AP - 30

STAGE 1 & 2 REPORTS

DATE: April 2001

PB 11/5

ΔP 30

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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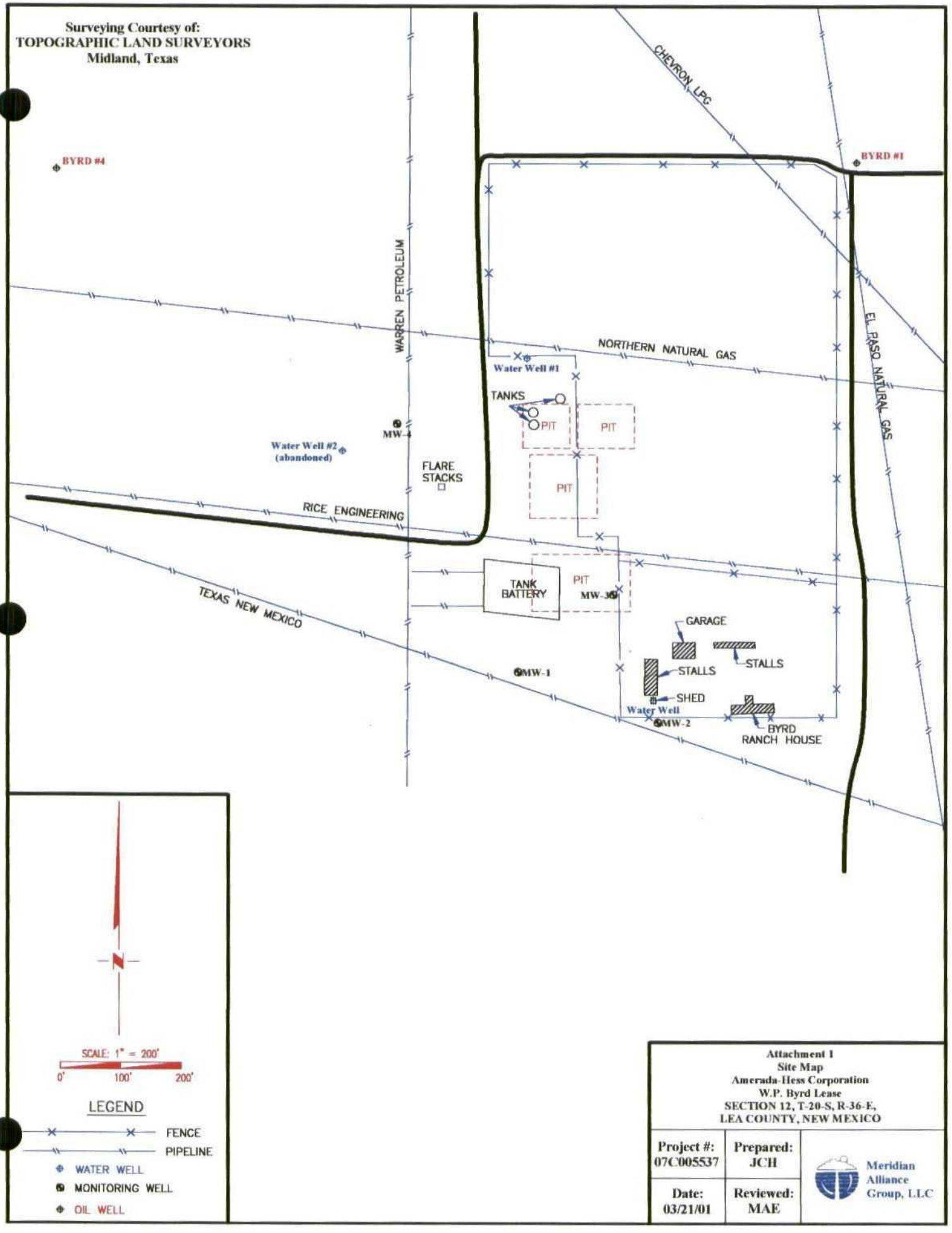
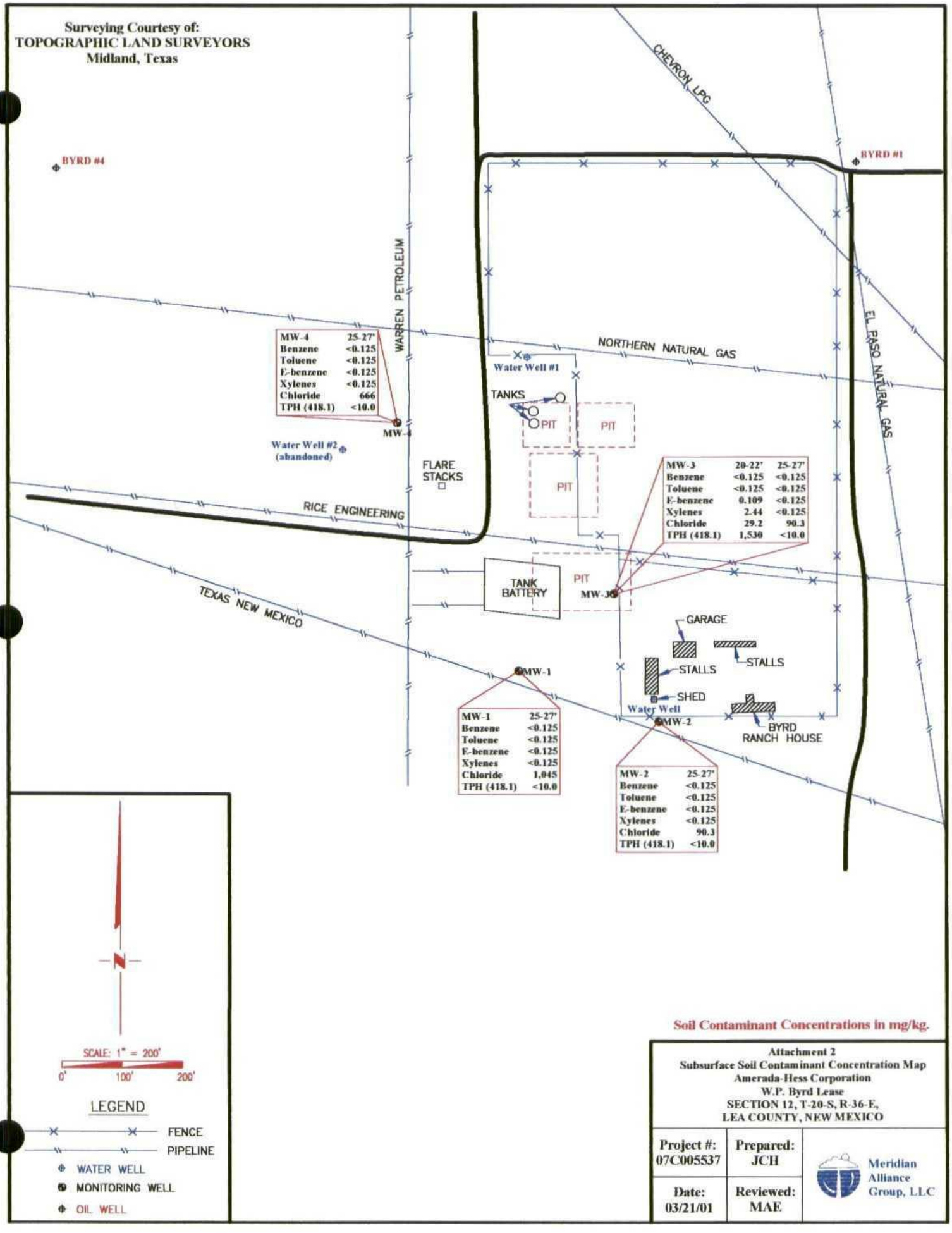


Attachment 1
Site Map
Amerada-Hess Corporation
W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

Project #: 07C005537	Prepared: JCH	Meridian Alliance Group, LLC
Date: 03/21/01	Reviewed: MAE	



Soil Contaminant Concentrations in mg/kg.

Attachment 2
Subsurface Soil Contaminant Concentration Map
Amerada-Hess Corporation
W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

Project #: 07C005537	Prepared: JCH	Meridian Alliance Group, LLC
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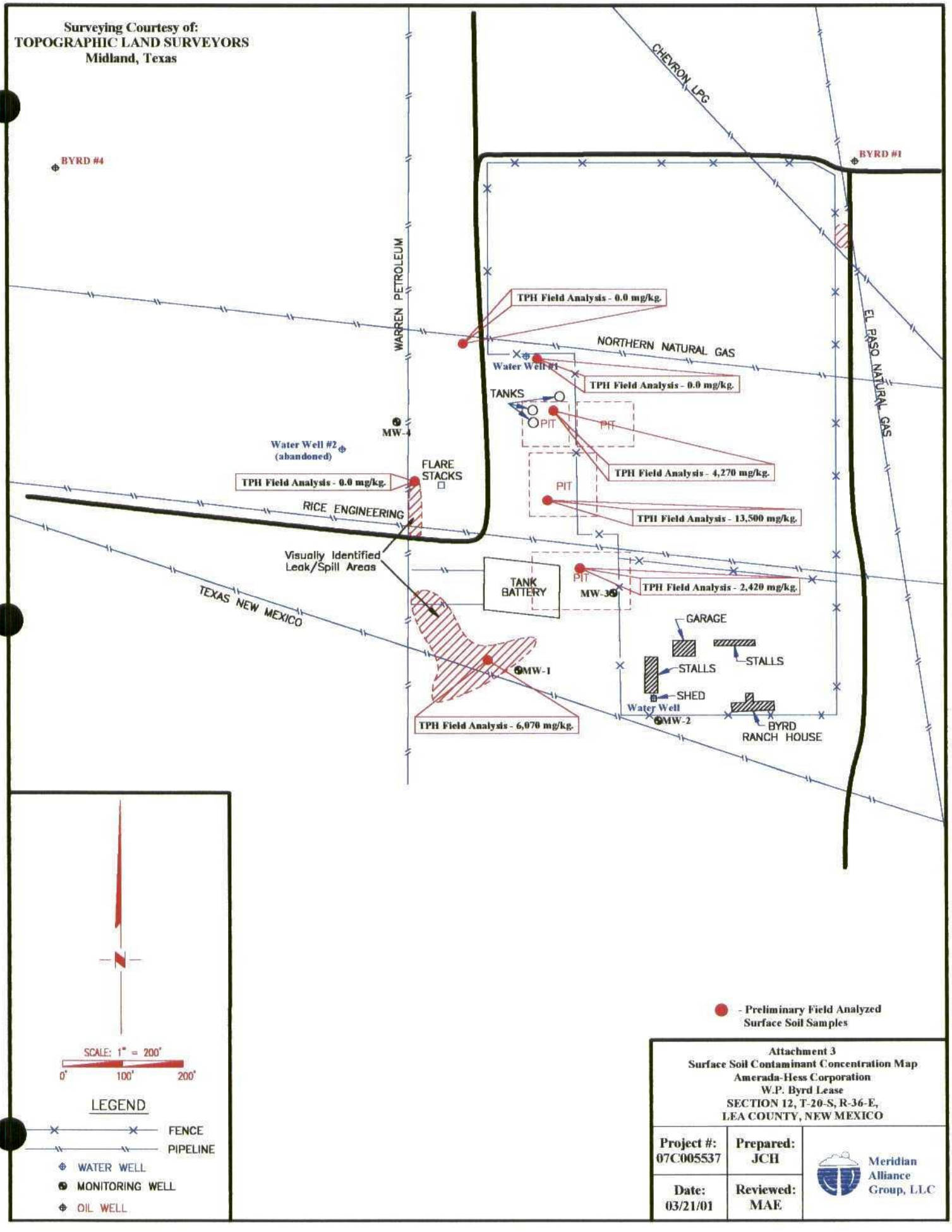

Attachment 3
Surface Soil Contaminant Concentration Map
Amerada-Hess Corporation
W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

Project #: 07C005537	Prepared: JCH	Meridian Alliance Group, LLC
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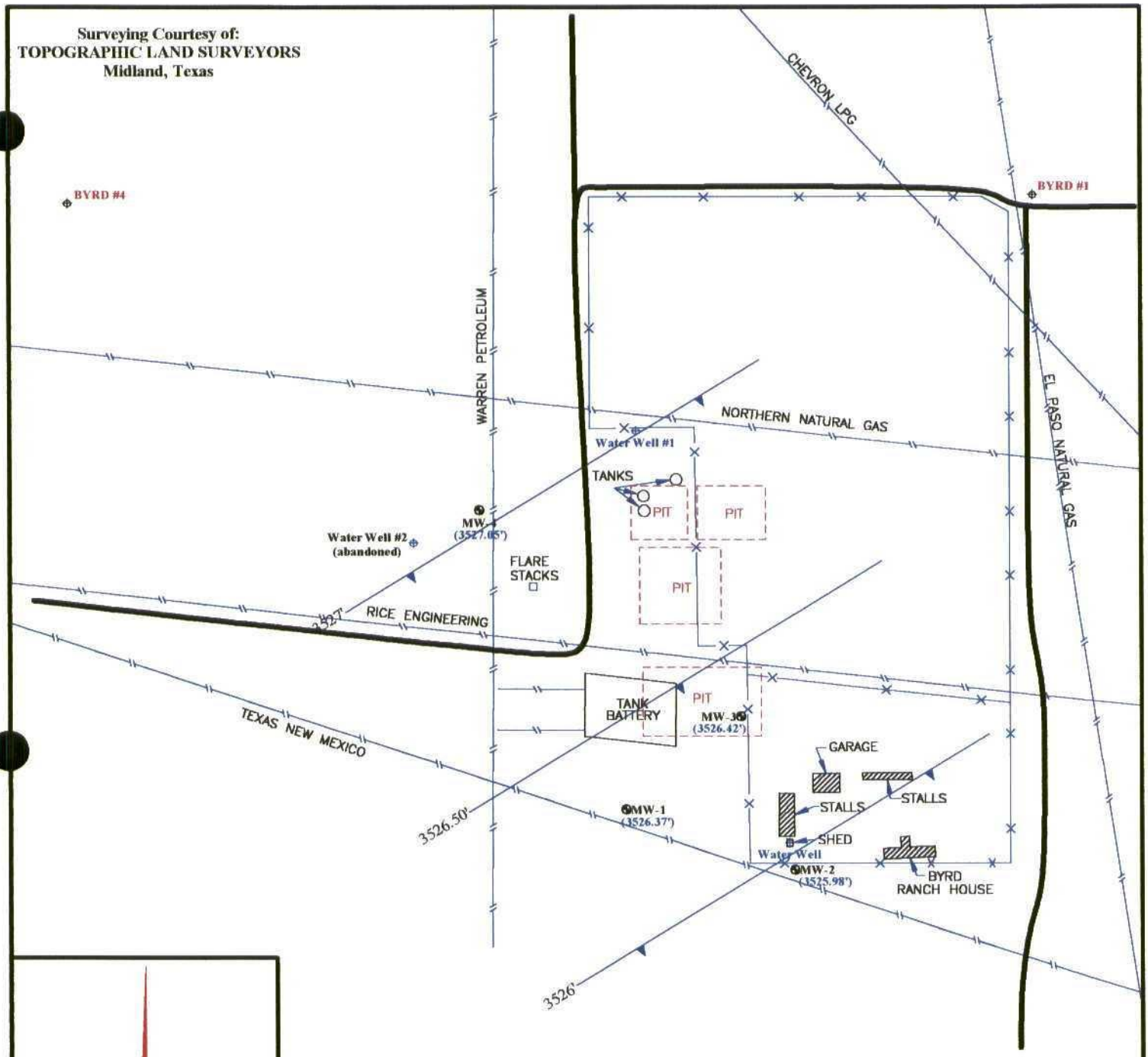


MW	TOP OF CASING	TOP OF GROUND	NORTHING	EASTING
1	3559.3'	3556.9'	580176	816099
2	3558.4'	3555.8'	580091	816331
3	3558.2'	3555.7'	580302	816257
4	3560.7'	3558.1'	580586	815899

Site specific groundwater gradient is 0.0016 ft./ft. to the southeast.

Attachment 4
Groundwater Gradient Map
Amerada-Hess Corporation
W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

Project #: 07C005537	Prepared: JCH	Meridian Alliance Group, LLC
Date: 03/21/01	Reviewed: MAE	

Project Name: Amerada-Hess Byrd Lease
Project Location: SECTION 12, T-20-S, R-36-E, LEA COUNTY, NEW MEXICO
Project Number: 07C005537
Date & Initials: March 19, 2001 - JLM

Well Identification	Northing	Easting	Top of Ground (feet)	Top of Casing (feet)	Depth to Groundwater (feet)	Water Elev. (feet)	PSH Thickness (feet)
MW-1	580176	816099	3556.90	3559.30	32.93	3526.37	0.00
MW-2	580091	816331	3555.80	3558.40	32.42	3525.98	0.00
MW-3	580302	816257	3555.70	3558.20	32.05	3526.42	**0.31**
MW-4	580586	815899	3558.10	3560.70	33.65	3527.05	0.00

NOTES:
MW-1 - Very light sheen of Crude Oil.
MW-2 - Very heavy sheen of Crude Oil.
PSH - Phase-separated hydrocarbons.

Meridian Alliance Group, LLC

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 monitoring wells. The site monitor wells were gauged, purged of the 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 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-to-southeast, 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

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., <0.125 mg/kg., 0.228 mg/kg., and 3.14 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.

Table 1

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	"	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
	"	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.	"		<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	TPH C_6-C_{28}
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	

ND - Not Detected

Table 3

Location	Date	Bromofluoro-benzene*	TDS	Sulfate	Chloride	Bicarbonate / Carbonate	Calcium	Magnesium	Potassium	Sodium
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

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.

Table 4

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-BHC	<0.05	<0.05	<0.05
beta-BHC	<0.05	<0.05	<0.05
gamma-BHC	<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

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.

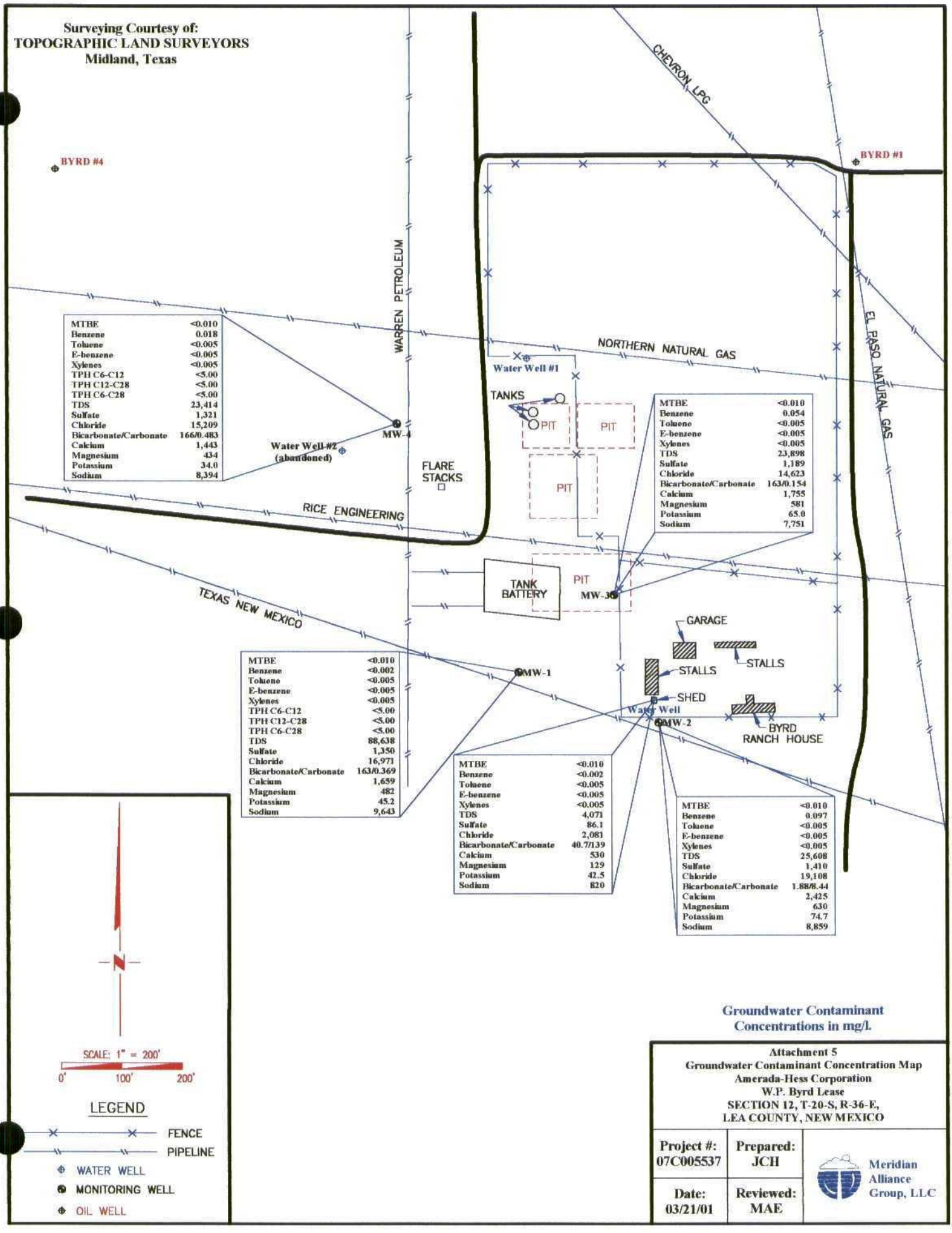
1.6 Limitations

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

Mark A. Ehrlich
Project Manager



Groundwater Contaminant Concentrations in mg/l.

Attachment 5
Groundwater Contaminant Concentration Map
Amerada-Hess Corporation
W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

Project #: 07C005537	Prepared: JCH	Meridian Alliance Group, LLC
Date: 03/21/01	Reviewed: MAE	

Figure 1
Soil Laboratory Analytical Results
Amerada Hess Corporation - W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

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	"	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
	"	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

NOTES:
All values reported in mg/kg.

Meridian Alliance Group, LLC

Figure 2
Cumulative Fluid Level Measurements
Amerada Hess Corporation - W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

Location	Date	TOC Elev. Feet	Depth to Water Feet	PSH Thickness Feet	Corrected GW Elev Feet	*Screened 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'***

NOTES:
MW-1 - Very light sheen of crude oil.
MW-2 - Very heavy sheen of crude oil.
PSH - Phase-separated hydrocarbons (crude oil).

Meridian Alliance Group, LLC

Figure 3
Groundwater Laboratory Analytical Results
Amerada Hess Corporation - W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

Location	Date	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH C_6-C_{12}	TPH C_{12}-C_{28}	TPH C_6-C_{28}	Bromofluoro-benzene*	TDS	Sulfate	Chloride	Bicarbonate / Carbonate	Calcium	Magnesium	Potassium	Sodium
MW-1	03/19/01	<0.010	<0.002	<0.005	<0.005	<0.005	ND	<5.00	<5.00	<5.00	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	<0.010	0.0970	<0.005	<0.005	<0.005	0.0970				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	<0.010	0.0540	<0.005	<0.005	<0.005	0.0540				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	<0.010	0.0180	<0.005	<0.005	<0.005	0.0180	<5.00	<5.00	<5.00	99.8	23,414.0	1,321.0	15,209.0	166/0.483	1,443.0	434.0	34.0	8,394.0
Byrd House Water Well	03/19/01	<0.010	<0.002	<0.005	<0.005	<0.005	ND				97.9	4,071.0	86.1	2,081.0	40.7/139	530.0	129.0	42.5	820.0

NOTES:
All concentrations presented in mg/l.
ND - Not Detected
TDS - Total Dissolved Solids
* - % Recovery

Meridian Alliance Group, LLC

Figure 4
Groundwater Laboratory Pesticde Analytical Results
Amerada Hess Corporation - W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

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

NOTES:
All concentrations presented in ug/l.

Meridian
Alliance
Group, LLC

Meridian Alliance Group, LLC

Project Number: 07C005537	Monitor Well: MW-1	Sheet 1 of 1
Contractor: White Drilling Company	Drilling Method: Air Coring	
Driller: Bo	Location: South of Tank Battery	
Date Start: 3/14/01	Date Completed: 3/14/01	
Top of Casing Elevation: 3559.30'	Logged By: Aaron Hale	

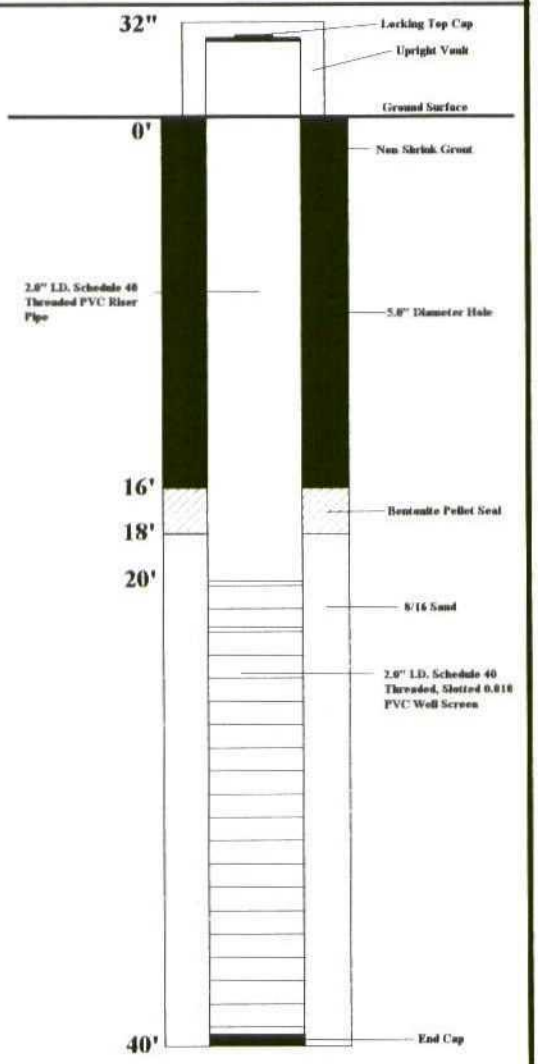
Project Name/Location:

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

Depth	Sample Interval (FT)	Sample Recovery (FT)	Sample Type	Soil Classification	FIELD SCREENING INSTRUMENT: PID-OVM UNITS: ppm	Sample Description and Conditions
	5-7'	1'	ST	SM	3.1	SILTY SAND: Fine to v. fine grained, 20% caliche nodules, very pale orange (10YR8/2).
10'	10-12'	0.5'	SS	SM	1.0	SILTY SAND: Fine to v. fine grained; caliche indurated; very pale orange (10YR8/2).
	15-17'	1'	SS	SM	1.3	SILTY SAND: Fine to v. fine grained; caliche indurated; very pale orange (10YR8/2).
20'	20-22'	1.5'	SS	SP	2.3	SAND: Fine grained; light brown (5YR5/6).
	*25-27'	0.5'	SS	SM	15.3	SILTY SAND: Fine to v. fine grained; poorly cemented fine sands, moist; very pale orange (10YR8/2).
30'	30-32'	0.66'	SS	SM	23.9	SILTY SAND: Fine to v. fine grained, poorly cemented fine sands, moist; very pale orange (10YR8/2).
	35-37'	1'	SS	SM	N/A	SILTY SAND: Fine to v. fine grained; poorly cemented fine sands, wet; light brown (5YR6/4).
40'						

Lithology

Monitor Well Construction Detail



Sample Types
SS - split spoon
SB - split barrel
ST - shelby tube
RC - rock core
SH - shovel (surface)

NOTES:
*** - sample submitted for analytical analysis**
Bottom of Boring @ 40.0'
Bottom of Monitor Well @ 40.0'
Groundwater @ ~ 29' 8"

Meridian Alliance Group, LLC

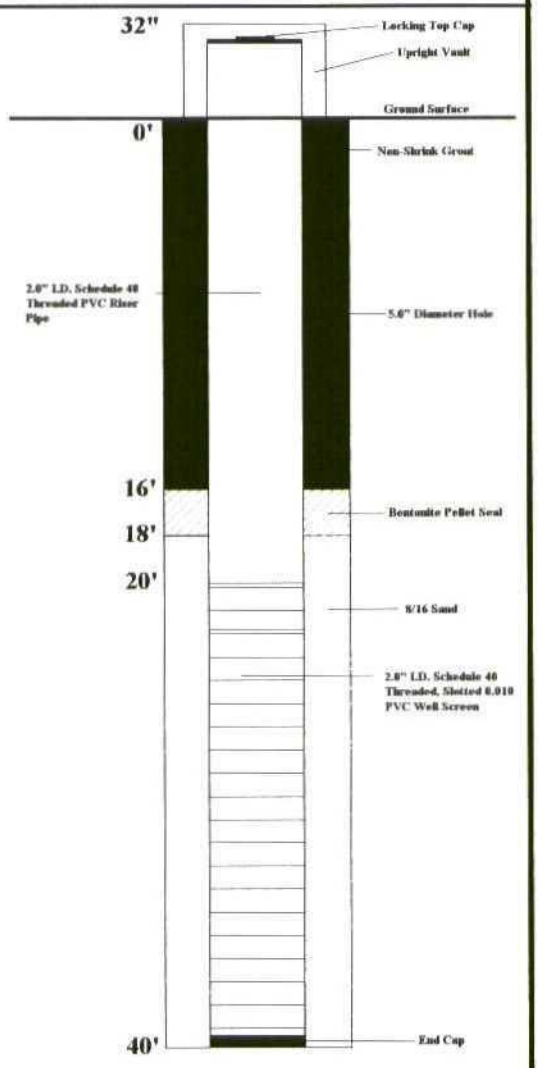
Project Number: 07C005537	Monitor Well: MW-2	Sheet 1 of 1
Contractor: White Drilling Company	Drilling Method: Air Coring	
Driller: Bo	Location: South of Byrd Household	
Date Start: 3/14/01	Date Completed: 3/14/01	
Top of Casing Elevation: 3558.40'	Logged By: Mark Ehrlich	

Project Name/Location:

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

Depth	Sample Interval (FT)	Sample Recovery (FT)	Sample Type	Soil Classification	FIELD SCREENING INSTRUMENT: PID/OVM UNITS: ppm	Sample Description and Conditions	Lithology
	5-7'	1'	ST	SM	0.0	SILTY SAND: Fine to v. fine grained; caliche indurated; <10% organics; very pale orange (10YR8/2).	
10'	10-12'	0.5'	SS	SM	0.7	SILTY SAND: Fine to v. fine grained; caliche indurated; <10% organics; very pale orange (10YR8/2).	
	15-17'	1'	SS	SM	0.0	SILTY SAND: Fine to v. fine grained; 10% caliche nodules; very pale orange (10YR8/2).	
20'	20-22'	0.66'	SS	SM	0.0	SILTY SAND: Fine to v. fine grained; mod orange pink (5YR8/4).	
	*25-27'	0.83'	SS	SM	0.2	SILTY SAND: Fine to v. fine grained; moist; very pale orange (10YR8/2).	
30'	30-32'	1'	SS	SM	0.0	SILTY SAND: Fine to v. fine grained; moist; very pale orange (10YR8/2).	
40'							

Monitor Well Construction Detail



Sample Types
SS - split spoon
SB - split barrel
ST - shelby tube
RC - rock core
SH - shovel (surface)

NOTES:
*** - sample submitted for analytical analysis**
Bottom of Boring @ 40.0'
Bottom of Monitor Well @ 40.0'
Groundwater @ ~ 30'

Meridian Alliance Group, LLC

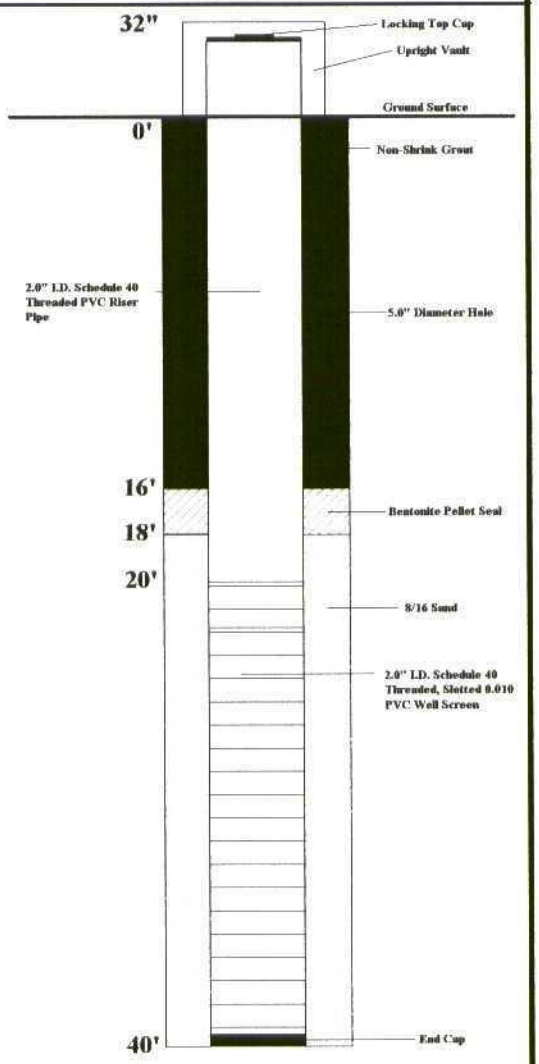
Project Number: 07C005537	**Monitor Well: MW-3**	**Sheet 1 of 1**
Contractor: White Drilling Company		**Drilling Method:** Air Coring
Driller: Bo		**Location:** East of Tank Battery Vicinity of South Pit
Date Start: 3/14/01		**Date Completed:** 3/14/01
Top of Casing Elevation: 3558.20'		**Logged By:** Mark Ehrlich

Project Name/Location:

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

Depth	Sample Interval (FT)	Sample Recovery (FT)	Sample Type	Soil Classification	FIELD SCREENING INSTRUMENT: PID/OVM UNITS: ppm	Sample Description and Conditions	Lithology
	5-7'	1.5'	ST	SM	0.0	SILTY SAND: Fine to v. fine grained; hydrocarbon discoloration; very pale orange (10YR8/2).	
10'	10-12'	2'	SS	SM	78.2	SILTY SAND: Fine to v. fine grained; strong hydrocarbon odor; very pale orange (10YR8/2).	
	15-17'	1'	SS	SM	63.7	SILTY SAND: Fine to v. fine grained; strong hydrocarbon odor; very pale orange (10YR8/2).	
20'	*20-22'	1.5'	SS	SM	230.6	SILTY SAND: Fine to v. fine grained; caliche indurated; strong hydrocarbon odor; yellowish gray (5Y7/2).	
	*25-27'	0.66'	SS	SM	192.2	SILTY SAND: Fine to v. fine grained; caliche indurated; strong hydrocarbon odor; yellowish gray (5Y7/2).	
30'	30-32'	0.66'	SS	SM	19.5	SILTY SAND: Fine to v. fine grained; strong hydrocarbon odor; yellowish gray (5Y7/2).	
40'							

Monitor Well Construction Detail



Sample Types

SS - split spoon
SB - split barrel
ST - shelby tube
RC - rock core
SH - shovel (surface)

NOTES:

*** - sample submitted for analytical analysis**
Bottom of Boring @ 40.0'
Bottom of Monitor Well @ 40.0'
Groundwater @ ~ 30'

Meridian Alliance Group, LLC

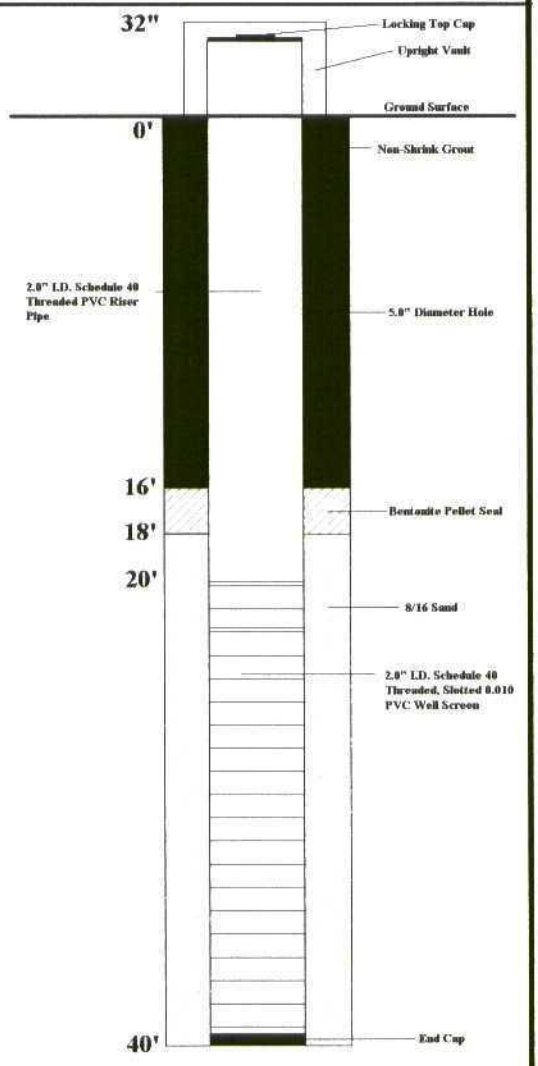
Project Number: 07C005537	**Monitor Well: MW-4**	**Sheet 1 of 1**
Contractor: White Drilling Company	**Drilling Method:** Air Coring	
Driller: Bo	**Location:** NW of Tank Battery	
Date Start: 3/14/01	**Date Completed:** 3/14/01	
Top of Casing Elevation: 3560.70'	**Logged By:** Mark Ehrlich	

Project Name/Location:

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

Depth	Sample Interval (FT)	Sample Recovery (FT)	Sample Type	Soil Classification	FIELD SCREENING INSTRUMENT: PID/OVM UNITS: ppm	Sample Description and Conditions
	5-7'	1'	ST	SM	1.2	SILTY SAND: Fine to v. fine grained; 5% organics, 10% caliche nodules, very pale orange (10YR8/2).
10'	10-12'	0.5'	SS	SM	1.0	SILTY SAND: Fine to v. fine grained; caliche indurated; very pale orange (10YR8/2).
	15-17'	0.5'	SS	SM	0.7	SILTY SAND: Fine to v. fine grained, pale yellowish orange (10YR8/6).
20'	20-22'	0.5'	SS	GM	N/A	GRAVELLY SAND: Fine to v. fine grained; angular gravel; 10% limestone; light brown (5YR6/4).
	*25-27'	1'	SS	SM	0.7	SILTY SAND: Fine to v. fine grained; moist; very pale orange (10YR8/2).
30'	30-32'	0.66'	SS	SM	19.5	SILTY SAND: Fine to v. fine grained; wet; very pale orange (10YR8/2).
40'						

Monitor Well Construction Detail



Sample Types
SS - split spoon
SB - split barrel
ST - shelby tube
RC - rock core
SH - shovel (surface)

NOTES:
*** - sample submitted for analytical analysis**
Bottom of Boring @ 40.0'
Bottom of Monitor Well @ 40.0'
Groundwater @ ~ 29'

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well J. R. Byrd Owner's Well No. 1
Street or Post Office Address Box 92
City and State Hobbs, NM 88241

Well was drilled under Permit No. L-10,160 and is located in the:

a. ____ ¼ ____ ¼ ____ ¼ N½ ¼ of Section 12 Township 20-S Range 36-E N.M.P.M.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. ____ of Block No. ____ of the ____
Subdivision, recorded in Lea County.

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

(B) Drilling Contractor W. L. Van Noy License No. WD-208

Address Box 7, Oil Center, NM 88266

Drilling Began May 8, 1991 Completed May 10, 1991 Type tools cable Size of hole 8" in.

Elevation of land surface or ____ at well is ____ ft. Total depth of well 70 ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 55 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
55	70	15	sandy caliche salt water	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
5"	PVC		0	70			52	70

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor ____
Address ____
Plugging Method ____
Date Well Plugged ____
Plugging approved by:
____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received May 20, 1991

Quad ____ FWL ____ FSL ____

File No. L-10,160 Use COM Location No. 20.36.12.21332

20.36.12.21332

2- 6-01 10:22AM:NM. STATE ENG. (505 623 8559 # 4/ 5

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	5	5	Top soil
5	45	40	caliche
45	55	10	Sandy Caliche
55	70	15	salt water
70			Red Bed

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.

W J Van Ry
Driller

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well J. R. Byrd Owner's Well No. 2
Street or Post Office Address Box 92
City and State Hobbs, NM 88241

Well was drilled under Permit No. L-10,160-S and is located in the:

a. ___ ¼ SE ¼ NE ¼ NW ¼ of Section 12 Township 20-S Range 36-E N.M.P.M.

b. Tract No. ___ of Map No. ___ of the ___

c. Lot No. ___ of Block No. ___ of the ___
Subdivision, recorded in Lea County.

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

(B) Drilling Contractor W. L. Van Noy License No. WD-208

Address Box 7, Oil Center, NM 88266

Drilling Began ~~May 10, 1991~~ Completed May 12, 1991 Type tools Cable Size of hole 8" in.

Elevation of land surface or ___ at well is ___ ft. Total depth of well 70 ft.

Completed well is XX shallow ☐ artesian. Depth to water upon completion of well 55 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
55	70	15	sandy caliche salt water	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
	~~No casing~~							

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor ___
Address ___
Plugging Method ___
Date Well Plugged ___
Plugging approved by:
___
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received May 20, 1991

Quad ___ FWL ___ FSL ___

File No. L-10,160-S Use (SUPP) COM Location No. 20.36.12.12442

20.36.12.12442

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	5	5	Top sail
5	45	40	Caliche
45	55	10	Sandy Caliche
55	70	15	Salt Water
70mx			Red Bed

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

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Amerada Hess Corporation Owner's Well No. MW-1

Street or Post Office Address P.O. Box 840

City and State Seminole, TX 79360

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 ____ ¼ of Section 12 Township T-20-S Range R-36-E N.M.P.M.

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, 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 3/14/01 Completed 3/14/01 Type tools _____ Size of hole 5.0 in.

Elevation of land surface or top of casing elevation at well is 3559.30 ft. Total depth of well 40.0 ft.

Completed well is ☐ shallow ☐ artesian. Monitor Well Depth to water upon completion of well 40.0 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
29.8			very pale orange silty sand	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
2.0		4	0.0	40.0	10.0	point	20.0	40.0

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet 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

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
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

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

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Amerada Hess Corporation Owner's Well No. MW-2
Street or Post Office Address P.O. Box 840
City and State Seminole, TX 79360

Well was drilled under Permit No. _____ and is located in the: GPS-N-32-35-27-8" W-103-18-28-3

a. ____ ¼ ____ ¼ ____ ¼ ____ ¼ of Section 12 Township T-20-S Range R-36-E N.M.P.M.

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, 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 3/14/01 Completed 3/14/01 Type tools _____ Size of hole 5.0 in.

Elevation of land surface or top of casing elevation of well is 3558.40 ft. Total depth of well 40.0 ft.

Completed well is ☐ shallow ☐ artesian. Monitor Well Depth to water upon completion of well 40.0 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
30.0			Very pale orange silty sand	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
2.0		4	0.0	40.0	10.0	point	20.0	40.0

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet 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

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0.0	20.0	20.0	Very pale orange silty sand w/caliche
20.0	25.0	5.0	Mod. orange pink silty sand
25.0	40.0	15.0	Very pale orange silty sand

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 be completed

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Amerada Hess Corporation Owner's Well No. MW-3
Street or Post Office Address P.O. Box 840
City and State Seminole, TX 79360

Well was drilled under Permit No. _____ and is located in the: GPS-N-32-35-27-8" W-103-18-28-3

a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section 12 Township T-20-S Range R-36-E N.M.P.M.

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, 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 3/14/01 Completed 3/14/01 Type tools _____ Size of hole 5.0 in.

Elevation of land surface or top of casing elevation at well is 3558.20' ft. Total depth of well 40.0 ft.

Completed well is ☐ shallow ☐ artesian Monitor Well Depth to water upon completion of well 40.0 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
30.0			Yellowish gray silty sand	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
2.0		4	0.0	40.0	10'	point	20.0	40.0

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet 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

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0.0	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

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

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Amerada Hess Corporation Owner's Well No. MW-4
Street or Post Office Address P.O. Box 840
City and State Seminole, TX 79360

Well was drilled under Permit No. _____ and is located in the: GPS-N-32-35-27-8" W-103-18-28-3

a. ____ ¼ ____ ¼ ____ ¼ ____ ¼ of Section 12 Township T-20-S Range R-36-E N.M.P.M.

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, 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 3/14/01 Completed 3/14/01 Type tools _____ Size of hole 5.0 in.

Elevation of land surface or top of casing elevation at well is 3560.70' ft. Total depth of well 40.0 ft.

Completed well is ☐ shallow ☐ artesian Monitor Well Depth to water upon completion of well 40.0 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
29.0			very pale orange silty sand	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
2.0		4	0.0	40.0	10'	point	20.0	40.0

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet 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

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Section 6. LOG OF HOLE

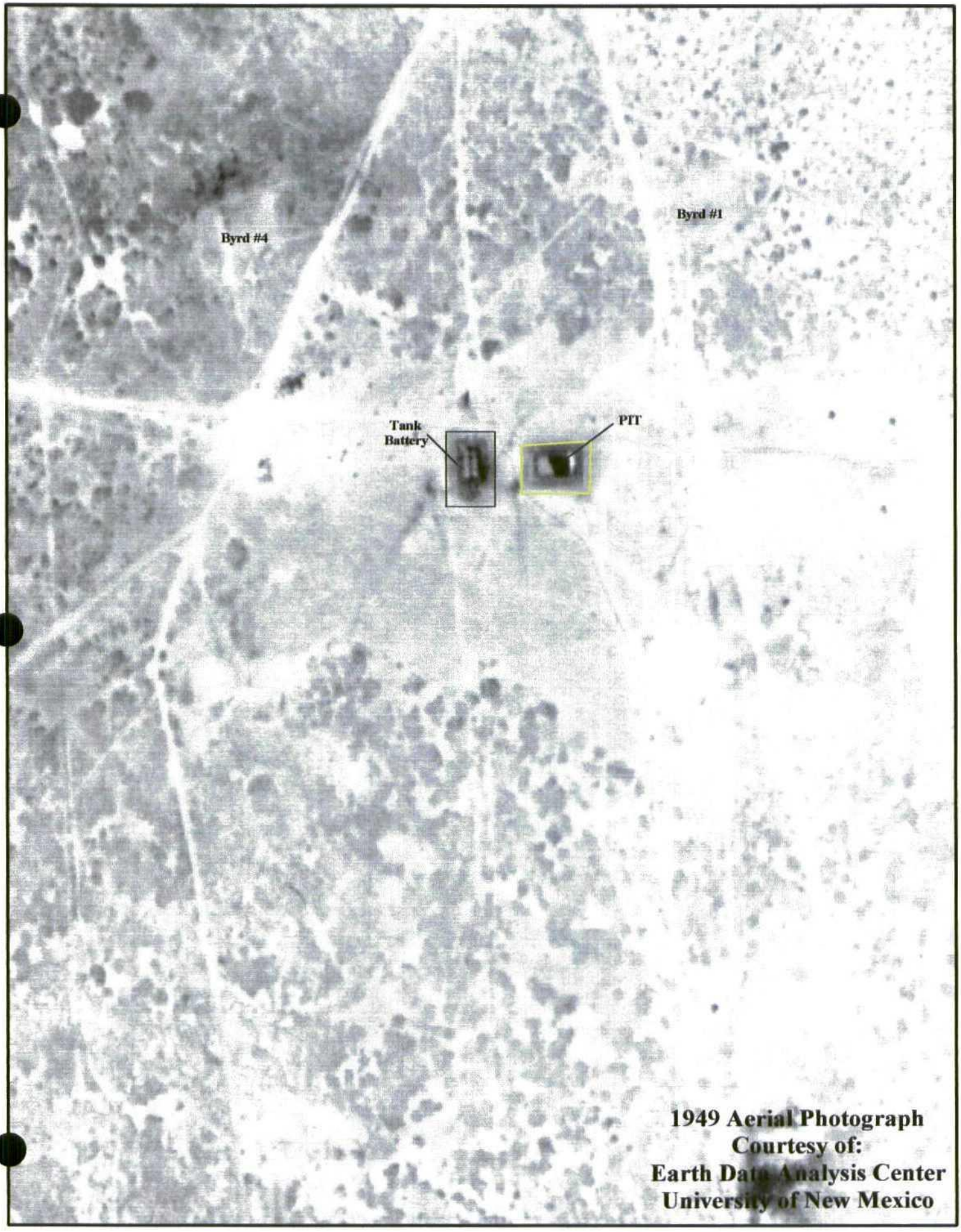
Depth in Feet		Thickness in Feet	Color and Type of Material Encountered
From	To		
0.0	15.0	15.0	Very pale orange silty sand w/caliche
15.0	20.0	5.0	Pale yellowish orange silty sand
20.0	25.0	5.0	Light brown gravelly sand w/limestone
25.0	40.0	15.0	Very pale orange silty sand

Section 7. REMARKS AND ADDITIONAL INFORMATION

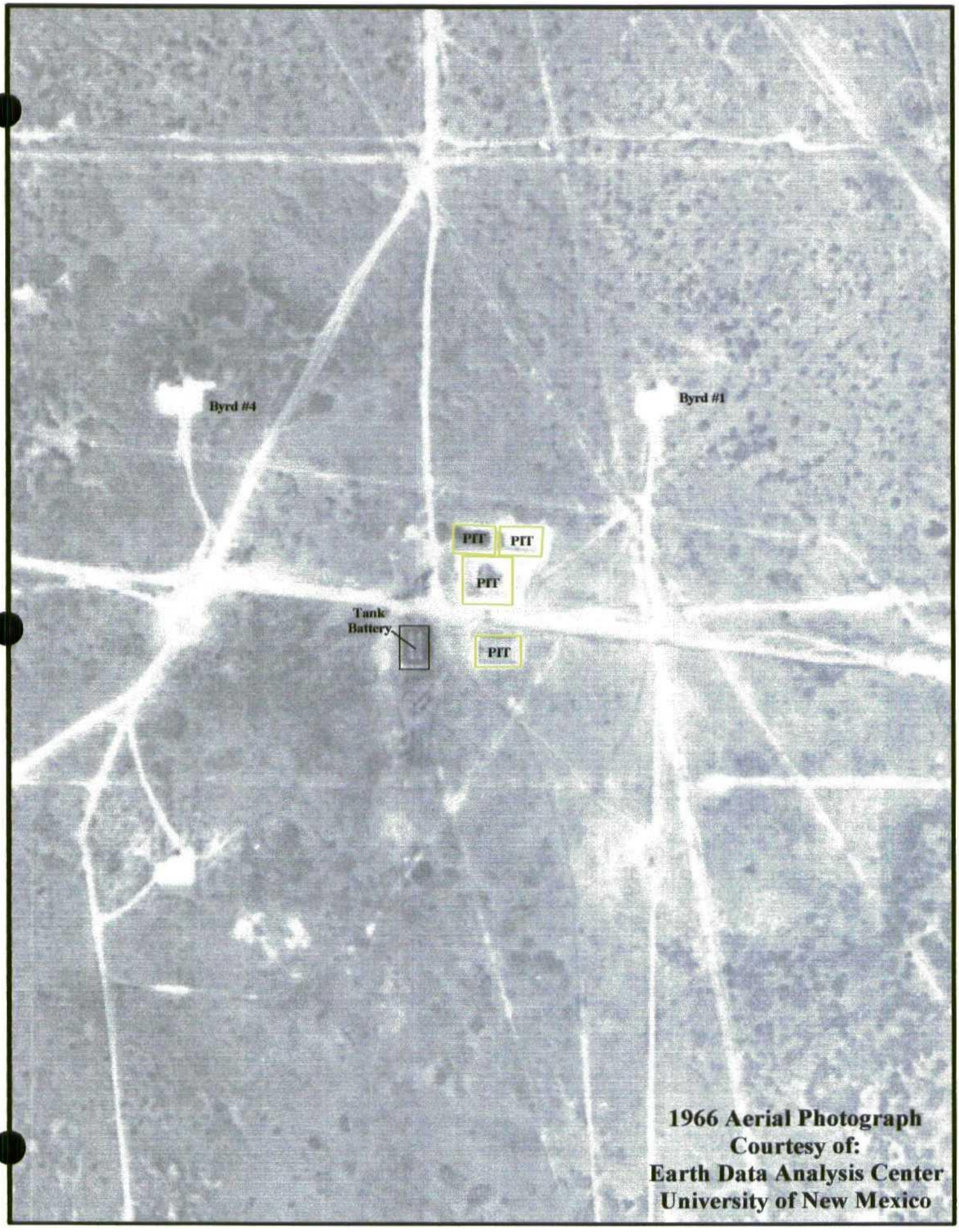
The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

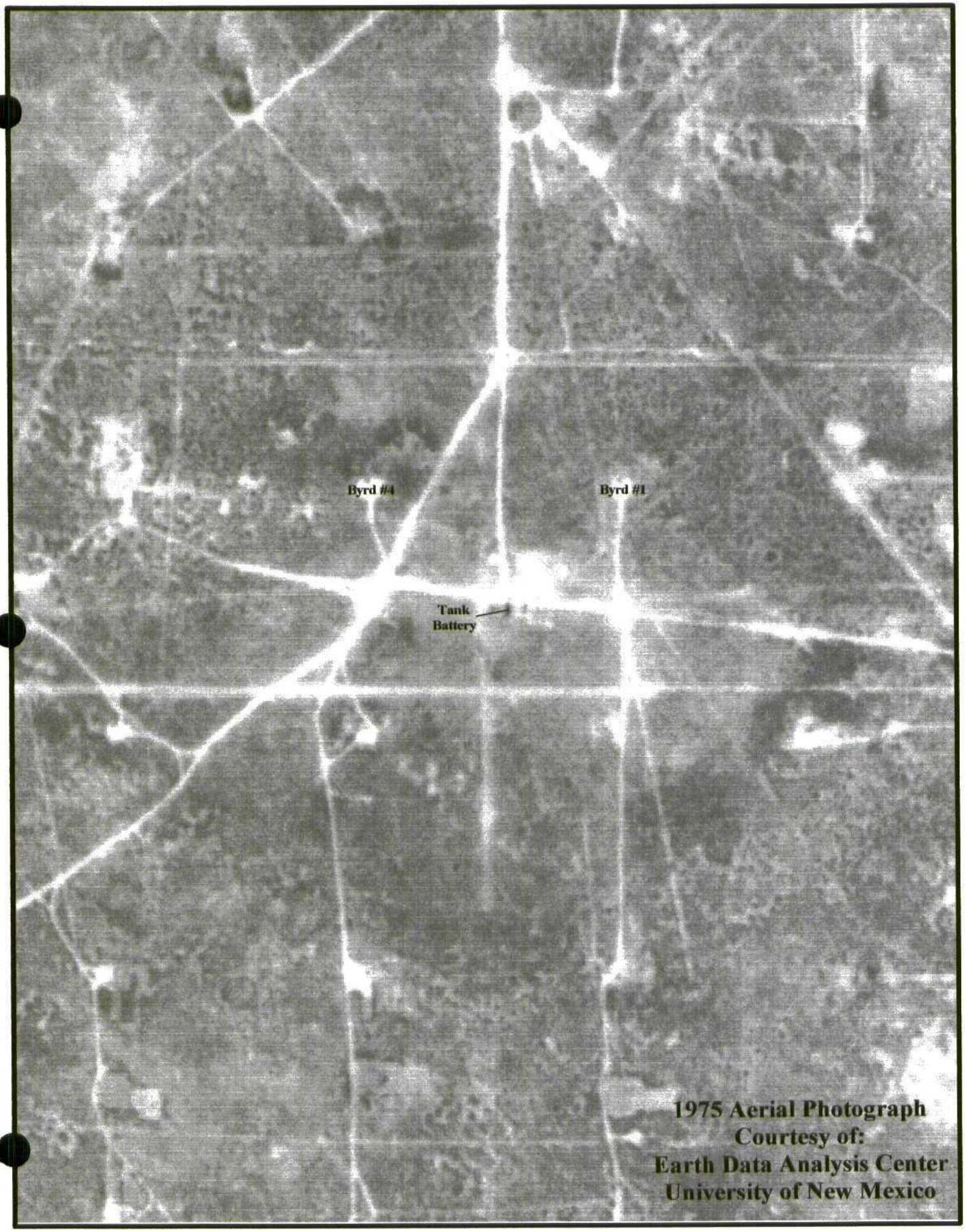
INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this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



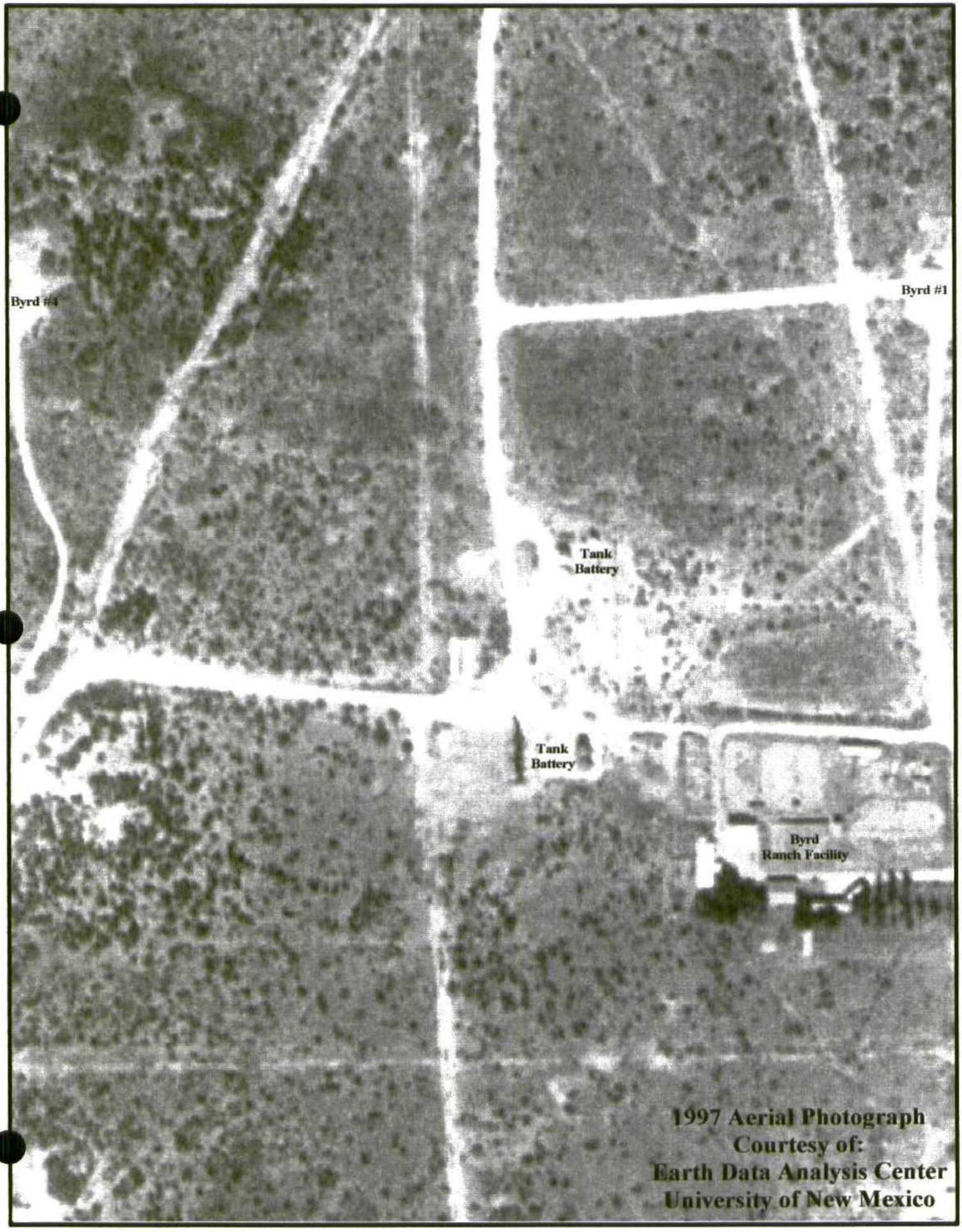
1949 Aerial Photograph
Courtesy of:
Earth Data Analysis Center
University of New Mexico



1966 Aerial Photograph
Courtesy of:
Earth Data Analysis Center
University of New Mexico



1975 Aerial Photograph
Courtesy of:
Earth Data Analysis Center
University of New Mexico

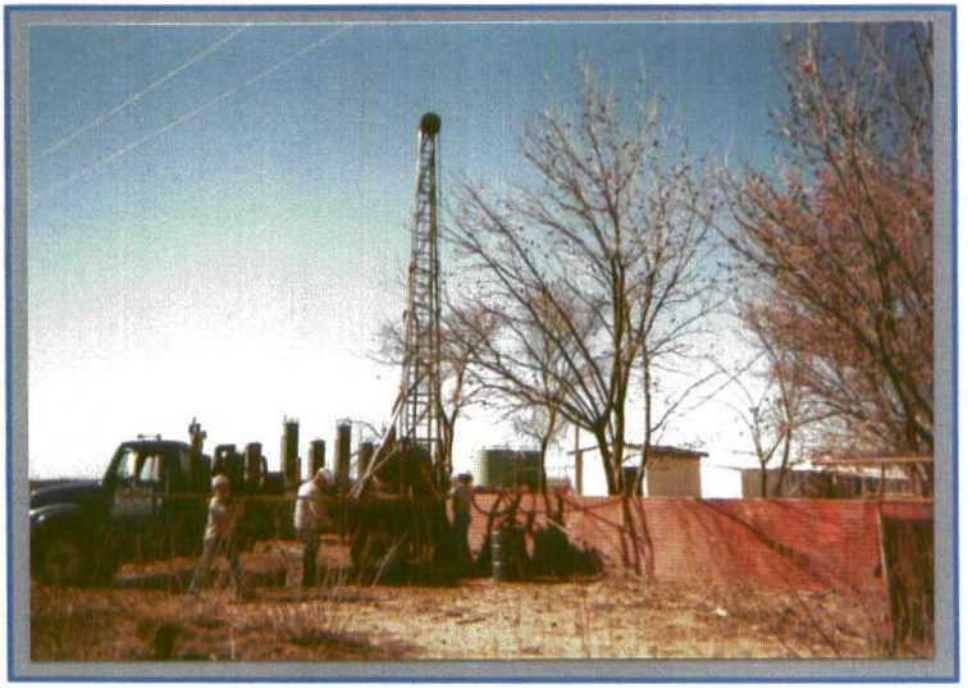

Byrd #4
Byrd #1
Tank Battery
Tank Battery
Byrd Ranch Facility
1997 Aerial Photograph
Courtesy of:
Earth Data Analysis Center
University of New Mexico

Amerada Hess Corporation
W.P. Byrd Lease

MW-1

MW-1

Amerada Hess Corporation
W.P. Byrd Lease



MW-2

MW-3

Amerada Hess Corporation
W.P. Byrd Lease

MW-4

MW-4 Surface Completion

Amerada Hess Corporation
W.P. Byrd Lease

View to the northeast across large spill area

Abandoned Water Well #2

Amerada Hess Corporation
W.P. Byrd Lease

View to the southeast across south pit

View to the northwest from south pit area

Amerada Hess Corporation
W.P. Byrd Lease

Chemical drums on Byrd property

Byrd water well shed

Amerada Hess Corporation
W.P. Byrd Lease

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.: 2001030122
Report Date: 03/30/2001

Phone: 915-682-5557

Fax: 915-682-5593

Project Name: Amerada Hess
Project Number: 07C005537-14
Received: 03/20/2001

Sampled by: Joe Mireles

Lab Number	Sample Identification
2001030122-1	MW-1
2001030122-2	MW-4
2001030122-3	MW-2
2001030122-4	MW-3
2001030122-5	WW
2001030122-6	MW-2
2001030122-7	MW-3
2001030122-8	WW

MILLENNIUM LABORATORIES, Inc.

Technical - QA/QC review by :
Matt Steere/Theresa Sorrells

Amanda Bourgeois/Daniel Duplechien
Project Manager

MILLENNIUM
LABORATORIES, INC.

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,

Daniel Duplechien
Project Manager

1544 Sawdust Road, Suite 402 · The Woodlands · Texas 77380 · Office (281) 362-8490 · Fax (281) 362-8491

Report No.: 2001030122
04/06/2001
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 1 Date Collected: 03/19/2001 Time Collected: 14:04:00 Matrix: Groundwater
Description: MW-1 Project Name: Amerada Hess

Test	Method	Results	Units	Detection 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
TPH (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
Total Dissolved Solids	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: 03/19/2001 Time Collected: 13:33:00 Matrix: Groundwater
Description: MW-4 Project Name: Amerada Hess

Test	Method	Results	Units	Detection 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
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	99.8	% Rec.	0.000	03/21/2001	MEP
TPH (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
Total 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

Report No.: 2001030122
04/06/2001
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 3 Date Collected: 03/19/2001 Time Collected: 15:01:00 Matrix: Groundwater
Description: MW-2 Project Name: Amerada Hess

Test	Method	Results	Units	Detection 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: 03/19/2001 Time Collected: 15:30:00 Matrix: Groundwater
Description: MW-3 Project Name: Amerada Hess

Test	Method	Results	Units	Detection 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
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	87.6	% Rec.	0.000	03/21/2001	MEP
Total Dissolved Solids	EPA 160.1	23898	mg/L	10.000	03/21/2001	TW
Sulfate	EPA 300.0	1189	mg/L	1.000	03/22/2001	TW
Chloride	EPA 300.0	14623	mg/L	0.100	03/22/2001	TW
Bicarbonate/Carbonate	EPA 310.1	163/0.15	mg/L	0.000	03/26/2001	TW
Calcium	SW-846 3010A/6020	1,755	mg/L	0.100	03/26/2001	KF
Magnesium	SW-846 3010A/6020	581	mg/L	0.100	03/26/2001	KF
Potassium	SW-846 3010A/6020	65.0	mg/L	0.100	03/26/2001	KF
Sodium	SW-846 3010A/6020	7,571	mg/L	0.100	03/26/2001	KF

Sample No.: 5 Date Collected: 03/19/2001 Time Collected: 14:32:00 Matrix: Groundwater
Description: WW Project Name: Amerada Hess

Test	Method	Results	Units	Detection 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

Report No.: 2001030122
04/06/2001
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 5 Date Collected: 03/19/2001 Time Collected: 14:32:00 Matrix: Groundwater
Description: WW Project Name: Amerada Hess

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
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	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 Collected: 15:01:00 Matrix: Groundwater
Description: MW-2 Project Name: Amerada Hess

Test	Method	Results	Units	Detection 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

Report No.: 2001030122
04/06/2001
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 6 Date Collected: 03/19/2001 Time Collected: 15:01:00 Matrix: Groundwater
Description: MW-2 Project Name: Amerada Hess

Test	Method	Results	Units	Detection 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: 03/19/2001 Time Collected: 15:30:00 Matrix: Groundwater
Description: MW-3 Project Name: Amerada Hess

Test	Method	Results	Units	Detection 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
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	0.500	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

Report No.: 2001030122
04/06/2001
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 8 Date Collected: 03/19/2001 Time Collected: 14:32:00 Matrix: Groundwater
Description: WW Project Name: Amerada Hess

Test	Method	Results	Units	Detection 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

Millennium Laboratories, Inc.

QC Batch ID: 170125

QC SUMMARY REPORT

BTEX by EPA Method 8021B - Water

Laboratory Control Sample (LCS/LCSD)
Method Blank Results

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

Sample Matrix Spike (MS)

CONSTITUENT	Sample Result (ppm)	Spike Added (ppm)	*MS* Result (ppm)	*MS* Recovery (%)	*MSD* Result (ppm)	*MSD* Recovery (%)	MS/D RPD (%)	*QC Acceptance Criteria* RPD (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
MtBE	<0.010	0.100	0.105	105.2%	0.106	106.0%	1%	± 30	70 - 130
Benzene	<0.002	0.100	0.090	89.5%	0.078	78.1%	14%	± 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%	± 30	70 - 130
Xylenes, Total	<0.005	0.300	0.274	91.4%	0.245	81.7%	11%	± 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

CONSTITUENT	*Method Blank* (ppm)	Spike Added (ppm)	*LCS* Result (ppm)	*LCS* Recovery (%)	*LCSD* Result (ppm)	*LCSD* Recovery (%)	LCS/D RPD (%)	*QC Acceptance Criteria* RPD (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
TPH - C_6 to C_{12}	<5.00	100	111.0	111.0%	116.0	116.0%	4%	± 30	70 - 130
TPH - >C_{12} to C_{28}	<5.00	100	109.0	109.0%	116.0	116.0%	6%	± 30	70 - 130

Sequence Date(s): 3/23/01 **Batch Extraction/Prep Date:** 3/21/01

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

Project(s) In Batch:

2001030122	2001030125	2001030127
2001030123	2001030126	2001030128

Millennium Laboratories, Inc.

QC SUMMARY REPORT

QC Batch ID: 32201

Anions by EPA Method 300.0

Laboratory Control Sample (LCS)

CONSTITUENT	*Method Blank* (ppm)	Spike Added (ppm)	*LCS* Result (ppm)	*LCS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
Chloride	<DL	50.00	45.648	91.0%	90 - 110
Sulfate	<DL	50.00	46.425	93.0%	90 - 110

Sample Matrix Spikes (MS)

CONSTITUENT	Sample Result (ppm)	Sample Dup Result (ppm)	Spike Added (ppm)	*MS* Result (ppm)	*MS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (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 Extraction/Prep Date:** 3/22/01

Sample ID - MS/MSD: 2001030122-5

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

Project(s) In Batch: 2001030122

Millennium Laboratories, Inc.

QC SUMMARY REPORT

QC Batch ID: 32100

Total Dissolved Solids by EPA 160.1

Laboratory Control Sample (LCS)

CONSTITUENT	*Method Blank*	*Spike Added*	*LCS*		*QC Acceptance Criteria*
			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

CONSTITUENT	Sample Result	Sample Dup	Dup Recovery	*QC Acceptance Criteria* % 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:** 3/21/01

Sample ID - Sample/Dup 2001030122-5

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

Project(s) In Batch: 2001030122

Millennium Laboratories, Inc.

QC SUMMARY REPORT

QC Batch ID: 32601

Metals by EPA Method 6020

Laboratory Control Sample (LCS)
Method Blank Results

CONSTITUENT	*Method Blank* (ppm)	Spike Added (ppm)	*LCS* Result (ppm)	*LCS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
Sodium	<DL	5.00	4.965	99.0%	75 - 125
Magnesium	<DL	5.00	5.146	103.0%	75 - 125
Potassium	<DL	5.00	4.881	98.0%	75 - 125
Calcium	<DL	5.00	4.976	99.0%	75 - 125

Sample Matrix Spikes (MS)

CONSTITUENT	Sample Result (ppm)	Spike Added (ppm)	*MS* Result (ppm)	*MS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (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-of-Custody Record

Millennium Laboratories, Inc.

REPORT TO:	Billing Information	Chain-of-Custody Number	Sub Contract Lab:
Millennium Laboratories Inc. Attn: Data Control Dept. 1544 Sawdust Rd., Suite 402 The Woodlands, TX 77380	Millennium Laboratories Inc. Attn: Accounts Payable 1544 Sawdust Rd., Suite 402 The Woodlands, TX 77380	0301122 PO#: 153178 Date Sent: 3-21-01 Turnaround Time: 10 days	Company: P.D.P Address: City: State: Zip: Attn: Phone: ( ) -

Field Sample No./Identification	Date and Time	Sample Type	Sample Size	Analysis Requested	Laboratory Remarks
0301122-6	3-15-01	L		Pesticides / Herbicides	Full List
-7	↓	↓		↓	
-8	↓	↓		↓	

Relinquished by: (signature) Doyle Ford	Date: 3/21/01 Time: 13:45	Received by: (signature) R. Brown	Date: 3/21/01 Time: 2:45
Relinquished by: (signature)	Date: Time:	Received by: (signature)	Date: Time:
Relinquished by: (signature)	Date: Time:	Received by Laboratory: (signature)	Date: Time:

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

LCS/LCSD SUMMARY REPORT
CHLORINATED HERBICIDES BY GC/ECD

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :

DATE RECEIVED :
PRINTED ON :4/6/2001 9:05

SAMPLE MATRIX :LIQUID
METHOD REFERENCE :SW846-8151A

LAB CONTROL SAMPLE
LCS SAMPLE ID :HERL103
CLIENT SAMPLE ID :
DATE ANALYZED :03/27/01
INSTRUMENT FILE :HEAO8975.D

LAB CONTROL SAMPLE DUPLICATE
LCSD SAMPLE ID :HERL103D
CLIENT SAMPLE ID :
DATE ANALYZED :03/27/01
INSTRUMENT FILE : HEAO8976.D

PARAMETER	UNITS	LCS TRUE VALUE	LCSD TRUE VALUE	LCS FOUND VALUE	LCSD FOUND VALUE	LCS RECOVERY (%)	LCSD RECOVERY (%)	RPD	RPD LIMIT	QC LIMITS 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
MCPP	MG/L	0.500	0.500	0.388	0.351	78	70	10.8	25	13 - 113

* Indicate values outside of QC limits

RPD : 0 out of 10 outside limits
Spike Recovery : 2 out of 20 outside limits

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

LCS/LCSD SUMMARY REPORT

ORGANOCHLORINE PESTICIDES BY GC/ECD

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :

DATE RECEIVED :
PRINTED ON :3/28/2001 16:04

SAMPLE MATRIX :LIQUID
METHOD REFERENCE :SW846-8081A

LAB CONTROL SAMPLE
LCS SAMPLE ID :PESL599
CLIENT SAMPLE ID :
DATE ANALYZED :03/28/01
INSTRUMENT FILE :F11732.D

LAB CONTROL SAMPLE DUPLICATE
LCSD SAMPLE ID :PESL599D
CLIENT SAMPLE ID :
DATE ANALYZED :03/28/01
INSTRUMENT FILE : F11733.D

PARAMETER	UNIT	LCS TRUE VALUE	LCSD TRUE VALUE	LCS FOUND VALUE	LCSD FOUN VALUE	LCS RECOVER (%)	LCSD RECOVERY (%)	RPD	RPD LIMIT	QC 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 : 0 out of 6 outside limits
Spike Recovery : 0 out of 12 outside limits

MILLENNIUM LABORATORIES
CHAIN OF CUSTODY RECORD
MERIDIAN-ALLIANCE GROUP

1544 Sawdust Rd, Suite 402
The Woodlands, Texas 77380
(281) 362-8490 Phone (281) 362-8491 Fax

Millennium Labs - Project Number

LAB USE ONLY
2001-0301122

Page 1 of 1

Number each chain per project

REPORT TO:
- ☐ Houston
- ☐ Arlington
- ☒ Midland Mark Erlich
- ☐ Tyler
- Other Location:
- Other Location:

INVOICING INFORMATION
- P.O. #: 07C005537-14
- ☐ TNRCC Re-Imbursement Site - Invoice per Meridian-Alliance agreement
- ☒ Non-Funded Project Site - Invoice per agreement/quote
- ☐ Direct Billing to Client - Include information with Chain of Custody
- ☐ Priority Project - Millennium Labs is authorized to invoice for Rush Fees
- Send Invoice to: ☒ Project Manager ☒ Refer to Remarks

PROJECT INFORMATION
- Project Number: 07C005537
- Site Name: Amerada Hess
- Sampled by: Print Name(s) Below
  1. Joe Mireles
  2.
- Meridian-Alliance Personnel: Yes X No ___

- ☐ PAH-Soil: If, C_6-C_{28} total >100 ppm
- ☐ PAH-Water: If, C_6-C_{28} total >5.0 ppm

Analyze one sample with the highest C_{10}-C_{28} concentration

- ☐ TDS: Analyze the cleanest sampling point based on TPH (Total) - If TPH is non-detect, select sample with lowest aromatic content on BTEX (Total)

Fax Results: Yes ___ No ___

Reporting Level: Level II ___ Level III ___ TRPP ___

Remarks:
Please run test under other section

Turnaround Time
- ☐ 10 Working Days
- ☒ 5 Working Days
- ☐ Other: ___

Lab No.	Sample Identification	Collected Date	Collected Time	Matrix W	Matrix S	Matrix X	Method G	Method C	Groundwater: BTEX - MTBE	Groundwater: TPH 1005 / 418.1	Groundwater: PAH 8270 / 8310	Groundwater: NO3 / SO4	Groundwater: TDS	Soil: BTEX	Soil: TPH 1005 / 418.1	Soil: PAH 8270 / 8310	GeoTechnical	Other: Chlorides/Sulfates EPA 300.0	Other: Ca, Na, Mg, K EPA 6020	Other: Bicarbonates/carbonates Standard Method 4500	Comments	Preserved	Total Number of Sample Containers
1	MW-1	3/19/01	14:04	X			X		1	1			1					1	1	1			8
2	MW-4	3/19/01	13:33	X			X		1	1			1					1	1	1			8
3	MW-2	3/19/01	15:01	X			X		1				1					1	1	1			6
4	MW-3	3/19/01	15:30	X			X		1				1					1	1	1			6
5	WW	3/19/01	14:32	X			X		1				1					1	1	1			6

Relinquished by: Joe Mireles	Date: 3-19-01	Time: 17:05	Received by:	Date:	Time:
Relinquished by	Date:	Time:	Received by:	Date:	Time:

Condition of Sample(s) Rec'd At Lab
- Custody Seal Intact: ☐ Yes ☐ No
- Sample(s) Rec'd Iced/Cool: ☒ Yes ☐ No
- ☒ Temperature of Sample(s): 2.1°C

Method of Shipment: [see back copy for shipping address & instructions]
- ☒ Greyhound Express
- ☐ Next-day Air FedEx-UPS
- ☐ Contract Courier
- ☐ Laboratory Personnel
- ☐ OTC-Delivery From Client

Received by Millennium Labs: [signature] Date: 3-20-1 Time: 16:30

MILLENNIUM LABORATORIES
CHAIN OF CUSTODY RECORD
MERIDIAN-ALLIANCE GROUP

1544 Sawdust Road, Suite 402
The Woodlands, Texas 77380
(281) 362-8490 Phone (281) 362-8491 Fax

Millennium Labs - Project Number

LAB USE ONLY 2001-0301122

Number each chain per project

REPORT TO:	INVOICING INFORMATION	PROJECT INFORMATION
☐ Houston	P.O. #: 07C005537-14	Project Number 07C005537
☐ Arlington	☐ TNRCC Re-Imbursement Site - Invoice per Meridian-Alliance agreement	Site Name Amerada Hess
☒ Midland Mark Erlich	☒ Non-Funded Project Site - Invoice per agreement/quote	Sampled by: Print Name(s) Below
☐ Tyler	☐ Direct Billing to Client - Include information with Chain of Custody	1 Joe Mireles
Other Location:	☐ Priority Project - Millennium Labs is authorized to invoice for Rush Fees	2
Other Location:	Send Invoice to: ☒ Project Manager ☒ Refer to Remarks	Meridian-Alliance Personnel Yes ☒ No ☐

☐ PAH-Soil: If C_6-C_{28} total >100 ppm
☐ PAH-Water: If C_6-C_{28} total >5.0 ppm
Analyze one sample with the highest C_{10}-C_{28} concentration
☐ TDS: Analyze the cleanest sampling point based on TPH (Total) - If TPH is non-detect, select sample with lowest aromatic content on BTEX (Total)

Fax Results: Yes_____ No_____

Reporting Level: Level II____ Level III____ TRPP____

Remarks:

Please run test for Herbicides and insecticides Pesticides, see attached letter

Turnaround Time
☒ 10 Working Days
☐ 5 Working Days
☐ Other: _____

Lab No.	Sample Identification	Collected Date	Collected Time	Matrix W	Matrix S	Matrix X	Method G	Method C	BTEX - MTBE	TPH 1005 / 418.1	PAH 8270 / 8310	NO3 / SO4	TDS	BTEX	TPH 1005 / 418.1	PAH 8270 / 8310	GeoTechnical	Pesticides	Herbicides	Comments	Preserved	Total Number of Sample Containers
				Groundwater										Soil				Other				
6	MW-2	3/19/01	15:01	X			X											1	1			2
7	MW-3	3/19/01	15:30	X			X											1	1			2
8	~~MW~~ WW	3/19/01	14:32	X			X											1	1			2

Relinquished by: Joe Mireles Date: 3-19-01 Time: 17:09
Relinquished by Date: Time:
Received by: Date: Time:
Received by: Date: Time:

Condition of Sample(s) Rec'd At Lab
Custody Seal Intact ☐ Yes ☐ No
Sample(s) Rec'd Iced/Cool ☒ Yes ☐ No
☒ Temperature of Sample(s): 2.1 C

Method of Shipment: [see back copy for shipping address & instructions]
☒ Greyhound Express ☐ Next-day Air FedEx-UPS ☐ Contract Courier ☐ Laboratory Personnel ☐ OTC-Delivery From Client

Received by Millennium Labs: Date: 3-20-01 Time: 16:30

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.: 2001030119
Report 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	Sample Identification
2001030119-1	MW-1@25-27
2001030119-2	MW-2@25-27
2001030119-3	MW-3@20-22
2001030119-4	MW-3@25-27
2001030119-5	MW-4@25-27
2001030119-6	Drum Comp

MILLENNIUM LABORATORIES, Inc.

Technical - QA/QC review by :
Matt Steere/Theresa Sorrells

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,

Daniel Duplechien
Project Manager

1544 Sawdust Road, Suite 402 · The Woodlands · Texas 77380 · Office (281) 362-8490 · Fax (281) 362-8491

MILLENNIUM 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

Sample Number	Sample Description	Sample Matrix	Benzene	Toluene	Ethylbenzene	Xylenes, total	Total BTEX*	MtBE	TPH C6-C12	TPH C12-C28	TPH C6-C28	Lead	units
1	MW-1@25-27	Soil	<0.125	<0.125	<0.125	<0.125	ND	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	ND	N/A	N/A	N/A	N/A	N/A	mg/Kg
3	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
5	MW-4@25-27	Soil	<0.125	<0.125	<0.125	<0.125	ND	N/A	N/A	N/A	N/A	N/A	mg/Kg
6	Drum Comp	Soil	<0.125	<0.125	<0.125	<0.125	ND	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

Report No.: 2001030119
04/12/2001
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 1 Date Collected: 03/14/2001 Time Collected: 12:30:00 Matrix: Soil
Description: MW-1@25-27 Project Name: Amerada-Hess Byrd Lease

Test	Method	Results	Units	Detection 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: 03/14/2001 Time Collected: 15:50:00 Matrix: Soil
Description: MW-2@25-27 Project Name: Amerada-Hess Byrd Lease

Test	Method	Results	Units	Detection 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: 03/14/2001 Time Collected: 16:40:00 Matrix: Soil
Description: MW-3@20-22 Project Name: Amerada-Hess Byrd Lease

Test	Method	Results	Units	Detection 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: 03/14/2001 Time Collected: 16:45:00 Matrix: Soil
Description: MW-3@25-27 Project Name: Amerada-Hess Byrd Lease

Test	Method	Results	Units	Detection 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

TEST RESULTS BY SAMPLE

Sample No.: 4 Date Collected: 03/14/2001 Time Collected: 16:45:00 Matrix: Soil
Description: MW-3@25-27 Project Name: Amerada-Hess Byrd Lease

Test	Method	Results	Units	Detection 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
TPH (418.1)	418.1	2020	mg/Kg	100.000	03/26/2001	MAT

Sample No.: 5 Date Collected: 03/15/2001 Time Collected: 09:20:00 Matrix: Soil
Description: MW-4@25-27 Project Name: Amerada-Hess Byrd Lease

Test	Method	Results	Units	Detection 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
TPH (418.1)	418.1	<10.0	mg/Kg	10.000	03/26/2001	MAT

Sample No.: 6 Date Collected: 03/15/2001 Time Collected: 10:00:00 Matrix: Soil
Description: Drum Comp Project Name: Amerada-Hess Byrd Lease

Test	Method	Results	Units	Detection 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

Millennium Laboratories, Inc.

QC SUMMARY REPORT

BTEX by EPA Method 8021B - Soil

QC Batch ID: 0120021A

Laboratory Control Sample (LCS/LCSD)
Method Blank Results

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

Sample Matrix Spikes (MS/MSD)

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

Sequence Date(s): 3/21/01

Batch Extraction/Prep Date: 3/20/01

Sample ID - MS/MSD: 2001030116-7

Data Qualifiers:

Project(s) In Batch: 2001030119 (1-6)
2001030116 (4-8)

Millennium Laboratories, Inc.

QC SUMMARY REPORT

TPH by 418.1

QC Batch ID: 032601S

Laboratory Control Sample (LCS/LCSD)

CONSTITUENT	*Method Blank* (ppm)	Spike Added (ppm)	*LCS* Result (ppm)	*LCS* Recovery (%)	*LCSD* Result (ppm)	*LCSD* Recovery (%)	LCS/D RPD (%)	*QC Acceptance Criteria* RPD (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
418.1	<10.0	500	429	85.8%	445	89.0%	4%	± 30	70 - 130

Sample Matrix Spikes (MS/MSD)

CONSTITUENT	Sample Result (ppm)	Spike Added (ppm)	*MS* Result (ppm)	*MS* Recovery (%)	*MSD* Result (ppm)	*MSD* Recovery (%)	MS/D RPD (%)	*QC Acceptance Criteria* RPD (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
418.1	<10.0	500	375	75.0%	405	81.0%	8%	± 30	70 - 130

Sequence Date(s): 3/26/01 **Batch Extraction/Prep Date:** 3/26/01

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

Sample Spiked: 2001030120-2

Project(s) In Batch: 2001030119 2001030120

Millennium Laboratories, Inc.

QC SUMMARY REPORT

QC Batch ID: 32001

Anions by EPA Method 300.0

Laboratory Control Sample (LCS)

CONSTITUENT	*Method Blank* (ppm)	Spike Added (ppm)	*LCS* Result (ppm)	*LCS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
Chloride	<DL	50.00	45.627	91.0%	90 - 110

Sample Matrix Spikes (MS)

CONSTITUENT	Sample Result (ppm)	Sample Dup Result (ppm)	Spike Added (ppm)	*MS* Result (ppm)	*MS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (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: 2001030119

Chain-of-Custody Record

Test Methods, Phone Numbers & Shipping Information.

Millennium Labs - Project Number 2001 4999 — LAB USE ONLY 0 J J 1 1 9

Page 1 of 1 — Page Number Each Chain PER PROJECT ONLY

REPORT TO:

- [ ] Houston Attn:
- [ ] Arlington Attn:
- [x] Midland Attn: Curt Henderson
- [ ] Tyler Attn:
- [ ] Austin Attn:
- [ ] New Location: Contact Lab To Set-up Account

BILLING INFORMATION

PO No.: 07C005537-14

- [ ] TNRCC Re-Imbursement Site: Invoice per Meridian-Alliance agreement
- [x] Non-Funded Project/Site: Invoice as per agreement/quote
- [ ] Direct Billing To Client: Attach sheet or use Remarks section for details
- [ ] Priority Project - Lab is Authorized to invoice for RUSH FEES

Send Invoice To: [x] Project Manager [ ] See Remarks

PROJECT INFORMATION

Project Number: 07C005537

Site Name (limited to 20 characters): Amarada-Hess Byrd Lease

Sampled by: Print Name(s) Below — Meridian-Alliance Personnel [x] YES [ ] NO

1. A. Hale
2. M. Ehrlich

- [ ] PAH-Soil: If, C_6-C_{28} total >100 ppm;
- [ ] PAH-Water: If, C_6-C_{28} total >5.0 ppm;

Analyze one sample with the highest C_{10}-C_{28} concentration

- [ ] TDS: Analyze the cleanest sampling point based on TPH-total; if TPH is non-detect; select sample with lowest aromatic content [total BTEX]
- [ ] TCLP-Metals: Based on Total Metals results; run TCLP Extraction on samples with parameters which exceed 20 times the TCLP Limits
- [ ] TCLP-Volatiles: Based on VOC results; run TCLP Extraction on samples with compounds which exceed: [attach sheet or use remarks section]

Remarks:

Turnaround Time

- [x] Standard TAT
- [ ] Rush-results by:

Lab No.	Sample Identification	Collected Date	Collected Time	Matrix W	Matrix S	Matrix X	Method G	Method C	Groundwater BTEX-MtBE	Groundwater TPH	Groundwater PAH	Groundwater NO3-SO4	Groundwater TDS	Soil BTEX	Soil TPH 418.1	Soil PAH	Soil GEOTECH	Additional Parameters: Chlorides	HOLD	Total Number of Bottles per Location
1	MW-1 @ 25-27	3-14	1230		X		X							X	X			X		1
2	MW-2 @ 25-27	3-14	1550		X		X							X	X			X		1
3	MW-3 @ 20-22	3-14	1640		X		X							X	X			X		1
4	MW-3 @ 25-27	3-14	1645		X		X							X	X			X		1
5	MW-4 @ 25-27	3-15	0920		X		X							X	X			X		1
6	Drum Comp	3-15	1000		X			X						X	X					1

Comments

Please use space below or attach additional sheet(s)

HOLD

Relinquished by: M. Ehrlich	Date: 3-16-01	Time: 0830	Received by:	Date:	Time:
Relinquished by	Date:	Time:	Received by:	Date:	Time:
Relinquished by	Date:	Time:	Received At Millennium Labs by:	Date: 3-16-01	Time: 15:00

Condition of Sample(s) Rec'd At Lab

- Custody Seal Intact: [ ] Yes [ ] No
- Sample(s) Rec'd Iced/Cool: [x] Yes [ ] No

[ ] Log-In encountered problems with this sample set. A Variance Log-In Form was completed identifying the type of problem(s) & corrective action taken. Copy be mailed with the Final Report.

Method of Shipment: [see back copy for shipping address & instructions]

[x] Greyhound Express [ ] Next-day Air FedEx-UPS [ ] Contract Courier [ ] Laboratory Personnel [ ] OTC-Delivery From Client

Rec'd CLK

GANDY•MARLEY, INC.

P.O. Box 1658
Roswell, NM 88202
(505) 625-9206
Fax (505) 625-9706

No 3249

LEASE OPERATOR/SHIPPER/COMPANY: Amanda Hess

LEASE NAME: Byrd Lease

TRANSPORTER COMPANY: R Marley TIME: 4:30 AM/PM

DATE: 4/17/1 VEHICLE NO.: 7 DRIVER NO.:

CHARGE TO: MAG # 07005537

TYPE OF MATERIAL

OCD

[✓] Other Material: [ ] Contaminated soil [ ] C-117 No.:_____

[ ] BS&W content:_____

Description: Soil Cuttings & 10M Purge Water to 750

VOLUME OF MATERIAL [ ]: ~~YARDS~~ 4 DMS CELL# 13 : [ ] _____

AS A CONDITION TO GANDY•MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HEREWITH IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. §6901, et seq., THE NM HEALTH AND SAF. CODE, §361.001, et seq. AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED CONTAMINATED SOILS AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

ALSO AS A CONDITION TO GANDY•MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO GANDY•MARLEY, INC.'S FACILITY FOR DISPOSAL.

THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.

DRIVER: _____

FACILITY REPRESENTATIVE: _____

White - GMI Canary - Shipper Pink - GMI Gold - Transporter

GM inc.

Gandy Marley, Inc.

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

4/18/01

Detailed Report of material for Invoices 3037 thru 3037

EXEMPT OCD

Origin: 07005537

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 BBLS

EXEMPT OCD Total BBLS. 4 BBLS

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 GAL

EXEMPT OCD Total GAL. 55 GAL

EXEMPT OCD Total Units. 59 Units

Meridian Alliance Group LLC Total Units. 59 Units

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:

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

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

Table of Contents

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 (1.5×10^{-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/L Benzene, <0.005 mg/L Toluene, 0.016 mg/L Ethyl benzene, and 0.034 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.

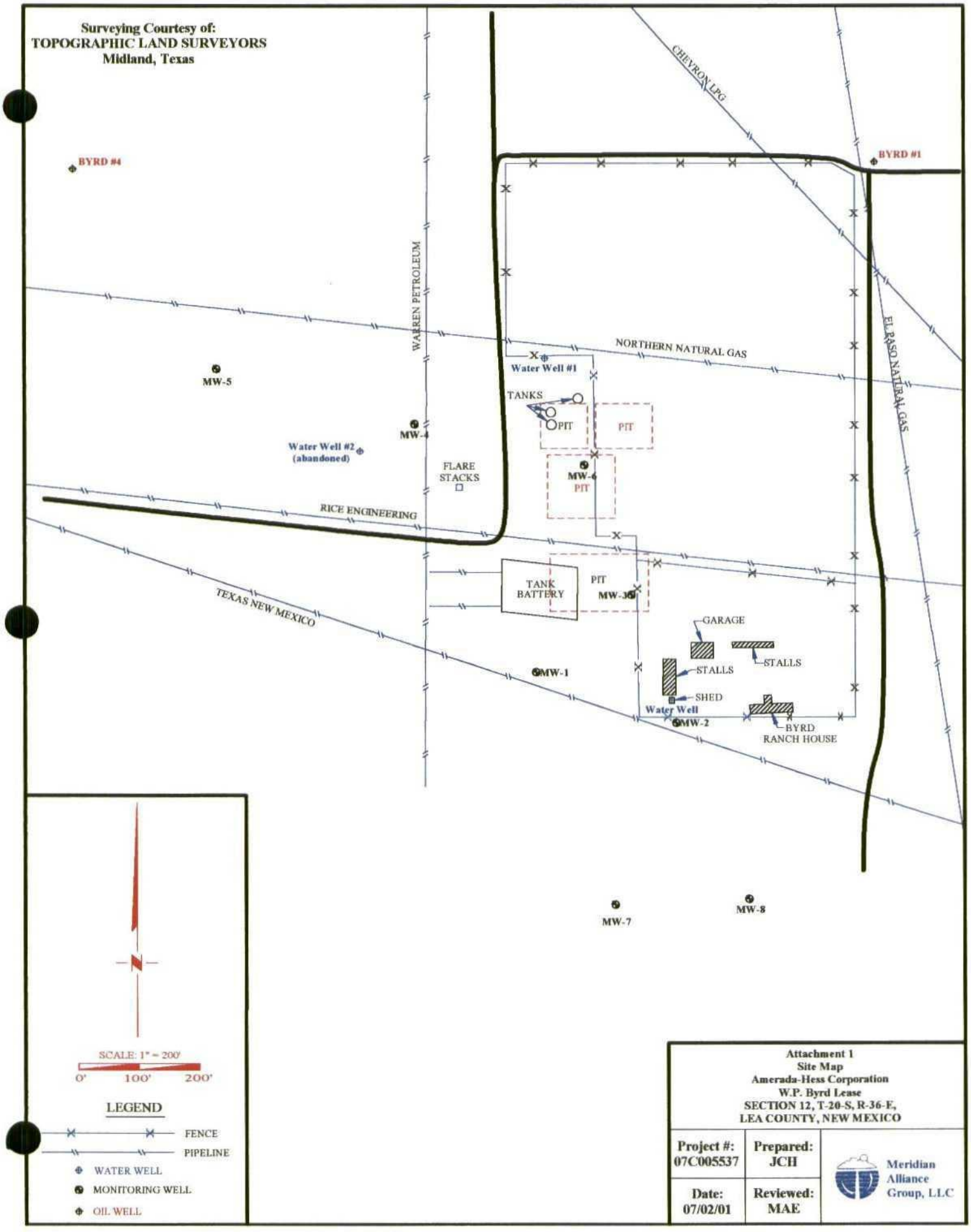
1.5 Limitations

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.

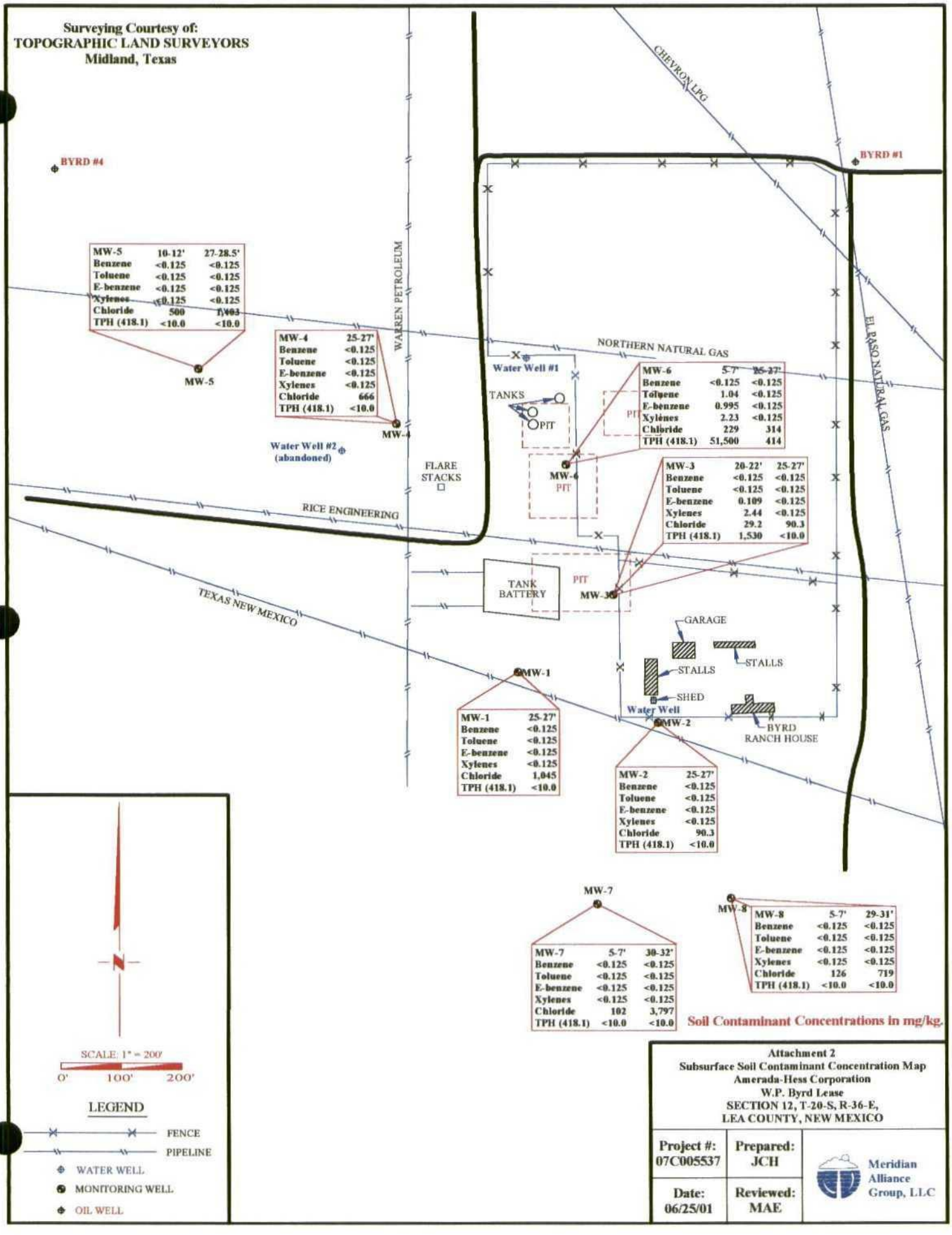
J. Curtis Henderson
District Manager

Mark A. Ehrlich
Project Manager



Attachment 1
Site Map
Amerada-Hess Corporation
W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

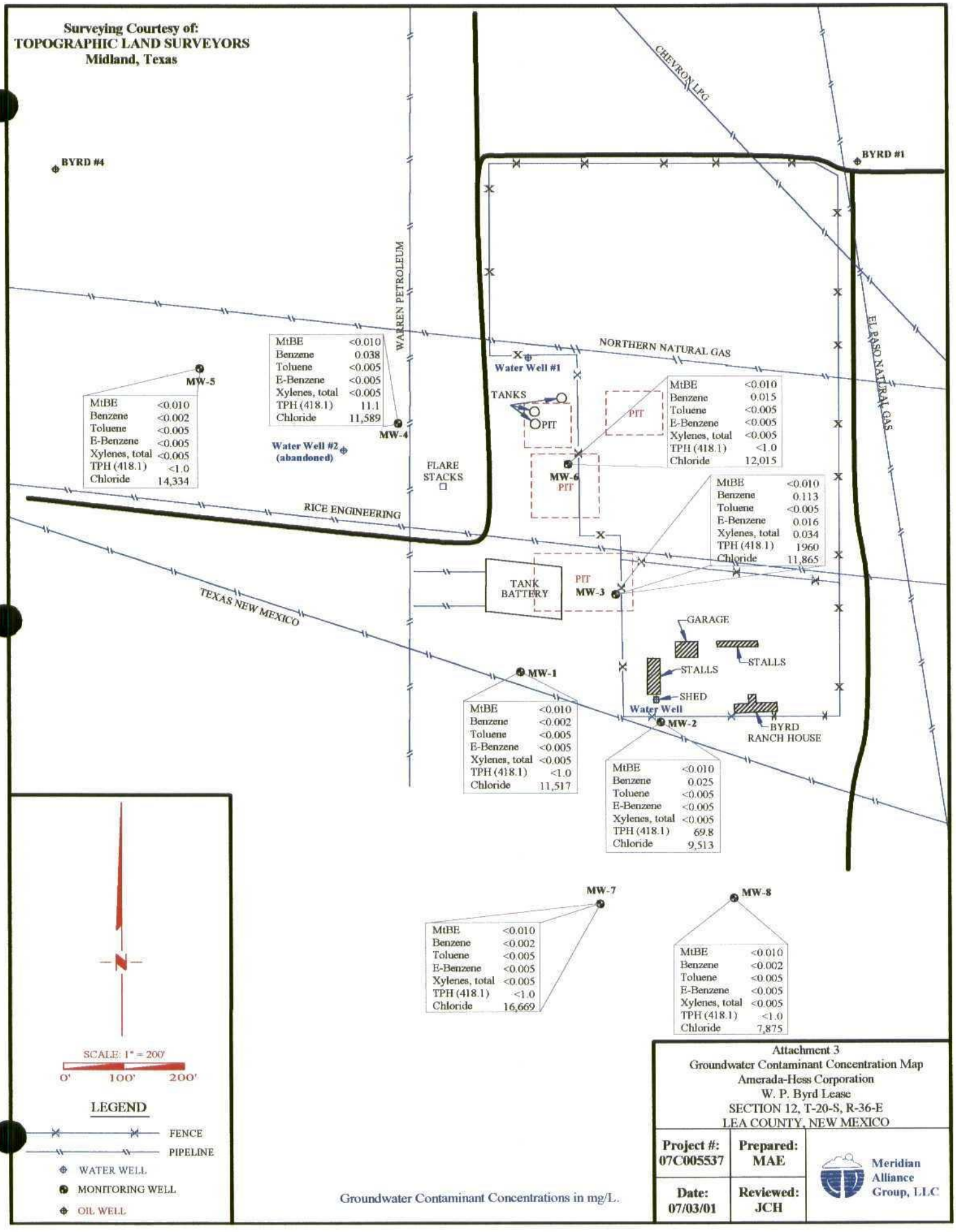
Project #: 07C005537	Prepared: JCH	Meridian Alliance Group, LLC
Date: 07/02/01	Reviewed: MAE	



Soil Contaminant Concentrations in mg/kg

Attachment 2
Subsurface Soil Contaminant Concentration Map
Amerada-Hess Corporation
W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

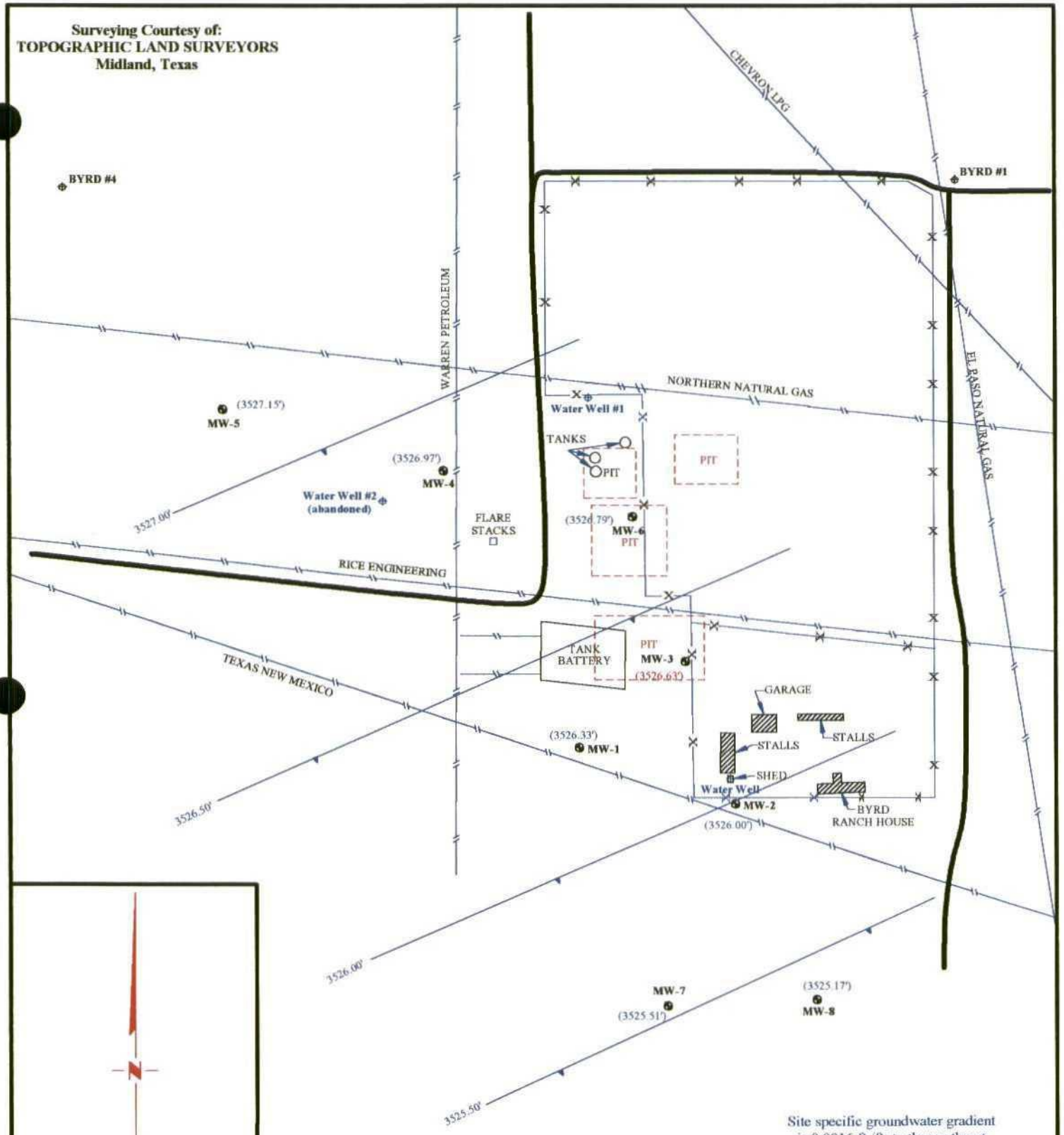
Project #: 07C005537	Prepared: JCH	Meridian Alliance Group, LLC
Date: 06/25/01	Reviewed: MAE	



Groundwater Contaminant Concentrations in mg/L.

Attachment 3
Groundwater Contaminant Concentration Map
Amerada-Hess Corporation
W. P. Byrd Lease
SECTION 12, T-20-S, R-36-E
LEA COUNTY, NEW MEXICO

Project #: 07C005537	Prepared: MAE	Meridian Alliance Group, LLC
Date: 07/03/01	Reviewed: JCH	



MW	TOP OF CASING	TOP OF GROUND	NORTHING	EASTING
1	3559.3'	3556.9'	580176	816099
2	3558.4'	3555.8'	580091	816331
3	3558.2'	3555.7'	580302	816257
4	3560.7'	3558.1'	580586	815899
5	3561.1'	3558.5'	580677	815573
6	3560.3'	3557.7'	580518	816178
7	3558.0'	3555.5'	579793	816230
8	3557.6'	3552.2'	579801	816448

MW-3 Water Elevation data was not used to determine the groundwater gradient due to 2.74' of Phase-separated hydrocarbons that were present.

Site specific groundwater gradient is 0.0016 ft./ft. to the southeast

Attachment 4
Groundwater Gradient Map
Amerada-Hess Corporation
W. P. Byrd Lease
SECTION 12, T-20-2, R-36-E
LEA COUNTY, NEW MEXICO

Project #: 07C005537	Prepared: MAE
Date: 07/03/01	Reviewed: JCH

Meridian Alliance Group, LLC

Figure 1
Soil Laboratory Analytical Results
Amerada Hess Corporation - W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

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	"	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
	"	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
	"	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

NOTES:
All values reported in mg/kg.

Meridian Alliance Group, LLC

Figure 2
Cumulative Fluid Level Measurements
Amerada Hess Corporation - W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

Location	Date	TOC Elev. Feet	Depth to Water Feet	PSH Thickness Feet	Corrected GW Elev Feet	*Screened 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'***

NOTES:
MW-1 - Very light sheen of crude oil.
PSH - Phase-separated hydrocarbons (crude oil).

Meridian Alliance Group, LLC

Figure 3
Groundwater Laboratory Analytical Results
Amerada Hess Corporation - W.P. Byrd Lease
SECTION 12, T-20-S, R-36-E,
LEA COUNTY, NEW MEXICO

Location	Date	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	Chloride	TPH (418.1)
MW-1	03/19/01	<0.010	<0.002	<0.005	<0.005	<0.005	ND	16,971.0	
	07/07/01	<0.010	<0.002	<0.005	<0.005	<0.005	ND	11,517.0	<1.0
MW-2	03/19/01	<0.010	0.097	<0.005	<0.005	<0.005	0.097	19,108.0	
	07/07/01	<0.010	0.025	<0.005	<0.005	<0.005	0.025	9,513.0	69.8
MW-3	03/19/01	<0.010	0.054	<0.005	<0.005	<0.005	0.054	14,623.0	
	07/07/01	<0.010	0.113	<0.005	0.0160	0.0340	0.163	11,865.0	1,960.0
MW-4	03/19/01	<0.010	0.018	<0.005	<0.005	<0.005	0.018	15,209.0	
	07/07/01	<0.010	0.038	<0.005	<0.005	<0.005	0.038	11,589.0	11.1
MW-5	07/07/01	<0.010	<0.002	<0.005	<0.005	<0.005	ND	14,334.0	<1.0
MW-6	07/07/01	<0.010	0.015	<0.005	<0.005	<0.005	0.015	12,015.0	<1.0
MW-7	07/07/01	<0.010	<0.002	<0.005	<0.005	<0.005	ND	16,669.0	<1.0
MW-8	07/07/01	<0.010	<0.002	<0.005	<0.005	<0.005	ND	7,875.0	<1.0

NOTES:
All concentrations presented in mg/l.
ND - Not Detected
TDS - Total Dissolved Solids
' - % Recovery
TPH - Total Petroleum Hydrocarbons

Meridian Alliance Group, LLC

Meridian Alliance Group, LLC

Project Number: 07C005537	**Monitor Well: MW-5**	**Sheet 1 of 1**
Contractor: White Drilling Company	**Drilling Method:** Air Coring	
Driller: Bo	**Location:** Northwest of MW-4	
Date Start: 6/25/01	**Date Completed:** 6/25/01	
Top of Casing Elevation: 3561.1'	**Logged By:** Mark Ehrlich	

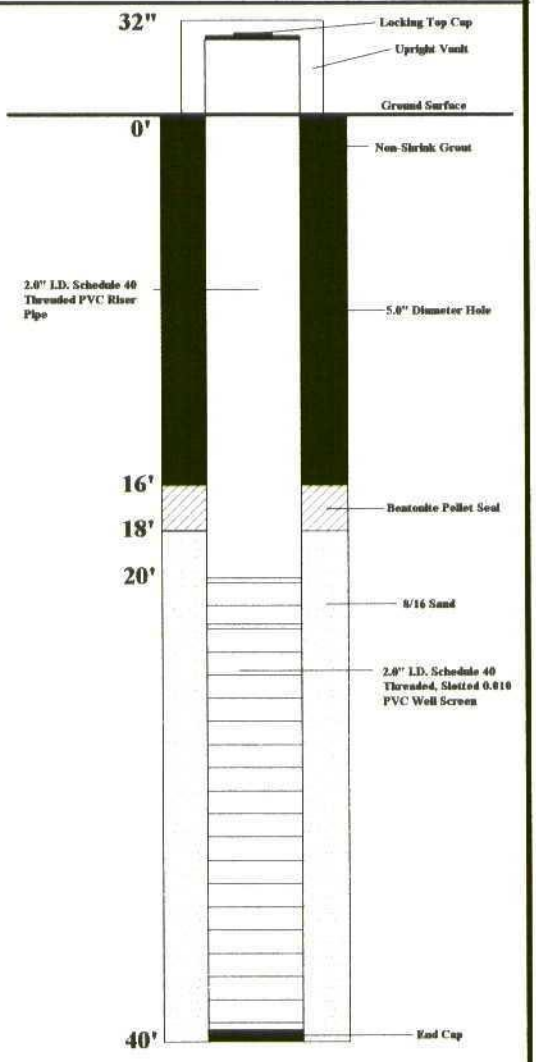
Project Name/Location:

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

Depth	Sample Interval (FT)	Sample Recovery (FT)	Sample Type	Soil Classification	FIELD SCREENING INSTRUMENT: PID-OVM UNITS: ppm	Sample Description and Conditions
	5-7'	1'	ST	SM	2.5	SILTY SAND: Fine to v. fine grained; 20% caliche nodules; very pale orange (10YR8/2).
10'	*10-12'	0.5'	SS	SM	4.3	SILTY SAND: Fine to v. fine grained; caliche indurated; very pale orange (10YR8/2).
	15-17'	1'	SS	SM	1.6	SILTY SAND: Fine to v. fine grained; caliche indurated; very pale orange (10YR8/2)
20'	20-22'	1.0'	SS	SP	1.4	SILTY SAND: Fine to v. fine grained; caliche indurated; very pale orange to light brown (5YR5/6)
	25-27'	1.0'	SS	SM	1.4	SILTY SAND: Fine to v. fine grained; moist; light brown (5YR6/4).
	*27-28.5'	1.0'	SS	SM	1.1	SILTY SAND: Fine to v. fine grained; caliche indurated; orange to light brown with .5" LS nodules; very moist (5YR5/6)
30'						
40'						

Lithology

Monitor Well Construction Detail



Sample Types
SS - split spoon
SB - split barrel
ST - shelby tube
RC - rock core
SH - shovel (surface)

NOTES:
*** - sample submitted for analytical analysis**
Bottom of Boring @ 40.0'
Bottom of Monitor Well @ 40.0'
Groundwater @ ~ 28.5'

Meridian Alliance Group, LLC

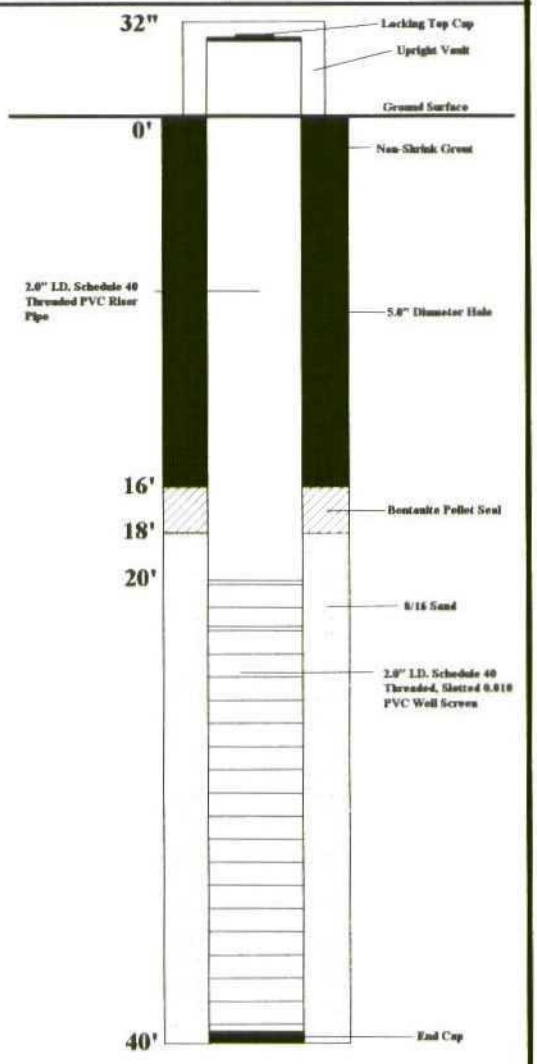
Project Number: 07C005537	Monitor Well: MW-6	Sheet 1 of 1
Contractor: White Drilling Company	Drilling Method: Air Coring	
Driller: Bo	Location: Northeast of Tank Battery	
Date Start: 6/25/01	Date Completed: 6/25/01	
Top of Casing Elevation: 3560.3"	Logged By: Mark Ehrlich	

Project Name/Location:

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

Depth	Sample Interval (FT)	Sample Recovery (FT)	Sample Type	Soil Classification	FIELD SCREENING INSTRUMENT: PID/OVM UNITS: ppm	Sample Description and Conditions	Lithology
	*5-7'	1'	ST	SM	2600	SILTY SAND: Fine to v. fine grained; caliche indurated; pale yellowish brown; slight hydrocarbon odor (10YR6/2).	
10'							
	10-12'	0.5'	SS	SM	2406	SILTY SAND: Fine to v. fine grained; 10% chert nodules; Yellowish gray; light hydrocarbon odor (5Y7/2).	
	15-17'	1.5'	SS	SM	21.3	SILTY SAND: Fine sand; light bluish gray; (5B7/1)	
20'							
	20-22'	1.5'	SS	SM	18.4	SILTY SAND: Fine sand; light bluish gray; (5B7/1)	
	*25-27'	.5'	SS	SM	48.2	SILTY SAND: Fine sand with 1/4" gravel, pale yellow brown, moist @ 26' (10YR6/2)	
30'							
	30-32'	1.0'	SS	SC	30.6	SILTY CLAY: clay and silt mixture; moist; light blue to gray (5B/7/1)	
	35-37'	1.0'	SS	SC	1.2	SILTY CLAY: clay, sand and silt mixture; moist; light blue to gray; 1/4" limestone nodules (5B/7/1)	
40'							

Monitor Well Construction Detail



Sample Types
SS - split spoon
SB - split barrel
ST - shelby tube
RC - rock core
SH - shovel (surface)

NOTES:
*** - sample submitted for analytical analysis**
Bottom of Boring @ 40.0'
Bottom of Monitor Well @ 40.0'
Groundwater @ ~ 29.0

Meridian Alliance Group, LLC

Project Number: 07C005537	Monitor Well: MW-7	Sheet 1 of 1
Contractor: White Drilling Company	Drilling Method: Air Coring	
Driller: Bo	Location: South, southeast of MW-1	
Date Start: 6/25/01	Date Completed: 6/25/01	
Top of Casing Elevation: 3558.0'	Logged By: Mark Ehrlich	

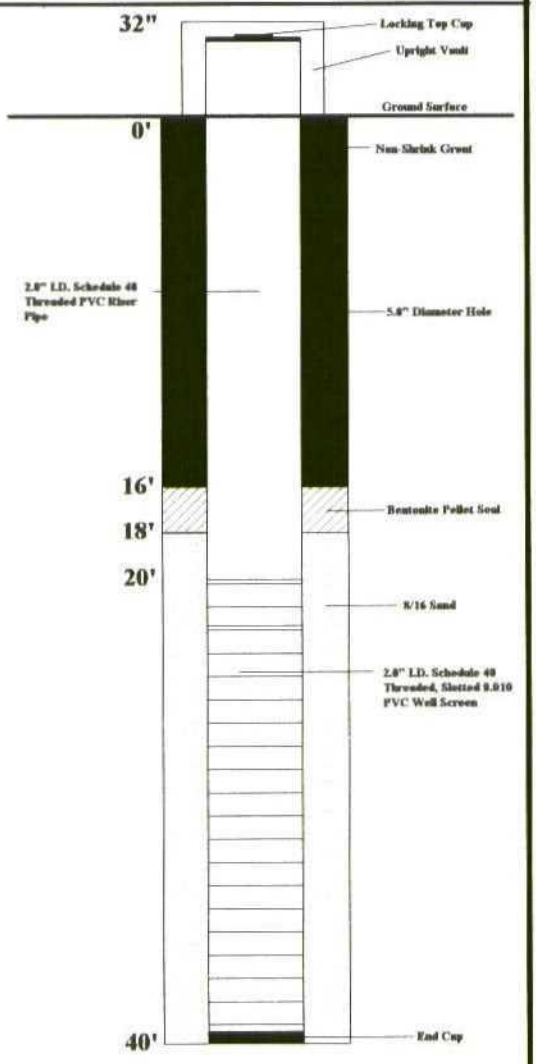
Project Name/Location:

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

Depth	Sample Interval (FT)	Sample Recovery (FT)	Sample Type	Soil Classification	FIELD SCREENING INSTRUMENT: PID/OVM UNITS: ppm	Sample Description and Conditions
	*5-7'	1.5'	ST	SM	7.9	SILTY SAND: Fine to v. fine grained; grayish orange (10YR7/4).
10'						
	10-12'	1.5	SS	SM	1.1	SILTY SAND: Fine to v. fine grained; gray to very pale orange; (10YR8/2).
	15-17'	1.5'	SS	SM	1.3	SILTY SAND: Fine to v. fine grained; gray to very pale orange; (10YR8/2).
20'						
	20-22'	1.0'	SS	SM	1.3	SILTY SAND: Fine to v. fine; pale to medium yellowish orange (10YR8/6)
	25-27'	1.5'	SS	SM	0.9	SILTY SAND: Fine to v. fine grained with 1/4" limestone nodules, very pale orange, moist (10YR8/2)
	27-28.5'	1.5'	SS	SM	0.7	SILTY SAND: Fine to v. fine grained with 1/4" limestone 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 nodules, very pale orange, moist (10YR8/2)
40'						

Lithology

Monitor Well Construction Detail



Sample Types

SS - split spoon
SB - split barrel
ST - shelby tube
RC - rock core
SH - shovel (surface)

NOTES:

*** - sample submitted for analytical analysis**
Bottom of Boring @ 40.0'
Bottom of Monitor Well @ 40.0'
Groundwater @ ~ 32.0'

Meridian Alliance Group, LLC

Project Number: 07C005537	Monitor Well: MW-8	Sheet 1 of 1
Contractor: White Drilling Company	Drilling Method: Air Coring	
Driller: Bo	Location: East of MW-7	
Date Start: 6/25/01	Date Completed: 6/25/01	
Top of Casing Elevation: 3557.6'	Logged By: Mark Ehrlich	

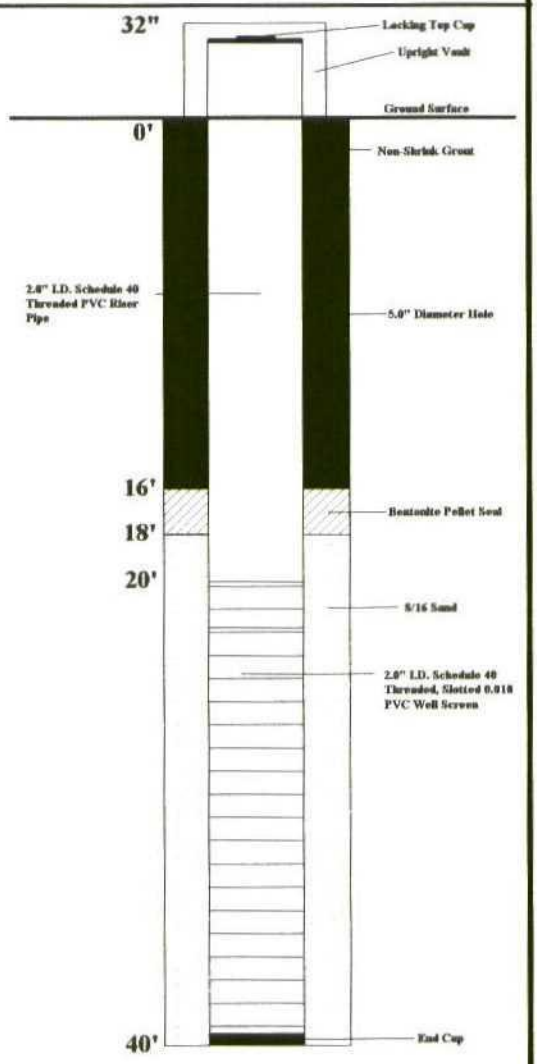
Project Name/Location:

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

Depth	Sample Interval (FT)	Sample Recovery (FT)	Sample Type	Soil Classification	FIELD SCREENING INSTRUMENT: PID/OVM UNITS: ppm	Sample Description and Conditions
	*5-7'	1.0'	ST	SM	2.2	SILTY SAND: Fine to v. fine grained; pale yellowish brown (10YR6/2).
10'	10-12'	1.0'	SS	SM	0.9	SILTY SAND: Fine to v. fine grained; caliche indurated; very pale orange; (10YR8/2).
	15-17'	1.0'	SS	SM	0.7	SILTY SAND: Fine to v. fine grained; caliche indurated; very pale orange; (10YR8/2).
20'	20-22'	1.5'	SS	SM	1.1	SILTY SAND: Fine to v. fine; pale to medium orange (10YR8/6)
	25-27'	1.5'	SS	SM	1.1	SILTY SAND: Fine to v. fine grained; caliche indurated; pale to medium orange, moist (10YR8/6)
	27-29'	1.5'	SS	SM	0.5	SILTY SAND: Fine to v. fine grained with 1/4" limestone nodules, pale orange to light brown, moist (5YR 6/4)
30'	*29-31'	1.0'	SS	SM	0.7	SILTY SAND: Fine to v. fine grained; 1" limestone nodules; pale orange brown, moist (5YR 6/4)
40'						

Lithology

Monitor Well Construction Detail



Sample Types
SS - split spoon
SB - split barrel
ST - shelby tube
RC - rock core
SH - shovel (surface)

NOTES:
*** - sample submitted for analytical analysis**
Bottom of Boring @ 40.0'
Bottom of Monitor Well @ 40.0'
Groundwater @ ~ 30.0'

Project Name: Amerada-Hess Byrd Lease
Project Location: SECTION 12, T-20-S, R-36-E, LEA COUNTY, NEW MEXICO
Project Number: 07C005537
Date & Initials: July 3, 2001 - EB

Well Identification	Northing	Easting	Top of Ground (feet)	Top of Casing (feet)	Depth to Groundwater (feet)	Water Elev. (feet)	PSH Thickness (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	0.00
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	0.00
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	0.00
MW-7	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

NOTES:
MW-1 - Very light sheen of Crude Oil.
PSH - Phase-separated hydrocarbons.

Meridian Alliance Group, LLC

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Amerada Hess Corporation(Byrd Lease) Owner's Well No. MW-5

Street or Post Office Address P.O. Box 840

City and State Seminole, TX 79360

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 ____ ¼ of Section 12 Township T-20-S Range R-36-E N.M.P.M.

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, 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 6/25/01 Completed 6/25/01 Type tools _____ Size of hole 5.0 in.

Elevation of land surface or top of casing elevation at well is 3561.1' ft. Total depth of well 40.0 ft.

Completed well is ☐ shallow ☐ artesian. Monitor Well Depth to water upon completion of well 28.5 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
28.5			Orange to Lt. brown silty sand w/caliche	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations 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 From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet 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

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0.0	20.0	20.0	Pale orange silty sand w/ caliche
20.0	25.0	5.0	Very pale orange to lt. brown silty sand w/caliche
25.0	27.0	2.0	Lt. brown silty sand
27.0	40.0	13.0	Orange to lt. brown silty sand w/caliche

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 be completed.

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

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

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

a. ____ ¼ ____ ¼ ____ ¼ ____ ¼ of Section 12 Township T-20-S Range R-36-E N.M.P.M.

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, 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 6/25/01 Completed 6/25/01 Type tools _____ Size of hole 5.0 in.

Elevation of land surface or top of casing elevation at well is 3560.3' ft. Total depth of well 40.0 ft.

Completed well is, ☐ shallow ☐ artesian. Monitor Well Depth to water upon completion of well 29.0 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
29.0			Pale yellow brown silty sand & gravel	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations 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 From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet 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

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
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

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 be completed.

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Amerada Hess Corporation(Byrd Lease) Owner's Well No. MW-7

Street or Post Office Address P.O. Box 840

City and State Seminole, TX 79360

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 ____ ¼ of Section 12 Township T-20-S Range R-36-E N.M.P.M.

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, 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 6/25/01 Completed 6/25/01 Type tools _____ Size of hole 5.0 in.

Elevation of land surface or top of casing elevation at well is 3558.0' ft. Total depth of well 40.0 ft.

Completed well is ☐ shallow ☐ artesian. Monitor Well Depth to water upon completion of well 32.0 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
32.0			Very pale orange silty sand w/limestone	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations 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 From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet 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

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0.0	10.0	10.0	Grayish 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

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 be completed

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Amerada Hess Corporation(Byrd Lease) Owner's Well No. MW-8
Street or Post Office Address P.O. Box 840
City and State Seminole, TX 79360

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

a. ____ ¼ ____ ¼ ____ ¼ ____ ¼ of Section 12 Township T-20-S Range R-36-E N.M.P.M.

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, 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 6/25/01 Completed 6/25/01 Type tools _____ Size of hole 5.0 in.

Elevation of land surface or top of casing elevation at well is 3557.6' ft. Total depth of well 40.0 ft.

Completed well is ☐ shallow ☐ artesian. Monitor well Depth to water upon completion of well 30.0 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

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

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations 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 From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet 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

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness 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

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 be completed.

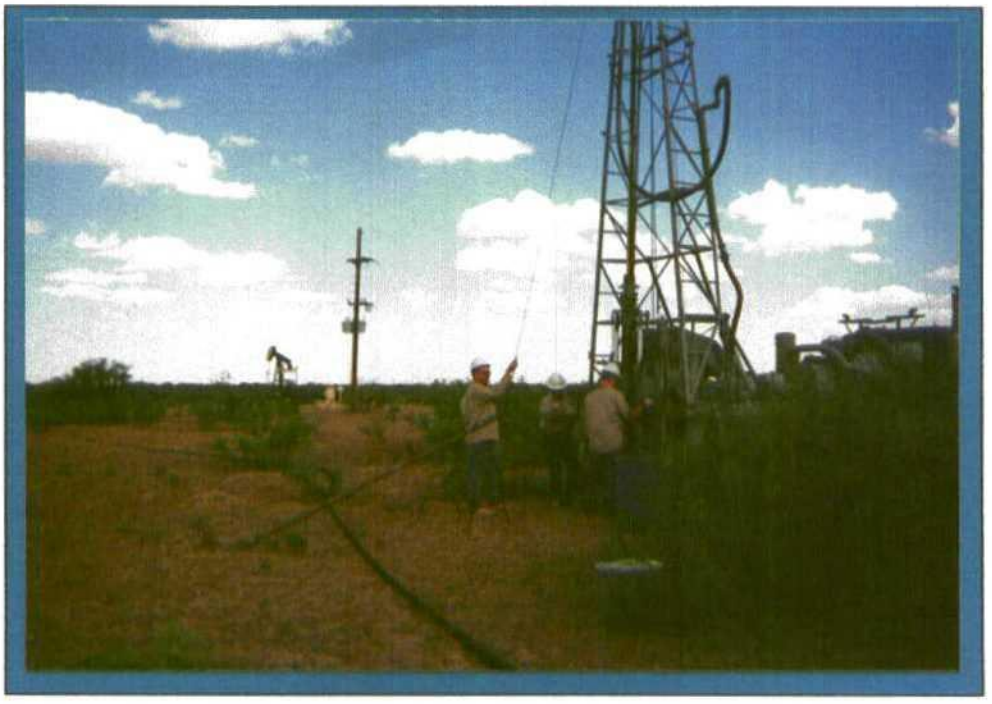
Amerada Hess Corporation
W. P. Byrd Lease
Section 12, T-20-S, R-36-E
Lea County, New Mexico

Drilling Monitor Well No. 5, June 25, 2001

Drilling Monitor Well No. 6, June 25, 2001

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 Number	Sample Description	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	**Total BTEX*** (mg/L)	MtBE (mg/L)	TPH C6-C12 (mg/L)	TPH C12-C28 (mg/L)	**TPH C6-C28** (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

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

Report No: 2001060213

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

MBTEX/TPH Summary Report

Sample Number	Sample Description	Sample Matrix	Benzene	Toluene	Ethylbenzene	Xylenes, total	Total BTEX*	MtBE	TPH C6-C12	TPH C12-C28	TPH C6-C28	Lead	units
1	MW-5	Soil	<0.125	<0.125	<0.125	<0.125	ND	N/A	N/A	N/A	N/A	N/A	mg/Kg
2	MW-5	Soil	<0.125	<0.125	<0.125	<0.125	ND	N/A	N/A	N/A	N/A	N/A	mg/Kg
3	MW-6	Soil	<0.125	1.04	0.995	2.23	4.265	N/A	N/A	N/A	N/A	N/A	mg/Kg
4	MW-6	Soil	<0.125	<0.125	<0.125	<0.125	ND	N/A	N/A	N/A	N/A	N/A	mg/Kg
5	MW-7	Soil	<0.125	<0.125	<0.125	<0.125	ND	N/A	N/A	N/A	N/A	N/A	mg/Kg
6	MW-7	Soil	<0.125	<0.125	<0.125	<0.125	ND	N/A	N/A	N/A	N/A	N/A	mg/Kg
7	MW-8	Soil	<0.125	<0.125	<0.125	<0.125	ND	N/A	N/A	N/A	N/A	N/A	mg/Kg
8	MW-8	Soil	<0.125	<0.125	<0.125	<0.125	ND	N/A	N/A	N/A	N/A	N/A	mg/Kg
9	Composite	Soil	<0.125	<0.125	<0.125	<0.125	ND	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 07/18/2001

MILLEN[illegible]UM LABORATORIES
CHAIN OF CUSTODY RECORD
MERIDIAN-ALLIANCE GROUP

1544 Sawdust [illegible]ad, Suite 402
The Woodlands, Texas 77380
(281) 362-8490 Phone (281) 362-8491 Fax

Millennium Labs - Project Number

Page 1 of 1

Number each chain per project

LAB USE ONLY: 200 1 - 07 Oct 9

REPORT TO:	INVOICING INFORMATION	PROJECT INFORMATION
☐ Houston	P.O. #: 07C005537	Project Number 07C005537
☐ Arlington	☒ TNRCC Re-Imbursement Site - Invoice per Meridian-Alliance agreement	Site Name BYRD TANK
☒ Midland CURT HENDERSON	☐ Non-Funded Project Site - Invoice per agreement/quote	Sampled by: Print Name(s) Below
☐ Tyler	☐ Direct Billing to Client - Include information with Chain of Custody	1 ERIC BOHANNON
Other Location:	☐ Priority Project - Millennium Labs is authorized to invoice for Rush Fees	2
Other Location:	Send Invoice to: ☒ Project Manager ☐ Refer to Remarks	Meridian-Alliance Personnel Yes X No ___

☐ PAH-Soil: If, C_6-C_{28} total >100 ppm
☐ PAH-Water: If, C_6-C_{28} total >5.0 ppm
Analyze one sample with the highest C_{10}-C_{28} concentration

☐ TDS: Analyze the cleanest sampling point based on TPH (Total) - If TPH is non-detect, select sample with lowest aromatic content on BTEX (Total)

Fax Results: Yes_____ No _____

Reporting Level: Level II ____ Level III ____ TRPP ____

Remarks:

Turnaround Time: ☒ 10 Working Days ☐ 5 Working Days ☐ Other: ______

Lab No.	Sample Identification	Collected Date	Collected Time	Matrix W	Matrix S	Matrix X	Method G	Method C	Groundwater BTEX - MTBE	Groundwater TPH 1005 / 418.1	Groundwater PAH 8270 / 8310	Groundwater NO3 / SO4	Groundwater TDS	Soil BTEX	Soil TPH 1005 / 418.1	Soil PAH 8270 / 8310	GeoTechnical	Other	Other	Other	Comments	Preserved	Total Number of Sample Containers
1	MW-1	7-7	12:00	X					2	1													3
2	MW-2	7-7	11:15	X					2	1													3
3	MW-3	7-7	12:30	X					2	1													3
4	MW-4	7-7	13:00	X					2	1													3
5	MW-5	7-7	10:30	X					2	1													3
6	MW-6	7-7	13:30	X					2	1													3
7	MW-7	7-7	10:00	X					2	1													3
8	MW-8	7-7	9:30	X					2	1													3

Relinquished by: [signature]	Date: 7-7-01	Time: 17:38	Received by:	Date:	Time:	Condition of Sample(s) Rec'd At Lab
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Custody Seal Intact ☐ Yes ☐ No
			Received by Millennium Labs: [signature]	Date: 7/2-1	Time: 10:10	Sample(s) Rec'd Iced/Cool ☒ Yes ☐ No
						☒ Temperature of Sample(s): <4C

Method of Shipment: [see back copy for shipping address & instructions]

☒ Greyhound Express ☐ Next-day Air FedEx-UPS ☐ Contract Courier ☐ Laboratory Personnel ☐ OTC-Delivery From Client

Report No.: 2001070089
07/17/2001
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 1 Date Collected: 07/07/2001 Time Collected: 12:00:00 Matrix: Groundwater
Description: MW-1 Project Name: Byrd Tank

Test	Method	Results	Units	Detection 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: 07/07/2001 Time Collected: 11:15:00 Matrix: Groundwater
Description: MW-2 Project Name: Byrd Tank

Test	Method	Results	Units	Detection 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.: 3 Date Collected: 07/07/2001 Time Collected: 12:30:00 Matrix: Groundwater
Description: MW-3 Project Name: Byrd Tank

Test	Method	Results	Units	Detection 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: 07/07/2001 Time Collected: 13:00:00 Matrix: Groundwater
Description: MW-4 Project Name: Byrd Tank

Test	Method	Results	Units	Detection 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

TEST RESULTS BY SAMPLE

Sample No.: 4 Date Collected: 07/07/2001 Time Collected: 13:00:00 Matrix: Groundwater
Description: MW-4 Project Name: Byrd Tank

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
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	11.1	mg/L	1.000	07/17/2001	MAT

3,42

Sample No.: 5 Date Collected: 07/07/2001 Time Collected: 10:30:00 Matrix: Groundwater
Description: MW-5 Project Name: Byrd Tank

Test	Method	Results	Units	Detection 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.: 6 Date Collected: 07/07/2001 Time Collected: 13:30:00 Matrix: Groundwater
Description: MW-6 Project Name: Byrd Tank

Test	Method	Results	Units	Detection 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
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.: 7 Date Collected: 07/07/2001 Time Collected: 10:00:00 Matrix: Groundwater
Description: MW-7 Project Name: Byrd Tank

Test	Method	Results	Units	Detection 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

Report No.: 2001070089
07/17/2001
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 7 Date Collected: 07/07/2001 Time Collected: 10:00:00 Matrix: Groundwater
Description: MW-7 Project Name: Byrd Tank

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
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.: 8 Date Collected: 07/07/2001 Time Collected: 09:30:00 Matrix: Groundwater
Description: MW-8 Project Name: Byrd Tank

Test	Method	Results	Units	Detection 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

Millennium Laboratories, Inc.

QC Batch ID: 0170281

QC SUMMARY REPORT

BTEX by EPA Method 8021B - Water

Laboratory Control Sample (LCS/LCSD)
Method Blank Results

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

Sample/Sample Duplicate

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

Sample Matrix Spike (MS)

CONSTITUENT	Sample Result (ppm)	Spike Added (ppm)	MS Result (ppm)	MS Recovery (%)	QC Acceptance Criteria Spike % Recovery (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)

Millennium Laboratories, Inc.

QC SUMMARY REPORT

QC Batch ID: 071701W

TPH by 418.1 Method

Laboratory Control Sample (LCS/LCSD)
Method Blank Results

CONSTITUENT	*Method Blank* (ppm)	Spike Added (ppm)	*LCS* Result (ppm)	*LCS* Recovery (%)	*LCSD* Result (ppm)	*LCSD* Recovery (%)	LCS/D RPD (%)	*QC Acceptance Criteria* RPD (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
TPH - 418.1	<1.0	50.0	43.1	86.2%	44.2	88.4%	3%	± 30	70 - 130

Sample Matrix Spikes (MS/MSD)

CONSTITUENT	Sample Result (ppm)	Spike Added (ppm)	*MS* Result (ppm)	*MS* Recovery (%)	*MSD* Result (ppm)	*MSD* Recovery (%)	MS/D RPD (%)	*QC Acceptance Criteria* RPD (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
TPH - 418.1	<1.0	50.0	43.6	87.2%	44.5	89.0%	2%	± 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

TEST RESULTS BY SAMPLE

Sample No.: 1 Date Collected: 06/25/2001 Time Collected: 13:43:00 Matrix: Soil
Description: MW-5 Project Name: Byrd

Test	Method	Results	Units	Detection 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	1,403	mg/Kg	0.100	07/14/2001	KF

Sample No.: 2 Date Collected: 06/25/2001 Time Collected: 13:25:00 Matrix: Soil
Description: MW-5 Project Name: Byrd

Test	Method	Results	Units	Detection 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	500	mg/Kg	0.100	07/14/2001	KF

Sample No.: 3 Date Collected: 06/25/2001 Time Collected: 10:07:00 Matrix: Soil
Description: MW-6 Project Name: Byrd

Test	Method	Results	Units	Detection 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
Xylenes, total	SW-846 5030B/8021B	2.23	mg/Kg	0.125	07/03/2001	MEP
TPH (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: 06/25/2001 Time Collected: 10:30:00 Matrix: Soil
Description: MW-6 Project Name: Byrd

Test	Method	Results	Units	Detection 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

Report No.: 2001060213
07/17/2001
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 4 Date Collected: 06/25/2001 Time Collected: 10:30:00 Matrix: Soil
Description: MW-6 Project Name: Byrd

Test	Method	Results	Units	Detection 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: 06/25/2001 Time Collected: 15:13:00 Matrix: Soil
Description: MW-7 Project Name: Byrd

Test	Method	Results	Units	Detection 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: 06/25/2001 Time Collected: 15:39:00 Matrix: Soil
Description: MW-7 Project Name: Byrd

Test	Method	Results	Units	Detection 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: 06/25/2001 Time Collected: 16:25:00 Matrix: Soil
Description: MW-8 Project Name: Byrd

Test	Method	Results	Units	Detection 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
Client: Meridian Alliance Group

TEST RESULTS BY SAMPLE

Sample No.: 7 Date Collected: 06/25/2001 Time Collected: 16:25:00 Matrix: Soil
Description: MW-8 Project Name: Byrd

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
TPH (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 Collected: 16:53:00 Matrix: Soil
Description: MW-8 Project Name: Byrd

Test	Method	Results	Units	Detection 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	719	mg/Kg	0.100	07/14/2001	KF

Sample No.: 9 Date Collected: 06/25/2001 Time Collected: 10:00:00 Matrix: Soil
Description: Composite Project Name: Byrd

Test	Method	Results	Units	Detection 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

QC SUMMARY REPORT

QC Batch ID: 0120099C

BTEX by EPA Method 8021B - Soil

Laboratory Control Sample (LCS/LCSD)
Method Blank Results

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

Sample Matrix Spikes (MS/MSD)

CONSTITUENT	Sample Result (ppm)	Spike Added (ppm)	*MS* Result (ppm)	*MS* Recovery (%)	*MSD* Result (ppm)	*MSD* Recovery (%)	MS/D RPD (%)	*QC Acceptance Criteria* RPD (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
Benzene	<0.125	2.50	2.17	86.7%	2.23	89.0%	3%	± 30	65 - 135
Toluene	<0.125	2.50	2.68	107.2%	2.73	109.2%	2%	± 30	65 - 135
Ethylbenzene	<0.125	2.50	2.64	105.6%	2.69	107.6%	2%	± 30	65 - 135
Xylenes, Total	<0.125	7.50	7.50	100.0%	7.75	103.4%	3%	± 30	65 - 135

Sequence Date(s): 7/3/01 **Batch Extraction/Prep Date:** 7/1/01

Sample ID - MS/MSD: 2001060213-1

Data Qualifiers:

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

Millennium Laboratories, Inc.

QC SUMMARY REPORT

QC Batch ID: 070901S

TPH by 418.1 Method

Laboratory Control Sample (LCS/LCSD)
Method Blank Results

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

Sample Matrix Spikes (MS/MSD)

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

Sample Used for MS/MSD: 2001060213-9

Sequence Date(s): 7/9/2001 **Batch Extraction/Prep Date:** 7/9/2001

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

Project(s) In Batch: 2001060213

2001060214

Millennium Laboratories, Inc.

QC SUMMARY REPORT

QC Batch ID: 71401

Anions by EPA Method 300.0

Laboratory Control Sample (LCS)

CONSTITUENT	*Method Blank* (ppm)	*Spike Added* (ppm)	*LCS* Result (ppm)	*LCS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
Chloride	<DL	50.00	45.556	91.0%	85 - 115

Sample Matrix Spikes (MS)

CONSTITUENT	*Sample Result* (ppm)	*Sample Dup Result* (ppm)	*Spike Added* (ppm)	*MS* Result (ppm)	*MS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
Chloride	3,797	3,633	10.00	3808.7	117.0%	75 - 125

Sequence Date(s): 7/14/01 **Batch Extraction/Prep Date:** 7/14/01

Sample ID - MS/DUP: 2001060213-6

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

Project(s) In Batch:

2001060213
2001060214

MILLENNIUM LABORATORIES
CHAIN OF CUSTODY RECORD
MERIDIAN-ALLIANCE GROUP

1544 Sawdust Road, Suite 402
The Woodlands, Texas 77380
(281) 362-8490 Phone (281) 362-8491 Fax

Millennium Labs - Project Number

LAB USE ONLY
2001-0626213

Page 1 of 1

Number each chain per project

REPORT TO:	INVOICING INFORMATION	PROJECT INFORMATION
☐ Houston	P.O. #:	Project Number 07C005537
☐ Arlington	☐ TNRCC Re-Imbursement Site - Invoice per Meridian-Alliance agreement	Site Name Byrd
☒ Midland	☐ Non-Funded Project Site - Invoice per agreement/quote	Sampled by: Print Name(s) Below
☐ Tyler	☐ Direct Billing to Client - Include information with Chain of Custody	1 Mark Ehrlich
Other Location:	☐ Priority Project - Millennium Labs is authorized to invoice for Rush Fees	2
Other Location:	Send Invoice to: ☒ Project Manager ☐ Refer to Remarks	Meridian-Alliance Personnel Yes___ No___

☐ PAH-Soil: If, C_6-C_{28} total >100 ppm
☐ PAH-Water: If, C_6-C_{28} total >5.0 ppm
Analyze one sample with the highest C_{10}-C_{28} concentration

☐ TDS: Analyze the cleanest sampling point based on TPH (Total) - If TPH is non-detect, select sample with lowest aromatic content on BTEX (Total)

Fax Results: Yes X No ____

Reporting Level: Level II ____ Level III ____ TRPP ____

Remarks:

Turnaround Time
☐ 10 Working Days
☒ 5 Working Days
☐ Other: ____

Lab No.	Sample Identification	Collected Date	Collected Time	Matrix W	Matrix S	Matrix X	Method G	Method C	BTEX - MTBE	TPH 1005 / 418.1	PAH 8270 / 8310	NO3 / SO4	TDS	BTEX	TPH 1005 / 418.1	PAH 8270 / 8310	GeoTechnical	Chloride			Comments	Preserved	Total Number of Sample Containers
					Groundwater									Soil				Other					
1	MW-5	6.25.01	1343		X		X							X	X			X				Ice	2
2	MW-5	6.25.01	1325		X		X							X	X			X				"	2
3	MW-6	6.25.01	1007		X		X							X	X			X				"	2
4	MW-6	6.25.01	1030		X		X							X	X			X				"	2
5	MW-7	6.25.01	1513		X		X							X	X			X				"	2
6	~~MW-7~~ MW-7	6.25.01	1539		X		X							X	X			X				"	2
7	MW-8	6.25.01	1625		X		X							X	X			X				"	2
8	MW-8	6.25.01	1653		X		X							X	X			X				"	2
9	Composite	6.26.01	1000		X			X						X	X							"	1

Relinquished by: Mark Ehrlich	Date: 6.27.01	Time: 11:00am	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

Condition of Sample(s) Rec'd At Lab

Custody Seal Intact	☐ Yes	☐ No
Sample(s) Rec'd Iced/Cool	☒ Yes	☐ No
☐ Temperature of Sample(s): 2.4c		

Method of Shipment: [see back copy for shipping address & instructions]

☐ Greyhound Express ☐ Next-day Air FedEx-UPS ☐ Contract Courier ☐ Laboratory Personnel ☐ OTC-Delivery From Client

Received by Millennium Labs: | Date: 6.28.01 | Time: 10:50

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

TEST RESULTS BY SAMPLE

Sample No.: 1 Date Collected: 07/24/2001 Time Collected: 15:30:00 Matrix: Groundwater
Description: MW-1 Project Name: Amarada Hess

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
Chloride	EPA 300.0	11,517	mg/L	0.100	07/27/2001	KF

Sample No.: 2 Date Collected: 07/24/2001 Time Collected: 15:45:00 Matrix: Groundwater
Description: MW-2 Project Name: Amarada Hess

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
Chloride	EPA 300.0	9,513	mg/L	0.100	07/27/2001	KF

Sample No.: 3 Date Collected: 07/24/2001 Time Collected: 16:30:00 Matrix: Groundwater
Description: MW-3 Project Name: Amarada Hess

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
Chloride	EPA 300.0	11,865	mg/L	0.100	07/27/2001	KF

Sample No.: 4 Date Collected: 07/24/2001 Time Collected: 16:45:00 Matrix: Groundwater
Description: MW-4 Project Name: Amarada Hess

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
Chloride	EPA 300.0	11,589	mg/L	0.100	07/27/2001	KF

Sample No.: 5 Date Collected: 07/24/2001 Time Collected: 16:00:00 Matrix: Groundwater
Description: MW-5 Project Name: Amarada Hess

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
Chloride	EPA 300.0	14,334	mg/L	0.100	07/27/2001	KF

Sample No.: 6 Date Collected: 07/24/2001 Time Collected: 17:00:00 Matrix: Groundwater
Description: MW-6 Project Name: Amarada Hess

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
Chloride	EPA 300.0	12,015	mg/L	0.100	07/27/2001	KF

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

TEST RESULTS BY SAMPLE

Sample No.: 7 Date Collected: 07/24/2001 Time Collected: 15:15:00 Matrix: Groundwater
Description: MW-7 Project Name: Amarada Hess

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
Chloride	EPA 300.0	16,669	mg/L	0.100	07/27/2001	KF

Sample No.: 8 Date Collected: 07/24/2001 Time Collected: 15:00:00 Matrix: Groundwater
Description: MW-8 Project Name: Amarada Hess

Test	Method	Results	Units	Detection Limit	Date Analyzed	Analyst
Chloride	EPA 300.0	7,875	mg/L	0.100	07/27/2001	KF

Millennium Laboratories, Inc.

QC SUMMARY REPORT

QC Batch ID: 72701

Anions by EPA Method 300.0

Laboratory Control Sample (LCS)

CONSTITUENT	*Method Blank* (ppm)	*Spike Added* (ppm)	*LCS*		*QC Acceptance Criteria*
			Result (ppm)	Recovery (%)	Spike % Recovery (Low - High Limit)
Chloride	<DL	50.00	46.448	93.0%	90 - 110

Sample Matrix Spikes (MS)

CONSTITUENT	*Sample Result* (ppm)	*Sample Dup Result* (ppm)	*Spike Added* (ppm)	*MS*		*QC Acceptance Criteria*
				Result (ppm)	Recovery (%)	Spike % Recovery (Low - High Limit)
Chloride	73.8	72.7	10.00	83.260	95.0%	75 - 125

Sequence Date(s): 7/30/01 **Batch Extraction/Prep Date:** 7/27/01

Sample ID - MS/DUP: 2001070200-4

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

Project(s) In Batch:

2001070199
2001070200

Millennium Laboratories, Inc.

QC SUMMARY REPORT

QC Batch ID: 72701

Anions by EPA Method 300.0

Laboratory Control Sample (LCS)

CONSTITUENT	*Method Blank* (ppm)	*Spike Added* (ppm)	*LCS* Result (ppm)	*LCS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (Low - High Limit)
Phosphate	<DL	15.00	14.017	93.0%	90 - 110
Chloride	<DL	50.00	46.283	93.0%	90 - 110
Nitrate	<DL	10.00	8.975	90.0%	90 - 110
Nitrite	<DL	10.00	NC	NC	90 - 110
Sulfate	<DL	50.00	47.440	95.0%	90 - 110

Sample Matrix Spikes (MS)

CONSTITUENT	*Sample Result* (ppm)	*Sample Dup Result* (ppm)	*Spike Added* (ppm)	*MS* Result (ppm)	*MS* Recovery (%)	*QC Acceptance Criteria* Spike % Recovery (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): 7/27/01 **Batch Extraction/Prep Date:** 7/27/01

Sample ID - MS/DUP: 2001070193-1

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

Project(s) In Batch:

2001070193
2001070198
2001070199

MILLENNIUM LABORATORIES
CHAIN OF CUSTODY RECORD
MERIDIAN-ALLIANCE GROUP

1544 Sawdust Road, Suite 402
The Woodlands, Texas 77380
(281) 362-8490 Phone (281) 362-8491 Fax

Millennium Labs - Project Number

Page 1 of 1

LAB USE ONLY 200 1-070199

Number each chain per project

REPORT TO:	INVOICING INFORMATION	PROJECT INFORMATION
☐ Houston	P.O. #: 07C005537-13	Project Number 07C005537
☐ Arlington	☐ TNRCC Re-Imbursement Site - Invoice per Meridian-Alliance agreement	Site Name AMARADA HESS
☐ Midland	☒ Non-Funded Project Site - Invoice per agreement/quote	Sampled by: Print Name(s) Below
☐ Tyler	☐ Direct Billing to Client - Include information with Chain of Custody	1 ERIC BOHANNON
Other Location:	☐ Priority Project - Millennium Labs is authorized to invoice for Rush Fees	2
Other Location:	Send Invoice to: ☒ Project Manager ☐ Refer to Remarks	Meridian-Alliance Personnel Yes ✓ No ___

☐ PAH-Soil: If C_6-C_{28} total >100 ppm
☐ PAH-Water: If C_6-C_{28} total >5.0 ppm
Analyze one sample with the highest C_{10}-C_{28} concentration
☐ TDS: Analyze the cleanest sampling point based on TPH (Total) - If TPH is non-detect, select sample with lowest aromatic content on BTEX (Total)

Fax Results: Yes ___ No ___

Reporting Level: Level II ___ Level III ___ TRPP ___

Remarks:

Turnaround Time
☐ 10 Working Days
☐ 5 Working Days
☒ Other: 48 HRS

Lab No.	Sample Identification	Collected Date	Collected Time	Matrix W	Matrix S	Matrix X	Method G	Method C	BTEX - MTBE	TPH 1005 / 418.1	PAH 8270 / 8310	NO3 / SO4	TDS	BTEX	TPH 1005 / 418.1	PAH 8270 / 8310	GeoTechnical	CHLORIDES			Comments	Preserved	Total Number of Sample Containers
				Groundwater										Soil				Other					
1	MW-1	7-24	15:30	X														1					1
2	MW-2	7-24	15:45	X														1					1
3	MW-3	7-24	16:30	X														1					1
4	MW-4	7-24	16:45	X														1					1
5	MW-5	7-24	16:00	X														1					1
6	MW-6	7-24	17:00	X														1					1
7	MW-7	7-24	15:15	X														1					1
8	MW-8	7-24	15:00	X														1					1

Relinquished by:	Date: 7-25-01	Time: 18:00	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

Condition of Sample(s) Rec'd At Lab
Custody Seal Intact ☐ Yes ☐ No
Sample(s) Rec'd Iced/Cool ☐ Yes ☐ No
☐ Temperature of Sample(s): 2.2°C

Method of Shipment: [see back copy for shipping address & instructions]
☒ Greyhound Express ☐ Next-day Air FedEx-UPS ☐ Contract Courier ☐ Laboratory Personnel ☐ OTC-Delivery From Client

Received by Millennium Labs: Date: 7-26-1 Time: 14:00

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

Amerada Hess Corp.
Box 840
Seminole, TX 79360

8/29/01

Detailed Report of material for Invoices 3382 thru 3383

EXEMPT OCD

Origin: 07C005537

Date:	Ticket No:	Discription:	Transporter:	Cell:	Units	Unit Type:
8/15/01	3360	OCD EXEMPT SOILS	Bill Marley	14	4	BBLS
		07C005537 Total BBLS.			4 BBLS	

Origin: 07C005537A

Date:	Ticket No:	Discription:	Transporter:	Cell:	Units	Unit Type:
8/20/01	3359	OCD EXEMPT SOILS	Bill Marley	14	4	BBLS
		07C005537A Total BBLS.			4 BBLS	
		EXEMPT OCD Total BBLS.			8 BBLS	

Origin: 07C005537

Date:	Ticket No:	Discription:	Transporter:	Cell:	Units	Unit Type:
8/15/01	3360	OCD EXEMPT LIQUIDS	Bill Marley		55	GAL
		07C005537 Total GAL.			55 GAL	

Origin: 07C005537A

Date:	Ticket No:	Discription:	Transporter:	Cell:	Units	Unit Type:
8/20/01	3359	OCD EXEMPT LIQUIDS	Bill Marley		55	GAL
		07C005537A Total GAL.			55 GAL	
		EXEMPT OCD Total GAL.			110 GAL	
		EXEMPT OCD Total Units.			118 Units	

Amerada Hess Corp. Total Units. 118 Units

GANDY•MARLEY, INC.

P.O. Box 1658
Roswell, NM 88202
(505) 625-9206
Fax (505) 625-9706

No. 3360

LEASE OPERATOR/SHIPPER/COMPANY: Amerada Hess

LEASE NAME: Byrd Lease

TRANSPORTER COMPANY: Marley **TIME:** 3:00 AM/PM

DATE: 8/13/11 **VEHICLE NO.:** **DRIVER NO.:**

CHARGE TO: 07C005537

TYPE OF MATERIAL

OCD

[ ] Other Material: [ ] Contaminated soil [ ] C-117 No.:_____

[ ] BS&W content:_____

Description: Soil Cuttings & 1 Drum Purge H2O

VOLUME OF MATERIAL [ ]:~~YARDS~~ 4 Drums **CELL#** 14 : [ ] _____

AS A CONDITION TO GANDY•MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HEREWITH IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. §6901, et seq., THE NM HEALTH AND SAF. CODE, §361.001, et seq. AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED CONTAMINATED SOILS AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

ALSO AS A CONDITION TO GANDY•MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO GANDY•MARLEY, INC.'S FACILITY FOR DISPOSAL.

THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.

DRIVER: B-H

FACILITY REPRESENTATIVE:

White - GMI Canary - Shipper Pink - GMI Gold - Transporter