <br>eived by:                   |              | elved by:        | ceived by:<br>ceived by Mil  |
| 1544 Saw<br>The Wood   | PORMATION     |                   | ment Site - Invoice per<br>cement         | Site - Invoice per  | ıt - Include information wi  | ennium Labs is authorized                         | lager                  |        | Time<br>α  | g Days    | g Days      | EX -               | Method BT             | ×     | ×      | X       | ×      |         | ×      | ×          | ×      | ×         |      | <br>" 1/:00an                   |              | ::               | :: Kec<br>uctions]   |
|  | NI DICING IN  |                   | TNRCC Re-Imburse<br>Meridian-Alliance agn | Non-Funded Project<br>agreement/quote                         | Direct Billing to Clier<br>Chain of Custody  | Priority Project - Mille<br>invoice for Rush Fees | Project Mar            |        | Turnaround | 10 Workin | 5 Workin    |                    | Matrix<br>WSX         | X     | X      | X       | 又      | ×       | X      | ر<br>ا الا | ×      | ×         |      | .2701 Time                      | F            |                  | ddress & instra  |
| IES  | II            | P.O. #:           |   |   |  |   | Send Invoice<br>to:    |        |            |           |             |                    | ected<br>Time         | 1343  | 1325   | 1007    | 1030   | 1513    | 1539   | 1625       | 1653   | 000/      |      | Date: 6                         |              | uate:            | bate:  |
| LATOR  |               |                   |   |   |  |   |                        |        |            |           |             |                    | Coll<br>Date          | 6.250 | 6.250  | (0,X.9) | 6.250  | 6.25.01 | 6.22.0 | 6:52:0)    | 6.250) | 6-26-01   | <br> | <br>hil                         |              |                  | k copy for s   |
| ILLEN UM LABOR<br>IAIN OF CUSTODY RECORD<br>SRIDIAN-ALLIANCE GROUP | REPORT TO:    | Houston           | Arlington                                 | Midland   | ] Tyler  | er Location:                                      | sr Location:           | narks: |            |           |             |                    | Sample Identification | MW-5  | mw-5   | MW-6    | mu-6   | - MW-7  | MU-7   | 7 M/2-8    | mw-8   | Composite |      | nquished by: Mark Par           | southead hus | iquisned by:     | iquisitieu uy.<br>sthod of Shipment: [see back   |

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Report No.: 2001070199 07/30/2001 Client: Meridian Alliance Group Ì

| Sample No.:  | 1       | Date Collected: 07/2 | 24/2001       | Time Collect | ed: 15:30:00       | Matrix: Groun | ndwater |
|--------------|---------|----------------------|---------------|--------------|--------------------|---------------|---------|
| Description: | MW-1    | Pro                  | ject Name: Ar | narada Hess  |                    |               |         |
| Test         |         | Method               | Results       | Units        | Detection<br>Limit | Date Analyzed | Analyst |
| Chloride     |         | EPA 300.0            | 11,517        | mg/L         | 0.100              | 07/27/2001    | KF      |
| Sample No.:  | 2       | Date Collected: 07/2 | 24/2001       | Time Collect | ed: 15:45:00       | Matrix: Grou  | ndwater |
| Description: | MW-2    | Pro                  | ject Name: Ar | narada Hess  |                    |               |         |
| Test         |         | Method               | Results       | Units        | Detection<br>Limit | Date Analyzed | Analyst |
| Chloride     |         | EPA 300.0            | 9,513         | mg/L         | 0.100              | 07/27/2001    | KF      |
| Sample No.:  | 3       | Date Collected: 07/2 | 24/2001       | Time Collect | ed: 16:30:00       | Matrix: Groun | ndwater |
| Description: | MW-3    | Pro                  | ject Name: An | narada Hess  |                    |               |         |
| Test         | <u></u> | Method               | Results       | Units        | Detection<br>Limit | Date Analyzed | Analyst |
| Chloride     |         | EPA 300.0            | 11,865        | mg/L         | 0.100              | 07/27/2001    | KF      |
| Sample No.:  | 4       | Date Collected: 07/2 | 4/2001        | Time Collect | ed: 16:45:00       | Matrix: Groun | ndwater |
| Description: | MW-4    | Pro                  | ject Name: An | narada Hess  |                    |               |         |
| Test         |         | Method               | Results       | Units        | Detection<br>Limit | Date Analyzed | Analyst |
| hloride      |         | EPA 300.0            | 11,589        | mg/L         | 0.100              | 07/27/2001    | KF      |
| Sample No.:  | 5       | Date Collected: 07/2 | 4/2001        | Time Collect | ed: 16:00:00       | Matrix: Grour | ndwater |
| Description: | MW-5    | Pro                  | ject Name: An | narada Hess  |                    |               |         |
| Test         |         | Method               | Results       | Units        | Detection<br>Limit | Date Analyzed | Analyst |
| Chloride     |         | EPA 300.0            | 14,334        | mg/L         | 0.100              | 07/27/2001    | KF      |
| Sample No.:  | 6       | Date Collected: 07/2 | 4/2001        | Time Collect | ed: 17:00:00       | Matrix: Grour | ndwater |
| Description: | MW-6    | Pro                  | ject Name: An | narada Hess  |                    |               |         |
| Test         |         | Method               | Results       | Units        | Detection<br>Limit | Date Analyzed | Analyst |
| Chloride     |         | EPA 300.0            | 12,015        | mg/L         | 0.100              | 07/27/2001    | KF      |
|              |         |                      |               |              |                    |               |         |

| Sample No.:  | 7    | Date Collected: 07/2 | 4/2001        | Time Collecte | ed: 15:15:00       | Matrix: Groun | ndwater |
|--------------|------|----------------------|---------------|---------------|--------------------|---------------|---------|
| Description: | MW-7 | Pro                  | ject Name: Ai | narada Hess   |                    |               |         |
| Test         |      | Method               | Results       | Units         | Detection<br>Limit | Date Analyzed | Analyst |
| Chloride     |      | EPA 300.0            | 16,669        | mg/L          | 0.100              | 07/27/2001    | KF      |
| Sample No.:  | 8    | Date Collected: 07/2 | 4/2001        | Time Collecte | ed: 15:00:00       | Matrix: Groun | ndwater |
| Description: | MW-8 | Proj                 | ject Name: Ar | narada Hess   |                    |               |         |
| Test         |      | Method               | Results       | Units         | Detection<br>Limit | Date Analyzed | Analyst |
| Chloride     |      | EPA 300.0            | 7,875         | mg/L          | 0.100              | 07/27/2001    | KF      |

# QC SUMMARY REPORT

QC Batch ID: 72701

Anions by EPA Method 300.0

### Laboratory Control Sample (LCS)

|             | Method | Spike | Spike LCS |          | QC Acceptance Criteria |
|-------------|--------|-------|-----------|----------|------------------------|
| CONSTITUENT | Blank  | Added | Result    | Recovery | Spike % Recovery       |
| Chloride    |        | 50.00 | 46 448    | 93.0%    | 90 - 110               |
| Chionde     | -06    |       | -10,710   | 30.0 %   | 30-110                 |

Sample Matrix Spikes (MS)

|                      | Sample            | Sample Dup          | Spike          | 1               | VIS             | QC Acceptance Criteria                 |  |  |
|----------------------|-------------------|---------------------|----------------|-----------------|-----------------|--|--|--|
| CONSTITUENT          | Result<br>(ppm)   | Result<br>(ppm)     | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Spike % Recovery<br>(Low - High Limit) |  |  |
| Chloride             | 73.8              | 72.7                | 10.00          | 83.260          | 95.0%           | 75 - 125                               |  |  |
| Sequence Date(s):    | 7/30/01           |                     | Batch Extra    | ction/Prep I    | Date:           | 7/27/01                                |  |  |
| Sample ID - MS/DUP:  | 2001070200-4      |                     |                |                 |                 |  |  |  |
| Data Qualifiers:     | NONE - associated | l with this batch o | of samples.    |                 |                 |  |  |  |
| Project(s) In Batch: | 2001070199        |                     |                |                 |                 |  |  |  |
|                      | 2001070200        |                     |                |                 |                 |  |  |  |

### QC SUMMARY REPORT

QC Batch ID: 72701

Anions by EPA Method 300.0

| <u></u>     | Method  | Spike          | L               | .cs             | QC Acceptance Criteria                 |
|-------------|---|----------------|-----------------|-----------------|--|
| CONSTITUENT | Blank<br>(ppm)  | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Spike % Recovery<br>(Low - High Limit) |
| Phosphate   | <dl< td=""><td>15.00</td><td>14.017</td><td>93.0%</td><td>90 - 110</td></dl<> | 15.00          | 14.017          | 93.0%           | 90 - 110                               |
| Chloride    | <dl< td=""><td>50.00</td><td>46.283</td><td>93.0%</td><td>90 - 110</td></dl<> | 50.00          | 46.283          | 93.0%           | 90 - 110                               |
| Nitrate     | <dl< td=""><td>10.00</td><td>8.975</td><td>90.0%</td><td>90 - 110</td></dl<>  | 10.00          | 8.975           | 90.0%           | 90 - 110                               |
| Nitrite     | <dl< td=""><td>10.00</td><td>NC</td><td>NC</td><td>90 - 110</td></dl<>        | 10.00          | NC              | NC              | 90 - 110                               |
| Sulfate     | <dl< td=""><td>50.00</td><td>47.440</td><td>95.0%</td><td>90 - 110</td></dl<> | 50.00          | 47.440          | 95.0%           | 90 - 110                               |

#### Laboratory Control Sample (LCS)

#### Sample Matrix Spikes (MS)

|             | Sample                 | Sample Dup             | Spike          | 1               | //S             | QC Acceptance Criteri                  |  |  |
|-------------|------------------------|------------------------|----------------|-----------------|-----------------|--|--|--|
| CONSTITUENT | <b>Result</b><br>(ppm) | <b>Result</b><br>(ppm) | Added<br>(ppm) | Result<br>(ppm) | Recovery<br>(%) | Spike % Recovery<br>(Low - High_Limit) |  |  |
| Phoshate    | <1.00                  | <1.00                  | 10.00          | 9.421           | 94.0%           | 75 - 125                               |  |  |
| Chloride    | 4.84                   | 4.83                   | 10.00          | 12.370          | 75.0%           | 75 - 125                               |  |  |
| Nitrate     | 0.385                  | 0.422                  | 10.00          | 9.414           | 90.0%           | 75 - 125                               |  |  |
| Nitrite     | <0.100                 | <0.100                 | 10.00          | 10.154          | 102.0%          | 75 - 125                               |  |  |
| Sulfate     | 7.20                   | 7.30                   | 10.00          | 16.408          | 92.0%           | 75 - 125                               |  |  |

Sequence Date(s):

Batch Extraction/Prep Date:

7/27/01

Sample ID - MS/DUP: 2001070193-1

Data Qualifiers: NONE - associated with this batch of samples.

7/27/01

Project(s) In Batch:

2001070193 2001070198 2001070199

| age -                 |                   | ber each chain<br>per project           | te sample with                                  | t C <sub>10</sub> -C <sub>28</sub><br>tion     | al) - If TPH is non-<br>BTEX (Total)                   |  | PP                   |          | eic       | samt            | ∾ ¢           | ners<br>unbe<br>innbe | c a <<br>Contai Ni     |         | \<br> <br> | -       | \<br>   | \<br>   |           |         |               |   |      | e(s) Rec'd At             | Yes<br>No        |                       | 102         |
|-----------------------|-------------------|---|---|--|--|--|----------------------|----------|-----------|-----------------|---------------|-----------------------|------------------------|---------|------------|---------|---------|---------|-----------|---------|---------------|---|------|---------------------------|------------------|-----------------------|-------------|
| ct Number             |                   | Nun<br>Nun                              | m Analyze or                                    | n concentro                                    | ng point based on TPH (Tot<br>west aromatic content on | No   | Level III TR         | <br>     |           |                 | mments        |                       |                        |         |            |         |         |         |           |         |               |   |      | Condition of Sampl<br>Lab | Custody Seal     | Sample(s) Rec'd       | Temnerature |
| Labs - Proje          | AB USE ONLY       | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | C <sub>6</sub> -C <sub>28</sub> total >100 pp   | C <sub>6</sub> -C <sub>28</sub> total >5.0 ppn | e the cleanest samplir<br>select sample with lo        | Yes  | vel: Level II        |          |           |                 | Ĉ             |                       |                        |         |            |         |         |         |           |         |               |   |      | Time:                     | Time:            | Time:                 |             |
| dillennium            | -<br>-            | 200 / <                                 | PAH-Soil: If,                                   | PAH-water: If.                                 | TDS: Analyze detect,                                   | ax Results:                                      | eporting Lev         |          | 290       | Ð               | 07            | PH 5                  | Othe                   | 1.      | ~          |         | /       | /       |           |         |               |   |      | <br>te:                   | te:              | ate:                  |             |
| 402<br>380            | NFORMATION        | 70005537 2                              | RADA HESS C                                     | nt Name(s) Behwr                               | CHANNON [  | Ë  | ance Personnel R.    |          | 1.8       | 1831<br>1831    | / 0/2         | H 85<br>H 10          | TB<br>TP<br>AT<br>Sol  |         |            |         |         |         |           |         |               |   |      | D                         | 2 <u>0</u>       | ennium Labs: D        |             |
| dust ad, Suite        | TORE (281) 36     |   | Site Name AmA                                   | Sampled by: Dri                                | * 1 <i>SR</i> zc13                                     | 2  | Meridian-Alli        |          | 0         | Þ<br>1 £ 8 ,    | OS ,<br>/ 0/2 | S0<br>/ SC<br>28 H    | TE<br>roundwater       |         |            |         |         |         |           |         |               |   |      | eived by:                 | eived by:        | ceived <u>by Mill</u> |             |
| 1544 Sawo<br>The Wood | (281) 362-8490 PT | 05537-13                                | mbursement Site - Invoice per<br>ance agreement | Project Site - Invoice per<br>lote             | to Client - Include information wit<br>tody            | ct - Millennium Labs is authorized t<br>ush Fees | ect Manager          |          | ound Time | Vorking Days BE | Vorking Days  | EX IS HIS             | x Method BT            |         |            |         |         |         |           |         |               |   |      |                           | Time: Rec        | instructions] Re      |             |
| ES                    | INVOICING         | P.O. #: 07CC                            | TNRCC Re-1<br>Meridian-Allia                    | X Non-Funded                                   | Direct Billing<br>Chain of Cust                        | Priority Proje                                   | Send Invoice R Proje |          | Turnar    |                 |               | đ<br>X                | cted Matri<br>Time W S | 15:30 X | 15:45 X    | 16:30 X | 16:45 🔪 | 16:00 X | 17:00 × 1 | 15:15 X | 15:00 X       |   |      | <br>Date: 7-2501          | Date:            | ipping address &      |             |
| ORATORI<br>IRD<br>MUB |                   |   |   |  |  |  | <i>,, ,</i>          |          |           |                 |               |                       | )n Colle<br>Date       | 7-20    | H2.4       | hčt     | /hcz    | 1224    | 1/7-24    | 12-4    | k-2(          |   |      | L                         |                  | back copy for sh      |             |
| UM LAB<br>STODY RECO  | REPORT TO:        |   |   |  |  |  |                      |          |           |                 |               |                       | ole Identificatio      | Mw-1    | MW-2       | MM- 3   | MW-4    | mu-5    | mw -6     | mw-7    | mu-8          | > |      | 2 1 Se                    |                  | ipment: [see          |             |
| MILLEN<br>CHAIN OF CU |                   | Houston                                 | Arlington                                       | Midland  | Tyler  | Other Location:                                  | Other Location:      | Remarks: |           |                 |               |                       | Lab Samp<br>No.        |         | N<br>N     | 1       | 4 4     | S.      | 6         | 7       | -<br>Solution |   | <br> | <br>Relinquished by       | Relinquished by: | Method of Sh          | Ę           |

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EXEMPT OCD

Origin: 07C005537

Amerada Hess Corp. Box 840 Seminole, TX 79360

Detailed Report of material for Invoices 3382 thru 3383

P.O. Box 1658 Roswell, NM 88202 Phone 505-347-0434 Fax 505-347-0435

| Date:   | Ticket No: | Discription:       | Transporter:          | Cell: | Units  | Unit Type: |
|---------|------------|--------------------|-----------------------|-------|--------|------------|
| 8/15/01 | 3360       | OCD EXEMPT SOILS   | Bill Marley           | 14    | 4      | BBLS       |
|         |            | 07C0055            | 37 Total BBLS.        |       | 4 BI   | BLS        |
| Origin: | 07C005537A |                    |                       |       |        |            |
| Date:   | Ticket No: | Discription:       | Transporter:          | Cell: | Units  | Unit Type: |
| 8/20/01 | 3359       | OCD EXEMPT SOILS   | Bill Marley           | 14    | 4      | BBLS       |
|         |            | 07C0055            | 37A Total BBLS.       |       | 4 BI   | BLS        |
|         |            | E                  | EXEMPT OCD Total BB   | LS.   | 8 BI   | BLS        |
| Origin: | 07C005537  |                    |                       |       |        |            |
| Date:   | Ticket No: | Discription:       | Transporter:          | Cell: | Units  | Unit Type: |
| 8/15/01 | 3360       | OCD EXEMPT LIQUIDS | Bill Marley           |       | 55     | GAL        |
|         |            | 07C0055            | 37 Total GAL.         |       | 55 G/  | ۹L         |
| Origin: | 07C005537A |                    |                       |       |        |            |
| Date:   | Ticket No: | Discription:       | Transporter:          | Cell: | Units  | Unit Type: |
| 8/20/01 | 3359       | OCD EXEMPT LIQUIDS | Bill Marley           |       | 55     | GAL        |
|         |            | 07C0055            | 37A Total GAL.        |       | 55 G/  | AL.        |
|         |            | E                  | EXEMPT OCD Total GA   | L.    | 110 G/ | ۹L         |
|         |            | E                  | EXEMPT OCD Total Unit | ts.   | 118 Ur | nits       |
| Amerad  | a Hess C   | orp. Total Units.  |                       |       | 118 Un | its        |

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8/29/01

|   | GANDY•MARLEY,<br>P.O. Box 1658<br>Roswell, NM 88202<br>(505) 625-9206<br>Fax (505) 625-9706  | INC. Nº 336  |
|---|--|--|
| LEASE OPERATOR  | SHIPPER/COMPANY: Amerca  | de Hess  |
| LEASE NAME:   | Byrd Leuse   |  |
| TRANSPORTER CC  | MPANY: Mulley  | TIME: 3:00 AMPM  |
| DATE: 8/15/1  | VÉHICLE NO:  | DRIVER NO.:  |
| CHARGE TO:  | 076005537  | · · · · · · · · · · · · · · · · · · ·  |
| · · · · · · · · · · · · · · · · · · ·   | TYPE OF MATERIAL   |  |
| [] Other Material:  | OCD [] Contaminated soil [] Contaminated soil [] BS&W content:   |  |
| Description: Soil C   | uttings of ID  | rum Purge In   |
|   |  |  |
| VOLUME OF MATE  | RIAL []:YARDS <u>4 Orums</u> : C   | ELL#_ <u>/</u> 4:[]  |
| AS A CONDITION TO GA<br>OPERATOR/SHIPPER REPI<br>EXEMPT FROM THE RESO<br>40 U.S.C. §6901, et seq., THE<br>VIRTUE OF THE EXEMPTIC<br>RATION, DEVELOPMENT C | NDY•MARLEY, INC.'S ACCEPTANCE OF THE<br>RESENTS AND WARRANTS THAT THE WASTE<br>URCE, CONSERVATION AND RECOVERY ACT<br>E NM HEALTH AND SAF. CODE, §361.001, et sec<br>IN AFFORDED CONTAMINATED SOILS AND OT<br>OR PRODUCTION OF CRUDE OIL OR NATURA | MATERIALS SHIPPED WITH THIS JOB TICKI<br>MATERIAL SHIPPED HEREWITH IS MATERI<br>OF 1976, AS AMENDED FROM TIME TO TIM<br>q. AND REGULATIONS RELATED THERETO,<br>THER WASTE ASSOCIATED WITH THE EXPL<br>LL GAS OR GEOTHERMAL ENERGY. |
| ALSO AS A CONDITION<br>TICKET, TRANSPORTER RE<br>PER TO TRANSPORTER IS  | TO GANDY-MARLEY, INC.'S ACCEPTANCE C<br>EPRESENTS AND WARRANTS THAT ONLY THE<br>NOW DELIVERED BY TRANSPORTER TO GAN  | DF THE MATERIALS SHIPPED WITH THIS JO<br>E MATERIAL DELIVERED BY OPERATOR/SH<br>IDY•MARLEY, INC.'S FACILITY FOR DISPOS/  |
| THIS WILL CERTIFY that  | the above Transporter loaded the material repre-<br>it was tendered by the above described shipper.  | sented by this Transporter Statement at the abo<br>This will certify that no additional materials we   |
| described location, and that i<br>added to this load, and that t  | he material was delivered without incident.  |  |
| DRIVER:   | he material was delivered without incident.  |  |
| described location, and that<br>added to this load, and that t<br>DRIVER:   | he material was delivered without incident.  |  |

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