ENVIRONMENTAL ASSESSMENT SUMMARY REMEDIAL ACTION PLAN

FREE PRODUCT AREA

NEWPORT BANNING RANCH ORANGE COUNTY, CALIFORNIA

Prepared for:

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1. INTRODUCTION

1.1 <u>Report and Project Objectives</u>

In early 2001, West Newport Oil Company (WNOC) initiated a proactive, site-wide Environmental Assessment (EA) of its Newport Banning Ranch (NBR) oil production property. This was part of a continuing program by WNOC and the property owners to assess impacts to the property from the oil production operations. This EA combined results from previous site investigations with comprehensive new testing, which included the collection of data on soil and groundwater quality at several areas of Potential Environmental Concern (referred to as PECs). As a result of these investigations an area of crude oil free product (free product) was identified in the subsurface at the Main Site Tank Farm area (PEC #02). WNOC initiated remedial action immediately upon finding this condition in August 2001, and continues this operation to the present.

The objective of this report is to summarize the results of investigation activities focused on the Free Product Area, summarize the remedial actions already taken, and to present the Remedial Action Plan (RAP) for future work. The Free Product Area was identified as part of a larger environmental assessment performed at the NBR in May through August 2001. Subsequent investigations of the free product area were conducted in July, August, and November 2002. The results of the Main Site Tank Farm and related Free Product Area investigation were initially summarized in the Environmental Assessment document (EA document) [GeoSyntec, 2001a] that was submitted to the Santa Ana Regional Water Quality Control Board (RWQCB). It should be noted that this report is intended to only address the assessment and remedial actions associated with the Free Product Area. Other previously identified impacts related to the Main Site Tank Farm will be addressed as part of a site-wide RAP associated with the oil field "end of life" abandonment (i.e., when oil production ceases).

This report has been prepared by GeoSyntec Consultants (GeoSyntec) on behalf of the site owners and the site operator, West Newport Oil Company (WNOC).

1.2 Background and Project Overview

The NBR site covers approximately 400 acres and is located east of the mouth of the Santa Ana River near the Huntington Beach – Newport Beach city boundary in Orange County, California (Figure 1-1). The NBR is currently operated as a crude oil and natural gas production facility by the WNOC.

The site assessment history is described in the Summary Report [GeoSyntec, 2001b], as well as the EA document [GeoSyntec, 2001a]. These reports are incorporated by reference. Although certain information is included in this document for background purposes, details within these documents are not repeated here.

Previous environmental assessments conducted at the site have identified areas of the NBR that may require further investigation







and/or remedial action. These areas were designated as areas of Potential Environmental Concern (PECs) due to potential soil or groundwater quality impacts at the site. The Free Product Area is located adjacent to the Main Site Tank Farm and was included in the 2001 assessments performed at the Tank Farm. Further investigation has identified the Free Product Area to be located within a corner of a former sump. The sump was reportedly abandoned by pumping out a majority of the contents and filling with soil. Based on the environmental assessment of this area, sufficient free product remained in the subsurface to allow it to accumulate on the water table, and subsequently migrate to groundwater monitoring wells installed within the former sump area. The method used for closing the sump has apparently allowed an area of crude oil free product to remain at depth within the southern boundaries of the former sump.

To evaluate the Free Product Area, data on soil and groundwater quality were collected to:

- characterize the nature and extent of the free product;
- evaluate groundwater quality in the vicinity of the Free Product Area; and
- develop a remedial action approach.

1.3 <u>Report Organization</u>

The information collected during the investigation of the Free Product Area and the RAP are presented in this report. The remainder of this report is organized into the following sections:

- Section 2 Assessment, presents a summary of the activities that were conducted to characterize the Free Product Area and evaluate localized groundwater quality;
- Section 3 Initial Remedial Action, discusses the actions that WNOC took immediately upon finding the Free Product and the status of those actions at present; and
- Section 4 Remedial Action Plan, (RAP) presents the remedial alternative selected to address the identified free product and related impacts to groundwater quality.

Tables and figures are included in the body of the text and at the end of the report.



2. ASSESSMENT

2.1 <u>Summary</u>

As part of the EA [GeoSyntec, 2001a] conducted in May through August 2001, soil and groundwater quality was evaluated at the Main Site Tank Farm both through visual observation and laboratory testing. Results of these investigations identified the Free Product Area. Subsequent review of historic records identified evidence of a former sump in the Free Product Area, as evident in a 1973 aerial photograph. Investigations of free product and groundwater quality performed in the former sump area consisted of:

- Test pitting and sampling within and around the limits of the former sump area;
- Installation and sampling of two groundwater monitoring wells (where free product has been observed); and
- Installation and sampling of four temporary groundwater wells around the perimeter of the Free Product Area (i.e., sentinel monitoring wells where no free product has been observed).

The test pitting/trenching activities identified the lateral boundaries of the former sump. Sample analysis of the free product confirmed the presence of crude oil, similar in signature to that found in other parts of the NBR. Visual observations from test pits and the installed wells indicate that the free product is estimated to be limited to an area of approximately one-third of an acre at the southern end of the former sump. Laboratory testing of the free product indicate a weathered crude oil signature with an absence of lighter weight, more soluble hydrocarbons (i.e., hydrocarbons less than C9). Data collected from the surrounding groundwater monitoring wells indicate a limited zone of dissolved phase hydrocarbon type impacts likely related to the free product. The field procedures and results are further described in the following sections.

2.2 <u>Investigation Procedures</u>

Several previous site assessments/investigations have been performed at the NBR since 1986. To develop the investigation program for the Free Product Area, GeoSyntec reviewed previous site investigation data, discussed the sump closure procedure with on-site personnel, and identified the likely areas of potential environmental concern within the area. The area of investigation is shown in Figure 2-1.

Review of historical site information identified the presence of a former sump in the Free Product Area, as depicted in a 1973 aerial photograph (Figure 2-2). The extent of the Free Product Area was investigated through visual observations from test pits and wells installed within the former sump area. The chemical nature of the free product was evaluated through laboratory testing of free product samples from the wells. As part of the EA [GeoSyntec, 2001a], test pits were initially excavated and one well (02-GW-002) was installed in the southern sump area in May of 2001. In July and August 2002, additional test pits were excavated in and around the former sump area and one-additional free product monitoring well (02-GW-006) was installed. A total of 86 test pits were excavated in the Main Site Tank Farm area over the course of both phases of the investigation. Figure 2-1 presents the locations where test pits were excavated and the free product



monitoring wells (02-GW-002 and 02-GW-006) were installed. Test pit logs are included in Appendix A. Table 2-1 includes well installation details.

Over the course of both phases of the investigation, samples of free product were collected for laboratory testing. The laboratory-testing program was designed to provide information on the chemical nature of the free product. Table 2-2 includes a listing of the laboratory tests that were performed on samples of free product collected from the wells.

Groundwater quality in the vicinity of the Free Product Area was investigated through installation and sampling of four temporary groundwater wells. These four groundwater wells were installed and sampled concurrent with the EA in June of 2001. Figure 2-1 includes the location of these groundwater wells (02-GW-001, 02-GW-003, 02-GW-004, and 02-GW-005). Table 2-1 includes well installation details. Following installation, samples were collected from the groundwater wells to evaluate the potential for groundwater impacts due to groundwater contact with the free product. Table 2-3 includes a listing of the laboratory tests that were performed on the groundwater samples.

2.3 Discussion of Findings

2.3.1 Free Product

In the Free Product Area, the test pits were excavated to varying depths of 6 ft to 18 ft below ground surface (bgs). Test pit depths were established based on visual and olfactory observations and PID readings of impacted material were collected as the test pits were excavated. A majority of the test pits were excavated to provide a lateral delineation of the free product and the former sump area. Depth of test pitting was limited by the groundwater saturated soil within the Lowlands. At the depth of the saturated soil, test pits would remain open for short periods of time to allow for observation, then water and soil would subsequently flow into the test pits and the test pit would be backfilled. The data obtained from test pits identified the boundaries of the former sump, as shown in Figure 2-3.

PEC*	Well	TD (ft)	Screen (ft)
02	02-GW-001	18	8-18
	02-GW-002	18	8-18
	02-GW-003	18	8-18
	02-GW-004	18	8-18
	02-GW-005	18	8-18
	02-GW-006	18	8-18

Table 2-1:Groundwater and Free Product Well Details

Total Recoverable Petroleum Hydrocarbon (TRPH)
•

TPH - Carbon Chain

Volatile Organics

Semi-Volatile Organics

Title 22 – Metals

Table 2-2:Free Product Laboratory
Testing

General Minerals	
Title 22 Metals	
Paths	
SVOCs	
VOCs	
TRPH	
TPH Diesel and Crude Oil	

 Table 2-3:
 Groundwater Laboratory

 Testing



The Free Product Area is estimated to be limited to an area of approximately one-third of an acre at the southern end of the former sump (Figure 2-3). The location where the free product was found is consistent with the 1973 aerial photograph and personnel descriptions of the methods of operation and closure. Discussions with on-site personnel identified that the sump was closed by first pumping out a majority of the sump contents. The sump was then reportedly backfilled with soils, working from the north end of the sump to the south end. This action of backfilling soils from the north to the south likely acted to "push" or concentrate residual sump material, which contained some free oil, into the southern end, leaving a concentrated area of free product within the matrix of backfill soil.

The soil matrix within certain parts of the former sump area is currently impacted by varying concentrations of oil, ranging from limited oil-impacted soil lenses to some oil existing as free product trapped within the soil matrix. Free product, or heavily impacted sump soils were first encountered in test pits at depths ranging from 2 to 6 feet below ground surface. Although test pits were excavated to depths of up to 18 feet bgs, identification of the lower boundary of the free product was difficult during test pit observations due to interferences with seeping groundwater and caving of soils from the sidewalls at depth. It should be noted that groundwater elevations at the NBR are known to fluctuate due to ocean tidal influence. Additional data on free product thickness and horizontal extent of impacts, as well as the tidal influence on groundwater elevation and gradient, will be gathered as part of the remedial action, discussed in Section 4.

Samples of free product were collected from the two free product wells for laboratory testing. Results of carbon chain analyses show that the free product has a signature of weathered crude oil (Figure 2-4). Hydrocarbon analyses from samples indicate an absence of light-weight hydrocarbon (less than C9) and a distribution (approximately 7 to 13 percent) of the total hydrocarbon mass detected amongst each of the hydrocarbon chain categories. A comparison of crude oil and total carbon chain results indicates that approximately 50 percent of the hydrocarbon mass is greater than C36, indicative of a highly weathered product. Laboratory data for Free Product samples is provided in Appendix B.

2.3.2 Groundwater

Groundwater quality in the vicinity of the Free Product Area was evaluated through laboratory testing of samples collected from the four groundwater monitoring wells in June of 2001. Table 2-4 presents a summary of inorganic groundwater sample results. Table 2-5 presents a summary of organic groundwater sample results. Laboratory data for groundwater samples is provided in Appendix B. Subsequent test pitting performed around the former sump area was also used to define the extents of impacted groundwater. Testing results and test pitting observations are further described in the following paragraphs.

Groundwater samples collected from each well indicate ocean tidal influence on shallow groundwater quality (i.e., a low quality, non-drinking water zone with elevated ion concentrations as compared to non-saline waters). As shown on Table 2-5, specific volatile organic compounds (VOCs) detected in groundwater wells at the Free Product Area include toluene, m/p-xylene, styrene, and methylene chloride (the latter two compounds are typical lab contaminants). None of the groundwater samples contained heavy metals or VOCs at concentrations above State of California Maximum Contaminant Levels (MCLs) for drinking water. However, groundwater samples did contain dissolved phase hydrocarbons at concentrations up to 26 parts



per million (ppm) as TPH crude oil in well 02-GW-003. However, it should be noted in Table 2-5, that Well 02-GW-003 was the only well tested for total hydrocarbons. Data gaps on groundwater quality will be addressed as part of remedial design investigation and remedial actions.

The nature of the localized impacts to groundwater is crude oil related. A limited amount of dissolved phase impacts exists outside of these highly-weathered oil containing soils. As discussed in Section 2.3.1, the free product was found to have an absence of light-weight, more soluble hydrocarbons (less than C9). Based on VOC data from the wells, the lateral extent of groundwater impacts appears to be localized to within a radius of approximately 100 to 150 feet beyond the former sump boundaries. The evidence for the localized area of impact is also supported by the fact that Well 02-GW-005 did not contain detectable concentrations of VOCs and that this well is located at approximately similar distances from the free product area as the other wells. In addition, as shown on Table 2-5, when VOCs were detected in a well, the detections included only one or two compounds and at concentrations below MCLs. The apparent local impact area is also significant based on the length of time since the sump was closed, over 20 years. This may indicate that very limited migration occurs (due to a variety of factors including characteristics of the crude oil, tidal influence, biological attenuation of product, and soil characteristics). Due to tidal influence on groundwater conditions at the NBR, uncertainties exist with respect to a dominant groundwater flow gradient and therefore plume elongation and geometry affected by advection. Additional data on tidal influence on groundwater elevations and gradient will be collected as part of the remedial action, discussed in Section 4.



3. INITIAL REMEDIAL ACTION

Upon observation of free product in the monitoring wells installed within the Main Site Tank Farm (02-GW-002, and 02-GW-006), WNOC initiated remedial action. Well 02-GW-002 was fitted with a pump in August 2001 and has been operated since that time to begin the removal of free product from the subsurface. Though the full extent of the Free Product Area was not yet known, four of the outer groundwater monitoring wells indicated the impact was limited. WNOC initiated Free Product extraction from Well 02-GW-002 to reduce further migration of the free product and to begin immediate remedial actions. The RWQCB was later notified of this approach and approved of the actions taken by WNOC.

Actions taken included:

- Conversion of the free-product monitoring well to a recovery well;
- Installation of a low-flow diaphragm pump in the recovery well; and
- Piping of discharge to the oil production facility oil-water separator.

The pump intake was set at approximately 6ft below surface of the water table and was manually operated on an intermittent basis. As of the date of this report, the volume of water/oil mixture pumped has been approximately 10,175 gallons, with 215 gallons of that volume being the amount of oil recovered.



4. **REMEDIAL ACTION PLAN**

4.1 <u>Technical Approach</u>

The identified Free Product and impacted groundwater area is located within an operating oil field dehydration facility containing numerous tanks, vessels, and pipelines. These facilities will cause some restrictions on the ultimate extent of remedial actions that can be taken in the short term due to the danger of destabilizing the soils around such structures. As the operating oil field production has been declining and other uses of the property are being evaluated, it is estimated that the remaining life of these facilities is limited within the next few years. With these considerations the RAP is being developed with both a short-term and long-term aspect.

The short-term aspect of the RAP will focus on the goal of more extensive assessment of the impacts, a secure containment of those impacts, and an expansion of the initial remedial actions to extract as much of the free product as possible. The longer-term aspect of the RAP will focus more on a phased remediation of the impacted sump materials down to the saturated soils, with a full soil remediation operation completed during the abandonment of the dehydration facility.

4.2 <u>Short-Term Remedial Actions</u>

4.2.1 General

The short-term remedial strategy for the Free Product Area at the NBR has been separated into specific remedial actions to address the free product itself and the area of impacted groundwater surrounding the area. As the free product has been identified as the source of identified groundwater impacts, primary actions of the short-term remedial action plan will focus on controlling and removing the free product. Actions to address the surrounding groundwater will include enhanced monitoring and evaluation of both contaminant chemistry and groundwater flow regime, while source control and removal are being conducted. Modifications may be proposed as additional data on groundwater and recovery of the free product is gathered through implementation of the work tasks specified in this RAP.

Clean closure, or total excavation of the free product area was not considered a viable short-term alternative due the access limitations and stability concerns posed by the existing tanks and other structures at the Main Site Tank Farm. Thus, the following sections present details of the short-term remedial actions to address the free product and groundwater.

4.2.2 Free Product Extraction

The selected remedial action for the free product consists of product removal with large diameter vertical wells installed within the southern end of the former sump boundary. Free product has been extracted from monitoring well GW-002 since August 2001. To date approximately 215 gallons of product has been removed from the one 4-inch diameter-monitoring well (02-GW-002). Continued free product extraction from additional larger diameter wells is proposed. Details of the Free Product extraction system include:

- Installation of three additional free product extraction wells in the approximate locations shown in Figure 3-1.
- Extraction wells will be constructed of 8-inch diameter, schedule 40 PVC to a total depth of approximately 30 feet bgs. It is estimated that extraction wells will be screened from depths of 10 to 25 feet bgs. Screen intervals and total well depths may be adjusted based on observed conditions during installation.
- Each extraction well will be equipped with an appropriate type of pump (pneumatic, skimmer, belt, etc).
- Extracted product will be pumped to a holding tank and dealt with in a similar manner as oil product that is produced from oil production wells at the site.

The goal of this phase is to more fully assess the impacted area, contain further migration, and expand to full area extraction of hydrocarbon free product. Because the extraction wells will intercept the water table, appropriate permits will be obtained prior to installation. Drill cuttings will be collected and either stored in the upland lined storage cell or treated in the Lowland biotreatment cell, depending on hydrocarbon concentrations. Extraction pumps will be operated either in a continuous or cycled mode depending on the rate of drawdown and associated recovery of oil product in the wells. The quantity of total volume of groundwater/free product and extracted product will be recorded on a monthly basis.

4.2.3 Enhanced Groundwater Monitoring

Given the limited lateral extent of impacts to groundwater surrounding the free product area it is proposed to perform continued monitoring and evaluation of groundwater quality as the free product source is extracted and controlled. Considering that the free product has likely been in contact with groundwater for at least 20 years there exists a limited aerial extent of groundwater impacts. This is likely due to the fact that the free product contains a low percentage of readily soluble components or that dissolved phase concentrations become attenuated within short distances from the source, possibly due to biological activity. Therefore, due to the limited extent of groundwater impacts it is proposed to enhance the groundwater monitoring well network around the free product area and perform routine monitoring at this time. Details of the enhanced groundwater monitoring program include:

- Installation of four additional groundwater monitoring wells at the locations shown in Figure 3-1. It should be noted that one well is proposed to be installed within the former sump area. This well will serve to confirm the absence or presence of extractable free product at the northern edge of the free product area.
- Monitoring wells will be constructed of 4-inch diameter, Schedule 40 PVC to a total depth of approximately 20 feet bgs. It is estimated that monitoring wells will be screened from depths of 8 to 18 feet bgs (similar to the previous wells installed).



- Perform periodic groundwater elevation measurements in wells for the purposes of further evaluating the affect that tidal change has on groundwater elevation and therefore flow gradient.
- Perform quarterly sampling of the groundwater wells. Each well will be sampled using a traditional three volume well purge using a non-dedicated sampling pump.
- The laboratory testing program will include the parameters listed in Table 3-1. Included on Table 3-1 are the parameters used to evaluate the potential degree of natural attenuation. The parameter list may change as additional data is collected.

Appropriate well permits will be obtained prior to installation. Drill cuttings will be collected and either stored in the upland lined storage cell or treated in the lowland biotreatment cell, depending on hydrocarbon concentrations. The following section provides information of documentation and reporting of collected data.

4.3 Long-Term Remedial Action

Implementation of the short-term remedial actions will not complete the remediation of soils and groundwater within the former sump area. Efficiency of free product removal using wells will likely decrease when the oil content within sump soils reaches field capacity. As previously stated, the Free Product and impacted groundwater area is located within an operating oil field dehydration facility containing numerous tanks, vessels, and pipelines. These facilities pose restrictions on the extent of remedial actions that can be taken in the short term due to the danger of destabilizing the soils around such structures. Further, as the operating oil field production has been declining and other uses of the property are being evaluated, it is estimated that the remaining life of the facilities located within the Main Site Tank Farm is limited within the next few years. Therefore, long-term remedial actions more appropriate for addressing the extent of impacted soils in the free product area, such as impacted soil excavation, will be undertaken after decommissioning of these facilities. Remedial methods for these impacted soils may include biotreatment, off-site disposal, or on-site thermal treatment.

Groundwater quality in the vicinity of the Free Product Area will be monitored as part of the short-term and long-term remedial actions. A re-evaluation of groundwater conditions will be performed at the time the Main Site Tank Farm facilities are decommissioned. At that time additional remedial actions may be proposed to address persistent groundwater impacts, if any.

4.4 **Documentation and Reporting**

Results of the free product extraction system and monitoring well installation activities will be documented in an installation report. The installation repot will at a minimum contain:

Field:	Dissolves Oxygen Redox Potential RH Conductivity Temperature
Laboratory:	Dissolved Methane Nitrate / Nitrite Sulfate / Sulfide Alkalinity VOCs SVOCs TRPH Dissolved Iron (+2)
Table 3-1:	Proposed Groundwater Monitoring Program Free Product Area RAP



- As-built diagrams for both types of wells;
- Extraction well pump specifications and piping diagrams; and
- Initial start-up assessment and performance data.

Quarterly monitoring reports will also be prepared for submittal to RWQCB to document performance of the free product extraction system and present a summary of groundwater monitoring activities and results.

4.5 <u>Schedule</u>

Based on the work tasks proposed in this RAP, the following schedule was established:

- Submittal of this Plan to RWQCB 2 December 2002.
- Installation of free product extraction system February 2003
- Installation of groundwater monitoring wells March 2003
- First groundwater monitoring event March 2003
- Quarterly Groundwater Monitoring thereafter according to the following schedule:
 - March;
 - June;
 - September; and
 - December.

Monitoring reports will be submitted approximately 60 days following each field sampling event. This schedule is dependent on the review and approval times needed by the RWQCB. The RWQCB will be notified of updates to the schedule, as work progresses.



TABLES

TABLE 2-4 SUMMARY OF GROUNDWATER SAMPLE RESULTS - INORGANICS NEWPORT BANNING RANCH (November 2001)

PEC	SAMPLE NUMBER	SAMPLE DATE	EPA 150.1		EPA 300.0		EPA 6000/7000											
			pH pH Units	Chloride mg/L	Nitrate-N mg/L	Sulfate mg/L	Barium mg/L	Calcium mg/L	Chromium (Total) mg/L	Copper mg/L	Iron mg/L	Magnesium mg/L	Manganese mg/L	Molybdenum mg/L	Nickel mg/L	Sodium mg/L	Vanadium mg/L	Zinc mg/L
	02-GW-001	06/09/2001	6.97	13000	ND	1200	0.279	434	0.00637	ND	8.09	754	1.6	0.025	0.00512	6230	0.00704	0.0661
	02-GW-001	06/26/2001		_			_	_	—	_	_		_	_	_		—	
02	02-GW-003	06/09/2001	7.06	4000	ND	31	1.81	115	0.00911	ND	1.05	239	0.298	ND	ND	2780	0.0317	0.0682
02	02-GW-003	06/27/2001		_	_	_	_	_	_	_	_	_		_	_	_	_	_
	02-GW-004	06/11/2001	6.96	750	ND	380	0.107	93.8	ND	ND	ND	58.6	0.198	0.024	ND	746	-0.005	0.154
	02-GW-005	06/11/2001	6.86	1800	ND	290	0.0688	203	ND	ND	3.64	107	1.44	0.0567	0.0182	1350	-0.005	0.0242

* Figure excludes ND's

TABLE 2-5 SUMMARY OF GROUNDWATER SAMPLE RESULTS - ORGANICS NEWPORT BANNING RANCH (November 2001)

PEC	SAMPLE NUMBER	SAMPLE DATE	EPA 8015M		EPA 8260B									
			TPH as Diesel ug/L	TPH for Crude Oil ug/L	Benzene ug/L	C-1,2-Dichloroethene ug/L	Methylene Chloride ug/L	p/m Xylene ug/L	Styrene ug/L	t-1,2-Dichloroethene ug/L	Toluene ug/L	Vinyl Chloride ug/L		
	02-GW-001	06/09/2001			ND	ND	56	ND	ND	ND	ND	ND		
	02-GW-001	06/26/2001	ND	ND	ND	ND	ND	ND	ND	ND	4.8	ND		
02	02-GW-003	06/09/2001	—	_	ND	ND	28	1.3	ND	ND	ND	ND		
02	02-GW-003	06/27/2001	2200	26000	ND	ND	ND	ND	ND	ND	1.1	ND		
	02-GW-004	06/11/2001			ND	ND	91	ND	2.5	ND	ND	ND		
	02-GW-005	06/11/2001			ND	ND	ND	ND	ND	ND	ND	ND		



FIGURES









11/27/20029:16 AM

HR0657/Free product carbon chain





APPENDIX A

TEST PIT LOGS
































		ANTS 92648 4) 969-0820	BORING 02-015 SHEET START DATE May 23, 01 ELEVATION FT FINISH DATE May 23, 01 DATUM Below Ground PROJECT Newport Banning Ranch LOCATION Newport Beach, California			SHEET 1 OF 1 ELEVATION FT DATUM Below Ground Surface		
l	PIT B/01 TEST PIT LOG					R0575		
	MATERIAL DESCRIPTION	LAYER DEPTH (FT)		SYMBOLIC L	OG		LAYER DEPTH (FT)	COMMENT
ŀ	Sandy Fill; Brown							
	Impacted Gravel; Stained and Oily	d Black					-	
	Sandy Silt; Brown	1-					- 1	
		2 -					- 2	
		3 -					- 3	
4								
		4 -					- 4	
		5 -					- 5	
		6 -					- 6	
		7					7	
						•		
2		8					- 8	
9/14/01		9-					-9	Confirmatory, bottom sample @ 9 ft;
								U2-J3-U [++]
GEOSN	<u></u>	10					10	
BAN GPJ (CONTRACTOR EQUIPMENT Back DRILL MTHD Test I	noe Pit	NORTHING EASTING ANGLE	i Vertical	KEMAKKS:			
NEV.	DIAMETER LOGGER M. Yanok	BEARING PRINTED	COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS					















































(in (GS FORM:	EOSYNTEC CC 00 Main Street, Su untington Beach, C el: (714) 969-0800 TEST P	DNSULTANTS uite 150 California 92648 Fax: (714) 969-0820	BORING02-035SHEET 1 OF 1START DATEMay 29, 01ELEVATIONFTFINISH DATEMay 29, 01DATUMBelow Ground SurfacePROJECTNewport Banning RanchLOCATIONNewport Beach, CaliforniaNUMBERHR0575HR0575HR0575		
	MATERIAL LA DESCRIPTION (AYER EPTH (FT)	SYMBOLIC L	og	LAYER DEPTH COMMENT (FT)	
	Sandy Silt; Brown	1 -			- 1	
		2 -			2	
		3			3	
		4 - 5 -			- 4 - 5	
		6 -			- 6	
		7			- 7	
10		8			8	
GEOSN JOT 9/1					Confirmatory, bottom and boundary sample @ 10 ft; 02-SS-030-J	
NEWBAN GPJ GE	EQUIPMENT Backhoe DRILL MTHD Test Pit DIAMETER LOGGER M. Yanok REV	r E A 1EWER P	ASTING NGLE Vertical EARING RINTED Sep 14, 01	COORDINATE SYSTEM:		

CS FORM PITEOR TEST PIT LOG NUMBER HR0575 MATERIAL DESCRIPTION LAYER DEPTH (FT) SYMBOLIC LOG LAYER DEPTH (FT) COMMENT Sandy Sit; Brown 1 -1 -1 2 -3 -3 3 -4 5 -5 6 -6	BORING 02-036 SHEET 1 OF START DATE May 29, 01 ELEVATION FT FINISH DATE May 29, 01 DATUM Below Ground Surface PROJECT Newport Banning Ranch LOCATION Newport Beach, California			
MATERIAL DESCRIPTION LAYER DEPTH (FT) SYMBOLIC LOG LAYER DEPTH (FT) COMMENT Sandy Sit; Brown 1 -1 -1 2 -3 -3 -3 3 -4 -5 -5 6 -6 -6	NUMBER HR0575			
Sandy Silt; Brown 1 1 -1 2 -2 3 -3 4 -4 5 -5 6 -6				
5 - 5 6 - 6				
6 - 6				
7				
8				
9 9 Confirmatory, bottom and	bound			
450 10 10 10 10 10 10 10 10 10 10 10 10 10	31-J			

	GEOSYNTEC CONSULTANTS 2100 Main Street, Suite 150 Huntington Beach, California 92648 Tel: (714) 969-0800 Fax: (714) 969-0820 GS FORM: PIT 8/01 TEST PIT LOG					BORING02-037SHEET 1 OF 1START DATEMay 29, 01ELEVATIONFTFINISH DATEMay 29, 01DATUMBelow Ground SurfacePROJECTNewport Banning RanchLOCATIONNewport Beach, CaliforniaNUMBERHR0575-			
	MATERIAL DESCRIPTION	LAYER DEPTH (FT)		s	YMBOLIC L	OG		LAYER DEPTH COMMENT (FT)	
	Sandy Silt; Brown	1 -						- 1	
		2 -						- 2	
		3 -						- 3	
		4 -						- 4	
		5 -						- 5	
		6 -						- 6	
		7 -						- 7	
		8 -						- 8	
DT 9/14/01		9 -						= 9 Confirmatory, bottom and boundary	
NSO								sample @ 10 ft; 02-SS-032-J	
T NEWBAN GPJ G	CONTRACTOR EQUIPMENT Backho DRILL MTHD Test Pi DIAMETER LOGGER M. Yanok F	be it REVIEWER	NC EA AN BE PR	ORTHING STING IGLE Ve ARING	ertical 	REMARKS: COORDINATE	E SYSTEM:		

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Ę	GEOS 2100 Ma Huntingt Tel: (714 GS FORM: PIT 8/01	INTEC CONSULTANTS in Street, Suite 150 on Beach, California 92648 I) 969-0800 Fax: (714) 969-0820 ITEST PIT LOG	BORING02-038SHEET1 OF1START DATEMay 29, 01ELEVATIONFTFINISH DATEMay 29, 01DATUMBelow Ground SurfacePROJECTNewport Banning RanchLOCATIONNewport Beach, CaliforniaNUMBERHR0575			
	MATERIAL LAYER DESCRIPTION (FT)	SYMBOLIC L	OG	LAYER DEPTH COMMENT (FT)		
	Sandy Silt; Brown			- 1		
	2 -			- 2		
Ens	3 -			- 3		
8	4			- 4		
	5 -			— 5		
	6 -			- 6		
	7 -			- 7		
	8			- 8		
JDT 9/14/01	9 -			 9 Confirmatory, bottom and boundary sample @ 10 ft; 02-SS-033-J 		
T NEWBAN GPJ GEOSI	10 CONTRACTOR EQUIPMENT Backhoe DRILL MTHD Test Pit DIAMETER LOGGER M. Yanok REVIEWER	NORTHING EASTING ANGLE Vertical BEARING PRINTED Sep 14, 01	REMARKS: COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS A	ND ABBREVIATIONS		

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[GEOSY	NTEC CON	BORING02-039Street, Suite 150START DATEMay 29, 01n Beach, California 92648FINISH DATEMay 29, 01969-0800Fax: (714) 969-0820PROJECTNewport BanniLOCATIONNewport BeachNUMBERHR0575			BORING02-039START DATEMay 29, 01FINISH DATEMay 29, 01PROJECTNewport Bannin		SHEET 1 OF 1	
Free L		2100 Mai Huntingto Tel: (714	in Street, Suil on Beach, Ca) 969-0800 F						EVATION FI FUM Below Ground Surface	
	GS FORM: PIT 8/01	٦	EST PI							
	MATERIAL DESCRIPTION	LAYER DEPTH (FT)			SYMBOLIC L	OG		LAYER DEPTH (FT)	COMMENT	
	Sandy Silt; Brown									
	Impacted Sandy Silt in C	Corner of				57 50000000000				
	Sandy Silt; Brown	1-						-1		
		2 -						- 2		
		3						- 3		
		5								
		4						4		
		5 -						- 5		
	<u></u>	6						- 6 Sto	opped digging pit because into ment disposal area	
		7	-					- 7		
		8						- 8		
14/01		9	-					- 9		
5 TO.										
NSC		10						10		
AN GPJ GEC	CONTRACTOR EQUIPMENT Back DRILL MTHD Test	10 khoe Pit	NC EA	ORTHING ASTING NGLE	Vertical	REMARKS:				
NEWBA	DIAMETER LOGGER M. Yanok	REVIEWE	BE R PE		 Sep 14, 01		E SYSTEM:	AND ABBREVIAT	IONS	

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¢	GEOS 2100 M Hunting Tel: (7 GS FORM: PIT 8/01	Ain Street, Suite 150 gton Beach, California 92648 (4) 969-0800 Fax: (714) 969-0820 TEST PIT LOG	BORING02-040SHEET1 OF1START DATEMay 29, 01ELEVATIONFTFINISH DATEMay 29, 01DATUMBelow Ground SurfacePROJECTNewport Banning RanchLOCATIONNewport Beach, CaliforniaNUMBERHR0575		
	MATERIAL LAYER DESCRIPTION (FT)	SYMBOLIC L	.0G	LAYER DEPTH COMMENT (FT)	
	Sandy Silt; Brown			- 1	
	2			- 2	
	3			- 3	
	4			- 4 5	
	6			- 6	
	7			- 7	
	6			8 Confirmatory, bottom and boundary sample @ 8 ft; 02-SS-034-H	
	C			9	
T NEWBAN.GPJ GEO	CONTRACTOR EQUIPMENT Backhoe DRILL MTHD Test Pit DIAMETER LOGGER M. Yanok REVIEWE	NORTHING EASTING ANGLE Vertical BEARING R PRINTED Sep 14, 01	REMARKS: COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS A	1U ND ABBREVIATIONS	










Č.	GEOS 2100 Ma Huntingt Tel: (714 GS FORM: PIT 8/01	BORING 02-046 SHEET 1 OF 1 START DATE May 29, 01 ELEVATION FT FINISH DATE May 29, 01 DATUM Below Ground Surface PROJECT Newport Banning Ranch LOCATION Newport Beach, California NUMBER HR0575		
	MATERIAL LAYER DESCRIPTION (FT)	SYMBOLIC L	0G	LAYER DEPTH COMMENT (FT)
	Sandy Silt; Brown			- 1
	Sandy Silt; Grey 2			- 2
	3			- 3
	4 - 5 -			- 4 - 5
	6 -			- 6
	7-			 7 Confirmatory, bottom sample @ 7 ft; 02-SS-040-G
01	8			- 8
SEOSI DT 9/14/	9 -			10
T NEWBAN GPJ G	CONTRACTOR EQUIPMENT Backhoe DRILL MTHD Test Pit DIAMETER LOGGER M. Yanok REVIEWER	NORTHING EASTING ANGLE Vertical BEARING PRINTED Sep 14, 01	REMARKS: COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS AN	ND ABBREVIATIONS

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	GEOSY 2100 Mai Huntingto Tel: (714 GS FORM: PIT 8/01	BORING02-054START DATEAug 29, 01FINISH DATEAug 29, 01PROJECTNewport BanniLOCATIONNewport BeachNUMBERHR0575	02-054 SHEET 1 OF 1 Aug 29, 01 ELEVATION FT Aug 29, 01 DATUM Below Ground Surface wport Banning Ranch wport Beach, California 80575		
	MATERIAL LAYER DESCRIPTION (FT)	SYMBOLIC L	OG	LAYER DEPTH COMMENT (FT)	
	Oil Sandy Silt; Brown Silty Clay, Green Impacted Silty Sand; Stained Black and Oily Silty Sand; Green			- - 1	
	2 -			- 2	
C.	3 -			- 3	
	4 -			- 4	
	6 -			- 6	
	7 -			- 7	
5	8 -			- 8	
C GDT 9/14/C	9 -			10	
T NEWBAN GPJ G.	CONTRACTOR EQUIPMENT Shovel DRILL MTHD DIAMETER LOGGER M. Yanok REVIEWER	NORTHING EASTING ANGLE Vertical BEARING PRINTED Sep 14, 01	REMARKS: COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS AI	ND ABBREVIATIONS	

	GEOS 2100 Ma Huntingt Tel: (714 GS FORM: PIT 8/01	INTEC CONSULTANTS in Street, Suite 150 on Beach, California 92648) 969-0800 Fax: (714) 969-0820 TEST PIT LOG	BORING02-055START DATEAug 29, 01FINISH DATEAug 29, 01PROJECTNewport BanniLOCATIONNewport BeachNUMBERHR0575	SHEET 1 OF 1 ELEVATION FT DATUM Below Ground Surface ng Ranch n, California
	MATERIAL LAYER DESCRIPTION (FT)	SYMBOLIC L	OG	LAYER DEPTH COMMENT (FT)
	Oil Sandy Silt; Brown Silty Clay, Green Impacted Silty Sand; Stained Black and Oily Silty Sand; Green			_ _ _ 1
	2 -			- 2
e e	3 -			- 3
	5 -			- 5
	6			6
	7			- 7
/14/01	8 -			- 8
J GL CCGDT 9		NORTHING	REMARKS:	10
IT NEWBAN GP.	EQUIPMENT Shovel DRILL MTHD DIAMETER LOGGER M. Yanok REVIEWER	EASTING ANGLE Vertical BEARING PRINTED Sep 14, 01	COORDINATE SYSTEM:	ND ABBREVIATIONS

5	GEOSYNTEC CONSULTANTS 2100 Main Street, Suite 150 Huntington Beach, California 92648 Tel: (714) 969-0800 Fax: (714) 969-0820			BORING02-056SHEET 1 OFSTART DATEAug 29, 01ELEVATIONFTFINISH DATEAug 29, 01DATUMBelow Ground SurfacePROJECTNewport Banning RanchLOCATIONNewport Beach, California				
	MATERIAL DESCRIPTION	LAYER DEPTH (FT)		SYMBOLIC LO	DG	1R0575	LAYER DEPTH (FT)	COMMENT
	Sandy Silt; Brown	1 -					- 1	
		2 -					- 2	
		3 -					- 3	
-		4 -					- 4	
		5 -					- 5	
		6 -					- 6	
		7 -					- 7	
		8 -					- 8	
EC GDT 9/14/01		9 -					= 9	
		10					10	
IT NEWBAN GPJ 6	CONTRACTOR EQUIPMENT Shove DRILL MTHD DIAMETER LOGGER M. Yanok	I REVIEWER	NORTHING EASTING ANGLE BEARING PRINTED	Vertical Sep 14, 01	REMARKS: COORDINATE	E SYSTEM: FOR SYMBOLS AN	ND ABBREVIATION	IS

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and the second sec	GEOS 2100 Ma Huntingt Tel: (714 GS FORM: PIT 8/01	INTEC CONSULTANTS in Street, Suite 150 on Beach, California 92648 i) 969-0800 Fax: (714) 969-0820 TEST PIT LOG	BORING02-057START DATEAug 29, 01FINISH DATEAug 29, 01PROJECTNewport BanniLOCATIONNewport BeachNUMBERHR0575	SHEET 1 OF 1 ELEVATION FT DATUM Below Ground Surface ing Ranch n, California
	MATERIAL LAYER DESCRIPTION (FT)	SYMBOLIC LO	OG	LAYER DEPTH COMMENT (FT)
	Sandy Silt; Brown			- 1
	2 -			- 2
	3 -			- 3
National Action of the second	4 -			- 4
	5			- 5
	6			- 6
	7 -			7
	8 -			- 8
EC.GDT 9/14/01	9 -			- 9
	10			10
11 NEWBAN GPJ G	CONTRACTOR EQUIPMENT Shovel DRILL MTHD DIAMETER LOGGER M. Yanok REVIEWER	NORTHING EASTING ANGLE Vertical BEARING PRINTED Sep 14, 01	REMARKS: COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS AN	D ABBREVIATIONS



	GEOS 2100 Ma Huntingt Tel: (714 GS FORM: PIT 8/01	ANTEC CONSULTANTS in Street, Suite 150 on Beach, California 92648 (1) 969-0800 Fax: (714) 969-0820 TEST PIT LOG	BORING 02-059 SHEET 1 OF START DATE Aug 29, 01 ELEVATION FT FINISH DATE Aug 29, 01 DATUM Below Ground Surface PROJECT Newport Banning Ranch LOCATION Newport Beach, California NUMBER HR0575 HR0575 HEED		
	MATERIAL LAYER DESCRIPTION (FT)	SYMBOLIC L	.0G	LAYER DEPTH COMMENT (FT)	
	Oil Sandy Silt; Brown Silty Clay, Green Impacted Silty Sand; Stained Black and Oily Silty Sand; Green			- 1	
	2 3			- 2 - 3	
(Verse	4 -			- 4	
	5 -			5	
	6 - 7 -			- 7	
	8 -			- 8	
EC.GDT 9/14/01	9 -			9	
IT NEWBAN GPJ C	CONTRACTOR EQUIPMENT Shovel DRILL MTHD DIAMETER LOGGER M. Yanok REVIEWER	NORTHING EASTING ANGLE Vertical BEARING PRINTED Sep 14, 01	REMARKS: COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS AN	10 D ABBREVIATIONS	

V.	GEOSY 2100 Ma Huntingto Tel: (714 GS FORM: PIT 8/01	BORING02-060START DATEAug 29, 01FINISH DATEAug 29, 01PROJECTNewport BanniLOCATIONNewport BeachNUMBERHR0575	SHEET 1 OF 1 I ELEVATION FT I DATUM Below Ground Surface ning Ranch ch, California	
	MATERIAL LAYER DESCRIPTION (FT)	SYMBOLIC L	OG	LAYER DEPTH COMMENT (FT)
	Sandy Silt; Brown 1 -			- 1
	2 -			- 2
	3 -			- 3
	4			- 4
	5			- 5
	6 -			- 6
	7 -			- 7
/14/01	9 -			- 9
C COT	10			10
IT NEWBAN.GPJ	CONTRACTOR EQUIPMENT Shovel DRILL MTHD DIAMETER LOGGER M. Yanok REVIEWER	NORTHING EASTING ANGLE Vertical BEARING PRINTED Sep 14, 01	COORDINATE SYSTEM:	ND ABBREVIATIONS

GEOSYNTEC CONSULTANTS 2100 Main Street, Suite 150 Huntington Beach, California 92648 Tel: (714) 969-0800 Fax: (714) 969-0820 GS FORM:			BORING 02-061 SHEET 1 OF 1 START DATE Aug 29, 01 ELEVATION FT FINISH DATE Aug 29, 01 DATUM Below Ground Surface PROJECT Newport Banning Ranch LOCATION Newport Beach, California			
PIT 8/01		IEST PIT LU		NUMBER HR0575	1.2]
MATERIAL DESCRIPTION	LAYER DEPTH (FT)		SYMBOLIC LO	DG	LAYER DEPTH (FT)	COMMENT
Sandy Silt; Brown					33	
	1 -				- 1	
	2				- 2	
	3				- 3	
	4				- 4	
	5 -				- 5	
	6				- 6	
	7				- 7	
	8 -				- 8	
	9 -				- 9	
	10				10	
CONTRACTOR EQUIPMENT Shove DRILL MTHD DIAMETER		NORTHING EASTING ANGLE BEARING	Vertical	REMARKS:	10	
	CONTRACTOR EQUIPMENT DRILL MTHD DIAMETER LOGGER M. Yanok	GEOSY 2100 Ma Huntingte Tel: (714 GS FORM: PIT 8/01 MATERIAL DESCRIPTION LAYER DEPTH (FT) Sandy Silt; Brown 1 2 3 4 4 5 6 7 6 7 8 8 9 9 10 CONTRACTOR EQUIPMENT Shovel DRILL MTHD DIAMETER LOGGER M. Yanok REVIEWER	CONTRACTOR EQUIPMENT Shovel DIAMETER LOGGER M. Yanok REVIEWER CONTRACTOR EQUIPMENT Shovel DIAMETER LOGGER M. YANOK REVIEWER CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONT	GEOSYNTEC CONSULTANTS Liton Main Street, Suite 150 Huntington Beach, California 92648 Tel: (714) 989-0800 CS FORM: TEST PIT LOG MATERIAL DESCRIPTION LAVER DEPTH (FT) SYMBOLIC LG Sandy Silt; Brown 1 2 3 3 4 4 5 6 6 7 7 8 9 9 9 10 NORTHING EQUIRACTOR BARING EASTING EARING 10 NORTHING EARING EASTING EARING 10 NORTHING EARING EASTING EARING EARING 10 PIRUED Spit-101	GEOSYNTEC CONSULTANTS 2100 Main Street, Suite 150 Hindingon Beach, California 20248 Tel: (714) 969-0800 Fax: (714) 969-0820 BORNE WERDER BALLOS CS FORM MITBON TEST PIT LOG MATERIAL DESCRIPTION LAYER DEPTH (FT) Sandy Ski; Brown SYMBOLIC LOG 1 SYMBOLIC LOG 2 CONTRACTOR 3 A 4 South Ski Log Ski 9 ONTRACTOR 9 South Ski Log Ski 9 CONTRACTOR 0 DORTHING Shovel 0 CONTRACTOR 0 CONTRACTOR 0 CONTRACTOR 0 ORTHING 0 CONTRACTOR 0 CONTRACTOR 10 CONTRACTOR EVERTENT <th>GEOSYNTEC CONSULTANTS DRINING 02-061 2100 Main Street, Suite 150 START DAY 230 (1) ELEVAT High Date Adv, 231 (2) DATUM 700 Main Street, Suite 150 Frider Adv, 230 (1) ELEVAT Matternal, DESCRIPTION LAYER Datum Datum MATERIAL LAYER SYMBOLIC LOG LAYER MATERIAL LAYER SYMBOLIC LOG LAYER Standy Sett, Brown 1 1 1 1 1 1 1 1 2 3 3 3 3 3 3 3 5 5 5 5 6 7 7 7 7 1 9 9 9 9 9 9 10 10 MATERIAL MATERIAL MATERIAL 10 10 10</th>	GEOSYNTEC CONSULTANTS DRINING 02-061 2100 Main Street, Suite 150 START DAY 230 (1) ELEVAT High Date Adv, 231 (2) DATUM 700 Main Street, Suite 150 Frider Adv, 230 (1) ELEVAT Matternal, DESCRIPTION LAYER Datum Datum MATERIAL LAYER SYMBOLIC LOG LAYER MATERIAL LAYER SYMBOLIC LOG LAYER Standy Sett, Brown 1 1 1 1 1 1 1 1 2 3 3 3 3 3 3 3 5 5 5 5 6 7 7 7 7 1 9 9 9 9 9 9 10 10 MATERIAL MATERIAL MATERIAL 10 10 10

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4	GEOSY 2100 Mai Huntingto Tel: (714 GS FORM: PIT 8/01	NTEC CONSULTANTS in Street, Suite 150 on Beach, California 92648) 969-0800 Fax: (714) 969-0820	BORING02-062START DATEAug 29, 01FINISH DATEAug 29, 01PROJECTNewport BanniLOCATIONNewport BeachNUMBERHR0575	SHEET 1 OF 1 ELEVATION FT DATUM Below Ground Surface ng Ranch n, California
-	MATERIAL LAYER DESCRIPTION (FT)	SYMBOLIC L	OG	LAYER DEPTH COMMENT (FT)
	Sandy Silt; Brown			- 1
	2 -			- 2
	3 -			- 3
(***	4 -			- 4
	5			- 5
	6 -			- 6
	7 -			- 7
	8			8
.GDT 9/14/01	9			- 9
2	l,			
		NORTHING	REMARKS	10
[do]	EQUIPMENT Shovel	EASTING		
NBAN		ANGLE Vertical		
T NE)	LOGGER M. Yanok REVIEWER	PRINTED Sep 14, 01	SEE KEY SHEET FOR SYMBOLS A	ND ABBREVIATIONS

6	GEOSYNTEC CONSULTANTS 2100 Main Street, Suite 150 Huntington Beach, California 92648 Tel: (714) 969-0800 Fax: (714) 969-0820 GS FORM: TEST PIT LOG			BORING 02-063 SHEET 1 OF 1 START DATE Aug 29, 01 ELEVATION FT FINISH DATE Aug 29, 01 DATUM Below Ground Surface PROJECT Newport Banning Ranch LOCATION Newport Beach, California NUMBER HR0575 HR0575 HEAD		
	MATERIAL DESCRIPTION	LAYER DEPTH (FT)	SYMBOLIC L	0G	LAYER DEPTH (FT)	COMMENT
	Sand; Brown and Tan	1 -			- 1	
		2 -			- 2	
		3 -			- 3	
C		4 -			- 4	
		5			- 5	
		6 -			- 6	
		7 -			7	
4/01		8			- 8	
EC GDT 9/14		9			10	
T NEWBAN GPJ G	CONTRACTOR EQUIPMENT Show DRILL MTHD DIAMETER LOGGER M. Yanok	REVIEWER	NORTHING EASTING ANGLE Vertical BEARING PRINTED Sep 14, 01	REMARKS: COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS A	ND ABBREVIATIONS	





	GEOS 2100 M Hunting Tel: (71 GS FORM: PIT 8/01	BORING02-066START DATEAug 29, 01FINISH DATEAug 29, 01PROJECTNewport BannLOCATIONNewport BeachNUMBERHR0575	36 SHEET 1 OF 1 9, 01 ELEVATION FT 9, 01 DATUM Below Ground Surface Banning Ranch Beach, California		
	MATERIAL LAYER DESCRIPTION (FT)	* *	SYMBOLIC LC	DG	LAYER DEPTH COMMENT (FT)
	Sandy Silt; Brown				- 1
	2				- 2
	3	-			- 3
(**	4				- 4
	5				- 5
	6				- 6
	7				- 7
11	8				* 8
EC.GDT 9/14/0	9				9
NEWBAN GPJ C	10 CONTRACTOR EQUIPMENT Shovel DRILL MTHD DIAMETER LOGGER M. Yanok REVIEWE	I NORTHING EASTING ANGLE BEARING R PRINTED	Vertical Sep 14, 01	REMARKS: COORDINATE SYSTEM:	1 10

	GEOSYNTEC CONSULTANTS 2100 Main Street, Suite 150 Huntington Beach, California 92648 Tel: (714) 969-0800 Fax: (714) 969-0820			BORING02-067SHEET 1 OFSTART DATEAug 29, 01ELEVATIONFTFINISH DATEAug 29, 01DATUMBelow Ground SurfacePROJECTNewport Banning RanchLOCATIONNewport Beach, California			SHEET 1 OF 1 VATION FT UM Below Ground Surface	
1	GS FORM: PIT 8/01	-	TEST PIT LO	G		IR0575		
	MATERIAL DESCRIPTION	LAYER DEPTH (FT)		SYMBOLIC LC	0G		LAYER DEPTH (FT)	COMMENT
ł	Sandy Silt; Brown							
		1 -						
		2 -					- 2	
		3 -					- 3	
-		4 -					- 4	
		5 -					- 5	
		6					- 6	
	×	7					- 7	
		8					- 8	
GDT 9/14/01		9					- 9	
О Шаз								
J	CONTRACTOR	10	NORTHING)	REMARKS:		1 10	
T NEWBAN GPJ	EQUIPMENT Shove DRILL MTHD DIAMETER LOGGER M. Yanok	REVIEWER	EASTING ANGLE BEARING PRINTED	Vertical Sep 14, 01	COORDINAT	E SYSTEM: FOR SYMBOLS A	ND ABBREVIATIO	INS

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	GEOSYNTEC CONSULTANTS			BORING 02-072 START DATE Jul 31, 02	SHEET 1 OF 1 ELEVATION FT	
11	Hun Tel	ntington Beach : (714) 969-080	, California 92648 00 Fax: (714) 969-0820	PROJECT Newport Banning Ranch		
No. In	GS FORM: PIT 8/01	TEST	PIT LOG	NUMBER HR0575		
	LAYER MATERIAL DEPTH SYMBOL DESCRIPTION (FT)		SYMBOLIC L	.OG	LAYER DEPTH COMMENT (FT)	
	Silty Sand Fill; Brown					
		1 -			- 1	
	Silty Sand; Brown	2 -			- 2	
		3 -			- 3	
		4 -			- 4	
		5 -			- 5	
		6 -			- 6	
	Silty Sand; Grey				<i>'</i>	
:0/02		8			0	
Level CODT 11/2	Impacted Silty Sand; Dark; Oil Stained	-10			 Eastern side of pit showed impacts western side. Impacts not as apparent. 	
PIT_NEWBAN.GPJ_GEv	CONTRACTOR EQUIPMENT Backhoe DRILL MTHD Test Pit DIAMETER LOGGER M. Yanok	REVIEWER	NORTHING EASTING ANGLE Vertical BEARING	REMARKS:	ND ABBREVIATIONS	







		GEOSY 2100 Ma Huntingto Tel: (714	INTEC CONSULTANTS in Street, Suite 150 on Beach, California 92648) 969-0800 Fax: (714) 969-0820	BORING 02-075 SHEET 2 OF 2 START DATE Jul 31, 02 ELEVATION FT FINISH DATE Jul 31, 02 DATUM Below Ground Surface PROJECT Newport Banning Ranch Colifornia			
	GS FORM: PIT 8/01				LOCATION Newport Beach, California NUMBER HR0575		
	MATERIAL DESCRIPTION	LAYER DEPTH (FT)	SYMBOLIC LO	DG	LAYER DEPTH COMMENT (FT)		
	Silty Sand; Shell				Apparent groundwater seepage noted.		
					11		
		12 -			- 12		
		13 -			- 13		
		14 -			- 14		
A CONTRACTOR OF		15 -			- 15		
		10					
		16 -			- 10		
		17 -			- 17		
		18 -			- 18		
		-					
EC.GDT 11/20/02		19 -			- 19		
GEL	CONTRACTOR	20		PEMARKS.	20		
IT NEWBAN.GPJ	EQUIPMENT Backhoe DRILL MTHD Test Pit DIAMETER LOGGER M. Yanok	REVI	EASTING ANGLE Vertical BEARING	SEE KEY SHEET FOR SYMBOLS AN			

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ŧ	GEC 2100 Hunt Tel: GS FORM: PIT 8/01	DSYNTEC CONSULTANTS Main Street, Suite 150 tington Beach, California 92648 (714) 969-0800 Fax: (714) 969-0820 TEST PIT LOG	BORING02-080START DATEJul 31, 02FINISH DATEJul 31, 02PROJECTNewport BanniLOCATIONNewport BeactNUMBERHR0575	SHEET 1 OF 1 ELEVATION FT DATUM Below Ground Surface ing Ranch n, California			
	MATERIAL LAY DESCRIPTION (F1	ER PTH SYMBOLIC LO	og	LAYER DEPTH COMMENT (FT)			
	Silty Sand; Brown	1		- 1			
		2		- 2			
Ę		4 -		- 4			
		5 -		- 5			
	Impacted Clay/Silt; Dark Stained Oily	d; 7		 Roots and other wood debris noted. 7 			
/20/02	Silty Sand; Grey	9 -		- 8			
SPJ GEL . EC.GDT 11	CONTRACTOR EQUIPMENT Backhoe	10 NORTHING EASTING	REMARKS:	10			
T NEWBAN.C	DRILL MTHD Test Pit DIAMETER LOGGER M. Yanok	ANGLE Vertical BEARING REVIEWER	SEE KEY SHEET FOR SYMBOLS A	ND ABBREVIATIONS			

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AN.GPJ GE. . EC.GD1













APPENDIX B

GROUNDWATER AND FREE PRODUCT LABORATORY DATA

NOTE: Free Product Samples are labeled as "02-GW-002" and "Drill Site" (02-GW-006)



June 03, 2002

Eric Smalstig GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460

Subject: Calscience Work Order No.: 02-05-1305 Client Reference: NBR / HR0656-02

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/29/02 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sin

Calscience Environmental Laboratories, Inc. Stephen Nowak Project Manager

Michael J/ Crisostomo Quality Assurance Manager





GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460

Date Received:	
Work Order No:	
Preparation:	
Method:	

05/29/02 02-05-1305 **Total Digestion** EPA 6010B / EPA 7470A

Project: NBR / HR0656-02

Page 1 of 1

Client Sample Number		Lab Samp Number	le	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
GW-DRILL SITE		02-05-13	05-1	05/29/02	Aqueous	05/30/02	05/31/02	020530lcs5
Comment(s): M Parameter	lercury was analyzed on t <u>Result</u>	5/30/02 8:55:27 PM v RL DF Qual	vith batch <u>Units</u>	020530lcs6 Parameter		Result	RL	<u>DF Qual Units</u>
Antimony Arsenic Barium Beryllium Cadmium Chromium (Total) Cobalt Copper Lead	ND ND 0.247 ND ND ND 0.00693 ND	$\begin{array}{cccc} 0.0150 & 1 \\ 0.0150 & 1 \\ 0.010 & 1 \\ 0.00100 & 1 \\ 0.00500 & 1 \\ 0.00500 & 1 \\ 0.00500 & 1 \\ 0.00500 & 1 \\ 0.00500 & 1 \\ 0.0100 & 1 \end{array}$	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	Mercury Molybdenum Nickel Selenium Silver Thallium Vanadium Zinc		ND 0.00978 ND ND ND ND 0.0206	0.00050 0.00500 0.0150 0.00500 0.0150 0.0150 0.00500 0.0100	1 mg/L 1 mg/L 1 mg/L 1 mg/L 1 mg/L 1 mg/L 1 mg/L 1 mg/L
Method Blank	a the second second second	099-04-0	08-846	N/A	Aqueous	05/30/02	06/03/02	020530lcs6
arameter Mercury	<u>Result</u> ND	<u>RL DF Qual</u> 0.00050 1	<u>Units</u> mg/L					
Method Blank		097-01-0	03-2,406	N/A	Aqueous	05/30/02	05/31/02	020530lcs5
Parameter	Result	<u>RL</u> <u>DF</u> Qual	<u>Units</u>	Parameter		 Result	RL	<u>DF Qual Units</u>
Antimony Arsenic Barium Beryllium Cadmium Chromium (Total) Cobalt Copper	ND ND ND ND ND ND ND	$\begin{array}{cccc} 0.0150 & 1 \\ 0.0150 & 1 \\ 0.0100 & 1 \\ 0.00100 & 1 \\ 0.00500 & 1 \\ 0.00500 & 1 \\ 0.00500 & 1 \\ 0.00500 & 1 \end{array}$	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	Molybdenum Nickel Selenium Silver Thallium Vanadium Zinc Lead		ND ND ND ND ND ND ND	0.00500 0.00500 0.0150 0.00500 0.0150 0.00500 0.0100 0.0100	1 mg/L 1 mg/L 1 mg/L 1 mg/L 1 mg/L 1 mg/L 1 mg/L 1 mg/L

Qual - Qualifiers



1.20

ANALYTICAL REPORT

		05/00/00
GeoSyntec Consultants	Date Received:	05/29/02
2100 Main Street, Suite 150	Work Order No:	02-05-1305
Huntington Beach, CA 92648-2460	Preparation:	Ext. + D/I
	Method:	EPA 8015M

Page 1 of 1

Project: NBR / HR0656-02

Client Sample Number		Lab S Nu	Sample mber	Matrix		Date Collected	Date Prepared	Date Analyzed	QC Batch ID
GW-DRILL SITE	9.54.54 A	02-05-1	305-1		Aqueous	05/29/02	05/29/02	05/30/02	02052905sa
Parameter	Result	RL	DF	Qual	<u>Units</u>				
TPH as Diesel	130000	1000	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
Decachlorobiphenyl	111	Limits 53-141							
Method Blank		098-03-	003-1,012		Aqueous	N/A	05/29/02	05/29/02	02052905sa
Parameter	Result	<u>RL</u>	DF	Qual	<u>Units</u>				
TPH as Diesel	ND	1000	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
Decachlorobiphenyl	95	Limits 53-141							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



E. M

ANALYTICAL REPORT

GeoSyntec Consultants	Date Received:	05/29/02
2100 Main Street, Suite 150	Work Order No:	02-05-1305
Huntington Beach, CA 92648-2460	Preparation: Method:	EPA 5030B EPA 8015M
Project: NBR / HR0656-02		Page 1 of 1

Project: NBR / HR0656-02

Client Sample Number	Lab Sample Number			Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID	
GW-DRILL SITE		02-05-1	305-1		Aqueous	05/29/02	N/A	05/30/02	02052902sa
Parameter	Result	<u>RL</u>	DF	<u>Qual</u>	<u>Units</u>				
TPH as Gasoline	3700	1000	10		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
1,4-Bromofluorobenzene	124	Limits 49-157							
Method Blank		098-03-	-006-2,701	6.2	Aqueous	N/A	N/Ą	05/30/02	02052902sa
Parameter	Result	RL	DE	Qual	Units				
TPH as Gasoline	ND	100	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
1,4-Bromofluorobenzene	104	Limits 49-157							



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460

Date Received:	05/29/02
Work Order No:	02-05-1305
Preparation:	Ext. + D/I
Method:	TPH - Carbon Range

Project: NBR / HR0656-02

C. J

Page 1 of 1

Client Sample Number			Lab Samp Number	le	Date Collected	Matrix	Date Prepared	Date Analyzed	QC B;	atch ID	25
GW-DRILL SITE			02-05-13	05-1	05/29/02	Aqueous	05/29/02	05/30/02	0205	2905sa	
Parameter	Result	<u>RL</u>	DF Qua	<u>Units</u>	Parameter		Result	RL	<u>DF</u> Qu	<u>al Units</u>	
C7	ND		1	ug/L	C21-C22		9800		1	ug/L	
C8	ND		1	ug/L	C23-C24		8700		1	ug/L	
C9-C10	1400		1	ug/L	C25-C28		16000		1	ug/L	
C11-C12	7300		1	ug/L	C29-C32		13000		1	ug/L	
C13-C14	9700		1	ug/L	C33-C36		8700		1	ug/L	
C15-C16	12000		1	ug/L	C37-C40		7200		1	ug/L	
C17-C18	12000		1	ug/L	C41-C44		5800		1	ug/L	
C19-C20	12000		1	ug/L	C7-C44 Total		120000	1000	1	ug/L	
Surrogates:	<u>REC (%)</u>	Control	Qua	1							
Decachlorobiphenyl	111	53-141									
Method Blank			098-03-0	03-1,012	N/A	Aqueous	05/29/02	05/29/02	0205	2905sa	
r'arameter	Result	<u>RL</u>	DF Qua	<u>Units</u>							
TPH as Diesel	ND	1000	1	ug/L							
Surrogates:	<u>REC (%)</u>	Control	Qua	<u>l</u>							
Decachlorobiphenyl	95	53-141									

ution Factor , Qual - Qualifiers



12.2

ANALYTICAL REPORT

GeoSyntec Consultant 2100 Main Street, Suite Huntington Beach, CA	s e 150 92648-2460		Date Received: Work Order No: Preparation: Method:								
Project: NBR / HR06	656-02	6-02									
Client Sample Number		Lal	b Sample Number		Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID		
GW-DRILL SITE		02-05	i-1305-1		Aqueous	05/29/02	05/29/02	05/30/02	02052905sa	1	
Parameter	Result	RL	DF	Qual	<u>Units</u>						
TRPH	150	100	100		mg/L						
Method Blank		099-0	07-016-36		Aqueous	N/A	05/29/02	05/30/02	02052905sa		
Parameter	Result	RL	DF	Qual	Units						
TRPH	ND	1.0	1		mg/L						

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460

05/29/02
02-05-1305
EPA 3510E
EPA 82700

Project: NBR / HR0656-02

Page 1 of 2

Client Sample Number	Lab Sample Number		Date Collected	Matrix	Date Prepared	Date Analyzed	QC Bat	ch ID
GW-DRILL SITE	02-05-13	05-1	05/29/02	05/29/02 Aqueous		05/30/02 0205302		02
		1473-1459-10090-001	4.2449/08/08/08/00/02/02/02/02/02/02					
Parameter Result RL	<u>DF</u> Qual	<u>Units</u>	Parameter		<u>Result</u>	<u>RL</u>	DF Qual	<u>Units</u>
N-Nitrosodimethylamine ND 50	5	ug/L	2,4-Dinitropheno	bl	ND	250	5	ug/L
Aniline ND 50	5	ug/L	4-Nitrophenol		ND	50	5	ug/L
Phenol ND 50	5	ug/L	Dibenzofuran		ND	50	5	ug/L
Bis(2-Chloroethyl) Ether ND 130	5	ug/L	2,4-Dinitrotoluer	ne	ND	50	5	ug/L
2-Chlorophenol ND 50	5	ug/L	2,6-Dinitrotoluer	ne	ND	50	5	ug/L
1,3-Dichlorobenzene ND 50	5	ug/L	Diethyl Phthalat	е	ND	50	5	ug/L
1,4-Dichlorobenzene ND 50	5	ug/L	4-Chlorophenyl-	Phenyl Ether	ND	50	5	ug/L
Benzyl Alcohol ND 50	5	ug/L	Fluorene		ND	50	5	ug/L
1,2-Dichlorobenzene ND 50	5	ug/L	4-Nitroaniline		ND	50	5	ug/L
2-Methylphenol ND 50	5	ug/L	Azobenzene		ND	50	5	ug/L
Bis(2-Chloroisopropyl) Ether ND 50	5	ug/L	4,6-Dinitro-2-Me	ethylphenol	ND	250	5	ug/L
3/4-Methylphenol ND 50	5	ug/L	N-Nitrosodiphen	ylamine	ND	50	5	ug/L
Nitroso-di-n-propylamine ND 50	5	ug/L	4-Bromophenyl-	Phenyl Ether	ND	50	5	ug/L
xachloroethane ND 50	5	ug/L	Hexachlorobenz	ene	ND	50	5	ug/L
ND 130	5	ug/L	Pentachlorophe	nol	ND	50	5	ug/L
Isophorone ND 50	5	ug/L	Phenanthrene		ND	50	5	ug/L
2-Nitrophenol ND 50	5	ug/L	Anthracene		ND	50	5	ug/L
2.4-Dimethylphenol 57 50	5	ug/L	Di-n-Butyl Phtha	alate	ND	50	5	ug/L
Benzoic Acid ND 250	5	ug/L	Fluoranthene		ND	50	5	ug/L
Bis(2-Chloroethoxy) Methane ND 50	5	ua/L	Benzidine		ND	250	5	ug/L
2 4-Dichlorophenol ND 50	5	ug/L	Pyrene		ND	50	5	ug/L
1.2.4-Trichlorobenzene ND 50	5	ug/L	Pyridine		ND	50	5	ug/L
Naphthalene 57 50	5	ua/L	Butyl Benzyl Ph	thalate	ND	50	5	ug/L
4-Chloroaniline ND 50	5	ua/L	3.3'-Dichlorober	nzidine	ND	130	5	ug/L
Hexachloro-1 3-Butadiene ND 50	5	ua/L	Benzo (a) Anthr	acene	NÐ	50	5	ug/L
4-Chloro-3-Methylohenol ND 50	5	ua/L	Bis(2-Ethylhexy	I) Phthalate	ND	50	5	ug/L
2-Methylnaphthalene ND 50	5	ua/L	Chrysene	,	ND	50	5	ug/L
Hexachlorocyclopentadiene ND 130	5	ua/L	Di-n-Octvl Phtha	alate	ND	50	5	ug/L
2.4.6-Trichlorophenol ND 50	5	ua/L	Benzo (k) Fluor	anthene	ND	50	5	ug/L
2.4.5-Trichlorophenol ND 50	5	ua/L	Benzo (b) Fluor	anthene	ND	50	5	ug/L
2-Chloronaphthalene ND 50	5	ua/l	Benzo (a) Pyrer	ne	ND	50	5	ug/L
2-Nitroaniline ND 50	5	ua/L	Benzo (a.h.i) Pe	ervlene	ND	50	5	ug/L
Dimethyl Phthalate ND 50	5	ug/L	Indeno (1.2.3-c.	d) Pyrene	ND	50	5	ug/L
Acenaphthylene ND 50	5	ua/l	Dibenz (a,h) An	thracene	ND	50	5	ug/L
3-Nitroaniline ND 50	5	ug/l	1-Methylnaphth	alene	ND	50	5	uq/L
Acenaphthene ND 50	5	ua/t						Ū
Surrogates: REC (%) Control		al ug/ E	Surrogates:		REC (%)	Control	Qua	1
Limite		<u></u>	ourogatos.			Limits		-
2-Eluorophenol 63 15-13	8		Phenol-d6		45	17-141		
Nitrobenzene-d5 89 56-12	3		2-Fluorobiphen	vi	78	45-120		
2,4,6-Tribromophenol 61 32-14	3		p-Terphenyl-d1	4	105	46-133		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460

Date Received:	5	05/29/02
Work Order No:		02-05-1305
Preparation:		EPA 3510B
Method:		EPA 8270C

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Project: NBR / HR0656-02

Lab Sample Date Date Date Matrix QC Batch ID **Client Sample Number** Number Collected Prepared Analyzed 05/30/02 05/30/02 095-01-003-1,031 N/A 0205302 Method Blank Aqueous <u>RL</u> DF Qual Units Parameter Result <u>RL</u> DF Qual Units Parameter Result ug/L ND 50 N-Nitrosodimethylamine ND 10 2,4-Dinitrophenol 1 ug/L 1 Aniline ND 10 1 ug/L 4-Nitrophenol ND 10 1 ug/L Dibenzofuran ND 10 Phenol ND 1 ug/L 10 1 ug/L Bis(2-Chloroethyl) Ether ND 25 1 ug/L 2.4-Dinitrotoluene ND 10 1 ug/L 2-Chlorophenol ND 10 2.6-Dinitrotoluene ND 10 1 ug/L. 1 ug/L **Diethyl Phthalate** ND 10 1,3-Dichlorobenzene 1 ug/L ND 10 1 ug/L 1.4-Dichlorobenzene ND 10 4-Chlorophenyl-Phenyl Ether ND 10 1 ug/L 1 ug/L Benzyl Alcohol Fluorene ND 10 1 ug/L ND 10 1 ug/L 1,2-Dichlorobenzene ND 10 1 ug/L 4-Nitroaniline ND 10 1 ug/L 10 ug/L Azobenzene ND 10 1 ug/L 2-Methylphenol ND 1 Bis(2-Chloroisopropyl) Ether 4,6-Dinitro-2-Methylphenol ND 50 1 ND 10 1 ug/L ug/L N-Nitrosodiphenylamine ND 10 1 ug/L 3/4-Methylphenol ND 10 1 ug/L ug/L Nitroso-di-n-propylamine ND 10 4-Bromophenyl-Phenyl Ether ND 10 1 1 ug/L .exachloroethane ND 10 1 ug/L Hexachlorobenzene ND 10 1 ug/L ND 10 1 ug/L Nitrobenzene ND 25 1 ug/L Pentachlorophenol Isophorone ND 10 Phenanthrene ND 10 1 ug/L 1 ug/L ug/L 2-Nitrophenol ND 10 1 Anthracene ND 10 1 ug/L ND 1 2,4-Dimethylphenol ND 10 1 ug/L **Di-n-Butyl Phthalate** 10 ug/L ND 10 1 Benzoic Acid ND 50 Fluoranthene ug/L 1 ug/L ND 50 Bis(2-Chloroethoxy) Methane ND 10 1 Benzidine 1 ug/L ug/L 2,4-Dichlorophenol ND 10 Pyrene ND 10 1 ug/L 1 ug/L ug/L 1,2,4-Trichlorobenzene Pyridine ND 10 1 ND 10 1 ug/L Butyl Benzyl Phthalate Naphthalene ND 10 ug/L ND 10 1 ug/L 1 4-Chloroaniline ND 10 1 ug/L 3,3'-Dichlorobenzidine ND 25 1 ug/L ug/L ND 10 1 Hexachloro-1,3-Butadiene ND Benzo (a) Anthracene 10 1 ug/L Bis(2-Ethylhexyl) Phthalate 4-Chloro-3-Methylphenol ND 10 1 ug/L ND 10 1 ug/L 2-Methylnaphthalene ND 10 Chrysene ND 10 1 ug/L 1 ug/L 1 Hexachlorocyclopentadiene Di-n-Octyl Phthalate ND 10 ug/L ND 25 1 ug/L 2,4,6-Trichlorophenol ND Benzo (k) Fluoranthene ND 10 1 ug/L 10 1 ug/L 2,4,5-Trichlorophenol Benzo (b) Fluoranthene ND 10 1 ug/L ND 10 1 ug/L ND 10 ug/L 2-Chloronaphthalene ND 10 1 ug/L Benzo (a) Pyrene 1 ug/L ND 10 2-Nitroaniline Benzo (g,h,i) Perylene 1 ND 10 1 ug/L ug/L ND ug/L **Dimethyl Phthalate** ND 10 1 Indeno (1,2,3-c,d) Pyrene 10 1 Acenaphthylene ND 10 1 ug/L Dibenz (a,h) Anthracene ND 10 1 ug/L 3-Nitroaniline 10 1-Methylnaphthalene ND 10 1 ug/L ND 1 ug/L Acenaphthene 10 ug/L ND 1 Surrogates: **REC (%)** Surrogates: REC (%) Control Qual Control Qual Limits <u>Limits</u> 2-Fluorophenol 51 15-138 Phenol-d6 33 17-141 Nitrobenzene-d5 74 56-123 2-Fluorobiphenyl 78 45-120 p-Terphenyl-d14 111 46-133 2,4,6-Tribromophenol 51 32-143

RL - Reporting Limit

DF - Dilution Factor Qual - Qualifiers



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460

Date Received:	 05/29/02
Work Order No:	02-05-1305
Preparation:	EPA 5030B
Method:	EPA 8260B

Project: NBR / HR0656-02

New 23

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GW-DRILL SITE 02-05-1305-1 05/29/02 Aqueous N/A 05/31/02 053002BW Parameter Result RL DF Qual Units Parameter Result RL DF Qual Units Benzene ND 10 1 ug/L 1,3-Dichloropropane ND 1.0 1 ug/L Bromobenzene ND 1.0 1 ug/L 2,2-Dichloropropane ND 1.0 1 ug/L Bromochloromethane ND 1.0 1 ug/L c-1,3-Dichloropropene ND 0.50 1 ug/L Bromofich Toromethane ND 1.0 1 ug/L tel.3-Dichloropropene ND 0.50 1 ug/L Bromofich Toromethane ND 1.0 1 ug/L tel.4-Sanone ND 10 1 ug/L 2-Butanone ND 1.0 1 ug/L Hethylop-Presentanone ND 10 1 ug/L 2-Butanone <th>Client Sample Number</th> <th></th> <th></th> <th>Lab Nu</th> <th>Sample umber</th> <th>е</th> <th>Date Collected</th> <th>Matrix</th> <th>Date Prepared</th> <th>Date Analyzed</th> <th>QC E</th> <th>Batch II</th> <th>D</th>	Client Sample Number			Lab Nu	Sample umber	е	Date Collected	Matrix	Date Prepared	Date Analyzed	QC E	Batch II	D
Parameter Result RL DF Qual Units Parameter Result RL DF Qual Units Acetone ND 10 1 ug/L 1,3-Dichloropropane ND 1.0 1 ug/L Benzene 120 0.50 1 ug/L 2,2-Dichloropropane ND 1.0 1 ug/L Bromochloromethane ND 1.0 1 ug/L c.1,3-Dichloropropene ND 0.50 1 ug/L Bromodichloromethane ND 1.0 1 ug/L c.1,3-Dichloropropene ND 0.50 1 ug/L Bromodichloromethane ND 10 1 ug/L 2-Hacanone ND 10 ug/L 2-Butanone ND 10 ug/L 2-Butanone ND 10 ug/L 2-Butanone ND 10 ug/L 2-Butanone ND 10 ug/L 1-Buty/benzene 2.9 1.0 1 ug/L 2-Butanone ND	GW-DRILL SITE		ang sa	02-	05-130	5-1	05/29/02	Aqueous	N/A	05/31/02	053	002BW	1
Acetone ND 10 1 ug/L 1,3-Dichloropropane ND 1.0 1 ug/L Benzene 120 0.50 1 ug/L 2,2-Dichloropropane ND 1.0 1 ug/L Bromobchromethane ND 1.0 1 ug/L 1,1-Dichloropropene ND 1.0 1 ug/L Bromodichloromethane ND 1.0 1 ug/L c.1-3-Dichloropropene ND 0.50 1 ug/L Bromodichloromethane ND 1.0 1 ug/L Ethylbenzene 2.3 1 1 ug/L Secomotificherzene ND 10 1 ug/L Ethylbenzene 2.3 1.0 1 ug/L Seco-Butylbenzene ND 10 1 ug/L Isopropylbenzene 2.8 1.0 1 ug/L Seco-Butylbenzene ND 1.0 1 ug/L Admitylbenzene ND 10 1 ug/L Sechobitylbenzen	Parameter	Result	RL	DF	Qual	Units	Parameter		Result	RL	DF Q	ual Ur	<u>nits</u>
Activity ND 10 1 ug/L 1, 2-bichloropropane ND 1.0 1 ug/L Bromobenzene ND 1.0 1 ug/L 2,2-bichloropropane ND 1.0 1 ug/L Bromodichloromethane ND 1.0 1 ug/L 1,1-bichloropropane ND 0.50 1 ug/L Bromodichloromethane ND 1.0 1 ug/L t-1,3-bichloropropane ND 0.50 1 ug/L Bromodichloromethane ND 1.0 1 ug/L t-1,3-bichloropropane ND 0.50 1 ug/L Bromodichloromethane ND 1.0 1 ug/L 2-Hexanone ND 1 ug/L Sec-Butylbenzene ND 1.0 1 ug/L 2-Hexanone ND 1 ug/L sec-Butylbenzene ND 1.0 1 ug/L 4-Methyl-2-Pentanone ND 10 ug/L carbon Disufide ND 0.50 </td <td>Acotono</td> <td></td> <td>10</td> <td>1</td> <td></td> <td></td> <td>1.3 Dichloropr</td> <td>0000</td> <td></td> <td>1.0</td> <td>4</td> <td>16</td> <td>a/I</td>	Acotono		10	1			1.3 Dichloropr	0000		1.0	4	16	a/I
District 120 0.00 1 0g/L 2,2-Dishlorophytam ND 1.0 1.0 1 0g/L Bromobenzene ND 1.0 1 ug/L 1,1-Dishloropropene ND 0.50 1 ug/L Bromobenzene ND 1.0 1 ug/L c-1,3-Dishloropropene ND 0.50 1 ug/L Bromobertane ND 1.0 1 ug/L 2-Haanone ND 10 1 ug/L 2-Butanone ND 1.0 1 ug/L 2-Haanone ND 10 ug/L Activatione ND 1.0 1 ug/L 2-Bernoptioure 2.9 1.0 1 ug/L P-Butybenzene ND 1.0 1 ug/L 2-Pernoptioure 2.9 1.0 1 ug/L carbon Disulifde ND 1.0 1 ug/L 4-Methyl-2-Pentanone ND 10 ug/L corbon Disulifde ND 1.0	Benzene	120	0.50	1		ug/L	2.2-Dichloropro	opane	ND	1.0			שי⊏ ח/I
Distributivative ND 1.0 1 ug/L 1,3-Distribution ND 1.0 1 ug/L Bromachloromethane ND 1.0 1 ug/L c-1,3-Distribution ND 0.50 1 ug/L Bromachloromethane ND 1.0 1 ug/L Ethylbenzene ND 1.0 1 ug/L Bromachloromethane ND 1.0 1 ug/L Ethylbenzene ND 1.0 1 ug/L Bromachloromethane ND 1.0 1 ug/L 2-Hexanone ND 1.0 1 ug/L 2-Butanone ND 1.0 1 ug/L 2-Hexanone 2.9 1.0 1 ug/L 2-Butanone ND 1.0 1 ug/L Methylenzene 2.8 1.0 1 ug/L carbon Disuffide ND 1.0 1 ug/L 1.1,1,2-Tetrachloroethane ND 1.0 1 ug/L chorobenzene <td< td=""><td>Bromohonzono</td><td></td><td>1.0</td><td>4</td><td></td><td>ug/L</td><td>1.1 Dichloropro</td><td>ppane</td><td></td><td>1.0</td><td>- A</td><td>uş UZ</td><td>y/⊑ ⊐/l</td></td<>	Bromohonzono		1.0	4		ug/L	1.1 Dichloropro	ppane		1.0	- A	uş UZ	y/⊑ ⊐/l
Distribution ND 1.0 1 ug/L Constraints ND 0.50 1 ug/L Bromodichloromethane ND 1.0 1 ug/L Ethylbenzene 23 1 1 ug/L Bromodichloromethane ND 1.0 1 ug/L Ethylbenzene 23 1 1 ug/L Bromodichloromethane ND 10 1 ug/L Esopropylbenzene 2.9 1.0 1 ug/L 2-Butanone ND 1.0 1 ug/L p-Isopropylbenzene 2.8 1.0 1 ug/L 2-Butanone ND 1.0 1 ug/L p-Isopropylbenzene 2.8 1.0 1 ug/L cabuylbenzene ND 1.0 1 ug/L AMethylene Chloride ND 10 1 ug/L carbon Disulfide ND 1.0 1 ug/L Nprephylbenzene A.8 1.0 1 ug/L carbon Tetrachloride	Bromochloromethane		1.0	4		ug/L	c.1 3-Dichloror	pronene	ND	0.50	4	u (y/⊑ ⊐/I
Distribution ND 1.0 1 ug/L Ethylbenzene ND 1.0 1 ug/L Bromoform ND 10 1 ug/L Ethylbenzene 23 1 1 ug/L 2-Butanone ND 10 1 ug/L 2-Hexanone ND 10 1 ug/L 2-Butanone ND 1.0 1 ug/L 2-Hexanone ND 1.0 1 ug/L 2-Butanone ND 1.0 1 ug/L 2-Hexanone ND 1.0 1 ug/L 2-Butanone ND 1.0 1 ug/L 4-Methyl-2-Pentanone ND 10 1 ug/L sec-Butylbenzene ND 1.0 1 ug/L Naphthalene 95 10 1 ug/L orbon Tetrachloride ND 1.0 1 ug/L Styrene ND 1.0 1 ug/L Chloroform ND 1.0 1 ug	Bromodichloromathane		1.0	4		ug/L ug/l	t 1 3 Dichloron	ropene		0.50		- uş	g/⊑ ⊐/l
Distribution ND 100 1 ug/L 2-Hexanone 2.0 1 1 ug/L 2-Butanone ND 10 1 ug/L 2-Hexanone ND 10 1 ug/L 2-Butanone ND 1.0 1 ug/L 1-sopropylbenzene 2.9 1.0 1 ug/L es-Butylbenzene ND 1.0 1 ug/L Methylene Chloride ND 10 1 ug/L sec-Butylbenzene ND 1.0 1 ug/L 4-Methyl-2-Pentanone ND 10 1 ug/L Carbon Disulfide ND 1.0 1 ug/L Anphthalene 95 10 1 ug/L iorobenzene ND 1.0 1 ug/L Styrene ND 1.0 1 ug/L Chlorobetnane ND 1.0 1 ug/L Tetrachloroethane ND 1.0 1 ug/L Chlororofum ND 1.0	Bromoform		1.0	1		ug/L	Ethylbonzono	Tohene	23	1	4	- u	y/⊑ ⊐/I
Dominieurate ND 10 1 ug/L 24 httanite ND 10 1 ug/L 2-Butanone ND 1.0 1 ug/L isopropylbenzene 2.9 1.0 1 ug/L n-Butylbenzene 1.8 1.0 1 ug/L p-lsopropylbenzene 2.8 1.0 1 ug/L carbon Disulfide ND 1.0 1 ug/L 4-Methyl-2-Pentanone ND 10 1 ug/L carbon Disulfide ND 1.0 1 ug/L n-Propylbenzene ND 1.0 1 ug/L orbon Tetrachloride ND 1.0 1 ug/L n-Propylbenzene ND 1.0 1 ug/L chlorostinane ND 1.0 1 ug/L 1,1,2-Tetrachloroethane ND 1.0 1 ug/L Chlorostine ND 1.0 1 ug/L 7,2-3-Trichlorobenzene ND 1.0 1 ug/L 2-Chlorotoluene	Bromomothano		10	÷		ug/L	2 Hovanone		ND	10			g/⊑ ⊐/l
Description ND 1.0 1 ug/L persponsibilitie 1.5 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 <th1.55< th=""> 1.55 1.55</th1.55<>	2-Butanone	ND	10	1		ug/L	leopropylbenze	no	29	10	- i	10	g/⊑ n/l
Instruction ND 1.0 1 ug/L perspring/inducted 1.0 1 ug/L tert-Butylbenzene 1.8 1.0 1 ug/L A-Methylene Chloride ND 10 1 ug/L Carbon Disulfide ND 10 1 ug/L Naphthalene 95 10 1 ug/L Carbon Tetrachloride ND 0.50 1 ug/L Naphthalene 95 10 1 ug/L Iorobenzene ND 1.0 1 ug/L Styrene ND 1.0 1 ug/L Chloroothane ND 1.0 1 ug/L 1,1,2-Tetrachloroethane ND 1.0 1 ug/L Chloroothane ND 1.0 1 ug/L Totacholoethane ND 1.0 1 ug/L Chloroothane ND 1.0 1 ug/L Totacholoethane ND 1.0 1 ug/L Chlorotoluene ND 1.0	n-Butylbonzono		1.0	1		ug/L	n leopropyltolu		2.5	1.0	4		y/⊑ ⊐/l
Sectory/benzene ND 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	sec-Butylbenzene	1.8	1.0	1		ug/L	Methylene Chl	orido		10	4		9/L 7/I
Carbon Disulfide ND 1.0 1 ug/L 4-weinty/2-1 entatione ND 10 1 ug/L "rbon Tetrachloride ND 0.50 1 ug/L n-Propylbenzene 4.8 1.0 1 ug/L "orbon Tetrachloride ND 1.0 1 ug/L n-Propylbenzene 4.8 1.0 1 ug/L Chloroothane ND 1.0 1 ug/L 1,1,1,2-Tetrachloroethane ND 1.0 1 ug/L Chloroothane ND 1.0 1 ug/L 1,1,1,2-Tetrachloroethane ND 1.0 1 ug/L Chloroform ND 1.0 1 ug/L Tetrachloroethane ND 1.0 1 ug/L 2-Chlorotoluene ND 1.0 1 ug/L Toluene 6.5 1.0 1 ug/L 1,2-Dibrormo-3-Chloropropane ND 5.0 1 ug/L 1,1,1-Trichloroethane ND 1.0 1 ug/L	tert Butylbenzene		1.0	1		ug/L	A Mothyl 2 Per	onue	ND	10	4	10	y/⊑ n/l
Calibration ND	Carbon Disulfide		10	1		ug/L	Nanhthalana	itarione	95	10	4		y/⊑ n/t
International ND 1.0 1 ug/L Interpretation 1.0 1.0 1 ug/L lorobenzene ND 1.0 1 ug/L Styrene ND 1.0 1 ug/L chloroethane ND 1.0 1 ug/L 1,1,2,2-Tetrachloroethane ND 1.0 1 ug/L Chloroform ND 1.0 1 ug/L Tetrachloroethane ND 1.0 1 ug/L Chlorotoluene ND 1.0 1 ug/L Tetrachloroethane ND 1.0 1 ug/L 2-Chlorotoluene ND 1.0 1 ug/L Tetrachloroethane ND 1.0 1 ug/L 2-Chlorotoluene ND 1.0 1 ug/L Toluene 6.5 1.0 1 ug/L 2-Chlorotoluene ND 1.0 1 ug/L 1,2,3-Trichlorobenzene ND 1.0 1 ug/L 1,2-Dibromoethane ND </td <td>arbon Tetrachloride</td> <td></td> <td>0.50</td> <td>- 1</td> <td></td> <td>ug/L</td> <td></td> <td>no</td> <td>4.8</td> <td>10</td> <td>4</td> <td>110</td> <td>g/⊑ ⊐/ł</td>	arbon Tetrachloride		0.50	- 1		ug/L		no	4.8	10	4	110	g/⊑ ⊐/ł
Induction ND 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 <th1.0< th=""> 1.0 <th1.0< th=""> <th1.0< <="" td=""><td>lorobenzene</td><td>ND</td><td>1.0</td><td>-</td><td></td><td>ug/L</td><td>Styrene</td><td></td><td>ND</td><td>1.0</td><td>i</td><td>10</td><td>9/_ n/l</td></th1.0<></th1.0<></th1.0<>	lorobenzene	ND	1.0	-		ug/L	Styrene		ND	1.0	i	10	9/ _ n/l
Onlocation ND 1.0 1 ug/L 1,1,2-Tetrachloroethane ND 1.0 1 ug/L Chloroform ND 1.0 1 ug/L 1,1,2,2-Tetrachloroethane ND 1.0 1 ug/L Chloromethane ND 10 1 ug/L Tetrachloroethane ND 1.0 1 ug/L 2-Chlorotoluene ND 1.0 1 ug/L Toluene 6.5 1.0 1 ug/L 4-Chlorotoluene ND 1.0 1 ug/L 1,2,3-Trichlorobenzene ND 1.0 1 ug/L 1,2-Dibromo-3-Chloropropane ND 5.0 1 ug/L 1,1,1-Trichlorobenzene ND 1.0 1 ug/L 1,2-Dibromo-3-Chloropropane ND 1.0 1 ug/L 1,1,2-Trichlorobenzene ND 1.0 1 ug/L 1,2-Dibromoethane ND 1.0 1 ug/L Trichloroethane ND 1.0 1 ug/L <	Chloroethane	ND	1.0	i i		ug/L	1 1 1 2-Tetrack	loroethane	ND	1.0	i	10	g/c n/l
ChloromethaneND1.01ug/LTetrachloroethaneND1.01ug/L2-ChlorotolueneND1.01ug/LTetrachloroetheneND1.01ug/L4-ChlorotolueneND1.01ug/LToluene6.51.01ug/L4-ChlorotolueneND1.01ug/L1,2,3-TrichlorobenzeneND1.01ug/LDibromochloromethaneND1.01ug/L1,2,4-TrichlorobenzeneND1.01ug/L1,2-Dibromo-3-ChloropropaneND5.01ug/L1,1,1-TrichloroethaneND1.01ug/L1,2-DibromoethaneND1.01ug/L1,1,2-TrichloroethaneND1.01ug/L1,2-DibromoethaneND1.01ug/LTrichloroethaneND1.01ug/L1,2-DibromoethaneND1.01ug/LTrichloroethaneND1.01ug/L1,2-DichlorobenzeneND1.01ug/LTrichlorofluoromethaneND1.01ug/L1,3-DichlorobenzeneND1.01ug/L1,2,3-TrichloroppaneND5.01ug/L1,4-DichlorobenzeneND1.01ug/L1,2,4-Trimethylbenzene4611ug/L1,4-DichloroethaneND1.01ug/L1,3,5-Trimethylbenzene1311ug/L1,2-Dichloro	Chloroform		1.0	1		ug/L	1 1 2 2 Tetrach	loroethane	ND	1.0	i	10	g/⊑ n/l
OntoinentineND1.01ug/LToluene1.01.01ug/L2-ChlorotolueneND1.01ug/LToluene6.51.01ug/L4-ChlorotolueneND1.01ug/L1,2,3-TrichlorobenzeneND1.01ug/LDibromochloromethaneND1.01ug/L1,2,4-TrichlorobenzeneND1.01ug/L1,2-Dibromo-3-ChloropropaneND5.01ug/L1,1,1-TrichloroethaneND1.01ug/L1,2-DibromoethaneND1.01ug/L1,1,2-TrichloroethaneND1.01ug/L1,2-DibromoethaneND1.01ug/LTrichloroethaneND1.01ug/L1,2-DichlorobenzeneND1.01ug/LTrichloroethaneND1.01ug/L1,3-DichlorobenzeneND1.01ug/L1,2,3-TrichloropropaneND101ug/L1,4-DichlorobenzeneND1.01ug/L1,2,4-Trimethylbenzene4611ug/L1,4-DichlorobenzeneND1.01ug/L1,3,5-Trimethylbenzene131ug/L1,1-DichloroethaneND1.01ug/LVinyl AcetateND101ug/L1,2-DichloroethaneND1.01ug/LVinyl ChlorideND0.501ug/L1,1-DichloroethaneND	Chloromethane		10	1		ug/L	Tetrachloroeth	ene	ND	1.0	1	10	a/L ⊐/l
2 - Onloced belowND1.01ug/L1.2.3-TrichlorobenzeneND1.01ug/L4-ChlorotolueneND1.01ug/L1.2.3-TrichlorobenzeneND1.01ug/LDibromochloromethaneND1.01ug/L1.2.4-TrichlorobenzeneND1.01ug/L1.2-Dibromo-3-ChloropropaneND5.01ug/L1.1.1-TrichloroethaneND1.01ug/L1.2-DibromoethaneND1.01ug/L1.1.2-TrichloroethaneND1.01ug/L1.2-DibromoethaneND1.01ug/LTrichloroethaneND1.01ug/L1.2-DichlorobenzeneND1.01ug/LTrichloroethaneND1.01ug/L1.3-DichlorobenzeneND1.01ug/L1.2.3-TrichloropropaneND101ug/L1.4-DichlorobenzeneND1.01ug/L1.2.4-TrimethylbenzeneND101ug/L1.4-DichlorobenzeneND1.01ug/L1.3.5-Trimethylbenzene4611ug/L1.4-DichloroethaneND1.01ug/LVinyl AcetateND101ug/L1.4-DichloroethaneND1.01ug/LVinyl AcetateND101ug/L1.2-DichloroethaneND0.501ug/LVinyl ChlorideND0.501ug/L	2-Chlorotoluene	ND	10	1		ug/L	Toluene	one	65	1.0	1	10	9/ – 1/I
Homological constraint ND 1.0 1 ug/L 1,2,0-Trichlorobenzene ND 1.0 1 ug/L Dibromochloromethane ND 1.0 1 ug/L 1,2,4-Trichlorobenzene ND 1.0 1 ug/L 1,2-Dibromo-3-Chloropropane ND 5.0 1 ug/L 1,1,1-Trichlorobenzene ND 1.0 1 ug/L 1,2-Dibromo-3-Chloropropane ND 1.0 1 ug/L 1,1,1-Trichlorobenzene ND 1.0 1 ug/L 1,2-Dibromoethane ND 1.0 1 ug/L Trichlorobenzene ND 1.0 1 ug/L 1,2-Dichlorobenzene ND 1.0 1 ug/L Trichlorofluoromethane ND 1.0 1 ug/L 1,3-Dichlorobenzene ND 1.0 1 ug/L 1,2,3-Trichloropropane ND 5.0 1 ug/L 1,4-Dichlorobenzene ND 1.0 1 ug/L 1,2,4-Trimethylbenzene 46 1	4-Chlorotoluene		1.0	4		ug/L ug/l	1.2.3.Trichloro	hanzana	ND	1.0	-	10	g/⊆ n/l
Distribution location (1,2-bibromo-3-Chloropropane (1,2-bibromo-3-Chloropropane (1,2-bibromo-3-Chloropropane)ND1.01ug/L1,2-bibromo-3-Chloropropane (1,2-bibromoethane)ND1.01ug/Lug/L1,1,1-TrichloroethaneND1.01ug/L1,2-bibromoethaneND1.01ug/L1,1,2-TrichloroethaneND1.01ug/LDibromomethaneND1.01ug/LTrichloroethaneND1.01ug/L1,2-bichlorobenzene1.31.01ug/LTrichloroethaneND1.01ug/L1,3-bichlorobenzeneND1.01ug/L1,2,3-TrichloropropaneND5.01ug/L1,4-DichlorobenzeneND1.01ug/L1,2,4-Trimethylbenzene4611ug/L1,4-DichlorobenzeneND1.01ug/L1,3,5-Trimethylbenzene131ug/L1,1-DichloroethaneND1.01ug/LVinyl AcetateND101ug/L1,2-DichloroethaneND0.501ug/LVinyl ChlorideND0.501ug/L1,2-DichloroethaneND1.01ug/LVinyl ChlorideND0.501ug/L1,2-DichloroethaneND0.501ug/LVinyl ChlorideND0.501ug/L1,1-DichloroethaneND1.01ug/Lp/m-Xylene931	Dibromochloromethane		1.0	1		ug/L ug/l	1.2.4-Trichloro	bonzono	ND	1.0	i.	110	g,⊑ ∩/I
1,2-Diblomose theory optimeND1.01ug/L1,1,2-TrichloroethaneND1.01ug/L1,2-Diblomose thaneND1.01ug/L1,1,2-TrichloroethaneND1.01ug/LDibromomethaneND1.01ug/LTrichloroethaneND1.01ug/L1,2-Dichlorobenzene1.31.01ug/LTrichloroethaneND1.01ug/L1,3-DichlorobenzeneND1.01ug/L1,2,3-TrichloropropaneND5.01ug/L1,4-DichlorobenzeneND1.01ug/L1,2,4-Trimethylbenzene4611ug/L1,1-DichloroethaneND1.01ug/L1,3,5-Trimethylbenzene131ug/L1,2-DichloroethaneND1.01ug/LVinyl AcetateND101ug/L1,2-DichloroethaneND0.501ug/LVinyl ChlorideND0.501ug/L1,1-DichloroethaneND1.01ug/LVinyl ChlorideND0.501ug/L1,1-DichloroethaneND1.01ug/Lp/m-Xylene9311ug/L	1.2-Dibromo-3-Chloropropage		5.0	1		ug/L	1,2,4-Trichloro	othana	ND	1.0	- i	10	9/ L n/l
N.2DiscontentativeND1.01ug/L $1,1,2$ $1,1,2$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ $1,0$ <	1.2-Dibromoethane	ND	1.0	1		ug/L ug/l	1,1,1-Trichloro	othano	ND	1.0	ં	10	g/L n/l
DistributionNDND1.01ug/LInclusionND1.01ug/L1,2-Dichlorobenzene1.31.01ug/LTrichlorofluoromethaneND101ug/L1,3-DichlorobenzeneND1.01ug/L1,2,3-TrichloropropaneND5.01ug/L1,4-DichlorobenzeneND1.01ug/L1,2,4-Trimethylbenzene4611ug/L1,1-DichlorobenzeneND1.01ug/L1,3,5-Trimethylbenzene1311ug/L1,1-DichlorobethaneND1.01ug/LVinyl AcetateND101ug/L1,2-DichlorobethaneND0.501ug/LVinyl ChlorideND0.501ug/L1,1-DichlorobethaneND1.01ug/LVinyl ChlorideND0.501ug/L1,1-DichlorobethaneND1.01ug/Lp/m-Xylene9311ug/L	Dibromomethane	ND	1.0	1		ug/L ug/l	Trichloroethen		ND	1.0	- i	110	n/l
1,3-DichlorobeizeneND1.01ug/LInclusion discretionation of the unit in the interval in the unit of the unit in the unit interval in the unit of the unit interval in the unit interval in	1.2-Dichlorobanzana	13	1.0	1		ug/L	Trichlorofluoro	e methane	ND	10	ा		g/L n/l
1,4-DichlorobenzeneND1.01ug/L1,2,3-TrimethylbenzeneND1.01ug/L1,4-DichlorobenzeneND1.01ug/L1,2,4-Trimethylbenzene4611ug/LDichlorodifluoromethaneND1.01ug/L1,3,5-Trimethylbenzene1311ug/L1,1-DichlorobethaneND1.01ug/LVinyl AcetateND101ug/L1,2-DichloroethaneND0.501ug/LVinyl ChlorideND0.501ug/L1,1-DichloroethaneND1.01ug/Lp/m-Xylene9311ug/L	1.3-Dichlorobenzene	ND.	1.0	1		ug/L	1.2.3 Trichloro	nicinalie		5.0	i.	- U(g/⊑ n/l
InstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructionInstructi	1.4-Dichlorobenzene		1.0	1		ug/L	1.2.1-Trimethy	lbonzono	46	1	1	110	g/⊑ n/l
Indicident of the final of t	Dichlorodifluoromethane		1.0	1		ug/L	1.2.4-Thinethy	lbenzene	13	1	1	10	g/⊑ n/l
1,1-DichloroethaneND1.01 ug/L Vinyl ChlorideND1.01 ug/L 1,2-DichloroethaneND0.501 ug/L Vinyl ChlorideND0.501 ug/L 1,1-DichloroethaneND1.01 ug/L p/m -Xylene9311 ug/L	1 1-Dichloroethane	ND	1.0	4		ug/L	Vinul Acetate			10	1		9/L n/l
1,1-Dichloroethene ND 1.0 1 ug/L p/m-Xylene 93 1 1 ug/L	1.2-Dichloroethane	ND	0.50	1		ug/L	Vinyl Chloride		ND	0.50	1	10	g/L n/l
	1 1-Dichloroethene		1.0	1		ug/L	n/m Yvlene		93	1	i.	10	g/L n/l
c-12 Dichloroethene ND 10 1 ug// c Yulene 70 1 1 ug//	c-1 2-Dichloroethene	ND	1.0	4		ug/L	o Yvlene		70	1	- i	11	g, L n/l
t-12-Dichloroethene ND 1.0 1 ug/l Mathyl-t-Rub/LEther (MTRE) ND 1.0 1 ug/l	t-1 2-Dichloroethana	ND	1.0	4		ug/L	Methyl_t_Rubyl	Ether (MTRE)	ND	10	4	10	, ⊑ n/l
12-Dichloropropage ND 10 1 ug/l	1.2-Dichloropropape	ND	1.0	1		ug/L	meany		110	1.0		u,	9, -
Te-controlopiopane no i.u i ugr. Surrogates: PEC (%) Control Qual	Surrogates:	REC (%)	Control	1	Qual	uy/L	Surrogatos:		REC (%)	Control	\cap	Icu	
Sunogates. NEC [/a] Control Qual Sunogates. NEC [/a] Control Qual	ounoyates.	NEC [70]	Limite	0	Qual		ouriogates.		<u>NEC [70]</u>	Limite	<u>q</u>	uai	
Linus Linus	Dibromofluoromethane	95	86-118				Toluene-d8		98	88-110			
1.4-Bromofluorobenzene 101 86-115	1.4-Bromofluorobenzene	101	86-115						00	00 110			

Qual - Qualifiers



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460

Date Received:	05/29/02
Work Order No:	02-05-1305
Preparation:	EPA 5030B
Method:	EPA 8260B

Project: NBR / HR0656-02

Page 2 of 2

Client Sample Number			Lab S Nu	Sample mber	•	Date Collected	Matrix	Date Prepared	Date Analyzed	QC	Batc	h ID
Method Blank			099-	10-006	6-5,296	N/A	Aqueous	N/A	05/31/02	05	3002	вw
			Homescray	CE000.00007								
Parameter	Result	<u>RL</u>	DF	<u>Qual</u>	<u>Units</u>	Parameter		<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>
Acetone	ND	10	1		ug/L	1,3-Dichloropr	opane	ND	1.0	1		ug/L
Benzene	ND	0.50	1		ug/L	2,2-Dichloropr	opane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropr	opene	NĎ	1.0	1		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichloro	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichloro	propene	ND	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	10	1		ug/L	2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1		ug/L	Isopropylbenz	ene	ND	1.0	1		ug/L
n-Butvlbenzene	ND	1.0	1		ug/L	p-Isopropyltol	uene	ND	1.0	1		ug/L
sec-Butvibenzene	ND	1.0	1		ug/L	Methylene Ch	loride	ND	10	1		ug/L
tert-Butvlbenzene	ND	1.0	1		ug/L	4-Methyl-2-Pe	entanone	ND	10	1		ug/L
Carbon Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L
Carbon Tetrachloride	ND	0.50	1		ug/L	n-Propylbenze	ene	ND	1.0	1		ug/L
orobenzene	ND	1.0	1		ug/L	Styrene		ND	1.0	1		ug/L
loroethane	ND	1.0	1		ug/L	1,1,1,2-Tetrac	hloroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1		ug/L	1,1,2,2-Tetrac	hloroethane	ND	1.0	1		ug/L
Chloromethane	ND	10	1		ug/L	Tetrachloroeth	nene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1		ug/L	Toluene		ND	1.0	1		ug/L
4-Chlorotoluene	ND	1.0	1		ug/L	1,2,3-Trichlor	obenzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	-1		ug/L	1,2,4-Trichlor	obenzene	ND	1.0	1		ug/L
1.2-Dibromo-3-Chloropropane	ND	5.0	1		ug/L	1,1,1-Trichlord	oethane	ND	1.0	1		ug/L
1.2-Dibromoethane	NÐ	1.0	1		ug/L	1,1,2-Trichlor	oethane	ND	1.0	1		ug/L
Dibromomethane	ND	1.0	1		uq/L	Trichloroether	ne	ND	1.0	1		ug/L
1.2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluor	omethane	ND	10	1		ug/L
1.3-Dichlorobenzene	ND	1.0	1		ug/L	1,2,3-Trichlor	opropane	ND	5.0	1		ug/L
1.4-Dichlorobenzene	ND	1.0	1		ug/L	1,2,4-Trimeth	ylbenzene	ND	1.0	1		ug/L
Dichlorodifluoromethane	ND	1.0	1		ua/L	1,3,5-Trimeth	vlbenzene	ND	1.0	1		ug/L
1.1-Dichloroethane	ND	1.0	1		ug/L	Vinyl Acetate		ND	10	1		ug/L
1.2-Dichloroethane	ND	0.50	1		ug/L	Vinyl Chloride	;	ND	0.50	1		ug/L
1.1-Dichloroethene	ND	1.0	1		ua/L	p/m-Xvlene		ND	1.0	1		ug/L
c-1 2-Dichloroethene	ND	1.0	1		ua/L	o-Xvlene		ND	1.0	1		ug/L
t-1.2-Dichloroethene	ND	1.0	1		ug/L	Methyl-t-Butyl	Ether (MTBE)	ND	1.0	1		ug/L
1.2-Dichloropropane	ND	1.0	1		uq/L		,,					
Surrogates:	REC (%)	Control	•	Qual	J · =	Surrogates:		REC (%)	Control	21 22	Qual	
		Limits							Limits			
Dibromofluoromethane	101	86-118				Toluene-d8		98	88-110			
1,4-Bromofluorobenzene	91	86-115										

RL - Reporting Limit , DF - Dilution Factor ,

Qual - Qualifiers



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GeoSyntec Consultants	Date Received:	05/29/02
2100 Main Street, Suite 150	Work Order No:	02-05-1305
Huntington Beach, CA 92648-2460	Preparation:	Total Digestion
0	Method:	EPA 6010B
Project: NBR / HR0656-02		

Quality Control Sample ID	Matrix	Instrument	Date Prepared		Date Analyzed	MS/MSD Batch Number
GW-DRILL SITE	Aqueous	ICP 3300	05/30/02		05/31/02	053002ms5
Parameter	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Antimony	91	92	80-120	1	0-20	
Arsenic	90	91	80-120	1	0-20	
Barium	88	90	80-120	1	0-20	
Beryllium	86	87	80-120	1	0-20	
Cadmium	85	87	80-120	1	0-20	
Chromium (Total)	87	87	80-120	1	0-20	
Cobalt	90	91	80-120	1	0-20	
Copper	93	93	80-120	0	0-20	
Lead	85	85	80-120	1	0-20	
Molybdenum	85	85	80-120	1	0-20	
Nickel	88	89	80-120	1	0-20	
Selenium	85	86	80-120	1	0-20	
Silver	88	89	80-120	1	0-20	
Thallium	79	80	80-120	1	0-20	3
Vanadium	87	88	80-120	1	0-20	
Zinc	98	99	80-120	1	0-20	

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Quality Control - Laboratory Control Sample

GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460 Date Received: Work Order No: Preparation: Method: 05/29/02 02-05-1305 Total Digestion EPA 6010B

Project: NBR / HR0656-02

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LC	CS Batch Number
097-01-003-2,406	Aqueous	ICP 3300	05/31/02	020530-1		020530lcs5
Parameter		Conc Added	Conc Recovered	<u>%Rec</u>	<u>%Rec CL</u>	Qualifiers
Antimony		1.00	1.03	103	80-120	
Arsenic		1.00	0.986	99	80-120	
Barium		1.00	1.09	109	80-120	
Beryllium		1.00	0.976	98	80-120	
Cadmium		1.00	0.998	100	80-120	
Chromium (Total)		1.00	1.02	102	80-120	
Cobalt		1.00	1.08	108	80-120	
Copper		1.00	0.996	100	80-120	
Lead		1.00	1.01	101	80-120	
Molybdenum		1.00	0.996	100	80-120	
Nickel		1.00	1.06	106	80-120	
Selenium		1.00	0.935	94	80-120	
Silver		0.500	0.489	98	80-120	
Thallium		1.00	1.01	101	80-120	
Vanadium		1.00	0.999	100	80-120	
Zinc		1.00	1.03	103	80-120	



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Quality Control - Spike/Spike Duplicate

GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460		Date R Work 0 Prepar Methoo	Received: Drder No: ation: d:		Т	05/29/02 02-05-1305 otal Digestion EPA 7470A
Project: NBR / HR0656-02						
Quality Control Sample ID	Matrix	Instrument	Date Prepared		Date Analyzed	MS/MSD Batch Number
02-05-1243-1	Aqueous	Mercury	05/30/02		06/03/02	053002ms6
Parameter	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	<u>RPD C</u>	L Qualifiers
Mercury	83	73	71-134	13	0-14	



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Quality Control - Laboratory Control Sample

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GeoSyntec Consulta 2100 Main Street, Su Huntington Beach, C	nts iite 150 A 92648-2460		Date Received Work Order No Preparation: Method:	l: D:	05/29/02 02-05-1305 Total Digestion EPA 7470A
Project: NBR / HF	R0656-02				
Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-04-008-846	Aqueous	Mercury	06/03/02	020530	020530lcs6
Parameter		Conc Added	Conc Recovered	<u>%Rec</u>	<u>%Rec CL</u> Qualifiers
Mercury		0.0100	0.00984	98	90-122

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GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648-2460		Date R Work C Prepara Method	eceived: Drder No: ation: I:			05/29/02 02-05-1305 EPA 5030B EPA 8015M
Project: NBR / HR0656-02						
Quality Control Sample ID	Matrix	Instrument	Date Prepared		Date Analyzed	MS/MSD Batch Number
02-05-1174-1	Aqueous	GC 1	N/A		05/30/02	02052902ms
Parameter	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	<u>RPD CL</u>	Qualifiers
TPH as Gasoline	102	119	72-120	15	0-21	



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Quality Control - LCS/LCS Duplicate

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GeoSyntec Consultants	Date Received:	05/29/02
2100 Main Street, Suite 150	Work Order No:	02-05-1305
Huntington Beach, CA 92648-2460	Preparation:	EPA 5030B
3	Method:	EPA 8015M
Project: NBR / HR0656-02		

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bat Number	ch
098-03-006-2,701	Aqueous	GC 1	N/A	05/30/02	02052902sa	1.194
Parameter	LCS %	REC LCSD	%REC %F	REC CL RP	D RPD CL	Qualifiers
TPH as Gasoline	114	113	8	1-123 0	0-17	



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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received:	05/29/02
2100 Main Street, Suite 150	Work Order No:	02-05-1305
Huntington Beach, CA 92648-2460	Preparation:	Ext. + D/I
0	Method:	EPA 8015M
Project: NBR / HR0656-02		

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Da Anal	ite yzed	LCS/LCSD Bate Number	ch
098-03-003-1,012	Aqueous	GC 15	05/29/02	05/29	9/02	02052905sa	
Parameter	LCS %	REC LCSD	<u>%REC 9</u>	<u> %REC CL</u>	RPD	RPD CL	Qualifiers
TPH as Diesel	106	100)	67-128	6	0-21	

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501



Quality Control - LCS/LCS Duplicate

Coo Suntoo Concultonto	Date Received:	05/29/02
2100 Main Street, Suite 150	Work Order No:	02-05-1305
2100 Main Street, Suite 150	Brongration:	Extraction
Huntington Beach, CA 92648-2460	Method:	EPA 418.1
Project: NBR / HR0656-02		

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/	LCSD Batch	י
099-07-016-36	Aqueous	IR #1	05/29/02	05/30/02	02	052905sa	
Parameter	LCS %	6REC LCSD	<u>%REC %</u> F	RECCL	<u>RPD</u> <u>F</u>	<u>PD CL</u>	Qualifiers
TRPH	105	95	; ,	70-130	10	0-30	

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Pentachlorophenol

Pyrene

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Quality Control - LCS/LCS Duplicate

Qualifiers

GeoSyntec Consultants	Date Received:	05/29/02
2100 Main Street, Suite 150	Work Order No:	02-05-1305
Huntington Beach, CA 92648-2460	Preparation:	EPA 3510B
5	Method:	EPA 8270C
Project: NBR / HR0656-02		

LCS/LCSD Batch Date Date Analyzed Number Quality Control Sample ID Prepared Instrument Matrix 0205302 05/30/02 05/30/02 095-01-003-1,031 Aqueous GC/MS Y <u>RPD</u> RPD CL LCSD %REC %REC CL Parameter LCS %REC 12-151 9 0-23 38 35 Phenol 7 0-18 2-Chlorophenol 69 74 45-135 36-118 2 0-26 100 98 1,4-Dichlorobenzene 4 0-13 52-128 95 N-Nitroso-di-n-propylamine 99 4 0-21 1,2,4-Trichlorobenzene 104 101 42-120 20-150 1 0-40 89 88 4-Chloro-3-Methylphenol 5 0-11 115 110 51-137 Acenaphthene 0-40 38 20-150 1 4-Nitrophenol 38 0 0-36 81 81 25-143 2,4-Dinitrotoluene

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20-150

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GeoSyntec Consultants		Date Rec	ceived:		05/29/02
2100 Main Street, Suite 150		Work Ord	der No:		02-05-1305
Huntington Beach, CA 92648-2460		Preparati	ion:		EPA 5030B
-		Method:			EPA 8260B
Project: NBR / HR0656-02					
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
02-05-1181-64	Aqueous	GC/MS U	N/A	05/31/02	0205118164

Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Benzene	111	111	72-127	1	0-25	
Carbon Tetrachloride	109	110	70-130	1	0-25	
Chlorobenzene	109	109	72-131	0	0-25	
1,2-Dichlorobenzene	108	110	70-130	2	0-25	
1,1-Dichloroethene	102	104	69-127	2	0-25	
Toluene	108	107	75-124	1	0-25	
Trichloroethene	109	111	60-137	2	0-25	
Vinyl Chloride	110	111	70-130	1	0-25	
Methyl-t-Butyl Ether (MTBE)	113	114	80-120	1	0-25	
Ethanol	115	114	60-140	1	0-25	

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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received:	05/29/02
2100 Main Street, Suite 150	Work Order No:	02-05-1305
Huntington Beach, CA 92648-2460	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project: NBR / HR0656-02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	D Ana	ate Ilyzed	LCS/LCSD Bato Number	ch
099-10-006-5,296	Aqueous	GC/MS U	N/A	05/3	31/02	053002BW	S. S. S. S. S.
Parameter	LCS %R	EC LCSD %	REC <u>%</u> F	REC CL	RPD	RPD CL	Qualifiers
Benzene	110	111	17	72-127	0	0-25	
Carbon Tetrachloride	109	109	17	70-130	0	0-25	
Chlorobenzene	108	109	-	72-131	1	0-25	
1,2-Dichlorobenzene	107	107	l.	70-130	0	0-25	
1,1-Dichloroethene	107	108	ť	69-127	1	0-25	
Toluene	110	111	-	75-124	1	0-25	
Trichloroethene	110	111	(60-137	2	0-25	
Vinyl Chloride	112	111	i.	79-118	1	0-25	
Methyl-t-Butyl Ether (MTBE)	111	112	:	80-120	1	0-25	
Tert-Butyl Alcohol (TBA)	114	116	(60-140	2	0-25	
Diisopropyl Ether (DIPE)	111	112	(60-140	0	0-25	
Ethyl-t-Butyl Ether (ETBE)	109	110	(60-140	1	0-25	
Tert-Amyl-Methyl Ether (TAME)	112	114	-	60-140	2	0-25	
Ethanol	117	115		60-140	2	0-25	

GLOSSARY OF TERMS AND QUALIFIERS



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Work Order Number: 02-05-1305

<u>Qualifier</u>	Definition
3	Spike or Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
ND	Not detected at indicated reporting limit.

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ПЕ. И и велиния т.х. и и зактой П. С. И. С. С. И. И. С. И. И. И. И. С. И. И. И. И. И. С. И.	GARDEN GROVE, CA 9	3, INC. VAY 92841-1432	Date	5/29/0
Оровек 2 100 M. M.M. Stread 1 N. 15/L H.D. C.G. 5 U.A. 17 (2) B. W. BR 90 (2) 01 Н.V. T.N. (C.T.N. N. SETTER 4 120) Process 1 # 1.20 Process 1 # 1.20 01 H.V. T.N. (C.T.N. N. SETTER 4 120) Process 1 # 1.20 Process 1 # 1.20 01 T. M. T.N. (C.T.N. N. SETTER 4 120) Process 1 # 1.20 Process 1 # 1.20 01 T. M. T.N. (C.T.N. N. SETTER 4 120) Process 1 Process 1 Process 1 # 1.20 Process 1	LABORATORY CLIENT:		CLIENT PROJECT NAME / NUMBER:	P.O. NO.
mones Z10.0 MAN The Control The Contro The Control	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	SIMMINIC LOUD JALAN	NBR /HROBS 6-0	2
М.М.П.Л.С.Т. И. SCRNCH ^{Mare} (A) 7.2.06 Вилинейскурни, 1 С. В. И. С. О. 1 П. П. И. И. С. О. 1 П. П. И. П. П. И. О	AUDRESS ZIDO WAN	1 Shreet, #150	PROJECT CONTACT: DT IC SIM AL STIC	
¹¹ ¹¹ ¹¹ ¹¹ ¹¹ ¹¹ ¹¹ ¹¹	N OF DNFNH I	J BETREH "IME CA 92648	SAMPLERISHSIGNATURE) COFIT LOG CO	
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June 15, 2001

Eric Smalstig GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

Subject: Calscience Work Order No.: Client Reference:

01-06-0506 Banning Ranch/HR0575-03

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/11/01 and analyzed in accordance with the attached chain-of-custody.

The results in this analytical report are limited to the samples tested and any reproduction of this report must be made in its entirety.

If you have any questions regarding this report, require sampling supplies or field services, or information on our analytical services, please feel free to call me at (714) 895-5494.

Sincarely,

Calscience Environmental Laboratories, Inc. Stephen Nowak Project Manager

William H. Christensen Quality Assurance Manager





RE: Banning Ranch/HR0575-03	Page 1 of 1	
Attn: Eric Smalstig	Method:	EPA 418.1
	Work Order No.:	01-06-0506
	Date Analyzed:	06/12/01
Huntington Beach, CA 92648	Date Extracted:	06/12/01
2100 Main Street, Suite 150	Date Received:	06/11/01
GeoSyntec Consultants	Date Sampled:	06/11/01

All total recoverable petroleum hydrocarbon concentrations are reported in mg/L (ppm). Reporting Sample Number Concentration Limit 02-GW-005 ND 1.0 02-GW-004 ND 1.0 08-GW-001 ND 1.0 Method Blank ND 1.0

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.



GeoSyntec Consult			Date		06/11/01				
2100 Main Street, S	Suite 150				Wor		01-06-0506		
Huntington Beach,			Prep	paration:			N/A		
					Meth	nod:			EPA 150.1
Project: Banning R	anch/HR0575-	03							Page 1 of 1
Client Sample Number:		Lat N	o Sample lumber:		Matrix:	Date Collected:	Date Prepared:	Date Analyzed:	QC Batch ID:
02-GW-005	Han Han an a	01-06	-0506-1		Aqueous	06/11/01	N/A	06/11/01	0611PHDUP1
Parameter	Result	RL	DF	Qual	<u>Units</u>				
рН	6.86	0.01	1		pH UNIT				
02-GW-004	nt Litterin	01-06	-0506-2		Aqueous	06/11/01	N/A	06/11/01	0611PHDUP1
Parameter	Result	RL	DF	Qual	Units				
рH	6.96	0.01	1		pH UNIT				
08-GW-001		01-06	-0506-3		Aqueous	06/11/01	N/A	06/11/01	0611PHDUP1
rameter	Result	RL	DF	Qual	Units				
рH	6.95	0.01	1		pH UNIT				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



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ANALYTICAL REPORT

GeoSyntec Consultar 2100 Main Street, Su Huntington Beach, C	nts ite 150 A 92648		Date Received: Work Order No: Preparation: Method:						06/11/01 01-06-0506 N/A EPA 300.0			
Project: Banning Ra	anch/HR05	575-03								Pag	e 1 of 1	
Client Sample Number:			Lat N	o Samp umber	ble :	Date Collected:	Matrix:	Date Prepared:	Date Analyzed	QC Bate	ch ID:	
02-GW-005			01-	06-050	6-1	06/11/01	Aqueous	N/A	06/11/01	010611		
Parameter	Result	<u>RL</u>	DF	<u>Qual</u>	<u>Units</u>	Parameter		Result	<u>RL</u>	<u>DF</u> Qual	<u>Units</u>	
Chloride Nitrite-N	1800 ND	500 1.0	500 10	D	mg/L mg/L	Nitrate-N Sulfate		ND 290	1.0 100	10 100 D	mg/L mg/L	
02-GW-004			01-	06-050	6-2	06/11/01	Aqueous	N/A	06/11/01	010611		
Parameter	Result	<u>RL</u>	DF	<u>Qual</u>	<u>Units</u>	Parameter		Result	RL	DF Qual	<u>Units</u>	
Chloride Nitrite-N	750 ND	100 1.0	100 10	D	mg/L mg/L	Nitrate-N Sulfate		ND 380	1.0 100	10 100 D	mg/L mg/L	
SW-001			01-	06-050	6-3	06/11/01	Aqueous	N/A	06/11/01	010611		
Parameter	Result	RL	DF	Qual	<u>Units</u>	Parameter		Result	RL	DF Qual	Units	
Chloride Nitrite-N	5400 ND	2000 10	2000 100	Ð	mg/L mg/L	Nitrate-N Sulfate		ND 150	10 100	100 100	mg/L mg/L	
Method Blank			099	-05-11	8-16	N/A	Aqueous	N/A	06/11/01	010611		
Parameter	Result	<u>RL</u>	DF	Qual	<u>Units</u>	Parameter		Result	RL	DF Qual	<u>Units</u>	
Chloride Nitrite-N	ND ND	1.0 0.10	1 1		mg/L mg/L	Nitrate-N Sulfate		ND ND	0.10 1.0	1 1	mg/L mg/L	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Sec. 1

Copper

Mercury

Molybdenum

Lead

ANALYTICAL REPORT

Page 1 of 2

mg/L

mg/L

mg/L

mg/L

GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	Total Digestion
	Method:	EPA 6010B / EPA 7470A

Project: Banning Ranch/HR0575-03

Client Sample Number:		Lat N	o Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	Q	C Bato	h ID:	
02-GW-005			01-	06-050	6-1	06/11/01	Aqueous	06/11/01	06/12/01	0	106111	cs7
Comment(s):	Mercury was analyze	d on 6/12/01 2:3	5:32	PM with	batch 01	06111cs7						
Parameter	Resu	<u>itt RL</u>	DF	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	Units
Antimony	ND	0.0150	1		mg/L	Nickel		0.0182	0.0050	1		mg/L
Arsenic	ND	0.0150	1		mg/L	Selenium		ND	0.0150	1		mg/L
Barium	0.	.0688 0.0100	1		mg/L	Silver		ND	0.00500	1		mg/L
Beryllium	ND	0.0010) 1		mg/L	Thallium		ND	0.0150	1		mg/L
Cadmium	ND	0.00500) 1		mg/L	Vanadium		ND	0,00500	1		mg/L
Chromium (Total)	ND	0,00500	D 1		mg/L	Zinc		0.0242	0.0100	1		mg/L
Cobalt	ND	0.00500) 1		mg/L	Calcium		203	1	10	D	mg/L
Copper	ND	0.00500) 1		mg/L	Iron		3.64	0.10	1		mg/L
Lead	ND	0.0100	1		mg/L	Magnesium		107	1	10	D	mg/L
Mercury	ND	0.00050) 1		mg/L	Manganese		1.44	0.00500	1		mg/L
Molybdenum	0.	.0567 0.0050	1		mg/L	Sodium		1350	5	10	D	mg/L
-GW-004			01-	06-050	6-2	06/11/01	Aqueous	06/11/01	06/12/01	0	106111	cs7
Comment(s):	Mercury was analyze	d on 6/12/01 2:2	0:22	PM with	batch 01	0611Ics7						
Parameter	Resu	<u>It RL</u>	DF	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	Units
Antimony	ND	0.0150	1		mg/L	Nickel		ND	0,00500	1		mg/L
Arsenic	ND	0.0150	1		mg/L	Selenium		ND	0.0150	1		mg/L
Barium	0.1	07 0.010	1		mg/L	Silver		ND	0.00500	1		mg/L
Beryllium	ND	0.00100) 1		mg/L	Thallium		ND	0.0150	1		mg/L
Cadmium	ND	0.00500) 1		mg/L	Vanadium		ND	0.00500	1		mg/L
Chromium (Total)	ND	0,00500) 1		mg/L	Zinc		0.154	0.010	1		mg/L
Cobalt	ND	0.00500) 1		mg/L	Calcium		93.8	0.1	1		mg/L

mg/L

mg/L

mg/L

mg/L

Iron

Magnesium

Manganese

Sodium

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

ND

ND

ND

0.0240

0.00500 1

0.00050 1

1

1

0.0100

0.0050

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ND

746

58.6

0.198

0.100

0.005

0.1

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ANALYTICAL REPORT

Page 2 of 2

Date Received:	06/11/01
Work Order No:	01-06-0506
Preparation:	Total Digestion
Method:	EPA 6010B / EPA 7470A
	Date Received: Work Order No: Preparation: Method:

Project: Banning Ranch/HR0575-03

Client Sample Nu	mber:			Lab N	Samp umber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC	C Batc	h ID:
08-GW-001				01-	06-050	6-3	06/11/01	Aqueous	06/11/01	06/12/01	01	106111	cs7
Comment(s):	Mercury was analy	yzed on 6/	12/01 2:38	3:32 F	PM with	batch 0	10611lcs7						
Parameter	Re	esult	RL	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	Units
Antimony	NE	C	0.0150	1		mg/L	Nickel		0.00537	0.0050	1		mg/L
Arsenic	NE	C	0.0150	1		mg/L	Selenium		ND	0.0150	1		mg/L
Barium		0.114	0.010	1		mg/L	Silver		ND	0.0050	1		mg/L
Beryllium	NE)	0.0010	1		mg/L	Thallium		ND	0.0150	1		mg/L
Cadmium	NE)	0.0050	1		mg/L	Vanadium		0.0605	0.0050	1		mg/L
Chromium (Total)		0.0108	0.0050	1		mg/L	Zinc		0.0355	0.0100	1		mg/L
Cobalt	NE	5	0.0050	1		mg/L	Calcium		228	1	10	D	mg/L
Copper	NE)	0.0050	1		mg/L	Iron		0.210	0.100	1		mg/L
Lead	NC)	0.0100	1		mg/L	Magnesium		298	1	10	D	mg/L
Mercury	NC)	0.0005	1		mg/L	Manganese		1.35	0.0050	1		mg/L
Molybdenum		0.00790	0.0050	1		mg/L	Sodium		4580	50	100	D	mg/L
thod Blank				099	-04-00	8-559	N/A	Aqueous	06/11/01	06/12/01	01	106111	cs7
Parameter	Re	esult	RL	DF	Qual	<u>Units</u>							
Mercury	NC	C	0.00050	1		mg/L							
Method Blank				097	-01-00	3-1,775	N/A	Aqueous	06/11/01	06/12/01	01	106111	cs7
Parameter	Re	esult	RL	DF	Qual	<u>Units</u>	Parameter		Result	<u>RL</u>	DF	Qual	<u>Units</u>
Antimony	NE)	0.0150	1		ma/L	Selenium		ND	0.0150	1		mg/L
Arsenic	NE)	0.0150	1		ma/l	Silver		ND	0.00500	1		ma/L
Barium	NL)	0.0100	1		ma/l	Thallium		ND	0.0150	1		mg/L
Bervllium	NE	- 1	0.00100	1		ma/l	Vanadium		ND	0.00500	4		ma/i
Cadmium		, 1	0.00500	1		mg/L	Zinc		ND	0.0100	4		mg/L
Chromium (Total)		- 1	0.00500	1		mg/L	Calcium		ND	0 100	1		ma/l
Cohalt		- 1	0.00500	1		mg/⊑	Iron		ND	0.100	1		mg/l
Conner		- -	0.00000	1		mg/L	Magnesium		ND	0.100	4		mg/L
Lead		ן ר	0.00000	4		mg/L	Manganoso		ND	0.00500			mg/l
Molubdenum		י ר	0.0100	1		mg/∟ mg/l	Sodium			0.00000	4		mg/L
Nickel	NC	5	0.00500	1		mg/L	Soutuill		NU	0.000	η ς		uig/c

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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ANALYTICAL REPORT

GeoSyntec Consulta 2100 Main Street, Su Huntington Beach, C	nts nite 150 A 92648				Dat Wo Pre Met	06/11/01 01-06-0506 EPA 5030E EPA 8015M				
Project: Banning Ra	nch/HR0575-	03							Page 1 of	1
Client Sample Number:		Lab Nu	Sample Imber:		Matrix:	Date Collected:	Date Prepared:	Date Analyzed:	QC Batch ID:	-
02-GW-005		01-06-0	506-1		Aqueous	06/11/01	N/A	06/14/01	01061401sa	
Parameter	Result	<u>RL</u>	DF	Qual	Units					
TPH for Gasoline	ND	100	1		ug/L					
Surrogates:	<u>REC (%)</u>	Control		Qual						
1,4-Bromofluorobenzene	93	Limits 49-157								
02-GW-004		01-06-0	506-2		Aqueous	06/11/01	N/A	06/14/01	01061401sa	
Parameter	Result	RL	DF	Qual	<u>Units</u>					
TPH for Gasoline	ND	100	1		ug/L					
urrogates:	<u>REC (%)</u>	Control		Qual						
1,4-Bromofluorobenzene	71	49-157								
08-GW-001		01-06-0	506-3		Aqueous	06/11/01	N/A	06/14/01	01061401sa	
Parameter	Result	<u>RL</u>	DF	Qual	<u>Units</u>					
TPH for Gasoline	ND	100	1		ug/L					
Surrogates:	<u>REC (%)</u>	Control		Qual						
1,4-Bromofluorobenzene	91	Limits 49-157								
Method Blank		098-03	006-1,471		Aqueous	N/A	N/A	06/14/01	01061401sa	
Parameter	Result	<u>RL</u>	DF	Qual	Units					
TPH for Gasoline	ND	100	1		ug/L					
Surrogates:	<u>REC (%)</u>	Control		Qual						
1,4-Bromofluorobenzene	93	Limits 49-157								



RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



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ANALYTICAL REPORT

GeoSyntec Consultants 2100 Main Street, Suite 150		Date Sampled: Date Received:	06/11/01 06/11/01
Huntington Beach, CA 92648		Date Extracted:	06/12/01
		Work Order No.	01-06-0506
Attn: Eric Smalstig		Method:	EPA 8310
RE: Banning Ranch/HR0575-03		Page 1 of 4	
All concentrations are reported in μg	J/L (ppb).		
			Reporting
Analyte	Concentratio	on	Limit
Sample Number: 02-GW-005			
Naphthalene	ND		1.0
Acenaphthylene	ND		1.0
Acenaphthene	ND		1.0
Fluorene	ND		1.0
Phenanthrene	ND		1.0
Anthracene	ND		1.0
Fluoranthene	ND		1.0
Pyrene	ND		1.0
Benzo (a) Anthracene	ND		1.0
Chrysene	ND		1.0
Benzo (b) Fluoranthene	ND		1.0
Benzo (k) Fluoranthene	ND		1.0
Benzo (a) Pyrene	ND		0.2
Indeno (1,2,3-c,d) Pyrene	ND		1.0
Dibenzo (a,h) Anthracene	ND		1.0
Benzo (g,h,i) Perylene	ND		1.0

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GeoSyntec Consultants	Date Sampled:	06/11/01
2100 Main Street, Suite 150	Date Received:	06/11/01
Huntington Beach, CA 92648	Date Extracted:	06/12/01
	Date Analyzed:	06/12/01
	Work Order No.:	01-06-0506
Attn: Eric Smalstig	Method:	EPA 8310
RE: Banning Ranch/HR0575-03	Page 2 of 4	

All concentrations are reported in μ g/L (ppb).

Analyte	Concentration	<u>Limit</u>
Sample Number: 02-GW-004		
Naphthalene	ND	1.0
Acenaphthylene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	1.0
Anthracene	ND	1.0
Fluoranthene	ND	1.0
Pyrene	ND	1.0
Benzo (a) Anthracene	ND	1.0
Chrysene	ND	1.0
Benzo (b) Fluoranthene	ND	1.0
Benzo (k) Fluoranthene	ND	1.0
Benzo (a) Pyrene	ND	0.2
Indeno (1,2,3-c,d) Pyrene	ND	1.0
Dibenzo (a,h) Anthracene	ND	1.0
Benzo (g,h,i) Perylene	ND	1.0

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GeoSyntec Consultants	Date Sampled:	06/11/01
2100 Main Street, Suite 150	Date Received:	06/11/01
Huntington Beach, CA 92648	Date Extracted:	06/12/01
	Date Analyzed:	06/12/01
	Work Order No.:	01-06-0506
Attn: Eric Smalstig	Method:	EPA 8310
RE: Banning Ranch/HR0575-03	Page 3 of 4	

All concentrations are reported in μ g/L (ppb).

Analyte	Concentration	Reporting <u>Limit</u>
Sample Number: 08-GW-001		
Naphthalene	ND	1.0
Acenaphthylene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	1.0
Anthracene	ND	1.0
Fluoranthene	ND	1.0
Pyrene	ND	1.0
Benzo (a) Anthracene	ND	1.0
Chrysene	ND	1.0
Benzo (b) Fluoranthene	ND	1.0
Benzo (k) Fluoranthene	ND	1.0
Benzo (a) Pyrene	ND	0.2
Indeno (1,2,3-c,d) Pyrene	ND	1.0
Dibenzo (a,h) Anthracene	ND	1.0
Benzo (g,h,i) Perylene	ND	1.0



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R. A.

GeoSyntec Consultants	Date Sampled:	N/A
2100 Main Street, Suite 150	Date Received:	N/A
Huntington Beach, CA 92648	Date Extracted:	06/12/01
,	Date Analyzed:	06/12/01
	Work Order No.:	01-06-0506
Attn: Eric Smalstig	Method:	EPA 8310
RE: Banning Ranch/HR0575-03	Page 4 of 4	
-		

All concentrations are reported in μ g/L (ppb).

Analyte	Concentration	Reporting <u>Limit</u>
Sample Number: Method Blank		
Naphthalene	ND	1.0
Acenaphthylene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	1.0
Anthracene	ND	1.0
Fluoranthene	ND	1.0
Pyrene	ND	1.0
Benzo (a) Anthracene	ND	1.0
Chrysene	ND	1.0
Benzo (b) Fluoranthene	ND	1.0
Benzo (k) Fluoranthene	ND	1.0
Benzo (a) Pyrene	ND	0.2
Indeno (1,2,3-c,d) Pyrene	ND	1.0
Dibenzo (a,h) Anthracene	ND	1.0
Benzo (g,h,i) Perylene	ND	1.0

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

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Page 1 of 4

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GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	EPA 3510B
	Method:	EPA 8270C

Project: Banning Ranch/HR0575-03

Client Sample Number:		Lab Sample Number:		Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC Batch ID:		h ID:		
02-GW-005			01-0	06-0506	3-1	06/11/01	Aqueous	06/12/01	06/12/01	0	10611:	3
Parameter	<u>Result</u>	<u>RL</u>	DF	Qual	<u>Units</u>	Parameter		Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitrophen	ol	ND	50	1		ug/L
Aniline	ND	10	1		ug/L	4-Nitrophenol		ND	10	1		ug/L
Phenol	ND	10	1		ug/L	Dibenzofuran		ND	10	1		ug/L
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotolue	ne	ND	10	1		ug/L
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotolue	ne	ND	10	1		ug/L
1,3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthala	te	ND	10	1		ug/L
1,4-Dichlorobenzene	ND	10	1		ug/L	4-Chlorophenyl	-Phenyl Ether	ND	10	1		ug/L
Benzyl Alcohol	ND	10	1		ug/L	Fluorene		ND	10	1		ug/L
1,2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline		ND	10	1		ug/L
2-Methylphenol	ND	10	1		ug/L	Azobenzene		ND	10	1		ug/L
Pis(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-M	ethylphenol	ND	50	1		ug/L
¹ ethylphenol	ND	10	1		ug/L	N-Nitrosodiphe	nylamine	ND	10	1		ug/L
sso-di-n-propylamine	ND	10	1		ug/L	4-Bromophenyl	-Phenyl Ether	ND	10	1		ug/L
Hexachloroethane	ND	10	1		ug/L	Hexachloroben	zene	ND	10	1		ug/L
Nitrobenzene	ND	25	1		ug/L	Pentachlorophe	enol	ND	10	1		ug/L
Isophorone	ND	10	1		ug/L	Phenanthrene		ND	10	1		ug/L
2-Nitrophenol	ND	10	1		ug/L	Anthracene		ND	10	1		ug/L
2.4-Dimethylphenol	ND	10	1		ug/L	Di-n-Butyl Phth	alate	ND	10	1		ug/L
Benzoic Acid	ND	50	1		ug/L	Fluoranthene		ND	10	1		ug/L
Bis(2-Chloroethoxy) Methane	ND	10	1		ug/L	Benzidine		ND	50	1		ug/L
2.4-Dichlorophenol	ND	10	1		ug/L	Pyrene		ND	10	1		ug/L
1.2.4-Trichlorobenzene	ND	10	1		ug/L	Pyridine		ND	10	1		ug/L
Naphthalene	ND	10	1		ug/L	Butyl Benzyl Pl	nthalate	ND	10	1		ug/L
4-Chloroaniline	ND	10	1		ua/L	3.3'-Dichlorobe	nzidine	ND	25	1		ug/L
Hexachloro-1 3-Butadiene	ND	10	1		ua/L	Benzo (a) Anth	racene	ND	10	1		ug/L
4-Chloro-3-Methylphenol	ND	10	1		ug/L	Bis(2-Ethylhex	() Phthalate	ND	10	1		ug/L
2.Methylnanbthalene	ND	10	1		ug/l	Chrysene	· · · ·	ND	10	1		ug/L
Hevachlorocyclonentadiene	ND	25	1		ug/L	Di-n-OctvI Pht	nalate	ND	10	1		ug/L
2.4.6-Trichlorophenol	ND	10	1		ug/L	Benzo (b) Fluo	ranthene	ND	10	1		ug/L
2.4.5-Trichlorophenol	ND	10	1		ug/L	Benzo (k) Eluo	ranthene	ND	10	1		ug/L
2.Chloronaphthalene	ND	10	1		ug/L	Benzo (a) Pyre	ne	ND	10	1		ug/L
2-Officionapitulaiene	ND	10	1		ug/L	Benzo (a h i) P	ervlene	ND	10	1		ug/L
Dimethyl Phthalate	ND	10	1		ug/L	Indepo (1.2.3-r	d) Pyrene	ND	10	1		ug/L
Acception	ND	10	4		ug/L	Dibenz (a h) A	nthracene	ND	10	1		ua/L
2 Nitroppiling	ND	10	1		ug/L	1 Methylnanht	alene	ND	10	1		ua/L
3-Nitroaniine	ND	10	4		ug/L	т-менушарни	laterie	NO	10	28		~g. =
Acenaphthene	ND	10	1		ug/L							
Surrogates:	<u>REC (%)</u>	Control Lim	<u>its</u>	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	<u>iits</u>	Qual	
2-Eluorophenol	71	15-138				Phenol-d6		52	17-141			
Nitrobenzene-d5		56-123				2-Fluorobipher	lyf	90	45-120			
6-Tribromophenol	116	32-143				p-Ternhenvl-d	, 14	100	46-133			
	110	02 110				E reibiieiilt a						

RL - Reporting Limit ,

ing Limit , DF - Dilution Factor , Qual - Qualifiers



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ANALYTICAL REPORT

Page 2 of 4

GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	EPA 3520B
5	Method:	EPA 8270C

Project: Banning Ranch/HR0575-03

Client Sample Number:		Lab Sample Number:		le	Date Collected: Matrix:	Date Prepared:	Date Analyzed:	Date Analyzed: QC Batch ID:		n ID:	
02-GW-004			01-	06-050	6-2	06/11/01 Aqueous	06/12/01	06/12/01	01	06113	
Parameter	Result	RL	DF	Qual	Units	Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitrophenol	ND	50	1		ug/L
Aniline	ND	10	1		ug/L	4-Nitrophenol	ND	10	1		ug/L
Phenol	ND	10	1		ug/L	Dibenzofuran	ND	10	1		ug/L
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotoluene	ND	10	1		ug/L
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotoluene	ND	10	1		ug/L
1,3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthalate	ND	10	1		ug/L
1,4-Dichlorobenzene	ND	10	1		ug/L	4-Chlorophenyl-Phenyl Ether	ND	10	1		ug/L
Benzyl Alcohol	ND	10	1		ug/L	Fluorene	ND	10	1		ug/L
1,2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline	ND	10	1		ug/L
2-Methylphenol	ND	10	1		ug/L	Azobenzene	ND	10	1		ug/L
Pis(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-Methylphenol	ND	50	1		ug/L
`1ethylphenol	ND	10	1		ug/L	N-Nitrosodiphenylamine	ND	10	1		ug/L
oso-di-n-propylamine	ND	10	1		ug/L	4-Bromophenyl-Phenyl Ether	ND	10	1		ug/L
hexachloroethane	ND	10	1		ug/L	Hexachlorobenzene	ND	10	1		ug/L
Nitrobenzene	ND	25	1		ug/L	Pentachlorophenol	ND	10	1		ug/L
Isophorone	ND	10	1		ug/L	Phenanthrene	ND	10	1		ug/L
2-Nitrophenol	ND	10	1		ug/L	Anthracene	ND	10	1		ug/L
2,4-Dimethylphenol	ND	10	1		uq/L	Di-n-Butyl Phthalate	ND	10	1		ug/L
Benzoic Acid	ND	50	1		ug/L	Fluoranthene	ND	10	1		ug/L
Bis(2-Chloroethoxy) Methane	ND	10	1		ug/L	Benzidine	ND	50	1		ug/L
2.4-Dichlorophenol	ND	10	1		ua/L	Pyridine	ND	10	1		ug/L
1.2 4-Trichlorobenzene	ND	10	1		ua/L	Pyrene	ND	10	1		ug/L
Naphthalene	ND	10	1		ua/l	Butyl Benzyl Phthalate	ND	10	1		ug/L
4-Chloroaniline	ND	10	1		ua/l	3 3'-Dichlorobenzidine	ND	25	1		ug/L
Hexachloro-1.3-Butadiene	ND	10	1		ug/L	Benzo (a) Anthracene	ND	10	1		ua/L
4-Chloro-3-Methylphenol	ND	10	1		ua/l	Bis(2-Ethylhexyl) Phthalate	ND	10	1		ua/L
2-Methylnaphthalene	ND	10	1		ua/l	Chrysene	ND	10	1		ua/L
Hexachlorocyclopentadiene	ND	25	- a		ug/L	Di-n-Octyl Phthalate	ND	10	1		ua/L
2.4.6-Trichlorophenol	ND	10	1		ug/L	Benzo (k) Eluoranthene	ND	10	1		ua/L
2 4 5-Trichlorophenol	ND	10	1		ug/L	Benzo (h) Eluoranthene	ND	10	1		ua/L
2-Chloropanhthalene	ND	10	- 6		ug/L	Benzo (a) Pyrene	ND	10	i		ug/L
2-Mitroaniline	ND	10	÷		ug/t	Benzo (a h i) Perdene	ND	10	i		ug/L
Dimethyl Phthalate	ND	10			ug/L	Indeno (1.2.3-c.d) Pyrene	ND	10	i		ug/L
Aconantitudono	ND	10	4		ug/L	Dibonz (a, h) Anthracene	ND	10	÷.		ug/t
2 Nitroanilino		10	1		ug/L	1 Mothylaanbthalono	ND	10	÷.		ug/c ug/l
Acenaphthene	ND	10	1		ug/L ug/L	Тчиступартилателе	NO	10	`		ug/L
Surrogates:	<u>REC (%)</u>	Control Limi	ts	Qual		Surrogates:	<u>REC (%)</u>	Control Limi	<u>ts</u>	Qual	
2-Fluorophenol	67	15-138				Phenol-d6	46	17-141			
Nitrobenzene-d5	93	56-123				2-Fluorobiphenyl	88	45-120			
6-Tribromophenol	114	32-143				p-Terphenyl-d14	102	46-133			

RL - Reporting Limit ,

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orting Limit , DF - Dilution Factor , Qual - Qualifiers



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ANALYTICAL REPORT

GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	EPA 3520B
5	Method:	EPA 8270C
Project: Banning Ranch/HR0575-03		Page 3 of 4

Project: Banning Ranch/HR0575-03

Client Sample Number:			Lab Sample Number:			Date Collected:	Matrix:	Date Prepared:	Date Analyzed: QC Batch ID:				
08-GW-001			01-	06-050	6-3	06/11/01	Aqueous	06/12/01	06/12/01) 106 11	3	
Parameter	Result	<u>RL</u>	DF	Qual	Units	Parameter		Result	RL	DF	Qual	<u>Units</u>	
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitrophen	ol	ND	50	1		ug/L	
Aniline	ND	10	1		ug/L	4-Nitrophenol		ND	10	1		ug/L	
Phenol	ND	10	1		ug/L	Dibenzofuran		ND	10	1		ug/L	
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotolue	ne	ND	10	1		ug/L	
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotolue	ne	ND	10	1		ug/L	
1,3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthalat	te	ND	10	1		ug/L	
1,4-Dichlorobenzene	ND	10	1		ug/L	4-Chlorophenyl-	-Phenyl Ether	ND	10	1		ug/L	
Benzyl Alcohol	ND	10	1		ug/L	Fluorene		ND	10	1		ug/L	
1,2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline		ND	10	1		ug/L	
2-Methylphenol	ND	10	1		ug/L	Azobenzene		ND	10	1		ug/L	
Ris(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-M	ethylphenol	ND	50	1		ug/L	
[^] lethylphenol	ND	10	1		ug/L	N-Nitrosodipher	nylamine	ND	10	1		ug/L	
oso-di-n-propylamine	ND	10	1		ug/L	4-Bromophenyl	Phenyl Ether	ND	10	1		ug/L	
Hexachloroethane	ND	10	1		ug/L	Hexachlorobenz	zene	ND	10	1		ug/L	
Nitrobenzene	ND	25	1		ug/L	Pentachlorophe	nol	ND	10	1		ug/L	
Isophorone	ND	10	1		ug/L	Phenanthrene		ND	10	1		ug/L	
2-Nitrophenol	ND	10	1		ug/L	Anthracene		ND	10	1		ug/L	
2,4-Dimethylphenol	ND	10	1		ug/L	Di-n-Butyl Phth	alate	ND	10	1		ug/L	
Benzoic Acid	ND	50	1		ug/L	Fluoranthene		ND	10	1		ug/L	
Bis(2-Chloroethoxy) Methane	ND	10	1		ug/L	Benzidine		ND	50	1		ug/L	
2,4-Dichlorophenol	ND	10	1		ug/L	Pyrene		ND	10	1		ug/L	
1,2,4-Trichlorobenzene	ND	10	1		ug/L	Pyridine		ND	10	1		ug/L	
Naphthalene	ND	10	1		ug/L	Butyl Benzyl Ph	thalate	ND	10	1		ug/L	
4-Chloroaniline	ND	10	1		ug/L	3,3'-Dichlorober	nzidine	ND	25	1		ug/L	
Hexachloro-1,3-Butadiene	ND	10	1		ug/L	Benzo (a) Anthi	racene	ND	10	1		ug/L	
4-Chloro-3-Methylphenol	ND	10	1		ug/L	Bis(2-Ethylhexy	1) Phthalate	ND	10	1		ug/L	
2-Methylnaphthalene	ND	10	1		ug/L	Chrysene		ND	10	1		ug/L	
Hexachlorocyclopentadiene	ND	25	1		ug/L	Di-n-Octyl Phth	alate	ND	10	1		ug/L	
2,4,6-Trichlorophenol	ND	10	1		ug/L	Benzo (k) Fluor	anthene	ND	10	1		ug/L	
2,4,5-Trichlorophenol	ND	10	1		ug/L	Benzo (b) Fluor	anthene	ND	10	1		ug/L	
2-Chloronaphthalene	ND	10	1		ug/L	Benzo (a) Pyrer	ne	ND	10	1		ug/L	
2-Nitroaniline	ND	10	1		ug/L	Benzo (g,h,i) Pe	erylene	ND	10	1		ug/L	
Dimethyl Phthalate	ND	10	1		ug/L	Indeno (1,2,3-c	d) Pyrene	ND	10	1		ug/L	
Acenaphthylene	ND	10	1		ug/L	Dibenz (a,h) An	thracene	ND	10	1		ug/L	
3-Nitroaniline	ND	10	1		ug/L	1-Methylnaphth	alene	ND	10	1		ug/L	
Acenaphthene	ND	10	1		ug/L	· · · · · · · · · · · · · · · · · · ·						0	
Surrogates:	<u>REC (%)</u>	Control Lim	<u>its</u>	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	<u>nits</u>	Qual		
2-Fluorophenol	70	15-138				Phenol-d6		54	17-141				
Nitrobenzene-d5	90	56-123				2-Fluorobiphen	yt	85	45-120				
6-Tribromophenol	109	32-143				p-Terphenyl-d1	4	87	46-133				

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RL - Reporting Limit , DF - Dilution Factor Qual - Qualifiers



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GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	EPA 3510B
	Method:	EPA 8270C
Project: Banning Ranch/HR0575-03		Page 4 of 4

Banning Ranch/HR0575-03 Project:

Client Sample Number:		Lab Sample Number:			Date Collected: Matrix:	Date Prepared:	Date Analyzed:	QC	Batch ID:		
Method Blank		095-01-003-787			N/A Aqueous	06/11/01	06/11/01 0106113				
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>	Parameter	Result	RL	DF	Qual Units	
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitrophenol	ND	50	1	ug/L	
Aniline	ND	10	1		ug/L	4-Nitrophenol	ND	10	1	ug/L	
Phenol	ND	10	1		ug/L	Dibenzofuran	ND	10	1	ug/L	
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotoluene	ND	10	1	ug/L	
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotoluene	ND	10	1	ug/L	
1,3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthalate	ND	10	1	ug/L	
1,4-Dichlorobenzene	ND	10	1		ug/L	4-Chlorophenyl-Phenyl Ether	ND	10	1	ug/L	
Benzyl Alcohol	ND	10	1		ug/L	Fluorene	ND	10	1	ug/L	
1,2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline	ND	10	1	ug/L	
2-Methylphenol	ND	10	1		ug/L	Azobenzene	ND	10	1	ug/L	
Bis(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-Methylphenol	ND	50	1	ug/L	
fethylphenol	ND	10	1		ug/L	N-Nitrosodiphenylamine	ND	10	1	ug/L	
oso-di-n-propylamine	ND	10	1		ug/L	4-Bromophenyl-Phenyl Ether	ND	10	1	ug/L	
Hexachloroethane	ND	10	1		ug/L	Hexachlorobenzene	ND	10	1	ug/L	
Nitrobenzene	ND	25	1		ug/L	Pentachlorophenol	ND	10	1	ug/L	
Isophorone	ND	10	1		ug/L	Phenanthrene	ND	10	1	ug/L	
2-Nitrophenol	ND	10	1		ug/L	Anthracene	ND	10	1	ug/L	
2,4-Dimethylphenol	ND	10	1		ug/L	Di-n-Butyl Phthalate	ND	10	1	ug/L	
Benzoic Acid	ND	50	1		ug/L	Fluoranthene	ND	10	1	ug/L	
Bis(2-Chloroethoxy) Methane	ND	10	1		ug/L	Benzidine	ND	50	1	ug/L	
2,4-Dichlorophenol	ND	10	1		ug/L	Pyrene	ND	10	1	ug/L	
1,2,4-Trichlorobenzene	ND	10	1		ug/L	Pyridine	ND	10	1	ug/L	
Naphthalene	ND	10	1		ug/L	Butyl Benzyl Phthalate	ND	10	1	ug/L	
4-Chloroaniline	ND	10	1		ug/L	3,3'-Dichlorobenzidine	ND	25	1	ug/L	
Hexachloro-1,3-Butadiene	ND	10	1		ug/L	Benzo (a) Anthracene	ND	10	1	ug/L	
4-Chloro-3-Methylphenol	ND	10	1		ug/L	Bis(2-Ethylhexyl) Phthalate	ND	10	1	ug/L	
2-Methylnaphthalene	ND	10	1		ug/L	Chrysene	ND	10	1	ug/L	
Hexachlorocyclopentadiene	ND	25	1		ua/L	Di-n-Octvl Phthalate	ND	10	1	ug/L	
2.4.6-Trichlorophenol	ND	10	1		ua/L	Benzo (b) Fluoranthene	ND	10	1	ug/L	
2.4.5-Trichlorophenol	ND	10	1		ua/L	Benzo (k) Fluoranthene	ND	10	1	ug/L	
2-Chloronaphthalene	ND	10	1		ua/L	Benzo (a) Pyrene	ND	10	1	ug/L	
2-Nitroaniline	ND	10	1		ug/l	Benzo (a h.i) Pervlene	ND	10	1	uq/L	
Dimethyl Phthalate	ND	10	1		ua/t	Indeno (1 2 3-c.d) Pyrene	ND	10	1	ug/L	
Acenaphthylene	ND	10	1		ug/t	Dibenz (a h) Anthracene	ND	10	1	ua/L	
3-Nitroaniline	ND	10	1		ug/L	1-Methylnanhthalene	ND	10	1	ua/L	
Acenaphthene	ND	10	1		ug/L	1 methicapitalene	110			- 5 -	
Surrogates:	<u>REC (%)</u>	Control Limi	ts	Qual		Surrogates:	<u>REC (%)</u>	Control Lim	<u>its</u>	Qual	
2-Fluorophenol	71	15-138				Phenol-d6	52	17-141			
Nitrobenzene-d5	86	56-123				2-Fluorobiphenyl	71	45-120			
2-4 6-Tribromophenol	92	32-143				p-Terphenyl-d14	82	46-133			

RL - Reporting Limit

DF - Dilution Factor , Qual - Qualifiers



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ANALYTICAL REPORT

GeoSyntec Consultants	
2100 Main Street, Suite 150	
Huntington Beach, CA 92648	

Date Received:
Work Order No:
Preparation:
Method:

06/11/01 01-06-0506 N/A EPA 8260B

Page 1 of 4

Project: Banning Ranch/HR0575-03

Client Sample Number:			Lat N	o Samp umber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed		C Bate	h ID:	
02-GW-005		an a	01-	06-050	6-1	06/11/01	Aqueous	N/A	06/12/01	I	061201	AW	
Parameter	Result	RL	DF	Qual	Units	Parameter		<u>Result</u>	<u>RL</u>	DF	Qual	<u>Units</u>	
Acetone	ND	10	1		ug/L	1,3-Dichloropro	opane	ND	1.0	1		ug/L	
Benzene	ND	0.50	1		ug/L	2,2-Dichloropro	pane	ND	1.0	1		uq/L	
Bromobenzene	ND	1.0	1		ug/L	1.1-Dichloropro	opene	ND	1.0	1		ua/L	
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichloror	propene	ND	0.50	1		ua/L	
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	ropene	ND	0.50	1		ua/L	
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ua/L	
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ua/L	
2-Butanone	ND	10	1		ua/L	Isopropylbenze	ne	ND	10	1		ua/l	
n-Butylbenzene	ND	1.0	1		ua/L	p-Isopropyltolu	ene	ND	1.0	1		- <u>-</u>	
sec-Butylbenzene	ND	1.0	1		ua/L	Methviene Chic	pride	10	10	1		ug/l	
tert-Butylbenzene	ND	1.0	1		ua/L	4-Methyl-2-Per	ntanone	ND	10	1		ua/l	
on Disulfide	ND	10	1		ua/L	Naphthalene		ND	10	- î		ug/l	
on Tetrachloride	ND	0.50	1		ua/L	n-Propylbenzer	ne	ND	10	1		ua/l	
Chiorobenzene	ND	1.0	1		ua/l.	Styrene	10	ND	1.0	1		ug/L	
Chloroethane	ND	1.0	1		ua/L	1.1.1.2-Tetrach	loroethane	ND	1.0	1		-g/-	
Chloroform	ND	1.0	1		ua/l	1 1 2 2-Tetrach	loroethane	ND	1.0	1		ua/l	
Chloromethane	ND	1.0	1		ua/L	Tetrachloroethe	ene	ND	1.0	1		ug/L	
2-Chlorotoluene	ND	1.0	1		ua/l	Toluene		ND	1.0	1		ug/l	
4-Chlorotoluene	ND	1.0	1		ua/1	1.2.3-Trichlorol	henzene	ND	1.0	្ន		ug/L	
Dibromochloromethane	ND	1.0	1		ua/L	1 2 4-Trichlorol	henzene	ND	1.0	1		ug/L	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		ug/L	1 1 1-Trichloro	ethane	ND	1.0	- 1		ug/t	
1.2-Dibromoethane	ND	1.0	1		ug/L	1 1 2-Trichloro	ethane	ND	1.0	- î		ug/c ug/l	
Dibromomethane	ND	1.0	1		ug/L	Trichloroethene		ND	1.0	1		ug/L	
1.2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluoror	- nethane	ND	10	- 1		ug/L	
1.3-Dichlorobenzene	ND	1.0	1		ug/L	1.2.3-Trichloro	nemane	ND	50	- 2		ug/L	
1.4-Dichlorobenzene	ND	1.0	1		ug/L	1.2.4-Trimethyl	henzene		10	÷.		ug/L	
Dichlorodifluoromethane	ND	1.0	1		ug/L	1 3 5-Trimethyl	benzene	ND	1.0	- 1		ug/c ug/l	
1.1-Dichloroethane	ND	1.0	1		ug/L	Vinvl Acetate	Delizene	ND	10	-		ug/L	
1.2-Dichloroethane	ND	0.50	1		ug/L	Vinyl Chlorido		ND	0.50			ug/L	
1 1-Dichloroethene	ND	1.0	1		ug/L	n/m Yulana		ND	1.0			ug/L	
c-1 2-Dichloroethene	ND	1.0	4		ug/L	p/III-Aylene		ND	1.0	- 1		uy/L	
-1 2-Dichloroethene	ND	1.0	1		ug/s_	Mothul + Dubd F		ND	1.0	1		ug/L	
1.2-Dichloropropane	ND	1.0	1		ug/L	weary-t-butyr c		ND	1.0			ug/L	
r,z-Dichloropropane	ND	1.0	1		ug/L								
Surrogates:	<u>REC (%)</u>	Control Lim	<u>its</u>	Qual		Surrogates:		<u>REC (%)</u>	Control Lim	its	Qual		
Dibromofluoromethane	99	86-118				Toluene-d8		100	88-110				
1,4-Bromofluorobenzene	104	86-115											

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648 Date Received: Work Order No: Preparation: Method:

06/11/01 01-06-0506 N/A EPA 8260B

Page 2 of 4

Project: Banning Ranch/HR0575-03

Date Date Client Sample Number: Lab Sample Date Collected: Prepared: Analyzed: Number: QC Batch ID: Matrix: 02-GW-004 01-06-0506-2 06/11/01 Aqueous N/A 06/12/01 061201AW DF Qual Units Parameter Result RL DF Qual Units Parameter Result RL 10 1,3-Dichloropropane ND 1.0 1 ug/L Acetone ND 1 ug/L Benzene ND 0.50 ug/L 2,2-Dichloropropane ND 1.0 1 ug/L 1 1,1-Dichloropropene ND 1.0 ug/L ND ug/L 1 Bromobenzene 1.0 1 Bromochloromethane ug/L c-1,3-Dichloropropene ND 0.50 ug/L ND 1.0 1 1 t-1,3-Dichloropropene ND 0.50 1 ug/L Bromodichloromethane ND 1.0 ug/L 1 ND 1.0 ug/L Ethylbenzene ND 1.0 1 ug/L Bromoform 1 2-Hexanone ND 10 1 ug/L Bromomethane ND 1.0 1 ug/L ug/L Isopropylbenzene ND 1.0 1 ug/L ND 10 2-Butanone 1 n-Butylbenzene ND 1.0 ug/L p-Isopropyltoluene ND 1.0 1 ug/L 1 ug/L 10 ND Methylene Chloride 91 1 sec-Butylbenzene 1.0 1 ug/L 4-Methyl-2-Pentanone ND 10 ug/L ug/L 1 tert-Butylbenzene ND 1.0 1 ug/L hon Disulfide ND 10 ug/L Naphthalene ND 10 1 1 ND 1.0 ug/L n Tetrachloride ND 0.50 ug/L n-Propylbenzene 1 1 ug/L C....orobenzene ND ug/L Styrene 2.5 1.0 1 1.0 1 1.0 ND 1 ug/L Chloroethane ND 1.0 1 ug/L 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane ND 1.0 1 ug/L 1.0 Chloroform ND ug/L 1 Chloromethane ND 1.0 ug/L Tetrachloroethene ND 1.0 1 ug/L 1 ug/L 2-Chlorotoluene ND 1.0 1 ug/L Toluene ND 1.0 1 1.0 ug/L ND 1 4-Chlorotoluene ND 1.0 ug/L 1,2,3-Trichlorobenzene 1 ND 1.0 1 ug/L Dibromochloromethane ND 1,2,4-Trichlorobenzene 1.0 1 ug/L 1,2-Dibromo-3-Chloropropane 1,1,1-Trichloroethane ND 1.0 1 ug/L ND 5.0 1 ug/L ug/L ND 1.0 1 ug/L 1.2-Dibromoethane ND 1.0 1,1,2-Trichloroethane 1 ug/L Dibromomethane ND 1.0 1 ug/L Trichloroethene ND 1.0 1 10 1 ug/L 1,2-Dichlorobenzene ND 1.0 1 ug/L Trichlorofluoromethane ND 5.0 1 ug/L ND 1.3-Dichlorobenzene ND ug/L 1,2,3-Trichloropropane 1.0 1 1,2,4-Trimethylbenzene ND 1.0 1 ug/L 1 4-Dichlorobenzene ND 10 ug/L 1 ug/L 1.0 1 ug/L Dichlorodifluoromethane ND 1.0 1 1,3,5-Trimethylbenzene ND Vinyl Acetate ND 10 1 ug/L 1,1-Dichloroethane ND 1.0 1 ug/L ug/L 0.50 1,2-Dichloroethane ND 0.50 1 ug/L Vinyl Chloride ND 1 1 ug/L ug/L p/m-Xylene ND 1.0 1,1-Dichloroethene ND 1.0 1 ug/L ND 1.0 1 ug/L o-Xylene c-1,2-Dichloroethene ND 1.0 1 ug/L Methyl-t-Butyl Ether (MTBE) 1 ug/L ND ND 1.0 t-1,2-Dichloroethene 1.0 1 1,2-Dichloropropane ND 1.0 ug/L 1 REC (%) **Control Limits** Qual Surrogates: **Control Limits** REC (%) Qual Surrogates: 99 88-110 97 Dibromofluoromethane 86-118 Toluene-d8 1,4-Bromofluorobenzene 104 86-115

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GeoSyntec ConsultantsDate Received:2100 Main Street, Suite 150Work Order No:Huntington Beach, CA 92648Preparation:Method:Method:

06/11/01 01-06-0506 N/A EPA 8260B

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Project: Banning Ranch/HR0575-03

Date Date Lab Sample Date Client Sample Number: Number: Collected: Prepared: Analyzed: QC Batch ID: Matrix: 08-GW-001 01-06-0506-3 06/11/01 Aqueous N/A 06/12/01 061201AW DF Qual Units Result RL Parameter Result RL DF Qual Units Parameter ND 1.0 1 ug/L ND 10 ug/L 1,3-Dichloropropane Acetone 1 ND 1.0 ug/L 1 Benzene ND 0.50 1 ug/L 2,2-Dichloropropane ug/L ug/L 1.1-Dichloropropene ND 1.0 1 ND 1.0 Bromobenzene 1 ug/L c-1,3-Dichloropropene ND 0.50 ug/L ND 1 Bromochloromethane 1.0 1 0.50 ug/L ug/L t-1,3-Dichloropropene ND 1 Bromodichloromethane ND 1.0 1 ND 1.0 1 ug/L Bromoform ND 1.0 1 ug/L Ethylbenzene ug/L ND 10 1 ug/L 2-Hexanone Bromomethane ND 1.0 1 ug/L ND 1.0 ug/L ND 10 Isopropylbenzene 1 2-Butanone 1 ug/L n-Butylbenzene ND 1.0 1 ug/L p-Isopropyltoluene ND 1.0 1 ug/L 10 Methylene Chloride 25 1 sec-Butylbenzene ND 1.0 1 ug/L ug/L 4-Methyl-2-Pentanone ND 10 1 ug/L ND 1.0 tert-Butylbenzene 1 ug/L ND 10 ug/L on Disulfide ND 10 1 Naphthalene 1 ug/L n-Propylbenzene ND 1.0 1 n Tetrachloride ND 0.50 1 ug/L ug/L ND 10 1 C. Jrobenzene ND 1.0 1 ug/L Styrene ND 1.0 1 ug/L 1,1,1,2-Tetrachloroethane Chloroethane ND 1.0 1 ug/L ug/L ND 1.0 ug/L 1.1.2.2-Tetrachloroethane 1 Chloroform ND 10 1 ug/L Chloromethane ND 1.0 1 ug/L Tetrachloroethene ND 1.0 1 1.0 ug/L ND 1 2-Chlorotoluene ND 1.0 1 ug/L Toluene 1.0 ug/L 1,2,3-Trichlorobenzene ND 1 4-Chlorotoluene ND 1.0 1 ug/L ug/L Dibromochloromethane ug/L 1,2,4-Trichlorobenzene ND 1.0 1 ND 1.0 1 ug/L ND 1.0 1 ug/L 1,2-Dibromo-3-Chloropropane 5.0 1,1,1-Trichloroethane ND 1 1,1,2-Trichloroethane ND 1.0 1 ug/L 1,2-Dibromoethane ND 1.0 1 ug/L ug/L 1.0 Dibromomethane Trichloroethene ND 1 ND 1.0 1 ug/L ND 10 1 ug/L 1,2-Dichlorobenzene ND 1.0 1 ug/L Trichlorofluoromethane ug/L ug/L 1,2,3-Trichloropropane ND 5.0 1 1.3-Dichlorobenzene ND 1.0 1 ug/L 1.4-Dichlorobenzene ND 1.0 ug/L 1,2,4-Trimethylbenzene ND 1.0 1 1 ug/L 1,3,5-Trimethylbenzene ND 1.0 1 Dichlorodifluoromethane ND 1.0 1 ug/L 10 ug/L 1,1-Dichloroethane ND 1.0 ug/L Vinyl Acetate ND 1 1 Vinyl Chloride ND 0.50 1 ug/L 1,2-Dichloroethane ND 0.50 1 ug/L ug/L ND 1.0 1 ND 1.0 ug/L p/m-Xylene 1.1-Dichloroethene 1 1.0 ug/L o-Xylene ND 1 ND 1.0 ug/L c-1.2-Dichloroethene 1 Methyl-t-Butyl Ether (MTBE) ND 1.0 1 ug/L t-1,2-Dichloroethene ND 1.0 1 ug/L 1,2-Dichloropropane ND 1.0 1 ug/L **Control Limits REC (%) Control Limits** Qual Surrogates: REC (%) Qual Surrogates: Toluene-d8 100 88-110 Dibromofluoromethane 86-118 99 1,4-Bromofluorobenzene 104 86-115

RL - Reporting Limit

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170.00



Page 4 of 4

GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	N/A
•	Method:	EPA 8260B

Project: Banning Ranch/HR0575-03

Date Date Client Sample Number: Lab Sample Date Collected: Number: Prepared: Analyzed: Matrix: QC Batch ID: Method Blank 099-10-006-2,602 N/A Aqueous N/A 06/12/01 061201AW Parameter Result RL DF Qual Units Parameter Result RL DF Qual Units ND 10 1,3-Dichloropropane ND 1.0 Acetone 1 ug/L 1 ug/L Benzene ND 0.50 ug/L 2,2-Dichloropropane ND 1.0 1 ug/L 1 ug/L ND 1,1-Dichloropropene ND 1.0 Bromobenzene 1.0 1 ug/L 1 c-1,3-Dichloropropene ND 0.50 ug/L Bromochloromethane ND 1.0 ug/L 1 1 ND 0.50 ug/L Bromodichloromethane ND 1.0 1 ug/L t-1,3-Dichloropropene 1 Bromoform ND 1.0 ug/L Ethylbenzene ND 1.0 1 ug/L 1 2-Hexanone ND 10 ug/L Bromomethane ND 1.0 1 ug/L 1 ug/L 1.0 2-Butanone ND 10 ug/L Isopropylbenzene ND 1 1 n-Butylbenzene ND 1.0 ug/L p-Isopropyltoluene ND 1.0 1 ug/L 1 sec-Butylbenzene ND 1.0 ug/L Methylene Chloride ND 10 1 ug/L 1 4-Methyl-2-Pentanone ND 10 ug/L tert-Butylbenzene ND 1.0 ug/L 1 1 hon Disulfide ND 10 ug/L Naphthalene ND 10 1 ug/L 1 ug/L ug/L on Tetrachloride ND 0.50 n-Propylbenzene ND 1.0 1 1 u....urobenzene ND 1.0 ug/L Styrene ND 1.0 1 ug/L 1 1.0 Chloroethane ND 1.0 1 ug/L 1,1,1,2-Tetrachloroethane ND 1 ug/L 1.0 ug/L Chloroform ND 1.0 1,1,2,2-Tetrachloroethane ND 1 ug/L 1 Chloromethane ND 1.0 ug/L Tetrachloroethene ND 1.0 1 ugi/L 1 2-Chlorotoluene ND 1.0 1 ug/L Toluene ND 1.0 1 ug/L ug/L 4-Chlorotoluene ND 1.0 ug/L 1,2,3-Trichlorobenzene ND 1.0 1 1 Dibromochloromethane ND 10 ug/L ND 1,2,4-Trichlorobenzene 1 1.0 1 ug/L 1,2-Dibromo-3-Chloropropane ND 1,1,1-Trichloroethane ND 1.0 ug/L 5.0 ug/L 1 1 ug/L 1,2-Dibromoethane ND 1.0 ug/L 1,1,2-Trichloroethane ND 1.0 1 1 Dibromomethane ND 1.0 1 ug/L Trichloroethene ND 1.0 1 ug/L 1,2-Dichlorobenzene ND 1.0 1 ug/L Trichlorofluoromethane ND 10 1 ug/L ug/L 50 1.3-Dichlorobenzene ND 1.0 ug/L 1,2,3-Trichloropropane ND 1 1 1.4-Dichlorobenzene ND 1.0 1,2,4-Trimethylbenzene ND 1.0 1 ug/L ug/L 1 Dichlorodifluoromethane ND 1.0 1 ug/L 1,3,5-Trimethylbenzene ND 1.0 1 ug/L 1,1-Dichloroethane ND Vinyl Acetate ND 10 1 ug/L 1.0 1 ug/L 1,2-Dichloroethane ND 0.50 1 ug/L Vinyl Chloride ND 0.50 1 ug/L ug/L p/m-Xylene ND 1.0 1 1.1-Dichloroethene ND 1.0 1 ug/L ug/L c-1,2-Dichloroethene ND 1.0 1 ND 1.0 1 ug/L o-Xylene t-1,2-Dichloroethene ND 1.0 Methyl-t-Butyl Ether (MTBE) ND 1.0 1 ug/L ug/L 1 1,2-Dichloropropane ND 1.0 1 ug/L Surrogates: Qual **Control Limits** REC (%) Control Limits REC (%) Qual Surrogates: Dibromofluoromethane 97 99 88-110 86-118 Toluene-d8 1,4-Bromofluorobenzene 104 86-115

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Quality Control - Duplicate

GeoSynte 2100 Main Huntingto	ec Consultants n Street, Suite 150 n Beach, CA 92648		Date Received: Work Order No: Preparation: Method:			6/11/01 01-06-0506 N/A EPA 150.1
Project:	Banning Ranch/HR0575-03					
Spiked Sample	9 ID	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
01.06.0450		Aqueone	PH 1	N/A	06/11/01	0611PHDUP1

Parameter <u>Sample Conc</u> <u>DUP Conc</u> <u>RPD</u> <u>RPD CL</u> <u>Qualifiers</u> pH 7.05 7.08 0 0-25

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GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 300.0

Spiked Sample ID	Matrix	Instrument	Date Prepared	D	ate Analyzed	MS/MSD Batch Number
01-06-0459-3	Aqueous	IC 2	N/A		06/11/01	010611A
Parameter	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Chloride	98	97	50-150	î	0-25	
Nitrite-N	85	86	50-150	1	0-25	
Nitrate-N	91	92	50-150	1	0-25	
Sulfate	95	95	50-150	1	0-25	

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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	N/A
-	Method:	EPA 300.0
Designet Department Depart (UD0575.02		

Project: Banning Ranch/HR0575-03

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bat Number	ch
099-05-118-16	Aqueous	IC 2	N/A	06/11/01	010611	
Parameter	LCS %RE	EC LCSD %F	REC <u>%REC</u>	<u>CL RPD</u>	RPD CL	Qualifiers
Chloride	92	92	80-12	0 0	0-25	
Nitrite-N	89	94	80-12	20 5	0-25	
Nitrate-N	95	95	80-12	20 0	0-25	
Sulfate	99	99	80-12	20 1	0-25	

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GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	Total Digestion
-	Method:	EPA 6010B

Spiked Sample ID	Matrix	Instrument	Date Prepared	Date	e Analyzed	MS/MSD Batch Number
01-06-0459-1	Aqueous	ICP 3300	06/11/01	0	16/12/01	061101ms7
Parameter	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	<u>RPD CL</u>	Qualifiers
Antimony	106	111	80-120	5	0-20	
Arsenic	105	110	80-120	4	0-20	
Barium	95	101	80-120	5	0-20	
Beryllium	100	106	80-120	6	0-20	
Cadmium	95	100	⁶ 80-120	5	0-20	
Chromium (Total)	97	102	80-120	5	0-20	
Cobalt	96	100	80-120	5	0-20	
Copper	109	115	80-120	5	0-20	
Lead	91	95	80-120	4	0-20	
Molybdenum	99	104	80-120	5	0-20	
Nickel	93	98	80-120	5	0-20	
Selenium	101	106	80-120	4	0-20	
Silver	106	111	80-120	5	0-20	
Thallium	86	90	80-120	4	0-20	
Vanadium	100	106	80-120	5	0-20	
Zinc	99	104	80-120	4	0-20	
Calcium	4X	4X	80-120	4X	0-20	Q
Iron	92	104	80-120	9	0-20	
Magnesium	4X	4X	80-120	4X	0-20	Q
Manganese	91	98	80-120	5	0-20	
Sodium	4X	4X	80-120	4X	0-20	Q

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GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	Total Digestion
	Method:	EPA 7470A
Project: Denning Dench (UD0575.00		

Spiked Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
02-GW-004	Aqueous	Mercury	06/11/01	06/12/01	061101ms7
Parameter	MS %REC	MSD %REC	%REC CL	RPD RPD CI	Qualifiers
Mercury	82	80	71-134	2 0-14	

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Quality Control - Laboratory Control Sample

GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648 Date Received: Work Order No: Preparation: Method: 06/11/01 01-06-0506 Total Digestion EPA 6010B

LCS Sample Number Matrix		Instrument	Date Analyzed	Lab File		CS Batch Number	
097-01-003-1,775	Aqueous	ICP 3300	06/12/01	010611-l		010611lcs7	
Parameter		Conc Added	Conc Recovered	%Rec	%Rec CL	Qualifiers	
Antimony		1.00	0.942	94	80-120		
Arsenic		1.00	0.900	90	80-120		
Barium		1.00	0.989	99	80-120		
Beryllium		1.00	0.991	99	80-120		
Cadmium		1.00	1.02	102	80-120		
Chromium (Total)		1.00	0.994	99	80-120		
Cobalt		1.00	1.04	104	80-120		
Copper		1.00	0.996	100	80-120		
Lead		1.00	0.983	98	80-120		
Molybdenum		1.00	0.995	100	80-120		
Nickel		1.00	1.02	102	80-120		
Selenium		1.00	0.970	97	80-120		
Silver		0.500	0.492	98	80-120		
Thallium		1.00	0.994	99	80-120		
Vanadium		1.00	0.993	99	80-120		
Zinc		1.00	1.03	103	80-120		
Calcium		1.00	1.04	104	80-120		
Iron		1.00	1.02	102	80-120		
Magnesium		1.00	1.03	103	80-120		
Manganese		1.00	0.992	99	80-120		
Sodium		10	11.3	113	80-120		



Mercury

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Quality Control - Laboratory Control Sample

GeoSyntec Consult 2100 Main Street, S Huntington Beach,	ants Suite 150 CA 92648		Date Received: Work Order No: Preparation: Method:		06/11/01 01-06-0506 Total Digestion EPA 7470A
Project: Banning	Ranch/HR0575-03				
LCS Sample Number	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-04-008-559	Aqueous	Mercury	06/12/01	0106111	010611lcs7
Parameter		Conc Added	Conc Recovered	%Rec	%Rec Cl. Qualifiers

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90-122

0.0100



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GeoSyntec Consultants
2100 Main Street, Suite 150
Huntington Beach, CA 92648

06/11/01
01-06-0506
EPA 5030B
EPA 8015M

Banning Ranch/HR0575-03 Project:

Spiked Sample ID	Matrix	Matrix Instrument		Date Analyzed		MS/MSD Batch Number	
01-06-0665-1	Aqueous	GC 1	N/A	06/14/0	1	01061401ms	
Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers	
TPH for Gasoline	104	99	72-120	4	0-21		

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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	EPA 5030B
	Method:	EPA 8015M
Project: Banning Ranch/HR0575-03		

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyze	ed	LCS/LCSD Batc Number	h
098-03-006-1,471	Aqueous	GC 1	N/A	06/14/0	1	01061401sa	
Parameter	LCS %F	EC LCSD	<u>%REC %</u>	REC CL	RPD	RPD CL	Qualifiers
TPH for Gasoline	106	110		81-123	3	0-17	

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GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	EPA 3510B
-	Method:	EPA 8270C

Spiked Sample ID	Matrix	Instrument	Date Prepared	D	ate Analyzed	MS/MSD Batch Number
01-06-0451-9	Aqueous	GC/MS H	06/11/01		06/11/01	010604519
Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Phenol	43	43	12-151	2	0-23	
2-Chlorophenol	95	93	45-135	2	0-18	
1,4-Dichlorobenzene	92	89	36-118	2	0-26	
N-Nitroso-di-n-propylamine	95	92	52-128	4	0-13	
1,2,4-Trichlorobenzene	104	98	42-120	6	0-21	
4-Chloro-3-Methylphenol	106	100	20-150	6	0-40	
Acenaphthene	97 [.]	94	51-137	3	0-11	
4-Nitrophenol	41	40	20-150	3	0-40	
2,4-Dinitrotoluene	95	91	25-143	5	0-36	
Pentachlorophenol	108	104	20-150	3	0-40	
Pyrene	99	101	45-135	2	0-20	

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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received;	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	EPA 3510B
•	Method:	EPA 8270C
D : I Denning Densh // ID0575.00		

Project: Banning Ranch/HR0575-03

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LCS Sample Number	Matrix	Instrur	ment	Date Prepared	D Ana	ate Iyzed	LCS/LCSD Bat Number	ch
095-01-003-787	Aqueous	GC/M	SH	06/11/01	06/1	1/01	0106113	
Parameter	LCS %	6REC	LCSD %R	<u>EC %F</u>	REC CL	RPD	RPD CL	Qualifiers
Phenol	58		62	1	2-151	5	0-23	
2-Chlorophenol	88		94	4	15-135	7	0-18	
1,4-Dichlorobenzene	84		86	3	6-118	3	0-26	
N-Nitroso-di-n-propylamine	92		93	5	52-128	1	0-13	
1,2,4-Trichlorobenzene	97		98	4	2-120	1	0-21	
4-Chloro-3-Methylphenol	100	I	102	2	20-150	2	0-40	
Acenaphthene	96		96	5	51-137	0	0-11	
4-Nitrophenol	47		57	2	20-150	19	0-40	
2,4-Dinitrotoluene	90		93	2	25-143	3	0-36	
Pentachlorophenol	91		105	2	20-150	14	0-40	
Pyrene	98		98	2	15-135	0	0-20	

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alscience nvironmental aboratories, Inc.

GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B

Project: Banning Ranch/HR0575-03

Spiked Sample ID	Matrix	Instrument	Date Prepared	Di	ate Analyzed	MS/MSD Batch Number
02-GW-005	Aqueous	GC/MS C	N/A		06/12/01	0106050601
Parameter	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Benzene	102	101	72-127	1	0-25	
Carbon Tetrachloride	111	116	70-130	4	0-25	
Chlorobenzene	96	97	72-131	1	0-25	
1.2-Dichlorobenzene	102	100	70-130	2	0-25	
1.1-Dichloroethene	100	99	69-127	2	0-25	
Toluene	103	102	75-124	0	0-25	
Trichloroethene	101	101	60-137	1	0-25	
Vinyl Chloride	101	100	70-130	0	0-25	
Methyl-t-Butyl Ether (MTBE)	116	118	80-120	2	0-25	

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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received:	06/11/01
2100 Main Street, Suite 150	Work Order No:	01-06-0506
Huntington Beach, CA 92648	Preparation:	N/A
5	Method:	EPA 8260B

LCS Sample Number	Matrix	Instrument	Date Prepare	Da ed Ana	ate lyzed	LCS/LCSD Bate Number	ch
099-10-006-2,602	Aqueous	GC/MS C	N/A	06/1	2/01	061201AW	
Parameter	LCS %	REC LCSD	%REC	<u>%REC CL</u>	RPD	RPD CL	Qualifiers
Benzene	104	10	1	72-127	3	0-25	
Carbon Tetrachloride	101	10	0	70-130	1	0-25	
Chlorobenzene	99	99	Ð	72-131	0	0-25	
1,2-Dichlorobenzene	103	10	2	70-130	1	0-25	
1,1-Dichloroethene	110	10	0	69-127	10	0-25	
Toluene	103	10	1	75-124	2	0-25	
Trichloroethene	102	10	1	60-137	1	0-25	
Vīnyl Chloride	100	92	2	79-118	8	0-25	
Methyl-t-Butyl Ether (MTBE)	111	10	1	80-120	9	0-25	

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QUALITY ASSURANCE SUMMARY

Method EPA 418.1

GeoSyntec Consultants Page 1 of 1	Work Order No.:01-06-050Date Analyzed:06/12/0			06-0506 06/12/01	
LCS/LCS Duplicate			Control		Control
Analyte	LCS%REC	LCSD%REC	Limits	<u>%RPD</u>	Limits
Total Recoverable Petroleum Hydrocarbons	100	100	70 - 130	0	0 - 30

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	Me				
GeoSyntec Consultants Page 1 of 1	Work Order No.: Date Analyzed:			-01 (06-0506 06/12/01
LCS/LCS Duplicate					
Analyte	LCS%REC	LCSD%REC	Control Limits	<u>%RPD</u>	Control <u>Limits</u>
Benzo (b) Fluoranthene	88	91	40 - 160	3	0 - 20
Benzo (k) Fluoranthene	90	92	40 - 160	2	0 - 20
Benzo (a) Pyrene	60	61	40 - 160	2	0 - 20
Indeno (1,2,3-c,d) Pyrene	74	79	40 - 160	5	0 - 20
Dibenzo (a,h) Anthracene	91	100	40 - 160	9	0 - 20
Benzo (g,h,i) Perylene	86	76	40 - 160	12	0 - 20

QUALITY ASSURANCE SUMMARY

Method EPA 8310

Surrogate Recoveries (in %)

Sample Number	<u>S1</u>
02-GW-005	76
02-GW-004	73
08-GW-001	82
Method Blank	62

Surrogate Compound

S1 > Decafluorobiphenyl

%REC Acceptable Limits

10 - 129

GLOSSARY OF TERMS AND QUALIFIERS

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Work Order Number: 01-06-0506

Qualifier	Definition
D ND Q	The sample data was reported from a diluted analysis. Not detected at indicated reporting limit. Spike recovery and RPD control limits do not apply resulting from the sample concentration exceeding the spike concentration by a factor of four or greater.

1
CALSCIENCE CHANGE ORDER

01-06-0459,01-06-0506,01-06-0540 ORDER: **PROJECT:** HR0575-03

CHANGE: Add 8015 gas on all samples in the referenced work orders on a 24 hr TAT. Will be due 6/15/01. **REQUESTED BY:** ERIC Smalstig-GeoSyntec fax: 969-0820 Approved by Client: 13 JUNE D Date:

Sign, date i fax bek to 894-7501 FROM: <u>S. Nourik</u> DATE: <u>6/13/01 1800 hrs.</u>

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Q&Q Craphic (714) 898-9702

BORATORIES, INC.						Date_	7	2	3=	2 ~1		>	- N - I - I
GARDEN GROVE, CA 92841-1432 TEL: (714) 895-5494 • FAX: (714) 894-7501						Page		_	8	oť			1
LABORATORY CLIENT: GCOSUNTEC CONSULTANTS		CLIENT PROJECT	NAME / NUI	ABER:	515	20		<u>о</u> .	D NO.				r
ADDRESS: 2100 Main Street Svite, 1	50	PROJECT CONTAC	CT.	14K	2	2		LAB	USE O	NLY			1
CITY HUNHINGTON ROCH STATE (A	ZIP 97 CYR	Eric Sme	alsho						Ø	Ø	N.	0	-
TEL: [714] 969-0800 FAX: (714) 969-0820 E-MA	ار: م	Brian Han	droin	1 hau	IM M	ender	2	TEN	DLER R		-	°	
TURNAROUND TIME	AYS 10 DAYS			REQUE	ESTEI	A	IALY	SES					
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)			016		{[[(8)			(9761				
SPECIAL INSTRUCTIONS Samples preserved w/ ice un	til delivered tu	(817 (8)	i) EuC			10109	(91-0		ot (D,			2	
		208) SN	80928 (() ()	(1709) SJAT	T) or (A	(1.82)	(1.82);			JASB	_
Results resursted the June 13, 2001 O. 170	2	10 381М 08ЯА	2032 80928	0728) Af808	(280)	22 WE	(0158 (014)	OMNS	SASAS		57	NIH	
SAMP	LING NO. DF	ГОС' ЕХ Н (D) Н (0)	3) <mark>ខ</mark>)) 3) ខ)(200 2) TS	8) 28 0 1 8	1 'J/	3) 2AI [) 2J	111	(ED (Ha	AT3	NE	
UNE SAMPLE ID LOCATION/DESCRIPTION DATE	TIME MATRIX CONT.	9T 9T 18 18		Ed AS	D9	/)	Nd NO	нэ	(11	115	H	30	1
1 02-GW-005 \$2 6/11/01	1030 WATER 8		3							e	~	~	-
Z 02-CW-004 02	1220 \ 8		3				_		-			_	
3 08-GW-001 \$8 311	14 IS 00		~	-			_			*	-	0	
16-6W-001 06 20W	00		5	-					-	-	-	-	_
AC CUL NO NS MACH ANTEL			2	-							-		
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Relinquished by: (Signature)	Received b	y: (Signature)					ŏ	ate:		F	me:		
Relinquished by: (Signature)	Received (or Laboratory by: (S	ignature)				Ö S	11/1	17		me:		
DISTRIBUTION: White with final report, Green to File, Yello	w and Pink to Client.	2								- 0	01/00	Revision	





June 15, 2001

Eric Smalstig GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

Subject: Calscience Work Order No.: 01-06-0459 Client Reference: HR0575-3

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/9/01 and analyzed in accordance with the attached chain-of-custody.

The results in this analytical report are limited to the samples tested and any reproduction of this report must be made in its entirety.

If you have any questions regarding this report, require sampling supplies or field services, or information on our analytical services, please feel free to call me at (714) 895-5494.

Sincerely,

science Environmental

Laboratories, Inc. Stephen Nowak Project Manager

William H. Christensen Quality Assurance Manager



GeoSyntec Consultants	Date Sampled:	06/09/01
2100 Main Street, Suite 150	Date Received:	06/09/01
Huntington Beach, CA 92648	Date Extracted:	06/12/01
	Date Analyzed:	06/12/01
	Work Order No.:	01-06-0459
Attn: Eric Smalstig	Method:	EPA 418.1
RE: HR0575-3	Page 1 of 1	

All total recoverable petroleum hydrocarbon concentrations are reported in mg/L (ppm).

Sample Number	Concentration	Reporting Limit
01-GW-001	ND	1.0
01-GW-002	ND	1.0
01-GW-003	ND	1.0
02-GW-001	ND	1.0
02-GW-003	ND	1.0
Method Blank	ND	1.0

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ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

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ANALYTICAL REPORT

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GeoSyntec Consultan 2100 Main Street, Sui	ts te 150				Date Wor	e Received: k Order No	:		06/09/01 01-06-0459	
Huntington Beach, CA	92648				Prep Meti	paration: hod:			N/A EPA 150.1	
Project: HR0575-3									Page 1 of 1	
Client Sample Number:		Lat N	o Sample lumber:		Matrix:	Date Collected:	Date Prepared:	Date Analyzed:	QC Batch ID:	
01-GW-001		01-06	-0459-1		Aqueous	06/09/01	N/A	06/11/01	0611PHDUP1	
Parameter	Result	RL	DF	Qual	Units					
ρН	7.05	0.01	1		pH UNIT					
01-GW-002		01-06	-0459-2		Aqueous	06/09/01	N/A	06/11/01	0611PHDUP1	
Parameter	Result	<u>RL</u>	DF	Qual	Units					
рН	7.1	0.01	1		pH UNIT					
01-GW-003		01-06	-0459-3		Aqueous	06/09/01	N/A	06/11/01	0611PHDUP1	
rameter	Result	<u>RL</u>	DF	Qual	Units					
рң	7.48	0.01	1		pH UNIT					
02-GW-001		01-06	-0459-4		Aqueous	06/09/01	N/A	06/11/01	0611PHDUP1	
Parameter	Result	RL	DF	Qual	Units					
pН	6.97	0.01	1		ρΗ υΝΙΤ					
02-GW-003		01-06	-0459-5		Aqueous	06/09/01	N/A	06/11/01	0611PHDUP1	0000000
Parameter	Result	RL	DF	Qual	<u>Units</u>					
рН	7.06	0.01	1		pH UNIT					

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



GeoSyntec Consultants 2100 Main Street, Suite Huntington Beach, CA	s 92648	Date Received: Work Order No: Preparation: Method:							06 01-00 EPA	6/09/01 6-0459 N/A 300.0	
Project: HR0575-3										Pag	e 1 of 1
Client Sample Number:			Lab Ni	Sampi umber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC Bate	h ID:
01-GW-001			01-0	6-045	9-1	06/09/01	Aqueous	N/A	06/11/01	010611	
Parameter	Result	<u>RL</u>	DF	Qual	<u>Units</u>	Parameter		Result	<u>RL</u>	DF Qual	<u>Units</u>
Chloride Nitrite-N	1700 ND	500 1.0	500 10	D	mg/L mg/L	Nitrate-N Sulfate		ND 630	1.0 100	10 100 D	mg/L mg/L
01-GW-002			01-0	06-045	9-2	06/09/01	Aqueous	N/A	06/11/01	010611	
Parameter	Result	RL	DF	Qual	Units	Parameter		Result	<u>RL</u>	DF Qual	Units
Chloride Nitrite-N	2300 ND	500 1.0	500 10	D	mg/L mg/L	Nitrate-N Sulfate		ND 1300	1.0 500	10 500 D	mg/L mg/L
GW-003			01-0	06-045	9-3	06/09/01	Aqueous	N/A	06/11/01	010611	
Parameter	Result	<u>RL</u>	DF	Qual	Units	Parameter		Result	<u>RL</u>	DF Qual	<u>Units</u>
Chloride Nitrite-N	1800 ND	500 1.0	500 10	D	mg/L mg/L	Nitrate-N Sulfate		ND 360	1.0 100	10 100 D	mg/L mg/L
02-GW-001			01-0	06-045	9-4	06/09/01	Aqueous	N/A	06/11/01	010611	
Parameter	Result	RL	DF	Qual	Units	Parameter		<u>Result</u>	<u>RL</u>	DF Qual	<u>Units</u>
Chloride Nitrite-N	13000 ND	2000 1.0	2000 10	D	mg/L mg/L	Nitrate-N Sulfate		ND 1200	1.0 500	10 500 D	mg/L mg/L
02-GW-003			01-0	06-046	9-5	06/09/01	Aqueous	N/A	06/11/01	010611	
Parameter	Result	RL	<u>DF</u>	Qual	Units	Parameter		Result	<u>RL</u>	<u>DF</u> Qual	<u>Units</u>
Chloride Nitrite-N	4000 ND	500 1.0	500 10	D	mg/L mg/L	Nitrate-N Sulfate		ND 31	1.0 10	10 10	mg/L mg/L
Method Blank			099	-05-11	8-16	N/A	Aqueous	N/A	06/11/01	010611	
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	<u>RL</u>	DF Qual	Units
Chloride Nitrite-N	ND ND	1.0 0.10	1 1		mg/L mg/L	Nitrate-N Sulfate		ND ND	0.10 1.0	1 1	mg/L mg/L

- Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	Total Digestion
	Method:	EPA 6010B / EPA 7470A

Page 1 of 3

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10 D

mg/L

2000

Project: HR0575-3

Molybdenum

Client Sample Nu	imber:			La N	b Samp ∤umber:)le :	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	Q	C Bate	sh ID:	
01-GW-001				01	-06-045	9-1	06/09/01	Aqueous	06/11/01	06/12/01	0	10611	lcs7	
Comment(s):	Mercury was a	analyzed on 6/	11/01 5:4	7:31	PM with	h batch 0	10611lcs1							
Parameter		Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	Units	
Antimony		ND	0.0150	1		mg/L	Nickel		0.00558	0.00500	1		mg/L	
Arsenic		ND	0.0150	1		mg/L	Selenium		ND	0.0150	1		mg/L	
Barium		0.0487	0.0100	1		mg/L	Silver		ND	0.00500	1		mg/L	
Beryllium		ND	0.00100	1		mg/L	Thallium		ND	0.0150	1		mg/L	
Cadmium		ND	0.00500	1		mg/L	Vanadium		0.0704	0.0050	1		ma/L	
Chromium (Total)		0.00617	0.00500	1		mg/L	Zinc		0.0757	0.0100	1		ma/L	
Cobalt		ND	0.00500	1		mg/L	Calcium		208	1	10	D	ma/L	
Copper		0.00667	0.00500	1		mg/L	Iron		0.314	0.100	1		ma/L	
Lead		ND	0.0100	1		mg/L	Magnesium		142	1	10	D	ma/L	
Mercury		ND	0.00050	1		mg/L	Manganese		0.526	0.005	1		ma/L	
Molybdenum		0.00665	0.00500	1		mg/L	Sodium		1530	5	10	D	mg/L	
-GW-002				01	-06045	9-2	06/09/01	Aqueous	06/11/01	06/12/01	0	10611	cs7	
Comment(s):	Mercury was a	analyzed on 6/	11/01 5:5	0:34	PM with	batch 0	10611lcs1							
Parameter		Result	RL	<u>DF</u>	Qual	Units	Parameter		Result	RL	DF	Qual	Units	
Antimony		ND	0.0150	1		mg/L	Nickel		0.0116	0.0050	1		ma/L	
Arsenic		ND	0.0150	1		mg/L	Selenium		ND	0.0150	1		mg/L	
Barium		0.220	0.010	1		mg/L	Silver		ND	0.00500	1		mg/L	
Beryllium		ND	0.00100	1		mg/L	Thallium		ND	0.0150	1		ma/L	
Cadmium		ND	0.00500	1		ma/L	Vanadium		0.0616	0.0050	1		ma/L	
Chromium (Total)		0.00566	0.00500	1		mg/L	Zinc		0.0443	0.0100	1		mg/L	
Cobalt		ND	0.00500	1		mg/L	Calcium		290	1	10	D	ma/L	
Copper		0.00735	0.00500	1		ma/L	Iron		0.328	0.100	1	-	ma/L	
Lead		ND	0.0100	1		ma/L	Magnesium		215	1	10	D	ma/L	
Mercury		ND	0.00050	1		ma/L	Manganese		0.675	0.005	1		ma/l	
											-			

mg/L

Sodium

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

0.00702 0.00500 1



GeoSyntec Consultants	Date Received:
2100 Main Street, Suite 150	Work Order No:
Huntington Beach, CA 92648	Preparation:
5	Method:

06/09/01 01-06-0459 Total Digestion EPA 6010B / EPA 7470A

Page 2 of 3

Project: HR0575-3

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Client Sample Nu	mber:		Lal N	b Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	Q	C Bate	sh ID:
01-GW-003			01	-06-045	9-3	06/09/01	Aqueous	06/11/01	06/12/01	0	10611	lcs7
Comment(s):	Mercury was analyzed on 6/	11/01 5:5:	3:38	PM with	batch 0	10611Ics1						
Parameter	Result	RL	DF	Qual	Units	Parameter		Result	<u>RL</u>	<u>DF</u>	Qual	Units
Antimony	ND	0.0150	1		mg/L	Nickel		0.0156	0.0050	1		mg/L
Arsenic	ND	0.0150	1		mg/L	Selenium		ND	0.0150	1		mg/L
Barium	0.0746	0.0100	1		mg/L	Silver		ND	0.00500	1		mg/L
Beryllium	ND	0.00100	1		mg/L	Thallium		ND	0.0150	1		mg/L
Cadmium	ND	0.00500	1		mg/L	Vanadium		0.0881	0.0050	1		mg/L
Chromium (Total)	0.00507	0.00500	1		mg/L	Zinc		0.0344	0.0100	1		mg/L
Cobalt	ND	0.00500	1		mg/L	Calcium		115	1	10	D	mg/L
Copper	0.0219	0.0050	1		mg/L	Iron		0.240	0.100	1		mg/L
Lead	ND	0.0100	1		mg/L	Magnesium		156	1	10	D	mg/L
Mercury	ND	0.00050	1		mg/L	Manganese		0.305	0.005	1		mg/L
Molybdenum	ND	0.00500	1		mg/L	Sodium		1440	5	10	D	mg/L
GW-001			01	-06-045	9-4	06/09/01	Aqueous	06/11/01	06/12/01	0	10611	lcs7

Comment(s):	Mercury was analyzed on 6/	11/01 5:56	43 PM	with batch ()10611[cs1					
Parameter	Result	RL		ual Units	Parameter	Result	RL	DF	Qual	<u>Units</u>
Antimony	ND	0.0150	1	mg/L	Nickel	0.00512	0.0050	1		mg/L
Arsenic	ND	0.0150	1	mg/L	Selenium	ND	0.0150	1		mg/L
Barium	0.279	0.010	1	mg/L	Silver	ND	0.0050	1		mg/L
Beryllium	ND	0.0010	1	mg/L	Thallium	ND	0.0150	1		mg/L
Cadmium	ND	0.0050	1	mg/L	Vanadium	0.00704	0.0050	1		mg/L
Chromium (Total)	0.00637	0.0050	1	mg/L	Zinc	0.0661	0.0100	1		mg/L
Cobalt	ND	0.0050	1	mg/L	Calcium	434	1	10	D	mg/L
Copper	ND	0.0050	1	mg/L	Iron	8.09	0.10	1		mg/L
Lead	ND	0.0100	1	mg/L	Magnesium	754	1	10	D	mg/L
Mercury	ND	0.0005	1	mg/L	Manganese	1.60	0.0050	1		mg/L
Molybdenum	0.0250	0.0050	1	mg/L	Sodium	6230	50	100	D	mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



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ANALYTICAL REPORT

GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	Total Digestion
3	Method:	EPA 6010B / EPA 7470A
Project: HR0575-3		Page 3 of 3

Client Sample Nu	mber:		Lat N	o Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	Q	C Bato	h ID:
02-GW-003			01-	06-045	9-5	06/09/01	Aqueous	06/11/01	06/12/01	0	106111	cs7
Comment(s):	Mercury was analyzed on 6	/11/01 5:59	9:48	PM with	batch 0	10611lcs1						
Parameter	Result	RL	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	<u>RL</u>	DF	Qual	<u>Units</u>
Antimony	ND	0.0150	1		mg/L	Nickel		ND	0.00500	1		mg/L
Arsenic	ND	0.0150	1		mg/L	Selenium		ND	0.0150	1		mg/L
Barium	1.81	0.01	1		mg/L	Silver		NÐ	0.00500	1		mg/L
Beryllium	ND	0.00100	1		mg/L	Thallium		ND	0.0150	1		mg/L
Cadmium	ND	0.00500	1		mg/L	Vanadium		0.0317	0.0050	1		mg/L
Chromium (Total)	0.00911	0.00500	1		mg/L	Zinc		0.0682	0.0100	1		mg/L
Cobalt	ND	0.00500	1		mg/L	Calcium		115	1	10	D	mg/L
Copper	ND	0.00500	1		mg/L	Iron		1.05	0.10	1		mg/L
Lead	ND	0.0100	1		mg/L	Magnesium		239	1	10	D	mg/L
Mercury	ND	0.00050	1		mg/L	Manganese		0.298	0.005	1		mg/L
* *olvbdenum	ND	0.00500	1		mg/L	Sodium		2780	5	10	D	mg/L
ethod Blank			099	9-04-00	8-558	N/A	Aqueous	06/11/01	06/11/01	0	10611	ics1
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>							
Mercury	ND	0.00050	1		mg/L							
Method Blank			09	7-01-00	3-1,775	N/A	Aqueous	06/11/01	06/12/01	0	10611	lcs7
Parameter	Result	RL	DF	Qual	<u>Units</u>	<u>Parameter</u>		Result	<u>RL</u>	DF	Qual	<u>Units</u>
Antimony	ND	0.0150	1		mg/L	Selenium		ND	0.0150	1		mg/L
Arsenic	ND	0.0150	1		mg/L	Silver		ND	0.00500	1		mg/L
Barium	ND	0.0100	1		mg/L	Thallium		ND	0.0150	1		mg/L
Beryllium	ND	0.00100	1		mg/L	Vanadium		ND	0.00500	1		mg/L
Cadmium	ND	0.00500	1		mg/L	Zinc		ND	0.0100	1		mg/L
Chromium (Total)	ND	0,00500	1		mg/L	Calcium		ND	0.100	1		mg/L
Cobalt	ND	0.00500	1		mg/L	Iron		ND	0.100	1		mg/L
Copper	ND	0.00500	1		mg/L	Magnesium		ND	0.100	1		mg/L
Lead	ND	0.0100	1		mg/L	Manganese		ND	0.00500	1		mg/L
Molybdenum	ND	0.00500	1		mg/L	Sodium		ND	0.500	1		mg/L
Nickel	ND	0.00500	1		mg/L							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648					06/09/01 01-06-0459 EPA 5030B EPA 8015M					
Project: HR0575-3									Page 1 of 2	
Client Sample Number:		Lab Nu	Sample Imber:		Matrix:	Date Collected:	Date Prepared:	Date Analyzed;	OC Batch ID:	
01-GW-001		01-06-0	459-1		Aqueous	06/09/01	N/A	06/14/01	01061401sa	
Parameter	Result	<u>RL</u>	DF	Qual	<u>Units</u>					
TPH for Gasoline	ND	100	1		ug/L					
Surrogates:	REC (%)	Control		Qual						
1,4-Bromofluorobenzene	92	<u>Limits</u> 49-157								
01-GW-002		01-06-0	459-2		Aqueous	06/09/01	N/A	06/14/01	01061401sa	Star 200
Parameter	Result	RL	DF	Qual	<u>Units</u>					
TPH for Gasoline	ND	100	1		ug/L					
urrogates:	REC (%)	Control		Qual						
1,4-Bromofluorobenzene	89	49-157								
01-GW-003		01-06-0	459-3		Aqueous	06/09/01	N/A	06/14/01	01061401sa	
Parameter	Result	RL	DF	Qual	<u>Units</u>					
TPH for Gasoline	ND	100	1		ug/L					
Surrogates:	REC (%)	Control		Qual						
1,4-Bromofluorobenzene	86	Limits 49-157								
02-GW-001		01-06-0	459-4		Aqueous	06/09/01	N/A	06/14/01	01061401sa	0
Parameter	Result	RL	DF	Qual	Units					2
TPH for Gasoline	ND	100	1		ug/L					
Surrogates:	<u>REC (%)</u>	Control		Qual						
1,4-Bromofluorobenzene	92	Limits 49-157								

12.

RL - Reporting Limit DF - Dilution Factor , Qual - Qualifiers



GeoSyntec Consultants					Date	e Received:			06/09/01	
2100 Main Street, Su	ite 150			Work Order No: Preparation: Method:					01-06-0459	
Huntington Beach, C.	A 92648								EPA 5030B EPA 8015M	
					mot	ilou.				
Project: HR0575-3									Page 2 of 2	
Client Sample Number:		Lab Nu	Sample Imber:		Matrix:	Date Collected:	Date Prepared:	Date Analyzed:	QC Batch ID:	
02-GW-003		01-06-0)459-5		Aqueous	06/09/01	N/A	06/14/01	01061401sa	
Parameter	Result	<u>RL</u>	DF	Qual	Units					
TPH for Gasoline	ND	100	1		ug/L					
Surrogates:	REC (%)	Control		Qual						
1,4-Bromofluorobenzene	91	49-157								
Method Blank		098-03	-006-1,471		Aqueous	N/A	N/A	06/14/01	01061401sa	
Parameter	Result	<u>RL</u>	DF	Qual	Units					
TPH for Gasoline	ND	100	1		ug/L					
urrogates:	<u>REC (%)</u>	Control		Qual						
1.4-Bromofluorobenzene	93	49-157								



GeoSyntec Consultants	Date Sampled:	06/09/01
2100 Main Street, Suite 150	Date Received:	06/09/01
Huntington Beach, CA 92648	Date Extracted:	06/11/01
•	Date Analyzed:	06/12/01
	Work Order No.:	01-06-0459
Attn: Eric Smalstig	Method:	EPA 8310
RE: HR0575-3	Page 1 of 6	

All concentrations are reported in μ g/L (ppb).

Analyta	Concentration	Reporting
Analyte	Concentration	
Sample Number: 01-GW-001		
Naphthalene	ND	1.0
Acenaphthylene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	1.0
Anthracene	ND	1.0
Fluoranthene	ND	1.0
Pyrene	ND	1.0
Benzo (a) Anthracene	ND	1.0
Chrysene	ND	1.0
Benzo (b) Fluoranthene	ND	1.0
Benzo (k) Fluoranthene	ND	1.0
Benzo (a) Pyrene	ND	0.2
Indeno (1,2,3-c,d) Pyrene	ND	1.0
Dibenzo (a,h) Anthracene	ND	1.0
Benzo (g,h,i) Perylene	ND	1.0

L.L.



GeoSyntec Consultants	Date Sampled:	06/09/01
2100 Main Street, Suite 150	Date Received:	06/09/01
Huntington Beach, CA 92648	Date Extracted:	06/11/01
	Date Analyzed:	06/12/01
	Work Order No .:	01-06-0459
Attn: Eric Smalstig	Method:	EPA 8310
RE: HR0575-3	Page 2 of 6	

All concentrations are reported in μ g/L (ppb).

Analyte	Concentration	Limit
Sample Number: 01-GW-002		
Naphthalene	ND	1.0
Acenaphthylene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	1.0
Anthracene	ND	1.0
Fluoranthene	ND	1.0
Pyrene	ND	1.0
Benzo (a) Anthracene	ND	1.0
Chrysene	ND	1.0
Benzo (b) Fluoranthene	ND	1.0
Benzo (k) Fluoranthene	ND	1.0
Benzo (a) Pyrene	ND	0.2
Indeno (1,2,3-c,d) Pyrene	ND	1.0
Dibenzo (a,h) Anthracene	ND	1.0
Benzo (g,h,i) Perylene	ND	1.0

hm



GeoSyntec Consultants	Date Sampled:	06/09/01
2100 Main Street, Suite 150	Date Received:	06/09/01
Huntington Beach, CA 92648	Date Extracted:	06/11/01
-	Date Analyzed:	06/12/01
	Work Order No.:	01-06-0459
Attn: Eric Smalstig	Method:	EPA 8310
RE: HR0575-3	Page 3 of 6	

All concentrations are reported in μ g/L (ppb).

Analyte	Concentration	Reporting <u>Limit</u>
Sample Number: 01-GW-003		
Naphthalene	ND	1.0
Acenaphthylene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	1.0
Anthracene	ND	1.0
Fluoranthene	ND	1.0
Pyrene	ND	1.0
Benzo (a) Anthracene	ND .	1.0
Chrysene	ND	1.0
Benzo (b) Fluoranthene	ND	1.0
Benzo (k) Fluoranthene	ND	1.0
Benzo (a) Pyrene	ND	0.2
Indeno (1,2,3-c,d) Pyrene	ND	1.0
Dibenzo (a,h) Anthracene	ND	1.0
Benzo (g,h,i) Perylene	ND	1.0

<u>]</u>



GeoSyntec Consultants	Date Sampled:	06/09/01
2100 Main Street, Suite 150	Date Received:	06/09/01
Huntington Beach, CA 92648	Date Extracted:	06/11/01
č	Date Analyzed:	06/12/01
	Work Order No .:	01-06-0459
Attn: Eric Smalstig	Method:	EPA 8310
RE: HR0575-3	Page 4 of 6	

All concentrations are reported in µg/L (ppb).

Analyte	Concentration	Reporting <u>Limit</u>
Sample Number: 02-GW-001		
Naphthalene	ND	1.0
Acenaphthylene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	1.0
Anthracene	ND	1.0
Fluoranthene	ND	1.0
Pyrene	ND	1.0
Benzo (a) Anthracene	ND	1.0
Chrysene	ND	1.0
Benzo (b) Fluoranthene	ND	1.0
Benzo (k) Fluoranthene	ND	1.0
Benzo (a) Pyrene	ND	0.2
Indeno (1,2,3-c,d) Pyrene	ND	1.0
Dibenzo (a,h) Anthracene	ND	1.0
Benzo (g,h,i) Perylene	ND	1.0

n.M_



GeoSyntec Consultants	Date Sampled:	06/09/01
2100 Main Street, Suite 150	Date Received:	06/09/01
Huntington Beach, CA 92648	Date Extracted:	06/11/01
	Date Analyzed:	06/12/01
	Work Order No.:	01-06-0459
Attn: Eric Smalstig	Method:	EPA 8310
RE: HR0575-3	Page 5 of 6	

All concentrations are reported in μ g/L (ppb).

Analyte	Concentration	Reporting <u>Limit</u>
Sample Number: 02-GW-003		
Naphthalene	ND	1.0
Acenaphthylene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	1.0
Anthracene	ND	1.0
Fluoranthene	ND	1.0
Pyrene	ND	1.0
Benzo (a) Anthracene	ND	1.0
Chrysene	ND	1.0
Benzo (b) Fluoranthene	ND	1.0
Benzo (k) Fluoranthene	ND	1.0
Benzo (a) Pyrene	ND	0.2
Indeno (1,2,3-c,d) Pyrene	ND	1.0
Dibenzo (a,h) Anthracene	ND	1.0
Benzo (g,h,i) Perylene	ND	1.0



GeoSyntec Consultants	Date Sampled: NA
2100 Main Street, Suite 150	Date Received: NA
Juntington Beach, CA 92648	Date Extracted: 06/11/01
-	Date Analyzed: 06/12/01
	Work Order No.: 01-06-0459
Attn: Eric Smalstig	Method: EPA 8310
RE: HR0575-3	Page 6 of 6
Attn: Eric Smalstig RE: HR0575-3	Date Received: Date Extracted: 06/11 Date Analyzed: 06/12 Work Order No.: 01-06-0 Method: EPA 8 Page 6 of 6

All concentrations are reported in µg/L (ppb).

Analyte	Concentration	Limit
Sample Number: Method Blank		
Naphthalene	ND	1.0
Acenaphthylene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	1.0
Phenanthrene	ND	1.0
Anthracene	ND	1.0
Fluoranthene	ND	1.0
Pyrene	ND	1.0
Benzo (a) Anthracene	ND	1.0
Chrysene	ND	1.0
Benzo (b) Fluoranthene	ND	1.0
Benzo (k) Fluoranthene	ND	1.0
Benzo (a) Pyrene	ND	0.2
Indeno (1,2,3-c,d) Pyrene	ND	1.0
Dibenzo (a,h) Anthracene	ND	1.0
Benzo (g,h,i) Perylene	ND	1.0

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

Calscience nvironmental Laboratories, Inc.

Date Received:	06/09/01
Work Order No: Preparation: Method:	01-06-0459 EPA 3510B EPA 8270C
	Date Received: Work Order No: Preparation: Method:

Project: HR0575-3

Client Sample Number:		Lab Sample Number:			Date Collected:	Matrix:	Date Prepared:	Date Analyzed	Q	C Batch	n ID:	
01-GW-001			01-0	6-0459	0-1	06/09/01	Aqueous	06/11/01	06/12/01 0106113			
Parameter	Result	RL	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	<u>RL</u>	DF	Qual	<u>Units</u>
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitrophenol	I	ND	50	1		ug/L
Aniline	ND	10	1		ug/L	4-Nitrophenol		NÐ	10	1		ug/L
Phenol	ND	10	1		ug/L	Dibenzofuran		ND	10	1		ug/L
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotoluen	e	ND	10	1		ug/L
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotoluen	e	ND	10	1		ug/L
1,3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthalate	!	ND	10	1		ug/L
1,4-Dichlorobenzene	ND	10	1		ug/L	4-Chlorophenyl-F	Phenyl Ether	ND	10	1		ug/L
Benzyl Alcohol	ND	10	1		ug/L	Fluorene		ND	10	1		ug/L
1,2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline		ND	10	1		ug/L
2-Methylphenol	ND	10	1		ug/L	Azobenzene		ND	10	1		ug/L
Bis(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-Mel	thylphenol	ND	50	1		ug/L
'ethylphenol	ND	10	1		ug/L	N-Nitrosodiphen	ylamine	ND	10	1		ug/L
roso-di-n-propylamine	ND	10	1		ug/L	4-Bromophenyl-F	Phenyl Ether	ND	10	1		ug/L
Hexachloroethane	ND	10	1		ug/L	Hexachlorobenze	ene	ND	10	1		ug/L
Nitrobenzene	ND	25	1		ug/L	Pentachlorophen	ol	ND	10	1		ug/L
Isophorone	ND	10	1		ug/L	Phenanthrene		ND	10	1		ug/L
2-Nitrophenol	ND	10	1		ug/L	Anthracene		ND	10	1		ug/L
2,4-Dimethylphenol	ND	10	1		ug/L	Di-n-Butyl Phtha	late	ND	10	1		ug/L
Benzoic Acid	ND	50	1		ug/L	Fluoranthene		ND	10	1		ug/L
Bis(2-Chloroethoxy) Methane	ND	10	1		ug/L	Benzidine		ND	50	1		ug/L
2.4-Dichlorophenol	ND	10	1		ug/L	Pyrene		ND	10	1		ug/L
1.2.4-Trichlorobenzene	ND	10	1		ug/L	Pyridine		ND	10	1		ug/L
Naphthalene	ND	10	1		ug/L	Butyl Benzyl Pht	halate	ND	10	1		ug/L
4-Chloroaniline	ND	10	1		ua/L	3.3'-Dichloroben	zidine	ND	25	1		ug/L
Hexachloro-1.3-Butadiene	ND	10	1		ua/L	Benzo (a) Anthra	acene	ND	10	1		ug/L
4-Chloro-3-Methylphenol	ND	10	1		ua/L	Bis(2-Ethylhexyl)) Phthalate	ND	10	1		ug/L
2-Methylnanhthalene	ND	10	1		ua/l	Chrysene		ND	10	1		ug/L
Hexachlorocyclonentadiene	ND	25	1		ua/t	Di-n-Octvl Phtha	late	ND	10	1		ug/L
2 4 6-Trichlorophenol	ND	10	1		ug/l	Benzo (b) Fluora	anthene	ND	10	1		ug/L
2 4 5-Trichlorophenol	ND	10	1		ug/L	Benzo (k) Fluora	nthene	ND	10	1		ug/L
2-Chloronanhthalene	ND	10	1		ug/L	Benzo (a) Pyren	e	ND	10	1		ug/L
2-Nitroaniline	ND	10	1		ug/L	Benzo (a h i) Pe	rvlene	ND	10	1		ug/L
Dimethyl Phthalate	ND	10	1		ug/L	Indeno (1.2.3-c.)	d) Pyrene	ND	10	1		ug/L
Acenanothylene	ND	10	1		ug/L	Dibenz (a h) Ant	hracene	ND	10	1		ug/L
3 Nitroaniline	ND	10	-		ug/L	1-Methylnaphtha	lene	ND	10	1		ug/L
Acenaphthene	ND	10	1		ug/L	Theujinaphate		115				5
Surrogates:	<u>REC (%)</u>	Control Lin	nits	Qual		Surrogates:		<u>REC (%)</u>	Control Li	nits	Qual	
2-Fluorophenol	57	15-138	5			Phenol-d6		41	17-14			
Nitrobenzene-d5	72	56-123	}			2-Fluorobipheny	1	65	45-120)		
6-Tribromophenol	95	32-143	}			p-Terphenyl-d12	1	79	46-133	3		

RL - Reporting Limit

ing Limit , DF - Dilution Factor , Qual - Qualifiers

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Page 1 of 6



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

HR0575-3

Project:

Date Received: Work Order No: Preparation: Method: 06/09/01 01-06-0459 EPA 3510B EPA 8270C

Page 2 of 6

Client Sample Number:			Lab N	Sampl umber:	e	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	Q	C Batch	ID;
01-GW-002		- Ju	01-	06-045	9-2	06/09/01	Aqueous	06/11/01	06/12/01	0.	106113	
Parameter	Result	<u>RL</u>	DF	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	Units
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitrophen	ol	ND	50	1		ug/L
Aniline	ND	10	1		ug/L	4-Nitrophenol		ND	10	1		ug/L
Phenol	ND	10	1		ug/L	Dibenzofuran		ND	10	1		ug/L
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotolue	ne	ND	10	1		ug/L
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotolue	ne	ND	10	1		ug/L
1.3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthalat	te	ND	10	1		ug/L
1.4-Dichlorobenzene	ND	10	1		ug/L	4-Chlorophenyl	-Phenyl Ether	ND	10	1		ug/L
Benzyl Alcohol	ND	10	1		ug/L	Fluorene	·	ND	10	1		ug/L
1,2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline		ND	10	1		ug/L
2-Methylphenol	NÐ	10	1		ug/L	Azobenzene		ND	10	1		ug/L
Bis(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-M	ethylphenol	ND	50	1		ug/L
Methylphenol	ND	10	1		ug/L	N-Nitrosodiphe	nylamine	ND	10	1		ug/L
roso-di-n-propylamine	ND	10	1		ug/L	4-Bromophenyl	-Phenyl Ether	ND	10	1		ug/L
Frexachloroethane	ND	10	1		ug/L	Hexachloroben	zene	ND	10	1		ug/L
Nitrobenzene	ND	25	1		ug/L	Pentachlorophe	enol	ND	10	1		ug/L
Isophorone	ND	10	1		ug/L	Phenanthrene		ND	10	1		ug/L
2-Nitrophenol	ND	10	1		ug/L	Anthracene		ND	10	1		ug/L
2,4-Dimethylphenol	ND	10	1		ug/L	Di-n-Butyl Phth	alate	ND	10	1		ug/L
Benzoic Acid	ND	50	1		ug/L	Fluoranthene		ND	10	1		ug/L
Bis(2-Chloroethoxy) Methane	ND	10	1		ug/L	Benzidine		ND	50	1		ug/L
2,4-Dichlorophenol	ND	10	1		ug/L	Pyrene		ND	10	1		ug/L
1,2,4-Trichlorobenzene	ND	10	1		ug/L	Pyridine		ND	10	1		ug/L
Naphthalene	ND	10	1		ug/L	Butyl Benzyl Ph	nthalate	ND	10	1		ug/L
4-Chloroaniline	ND	10	1		ug/L	3,3'-Dichlorobe	nzidine	ND	25	1		ug/L
Hexachloro-1,3-Butadiene	ND	10	1		ug/L	Benzo (a) Anth	racene	ND	10	1		ug/L
4-Chloro-3-Methylphenol	ND	10	1		ug/L	Bis(2-Ethylhex)	(I) Phthalate	ND	10	1		ug/L
2-Methylnaphthalene	ND	10	1		ug/L	Chrysene		ND	10	1		ug/L
Hexachlorocyclopentadiene	ND	25	1		ug/L	Di-n-Octyl Phth	alate	ND	10	1		ug/L
2.4.6-Trichlorophenol	ND	10	1		ua/L	Benzo (b) Fluor	ranthene	ND	10	1		ug/L
2.4.5-Trichlorophenol	ND	10	1		ug/L	Benzo (k) Fluor	anthene	ND	10	1		ug/L
2-Chloronaphthalene	ND	10	1		ua/L	Benzo (a) Pyre	пе	ND	10	1		ug/L
2-Nitroaniline	ND	10	1		ug/l	Benzo (a h i) P	ervlene	ND	10	1		ug/L
Dimethyl Phthalate	ND	10	1		ua/L	Indeno (1.2.3-c	d) Pvrene	ND	10	1		ug/L
Acenaphthylene	ND	10	1		ua/L	Dibenz (a.h) Ar	thracene	ND	10	1		ug/L
3-Nitroaniline	ND	10	i		ua/l	1-Methylpaphth	alene	ND	10	1		ug/L
Acenaphthene	ND	10	1		ug/L	, monthered						5
Surrogates:	<u>REC (%)</u>	Control Lim	its	Qual		Surrogates:		<u>REC (%)</u>	Control Lim	<u>its</u>	<u>Qual</u>	
2-Fluorophenol	61	15-138				Phenol-d6		40	17-141			
Nitrobenzene-d5	91	56-123				2-Fluorobiphen	yl	83	45-120			
2.4,6-Tribromophenol	119	32-143				p-Terphenyl-d1	4	103	46-133			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Page 3 of 6

GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	EPA 3510B
	Method:	EPA 8270C

Project: HR0575-3

Client Sample Number:			Lab Sample Number:		Date Collected:	Matrix:	Date Prepared:	Date Date Prepared: Analyzed: QC		C Batch ID:		
01-GW-003			01-0	6-045	9-3	06/09/01	Aqueous	06/11/01	06/12/01	0	106113	
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	<u>RL</u>	<u>DF</u>	Qual	Units
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitropher	ol	ND	50	1		ug/L
Aniline	ND	10	1		ug/L	4-Nitrophenol		ND	10	1		ug/L
Phenol	ND	10	1		ug/L	Dibenzofuran		ND	10	1		ug/L
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotolue	ene	ND	10	1		ug/L
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotolue	ene	ND	10	1		ug/L
1.3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthala	te	ND	10	1		ug/L
1.4-Dichlorobenzene	ND	10	1		ug/L	4-Chloropheny	-Phenyl Ether	ND	10	1		ug/L
Benzyl Alcohol	ND	10	1		ug/L	Fluorene		ND	10	1		ug/L
1.2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline		ND	10	1		ug/L
2-Methylphenol	ND	10	1		ug/L	Azobenzene		ND	10	1		ug/L
Pis(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-M	lethylphenol	ND	50	1		ug/L
'ethylphenol	ND	10	1		ug/L	N-Nitrosodiphe	nylamine	ND	10	1		ug/L
voso-di-n-propylamine	ND	10	1		ua/L	4-Bromopheny	-Phenyl Ether	ND	10	1		ug/L
Hexachloroethane	ND	10	1		ug/L	Hexachloroben	zene	ND	10	1		ug/L
Nitrobenzene	ND	25	1		ua/L	Pentachlorophe	enol	ND	10	1		ug/L
Isophorone	ND	10	1		ua/L	Phenanthrene		ND	10	1		ug/L
2-Nitrophenol	ND	10	1		ug/L	Anthracene		ND	10	1		ug/L
2 4-Dimethylphenol	ND	10	1		ua/L	Di-n-Butyl Phth	nalate	ND	10	1		ug/L
Benzoic Acid	ND	50	1		ua/L	Fluoranthene		ND	10	1		ug/L
Bis(2-Chloroethoxy) Methane	ND	10	1		ua/L	Benzidine		ND	50	1		ug/L
2 4-Dichloronhenol	ND	10	1		ug/L	Pvridine		ND	10	1		ug/L
1 2 4-Trichlorobenzene	ND	10	1		ug/L	Pyrene		ND	10	1		ug/L
Naphthalene	ND	10	1		ua/L	Butyl Benzyl Pl	hthalate	ND	10	1		ug/L
4-Chloroaniline	ND	10	1		ua/l	3 3'-Dichlorobe	nzidine	ND	25	1		ug/L
Hevachloro-1 3-Butadiene	ND	10	1		ug/L	Benzo (a) Anth	racene	ND	10	1		ug/L
4 Chloro-3-Methylphenol	ND	10	1		ua/l	Bis(2-Ethylhex	vl) Phthalate	ND	10	1		ug/L
2-Methylpanhthalene	ND	10	1		ug/L	Chrysene	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ND	10	- 1 .		ug/L
Hevachlorocyclopentadiene	ND	25	1		ug/L	Di-n-OctvI Pht	nalate	ND	10	1		ug/L
2.4.6-Trichloronhenol	ND	10	1		ug/L	Benzo (b) Eluo	ranthene	ND	10	1		ug/L
2,4,5 Trichlorophenol	ND	10	1		ug/L	Benzo (k) Fluo	ranthene	ND	10	1		ua/L
2,4,5-mentorophenor	ND	10	4		ug/L	Benzo (a) Pyre		ND	10	1		ug/L
2 Nitroanilino	ND	10	1		ug/L	Benzo (a h i) P	en/lene	ND	10	1		ua/L
Dimethyl Phthalate	ND	10	1		ug/L	Indepo (1.2.3.	d) Pyrene	ND	10	1		ua/L
		10	4		ug/L	Dibenz (a, h) A	nthracene	ND	10	1		ug/l
2 Nitrophilips	ND	10	4		ug/L ug/l	1 Mothyloapht	halana		10	्य		ud/l
Acenaphthene	ND	10	1		ug/L	т-метлупарта	aiche	ND	10	1.712		-9/-
Surrogates:	<u>REC (%)</u>	Control Limit	ts	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	<u>nits</u>	<u>Qual</u>	
2-Fluorophenol	64	15-138				Phenol-d6		44	17-141			
Nitrobenzene-d5	88	56-123				2-Fluorobipher	nyl	78	45-120			
ूर्त् ' न-Tribromophenol	113	32-143				p-Terphenyl-d	14	95	46-133			

RL - Reporting Limit ,

orting Limit , DF - Dilution Factor Qual - Qualifiers



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648 Date Received: Work Order No: Preparation: Method:

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Client Sample Number:			Lab Sample Number:			Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	C	QC Batch ID:		
02-GW-001			01-()6-045	9-4	06/09/01	Aqueous	06/11/01	06/12/01		010611:	1	
Parameter	Result	RL	DF	Qual	<u>Units</u>	Parameter		Result	RL	<u>DF</u>	Qual	Units	
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitrophen	lol	ND	50	1		ug/L	
Aniline	ND	10	1		ug/L	4-Nitrophenol		ND	10	1		ug/L	
Phenol	ND	10	1		ug/L	Dibenzofuran		ND	10	1		ug/L	
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotolue	ne	ND	10	1		ug/L	
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotolue	ne	ND	10	1		ug/L	
1,3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthala	te	ND	10	1		ug/L	
1,4-Dichlorobenzene	ND	10	1		ug/L	4-Chlorophenyl	-Phenyl Ether	ND	10	1		ug/L	
Benzyl Alcohol	ND	10	1		ug/L	Fluorene	-	ND	10	1		ug/L	
1.2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline		ND	10	1		ug/L	
2-Methylphenol	ND	10	1		ug/L	Azobenzene		ND	10	1		ug/L	
Bis(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-M	ethylphenol	ND	50	1		ug/L	
Methylphenol	ND	10	1		ug/L	N-Nitrosodiphe	nylamine	ND	10	1		ug/L	
oso-di-n-propylamine	ND	10	1		ug/L	4-Bromophenyl	-Phenyl Ether	ND	10	1		ug/L	
- mexachloroethane	ND	10	1		ug/L	Hexachloroben	zene	ND	10	1		ug/L	
Nitrobenzene	ND	25	1		uğ/L	Pentachlorophe	enol	ND	10	1		ug/L	
Isophorone	ND	10	1		ug/L	Phenanthrene		ND	10	1		ug/L	
2-Nitrophenol	ND	10	1		ua/L	Anthracene		ND	10	1		ug/L	
2.4-Dimethylphenol	ND	10	1		ug/L	Di-n-Butyl Phth	alate	ND	10	1		ug/L	
Benzoic Acid	ND	50	1		ua/L	Fluoranthene		ND	10	1		ug/L	
Bis(2-Chloroethoxy) Methane	ND	10	1		ug/L	Benzidine		ND	50	1		ug/L	
2.4-Dichlorophenol	ND	10	1		ua/L	Pvrene		ND	10	1		ug/L	
1 2 4-Trichlorohenzene	ND	10	1		ua/L	Pyridine		ND	10	1		ug/L	
Naphthalene	ND	10	1		ua/L	Butyl Benzyl Pl	nthalate	ND	10	1		ug/L	
4-Chloroaniline	ND	10	1		ua/L	3.3'-Dichlorobe	nzidine	ND	25	1		ug/L	
Hexachloro-1 3-Butadiene	ND	10	1		- <u>-</u>	Benzo (a) Anth	racene	ND	10	1		ug/L	
4-Chloro-3-Methylphenol	ND	10	1		ua/l	Bis(2-Ethv/hex	() Phthalate	ND	10	1		ug/L	
2-Methylnanbthalene	ND	10	÷		ug/l	Chrysene	,,,	ND	10	1		ug/L	
Hexachtorocyclopentadiene	ND	25	1		ug/L	Di-n-OctvI Phth	nalate	ND	10	1		uq/L	
2 4 6-Tricblorophenol	ND	10	1		ua/l	Benzo (k) Eluo	ranthene	ND	10	1		ug/L	
2.4.5-Trichlorophenol	ND	10	1		ug/L	Benzo (b) Fluo	ranthene	ND	10	1		ug/L	
2-Chloronanbthalene	ND	10	1		ug/L	Benzo (a) Pyre	ne ^{II}	ND	10	1		ua/L	
2-Mitroaniline	ND	10	1		ug/L	Benzo (a h i) P	ervlene	ND	10	1		ug/L	
Dimethyl Phthalate	ND	10	÷		ug/L	Indepo (1.2.3-c	d) Pyrene	ND	10	1		ua/L	
Aconanhthylono	ND	10	1		ug/L	Dibenz (a, h) A	nthracene	ND	10	1		ua/L	
3 Nitroapiline		10	1		ug/L	1.Methylnanhth	alene	ND	10	1		ua/L	
Acenaphthene	ND	10	1		ug/L	r-wearymapha		ne	10			3	
Surrogates:	<u>REC (%)</u>	Control Limi	ts	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	<u>nits</u>	Qual		
2-Fluorophenol	63	15-138				Phenol-d6		50	17-141				
Nitrobenzene-d5	93	56-123				2-Fluorobiphen	iyl	83	45-120				
1,6-Tribromophenol	119	32-143				p-Terphenyl-d1	4	99	46-133				

RL - Re

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

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Client Sample Number:			Lab No	Samp umber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	Q	C Batcl	h ID:	
02-GW-003			01-4	06-045	9-5	06/09/01	Aqueous	06/11/01	06/12/01	0	106113		
Parameter	Result	<u>RL</u>	DF	Qual	Units	Parameter		Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitrophene	ol	ND	50	1		ug/L	
Aniline	ND	10	1		ug/L	4-Nitrophenol		ND	10	1		ug/L	
Phenol	ND	10	1		ug/L	Dibenzofuran		ND	10	1		ug/L	
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotoluer	пе	ND	10	1		ug/L	
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotoluer	ne	ND	10	1		ug/L	
1,3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthalat	e	ND	10	1		ug/L	
1,4-Dichlorobenzene	ND	10	1		ug/L	4-Chlorophenyl-	Phenyl Ether	ND	10	1		ug/L	
Benzyl Alcohol	ND	10	1		ug/L	Fluorene		ND	10	1		ug/L	
1,2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline		ND	10	1		ug/L	
2-Methylphenol	ND	10	1		ug/L	Azobenzene		ND	10	1		ug/L	
Ris(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-Me	ethylphenol	ND	50	1		ug/L	
*/lethylphenol	ND	10	1		ug/L	N-Nitrosodipher	nylamine	ND	10	1		ug/L	
roso-di-n-propylamine	ND	10	1		ug/L	4-Bromophenyl-	Phenyl Ether	ND	10	1		ug/L	
hexachloroethane	ND	10	1		ug/L	Hexachlorobenz	zene	ND	10	1		ug/L	
Nitrobenzene	ND	25	1		ug/L	Pentachlorophe	nol	ND	10	1		ug/L	
Isophorone	ND	10	1		ug/L	Phenanthrene		ND	10	1		ug/L	
2-Nitrophenol	ND	10	1		ug/L	Anthracene		ND	10	1		ug/L	
2,4-Dimethylphenol	ND	10	1		ug/L	Di-n-Butyl Phtha	alate	ND	10	1		ug/L	
Benzoic Acid	ND	50	1		ug/L	Fluoranthene		ND	10	1		ug/L	
Bis(2-Chloroethoxy) Methane	ND	10	1		ug/L	Benzidine		ND	50	1		ug/L	
2,4-Dichlorophenol	ND	10	1		ug/L	Pyrene		ND	10	1		ug/L	
1,2,4-Trichlorobenzene	ND	10	1		ug/L	Pyridine		ND	10	1		ug/L	
Naphthalene	ND	10	1		ug/L	Butyl Benzyl Ph	thalate	ND	10	1		ug/L	
4-Chloroaniline	ND	10	1		ug/L	3,3'-Dichlorober	nzidine	ND	25	1		ug/L	
Hexachloro-1,3-Butadiene	ND	10	1		ug/L	Benzo (a) Anthr	racene	ND	10	1		ug/L	
4-Chloro-3-Methylphenol	ND	10	1		ug/L	Bis(2-Ethylhexy	 Phthalate 	ND	10	1		ug/L	
2-Methylnaphthalene	ND	10	1		ug/L	Chrysene		ND	10	1		ug/L	
Hexachlorocyclopentadiene	ND	25	1		ug/L	Di-n-Octyl Phth	alate	ND	10	1		ug/L	
2,4,6-Trichlorophenol	ND	10	1		ug/L	Benzo (b) Fluor	anthene	ND	10	1		ug/L	
2,4,5-Trichlorophenol	ND	10	1		ug/L	Benzo (k) Fluor	anthene	ND	10	1		ug/L	
2-Chloronaphthalene	ND	10	1		ug/L	Benzo (a) Pyrer	ne	ND	10	1		ug/L	
2-Nitroaniline	ND	10	1		ug/L	Benzo (g,h,i) Pe	erylene	ND	10	1		ug/L	
Dimethyl Phthalate	ND	10	1		ug/L	Indeno (1,2,3-c	,d) Pyrene	ND	10	1		ug/L	
Acenaphthylene	ND	10	1		ug/L	Dibenz (a,h) An	nthracene	ND	10	1		ug/L	
3-Nitroaniline	ND	10	1		ug/L	1-Methylnaphth	alene	ND	10	1		ug/L	
Acenaphthene	ND	10	1		ug/L								
Surrogates:	<u>REC (%)</u>	Control Lim	its	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	<u>its</u>	Qual		
2-Fluorophenol	62	15-138				Phenol-d6		41	17-141				
Nitrobenzene-d5	85	56-123				2-Fluorobiphen	vl	73	45-120				
1.4.6-Tribromophenol	107	32-143				p-Terphenvl-d1	4	89	46-133				

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



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Client Sample Number:			Lat N	Samp umber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC	C Batcl	h ID:	
Method Blank		10 X 44	095	-01-00	3-787	N/A A	queous	06/11/01	06/11/01	0106113			
Parameter	<u>Result</u>	RL	DF	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	<u>Units</u>	
N-Nitrosodimethylamine	ND	10	1		ug/L	2,4-Dinitrophenol		ND	50	1		ug/L	
Aniline	ND	10	1		ug/L	4-Nitrophenol		ND	10	1		ug/L	
Phenol	ND	10	1		ug/L	Dibenzofuran		ND	10	1		ug/L	
Bis(2-Chloroethyl) Ether	ND	25	1		ug/L	2,4-Dinitrotoluene		ND	10	1		ug/L	
2-Chlorophenol	ND	10	1		ug/L	2,6-Dinitrotoluene		ND	10	1		ug/L	
1,3-Dichlorobenzene	ND	10	1		ug/L	Diethyl Phthalate		ND	10	1		ug/L	
1,4-Dichlorobenzene	ND	10	1		ug/L	4-Chlorophenyl-Ph	enyl Ether	ND	10	1		ug/L	
Benzyl Alcohol	ND	10	1		ug/L	Fluorene		ND	10	1		ug/L	
1,2-Dichlorobenzene	ND	10	1		ug/L	4-Nitroaniline		ND	10	1		ug/L	
2-Methylphenol	ND	10	1		ug/L	Azobenzene		ND	10	1		ug/L	
Bis(2-Chloroisopropyl) Ether	ND	10	1		ug/L	4,6-Dinitro-2-Methy	ylphenol	ND	50	1		ug/L	
1 Methylphenol	ND	10	1		ug/L	N-Nitrosodiphenyla	amine	ND	10	1		ug/L	
roso-di-n-propylamine	ND	10	1		ug/L	4-Bromophenyl-Ph	enyl Ether	ND	10	1		ug/L	
achloroethane	ND	10	1		ug/L	Hexachlorobenzen	e	ND	10	1		ug/L	
Nitrobenzene	ND	25	1		ug/L	Pentachlorophenol		ND	10	1		ug/L	
Isophorone	ND	10	1		ug/L	Phenanthrene		ND	10	1		ug/L	
2-Nitrophenol	ND	10	1		ug/L	Anthracene		ND	10	1		ug/L	
2,4-Dimethylphenol	ND	10	1		ug/L	Di-n-Butyl Phthalat	te	ND	10	1		ug/L	
Benzoic Acid	ND	50	1		ug/L	Fluoranthene		ND	10	1		ug/L	
Bis(2-Chloroethoxy) Methane	ND	10	1		ug/L	Benzidine		ND	50	1		ug/L	
2,4-Dichlorophenol	ND	10	1		ug/L	Pyrene		ND	10	1		ug/L	
1,2,4-Trichlorobenzene	ND	10	1		ug/L	Pyridine		ND	10	1		ug/L	
Naphthalene	ND	10	1		ug/L	Butyl Benzyl Phtha	late	ND	10	1		ug/L	
4-Chloroaniline	ND	10	1		ug/L	3,3'-Dichlorobenzio	dine	ND	25	1		ug/L	
Hexachloro-1,3-Butadiene	ND	10	1		ua/L	Benzo (a) Anthrace	ene	ND	10	1		ug/L	a.
4-Chloro-3-Methylphenol	ND	10	1		ug/L	Bis(2-Ethylhexyl) P	hthalate	ND	10	1		ug/L	
2-Methylnaphthalene	ND	10	1		ua/L	Chrysene		ND	10	1		ug/L	
Hexachlorocyclopentadiene	ND	25	1		ua/L	Di-n-Octvl Phthalat	te	ND	10	1		ug/L	
2.4.6-Trichlorophenol	ND	10	1		ua/L	Benzo (b) Fluorant	hene	ND	10	1		ug/L	
2.4.5-Trichlorophenol	ND	10	1		ua/L	Benzo (k) Fluorant	hene	ND	10	1		ug/L	
2-Chloronaphthalene	ND	10	1		ua/l	Benzo (a) Pyrene		ND	10	1		ua/L	
2-Nitroaniline	ND	10	1		ua/l	Benzo (a h.i) Pervl	ene	ND	10	1		ua/L	
Dimethyl Phthalate	ND	10	÷.		ug/l	Indeno (1 2 3-c d)	Pvrene	ND	10	1		ua/L	
Acenanhthylene	ND	10	1		ug/L	Dibenz (a h) Anthr	acene	ND	10	1		ua/L	
3-Nitroaniline	ND	10	- î		ug/L	1-Methylpaphthale	ne	ND	10	1		ua/L	
Acenaphthene	ND	10	1		ug/L	1 monymaphinaio						-3	
Surrogates:	<u>REC (%)</u>	Control Lim	<u>iits</u>	Qual		Surrogates:		REC (%)	Control Lim	its	Qual		
2-Fluorophenol	71	15-138				Phenol-d6		52	17-141				
Nitrobenzene-d5	86	56-123				2-Fluorobiphenvl		71	45-120				
2 4.6-Tribromophenol	92	32-143				p-Terphenyl-d14		82	46-133				
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RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



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Client Sample Number:		Lat N	b Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	C	C Batc	h ID:		
01-GW-001			01-	06-045	9-1	06/09/01	Aqueous	N/A	06/11/01	(61101/	4W	
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	RL	<u>DF</u>	Qual	<u>Units</u>	
Acetone	ND	10	1		ug/L	1,3-Dichloropro	opane	ND	1.0	1		ug/L	
Benzene	ND	0.50	1		ug/L	2,2-Dichloropro	opane	ND	1.0	1		ug/L	
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropro	opene	ND	1.0	1		ug/L	
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichlorop	propene	ND	0.50	1		ug/L	
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	ropene	ND	0.50	1		ug/L	
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L	
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L	
2-Butanone	ND	10	1		ug/L	Isopropylbenze	ene	ND	1.0	1		ug/L	
n-Butylbenzene	ND	1.0	1		ug/L	p-isopropyltolu	ene	ND	1.0	1		ug/L	
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chlo	oride	100	10	1		ug/L	
tert-Butylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Per	ntanone	ND	10	1		ug/L	
n Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L	
un Tetrachloride	ND	0.50	1		ug/L	n-Propylbenze	ne	ND	1.0	1		ug/L	
Chlorobenzene	ND	1.0	1		ug/L	Styrene		3.3	1.0	1		ug/L	
Chloroethane	ND	1.0	1		ug/L	1,1,1,2-Tetrack	hloroethane	ND	1.0	1		ug/L	
Chloroform	ND	1.0	1		ug/L	1.1.2.2-Tetracl	hloroethane	ND	1.0	1		ug/L	
Chloromethane	ND	1.0	1		ug/L	Tetrachloroeth	ene	ND	1.0	1		ug/L	
2-Chlorotoluene	ND	1.0	1		ug/L	Toluene		ND	1.0	1		ug/L	
4-Chlorotoluene	ND	1.0	1		ua/L	1.2.3-Trichloro	benzene	ND	1.0	1		ug/L	
Dibromochloromethane	NÐ	1.0	1		ua/L	1.2.4-Trichloro	benzene	ND	1.0	1		ug/L	
1.2-Dibromo-3-Chloropropane	ND	5.0	1		ua/L	1.1.1-Trichloro	ethane	ND	1.0	1		ug/L	
1 2-Dibromoethane	ND	1.0	1		ua/L	1.1.2-Trichloro	ethane	ND	1.0	1		ug/L	
Dibromomethane	ND	1.0	1		ua/L	Trichloroethen	e	ND	1.0	1		ug/L	
1.2-Dichlorobenzene	ND	1.0	1		ua/l	Trichlorofluoro	methane	ND	10	1		ug/L	
1.3-Dichlorobenzene	ND	1.0	1		- <u>-</u>	1 2 3-Trichloro	propane	ND	5.0	1		ug/L	
1 4-Dichlorobenzene	ND	1.0	1		ua/l	1.2.4-Trimethy	lbenzene	ND	1.0	1		ug/L	
Dichlorodifluoromethane	ND	1.0	1		ug/L	1.3.5-Trimethy	lbenzene	ND	1.0	1		ua/L	
1 1-Dichloroethane	ND	1.0	1		ug/L	Vinvi Acetate	Don Lotio	ND	10	1		ua/L	
1.2-Dichloroethane	ND	0.50	1		ug/L	Vinyl Chloride		ND	0.50	1		ua/L	
1.1.Dichloroethene	ND	1.0	4		ug/L	n/m-Yulene		ND	1.0	1		ug/l	
c 1 2 Dichloroothono	1.8	1.0	4		ug/L	o-Yvlene		ND	1.0	1		ua/l	
t 1 2 Dichloroothono	1.0	1.0	4		ug/L	Mathul t Ruhu	Ethor (MTRE)		1.0	1		ug/L	
1.2 Dichloropropage	ND	1.0	4		ug/L	менту-с-вису		ND	1.0	•		ug/L	
1,2-Dichloropropane	ND	1.0	I		ug/L								
Surrogates:	<u>REC (%)</u>	Control Lin	nits	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	<u>its</u>	Qual		
Dibromofluoromethane	93	86-118				Toluene-d8		108	88-110				
1.4-Bromofluorobenzene	105	86-115											

RL - Reporting Limit ,

DF - Dilution Factor , Qual - Qualifiers

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alscience



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

HR0575-3

Project:

Date Received: Work Order No: Preparation: Method:

06/09/01 01-06-0459 N/A EPA 8260B

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Client Sample Number:			Lat N	o Samp umber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	C	QC Bato	h ID:
01-GW-002			01-	06-045	9-2	06/09/01	Aqueous	N/A	06/11/01	1	061101	AW
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	Units
Acetone	ND	10	1		ug/L	1,3-Dichloropro	opane	ND	1.0	1		ug/L
Benzene	ND	0.50	1		ug/L	2,2-Dichloropro	pane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropro	pene	ND	1.0	1		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichlorop	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	ropene	ND	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1		ug/L	isopropylbenze	ene	ND	1.0	1		ug/L
n-Butylbenzene	ND	1.0	1		ug/L	p-Isopropyltolu	ene	ND	1.0	1		ug/L
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chlo	oride	32	10	1		ug/L
tert-Butylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Per	ntanone	ND	10	1		ug/L
on Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L
on Tetrachloride	ND	0.50	1		ug/L	n-Propylbenzer	ne	ND	1.0	1		ug/L
uniorobenzene	ND	1.0	1		ug/L	Styrene		ND	1.0	1		ug/L
Chloroethane	ND	1.0	1		ug/L	1.1.1.2-Tetrack	nloroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1		ua/L	1.1.2.2-Tetract	loroethane	ND	1.0	1		ug/L
Chloromethane	ND	1.0	1		ua/L	Tetrachloroeth	ene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1		ua/L	Toluene		ND	1.0	1		ug/L
4-Chlorotoluene	ND	1.0	1		ua/L	1.2.3-Trichloro	benzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	1		ua/L	1.2.4-Trichloro	benzene	ND	1.0	1		ug/L
1.2-Dibromo-3-Chloropropane	ND	5.0	1		ua/l	1 1 1-Trichloro	ethane	ND	1.0	1		ua/L
1 2-Dibromoethane	ND	1.0	1		ug/l	1 1 2-Trichloro	ethane	ND	1.0	1		ug/l
Dibromomethane	ND	1.0	1		ug/t	Trichloroethen	2	ND	1.0	1		ua/L
1 2-Dichlorobenzene	ND	1.0			ug/L	Trichlorofluoro	methane	ND	10	1		ua/l
1 3-Dichlorobenzene	ND	1.0	i.		ug/L	1 2 3-Trichloro	nronane	ND	50	1		ua/t
1 4-Dichlorobenzene	ND	1.0	1		ug/c ug/i	1 2 4-Trimethy	henzene	ND	1.0	Î		ua/t
Dichlorodifluoromethane	ND	1.0	्ये		ug/L	1 3 5-Trimethy	lbenzene	ND	1.0	i		-g/= ua/l
1 1-Dichloroethane	ND	1.0	i		ug/L	Vinvl Acetate		ND	10	i		ug/L
1.2-Dichloroethane	ND	0.50	- 1		ug/L	Vinyl Chloride		4.4	05	i		ug/L
1 1-Dichloroethene	ND	1.0	÷		ug/L	n/m Xulene		ND	1.0	- 1		ug/L
c.1.2 Dichloroothopo	1.4	1.0	1		ug/L			ND	1.0	- î		ug/L
t 1 2 Dichloroothono	1.4	1.0	-		ug/L	U-Aylene Mothul t Rubil I		ND	1.0	- 4		ug/L
1.2 Dichloroethene	ND	1.0			ug/L	weinyi-t-butyi i		NU	1.0	3		ug/L
1,2-Dichloropropane	ND	1.0	4		ug/L							
Surrogates:	<u>REC (%)</u>	Control Lim	its	Qual		Surrogates:		<u>REC (%)</u>	Control Lim	its	<u>Qual</u>	
Dibromofluoromethane	97	86-118				Toluene-d8		105	88-110			
1,4-Bromofluorobenzene	105	86-115										

RL - Reporting Limit DF - Dilution Factor

Qual - Qualifiers .



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

HR0575-3

Project:

Date Received: Work Order No: Preparation: Method:

06/09/01 01-06-0459 N/A EPA 8260B

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Client Sample Number:			Lat N	o Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	C	C Bato	h ID:
01-GW-003			01-	06-045	9-3	06/09/01	Aqueous	N/A	06/12/01	(061101	BW
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	Units
Acetone	ND	10	1		ug/L	1,3-Dichloropro	opane	ND	1.0	1		ug/L
Benzene	1.1	0.5	1		ug/L	2,2-Dichloropre	opane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropro	opene	ND	1.0	1		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichloro	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	propene	ND	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1		ug/L	Isopropylbenze	ene	ND	1.0	1		ug/L
n-Butylbenzene	ND	1.0	1		ug/L	p-Isopropyltolu	iene	ND	1.0	1		ug/L
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chl	oride	100	10	1		ug/L
tert-Butylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Per	ntanone	ND	10	1		ug/L
on Disulfide	ND	10	1		ua/L	Naphthalene		ND	10	1		ug/L
on Tetrachloride	ND	0.50	1		ua/L	n-Propylbenze	ne	ND	1.0	1		ug/L
contorobenzene	ND	1.0	1		ua/L	Styrene		2.9	1.0	1		ug/L
Chloroethane	ND	1.0	1		ug/L	1.1.1.2-Tetracl	hloroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1		ug/L	1.1.2.2-Tetrac	hloroethane	ND	1.0	1		ug/L
Chloromethane	ND	1.0	1		ua/L	Tetrachloroeth	ene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1		ua/L	Toluene		ND	1.0	1		ug/L
4-Chlorotoluene	ND	10	1		ua/L	1.2.3-Trichloro	benzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	i		ug/l	12.4-Trichloro	benzene	ND	1.0	1		ug/L
1 2-Dibromo-3-Chloropropane	ND	5.0	1		ua/l	1 1 1-Trichlorg	ethane	ND	1.0	1		ug/L
1.2-Dibromoethane	ND	1.0	1		ug/L	1.1.2-Trichlore	ethane	ND	1.0	1		ua/L
Dibromomethane	NO	1.0	1		ug/L	Trichloroethen	e	ND	1.0	1		ua/L
1.2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluoro	methane	ND	10	1		ua/L
1.3-Dichlorobenzene	ND	1.0	÷		ug/L ug/l	1.2.3-Tricblore	nronane	ND	5.0	1		ug/l
1 4-Dichlorobenzene	ND	1.0	1		ug/L ug/l	1.2.4-Trimethy	lbenzene	ND	1.0	i		ug/L
Dichlorodifluoromethane	ND	1.0			ug/L	1.3.5.Trimethy	lbenzene	ND	1.0	1		ug/1
1.1 Dieblereethane		1.0			ug/L	Vigul Acotato	Denzene	ND	10	ंग		ug/L
1.2 Dichloroethano		1.0	1		ug/L	Vinyi Acetate		ND	0.50	÷		ug/L
1,2-Dichloroethane	ND	0.50			ug/L			ND	1.0			ug/L
1,1-Dichloroethene	ND	1.0			ug/L	p/m-Aylene		ND	1.0	- 4		ug/L
	ND	1.0	1		ug/L	o-Xylene		ND	1.0			ug/L
t-1,2-Dichloroethene	2.5	1.0	1		ug/L	Methyl-t-Butyl	Ether (MIBE)	ND	1.0			ug/L
1,2-Dichloropropane	ND	1.0	1		ug/L							
Surrogates:	<u>REC (%)</u>	Control Lin	its	Qual		Surrogates:		<u>REC (%)</u>	Control Lim	its	Qual	
Dibromofluoromethane	97	86-118				Toluene-d8		106	88-110			
1,4-Bromofluorobenzene	105	86-115										

1. 11

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers .



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

HR0575-3

Project:

Date Received: Work Order No: Preparation: Method: 06/09/01 01-06-0459 N/A EPA 8260B

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Client Sample Number.			Lab N	Samp umber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	C	C Batc	h ID:
02-GW-001			01-0	06-045	9-4	06/09/01	Aqueous	N/A	06/11/01	C	61101/	4W
Parameter	Result	RL	DF	Qual	<u>Units</u>	Parameter		Result	RL	<u>DF</u>	Qual	Units
Acetone	ND	10	1		ug/L	1,3-Dichloropro	pane	ND	1.0	1		ug/L
Benzene	ND	0.50	1		ug/L	2,2-Dichloropro	pane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropro	pene	ND	1.0	1		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichlorop	ropene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichloropr	opene	ND	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1		ug/L	Isopropylbenzer	ne	ND	1.0	1		ug/L
n-Butylbenzene	ND	1.0	1		ug/L	p-Isopropyltolue	ene	ND	1.0	1		ug/L
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chlo	ride	56	10	1		ug/L
tert-Butylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Pen	tanone	ND	10	1		ug/L
on Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L
n Tetrachloride	ND	0.50	1		ug/L	n-Propylbenzen	e	ND	1.0	1		ug/L
to norobenzene	ND	1.0	1		ug/L	Styrene		ND	1.0	1		ug/L
Chloroethane	ND	1.0	1		ug/L	1,1,1,2-Tetrach	loroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1		ug/L	1,1,2,2-Tetrach	loroethane	ND	1.0	1		ug/L
Chloromethane	ND	1.0	1		ug/L	Tetrachloroethe	ene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1		ug/L	Toluene		ND	1.0	1		ug/L
4-Chlorotoluene	ND	1.0	1		ug/L	1,2,3-Trichlorob	benzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	1		ug/L	1,2,4-Trichlorot	benzene	ND	1.0	1		ug/L
1,2-Dibromo-3-Chloropropane	ND	5.0	1		ug/L	1,1,1-Trichloroe	ethane	ND	1.0	1		ug/L
1.2-Dibromoethane	ND	1.0	1		ug/L	1,1,2-Trichloroe	ethane	ND	1.0	1		ug/L
Dibromomethane	ND	1.0	1		ug/L	Trichloroethene		ND	1.0	1		ug/L
1.2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluoron	nethane	ND	10	1		ug/L
1.3-Dichlorobenzene	ND	1.0	1		ug/L	1,2,3-Trichlorop	propane	ND	5.0	1		ug/L
1.4-Dichlorobenzene	ND	1.0	1		ug/L	1,2,4-Trimethyl	benzene	ND	1.0	1		ug/L
Dichlorodifluoromethane	ND	1.0	1		ua/L	1,3,5-Trimethyl	benzene	ND	1.0	1		ug/L
1 1-Dichloroethane	ND	1.0	1		ua/L	Vinvl Acetate		ND	10	1		ug/L
1 2-Dichloroethane	ND	0.50	1		ua/L	Vinvl Chloride		ND	0.50	1		ug/L
1 1-Dichloroethene	ND	1.0	1		ua/l	p/m-Xvlene		ND	1.0	1		ug/L
c-1 2-Dichloroethene	ND	1.0	1		ua/1	o-Xvlene		NÐ	1.0	1		ug/L
t-1 2-Dichloroethene	ND	1.0	1		ug/L	Methyl-t-Butyl F	ther (MTBE)	ND	1.0	1		ug/L
1,2-Dichloropropane	ND	1.0	1		ug/L	mongi i bagi i						0
Surrogates:	<u>REC (%)</u>	Control Lin	nits	Qual	8	Surrogates:		<u>REC (%)</u>	Control Lim	<u>nits</u>	Qual	
Dibromofluoromethane	98	86-118				Toluene-d8		105	88-110			
1,4-Bromofluorobenzene	105	86-115										

RL - Reporting Limit

ing Limit , DF - Dilution Factor , Qual - Qualifiers



HR0575-3

Project:

ANALYTICAL REPORT

GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B

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Client Sample Number:			Lal N	b Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed	: Q	C Bate	h ID:
02-GW-003			01	-06-045	9-5	06/09/01	Aqueous	N/A	06/11/01	0	61101	AW
Parameter .	<u>Result</u>	RL	DF	Qual	<u>Units</u>	Parameter		Result	<u>RL</u>	DF	Qual	Units
Acetone	ND	10	1		ug/L	1,3-Dichloropro	pane	ND	1.0	1		ug/L
Benzene	ND	0.50	1		ug/L	2,2-Dichloropro	pane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropro	ppene	ND	1.0	- (1 -		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichlorop	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	ropene	ND	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1		ug/L	Isopropylbenze	ne	ND	1.0	1		ug/L
n-Butylbenzene	ND	1.0	1		ug/L	p-Isopropyltolu	ene	ND	1.0	1		ug/L
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chic	oride	28	10	1		ug/L
tert-Butylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Per	ntanone	ND	10	1		ug/L
ton Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L
on Tetrachloride	ND	0.50	1		ug/L	n-Propylbenzer	ne	ND	1.0	1		ug/L
CJrobenzene	ND	1.0	1		ug/L	Styrene		ND	1.0	1		ug/L
Chloroethane	ND	1.0	1		ug/L	1,1,1,2-Tetrach	loroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1		ug/L	1,1,2,2-Tetrach	loroethane	ND	1.0	1		ug/L
Chloromethane	ND	1.0	1		ug/L	Tetrachloroethe	ene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1		ug/L	Toluene		ND	1.0	1		ug/L
4-Chlorotoluene	ND	1.0	1		ug/L	1,2,3-Trichlorol	benzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	1		ug/L	1,2,4-Trichlorol	benzene	ND	1.0	1		ug/L
1,2-Dibromo-3-Chloropropane	ND	5.0	1		ug/L	1.1.1-Trichloroe	ethane	ND	1.0	1		ug/L
1,2-Dibromoethane	ND	1.0	1		ug/L	1.1.2-Trichloroe	ethane	ND	1.0	1		ug/L
Dibromomethane	ND	1.0	1		ug/L	Trichloroethene	9	ND	1.0	1		ug/L
1,2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluoror	nethane	ND	10	1		ua/L
1,3-Dichlorobenzene	ND	1.0	1		ua/L	1.2.3-Trichloro	propane	ND	5.0	1		ua/L
1,4-Dichlorobenzene	ND	1.0	1		ug/L	1.2.4-Trimethyl	benzene	ND	1.0	1		ua/L
Dichlorodifluoromethane	ND	1.0	1		ua/L	1.3.5-Trimethyl	benzene	ND	1.0	1		ua/L
1,1-Dichloroethane	ND	1.0	1		ua/L	Vinvl Acetate		ND	10	1		ug/L
1.2-Dichloroethane	ND	0.50	1		ua/L	Vinyl Chloride		ND	0.50	1		ua/l
1,1-Dichloroethene	ND	1.0	1		ua/L	p/m-Xvlene		1.3	1.0	1		ua/L
c-1.2-Dichloroethene	ND	1.0	1		ua/l	o-Xvlene		ND	1.0	1		- <u>9</u> ,-
t-1.2-Dichloroethene	ND	1.0	1		ug/1	Methyl_t_Rutyl F	ther (MTRE)	ND	1.0	1		ua/l
1,2-Dichloropropane	ND	1.0	1		ug/L	anoutyr - Dutyr L			1.0			49,2
Surrogates:	<u>REC (%)</u>	Control Lim	<u>its</u>	Qual		Surrogates:		<u>REC (%)</u>	Control Lim	its	Qual	
Dibromofluoromethane	97	86-118				Toluene-d8		106	88-110			
1,4-Bromofluorobenzene	104	86-115										

PI

h. AA

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



HR0575-3

Project:

ANALYTICAL REPORT

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GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B

Date Date Date Lab Sample Client Sample Number: Number: Collected: Prepared: Analyzed: QC Batch ID: Matrix: N/A 06/12/01 061101BW 099-10-006-2,591 N/A Method Blank Aqueous Parameter Result <u>RL</u> DF Qual Units Result RL DF Qual Units Parameter 1,3-Dichloropropane ND 1.0 1 ug/L ND 10 Acetone 1 ug/L ND ug/L 0.50 ug/L 2,2-Dichloropropane 1.0 1 Benzene ND 1 ug/L Bromobenzene ND 1.0 1 ug/L 1,1-Dichloropropene ND 1.0 1 ug/L ND 0.50 **Bromochloromethane** ND 1.0 1 ug/L c-1,3-Dichloropropene 1 ND 0.50 ug/L t-1,3-Dichloropropene 1 Bromodichloromethane ND 1.0 ug/L 1 ug/L 1.0 ug/L Ethylbenzene ND 1.0 1 Bromoform ND 1 ug/L Bromomethane ND 1.0 ug/L 2-Hexanone ND 10 1 1 ug/L 10 ug/L Isopropylbenzene ND 1.0 1 2-Butanone ND 1 ND ug/L 1.0 1 n-Butylbenzene ND 1.0 1 ug/L p-Isopropyltoluene ug/L ug/L Methylene Chloride ND 10 1 sec-Butylbenzene ND 1.0 1 4-Methyl-2-Pentanone ND 10 1 ug/L tert-Butylbenzene ND 1.0 ug/L 1 ug/L ND 10 hon Disulfide 10 ug/L Naphthalene 1 ND 1 1.0 ug/L n Tetrachloride ND 0.50 1 ug/L n-Propylbenzene ND 1 ug/L ug/L Styrene ND 1.0 1 unobenzene ND 1.0 1 1,1,1,2-Tetrachloroethane ND 1.0 1 ug/L Chloroethane ND 1.0 1 ug/L ug/L 1.0 Chloroform ND 1.0 1 ug/L 1,1,2,2-Tetrachloroethane ND 1 Tetrachloroethene 1.0 ug/L ND 1 ug/L Chloromethane ND 1.0 1 ug/L Toluene ND 1.0 1 ug/L ND 1.0 1 2-Chlorotoluene ug/L ug/L ND 1.0 1 4-Chlorotoluene ND 1.0 1 1.2.3-Trichlorobenzene ug/L 1,2,4-Trichlorobenzene ND 1.0 1 Dibromochloromethane ND 1.0 1 ug/L ug/L ND 1.0 1 1,2-Dibromo-3-Chloropropane ND 5.0 1 ug/L 1,1,1-Trichloroethane ug/L ND 1.0 1,1,2-Trichloroethane 1 1,2-Dibromoethane ND 1.0 1 ug/L Trichloroethene ND 1.0 1 ug/L ug/L Dibromomethane ND 1.0 1 1.2-Dichlorobenzene ND 1.0 ug/L Trichlorofluoromethane ND 10 1 ug/L 1 ug/L 5.0 1.3-Dichlorobenzene ND 1.0 1 ug/L 1,2,3-Trichloropropane ND 1 ug/L 1.0 ND 1 1,4-Dichlorobenzene ND 1.0 1 ug/L 1,2,4-Trimethylbenzene ug/L 1,3,5-Trimethylbenzene ND 1.0 1 ug/L Dichlorodifluoromethane ND 1.0 1 ug/L ug/L Vinyl Acetate ND 10 1 1,1-Dichloroethane 1.0 ND 1 ug/L Vinyl Chloride ND 0.50 ug/L 0.50 1 1,2-Dichloroethane ND 1 ug/L 1.1-Dichloroethene ND 1.0 1 ug/L p/m-Xylene ND 1.0 1 ug/L 1.0 1 ug/L o-Xylene ND 1.0 1 c-1,2-Dichloroethene ND ug/L Methyl-t-Butyl Ether (MTBE) 1.0 1 ND t-1,2-Dichloroethene ND 1.0 1 ug/L ug/L 1,2-Dichloropropane ND 1.0 1 **Control Limits** Surrogates: REC (%) Control Limits Qual Surrogates: REC (%) Qual Toluene-d8 103 88-110 Dibromofluoromethane 98 86-118 1,4-Bromofluorobenzene 103 86-115

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

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alscience nvironmental aboratories, Inc.

Project:

HR0575-3

GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B

Page 7 of 7

Client Sample Number:			Lab Nu	Sample Imber:	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	c	C Bato	sh iD:
Method Blank			099-	10-006-2,5	92 N/A	Aqueous	N/A	06/11/01	(061101	AW
Parameter	<u>Result</u>	RL	<u>DF</u>	Qual Unit	s Parameter		Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>
Acetone	ND	10	1	ug/	L 1,3-Dichloropr	opane	ND	1.0	1		ug/L
Benzene	ND	0.50	1	ug/	2,2-Dichloropr	opane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1	ug/l	L 1,1-Dichloropr	opene	ND	1.0	1		ug/L
Bromochloromethane	ND	1.0	1	ug/l	L c-1,3-Dichloro	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1	ug/l	L t-1,3-Dichlorop	propené	ND	0.50	1		ug/L
Bromoform	ND	1.0	1	ug/	L Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	1.0	1	ug/	L 2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1	ug/	L Isopropylbenz	ene	ND	1.0	1		ug/L
n-Butylbenzene	ND	1.0	1	ug/	L p-Isopropyltolu	lene	ND	1.0	1		ug/L
sec-Butylbenzene	ND	1.0	1	ug/	L Methylene Chl	oride	ND	10	1		ug/L
1. rt-Butylbenzene	ND	1.0	1	ug/	L 4-Methyl-2-Pe	ntanone	ND	10	1		ug/L
n Disulfide	ND	10	1	ug/	L Naphthalene		ND	10	1		ug/L
Jn Tetrachloride	ND	0.50	1	ug/	L n-Propylbenze	ne	ND	1.0	1		ug/L
Chlorobenzene	ND	1.0	1	ug/	L Styrene		ND	1.0	1		ug/L
Chloroethane	ND	1.0	1	ug/	L 1,1,1,2-Tetrac	hloroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1	ug/	L 1,1,2,2-Tetrac	hloroethane	ND	1.0	1		ug/L
Chloromethane	ND	1.0	1	ug/	L Tetrachloroeth	iene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1	ug/	L Toluene		ND	1.0	1		ug/L
4-Chlorotoluene	ND	1.0	1	ug/	L 1,2,3-Trichlord	benzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	1	ug/	L 1,2,4-Trichlord	obenzene	ND	1.0	1		ug/L
1,2-Dibromo-3-Chloropropane	ND	5.0	1	ug/	L 1,1,1-Trichlord	bethane	ND	1.0	1		ug/L
1.2-Dibromoethane	ND	1.0	1	ug/	L 1,1,2-Trichlord	bethane	ND	1.0	1		ug/L
Dibromomethane	ND	1.0	1	ug/	L Trichloroether	e	ND	1.0	1		ug/L
1.2-Dichlorobenzene	ND	1.0	1	ug/	L Trichlorofluoro	methane	ND	10	1		ug/L
1.3-Dichlorobenzene	ND	1.0	1	ug/	L 1,2,3-Trichlord	opropane	ND	5.0	1		ug/L
1.4-Dichlorobenzene	ND	1.0	1	ua/	L 1,2,4-Trimethy	lbenzene	ND	1.0	1		ug/L
Dichlorodifluoromethane	ND	1.0	1	ua/	L 1.3.5-Trimethy	/lbenzene	ND	1.0	1		ug/L
1 1-Dichloroethane	ND	1.0	1	ua/	L Vinvl Acetate		ND	10	1		ug/L
1.2-Dichloroethane	ND	0.50	1	ua/	L Vinvl Chloride		ND	0.50	1		ug/L
1 1-Dichloroethene	ND	1.0	1		l n/m-Xvlene		ND	1.0	1		ug/L
c-1 2-Dichloroethene	ND	1.0	1	ug/	1 o-Xvlene		ND	1.0	1		ug/L
t-1 2-Dichloroethene	ND	1.0	1	ug/	Methyl-t-Butyl	Ether (MTBE)	ND	1.0	1		ua/L
1,2-Dichloropropane	ND	1.0	1	ug/	Ľ						Ŭ
Surrogates:	<u>REC (%)</u>	Control Lin	nits	Qual	Surrogates:		<u>REC (%)</u>	Control Lin	nits	Qual	
Dibromofluoromethane	95	86-118	3		Toluene-d8		105	88-110			
1,4-Bromofluorobenzene	104	86-115	0								

DF - Dilution Factor Qual - Qualifiers RL - Reporting Limit



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Quality Control - Duplicate

GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648		Date Received: Work Order No: Preparation: Method:		6/9/0 01-06-04 N EPA 150		
Project: HR0575-3						
Spiked Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number	
01-GW-001	Aqueous	PH 1	N/A	06/11/01	0611PHDUP1	
Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers	
рН	7.05	7.08	0	0-25		



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GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	N/A
-	Method:	EPA 300.0
Project: UD0575.2		

Project: HR0575-3

Spiked Sample ID	Matrix	Instrument	Date Prepared	D	ate Analyzed	MS/MSD Batch Number
01-GW-003	Aqueous	IC 2	N/A	12	06/11/01	010611A
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	RPD CL	Qualifiers
Chloride	98	97	50-150	1	0-25	
Nitrite-N	85	86	50-150	1	0-25	
Nitrate-N	91	92	50-150	1	0-25	
Sulfate	95	95	50-150	1	0-25	

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GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	N/A
.	Method:	EPA 300.0
Project: HR0575-3		

LCS Sample Number	Matrix	Instrument	Date Prepared	Da Analy	te vzed	LCS/LCSD Bat Number	ch
099-05-118-16	Aqueous	IC 2	N/A	06/11	/01	010611	
Parameter	LCS %RE	C LCSD	<u>%REC %F</u>	REC CL	<u>RPD</u>	RPD CL	Qualifiers
Chloride	92	92	٤	80-120	0	0-25	
Nitrite-N	89	94	٤	80-120	5	0-25	
Nitrate-N	95	95	٤	30-120	0	0-25	
Sulfate	99	99	٤	80-120	1	0-25	

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GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	Total Digestion
	Method:	EPA 6010B

Project: HR0575-3

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Spiked Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed		MS/MSD Batch Number
01-GW-001	Aqueous	ICP 3300	06/11/01		06/12/01	061101ms7
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	RPD CL	Qualifiers
Antimony	106	111	80-120	5	0-20	
Arsenic	105	110	80-120	4	0-20	
Barium	95	101	80-120	5	0-20	
Beryllium	100	106	80-120	6	0-20	
Cadmium	95	100	80-120	5	0-20	
Chromium (Total)	97	102	80-120	5	0-20	
Cobalt	96	100	80-120	5	0-20	
Copper	109	115	80-120	5	0-20	
Lead	91	95	80-120	4	0-20	
Molybdenum	99	104	80-120	5	0-20	
Nickel	93	98	80-120	5	0-20	
Selenium	101	106	80-120	4	0-20	
Silver	106	111	80-120	5	0-20	
Thallium	86	90	80-120	4	0-20	
Vanadium	100	106	80-120	5	0-20	
Zinc	99	104	80-120	4	0-20	
Calcium	4X	4X	80-120	4X	0-20	Q
Iron	92	104	80-120	9	0-20	
Magnesium	4X	4X	80-120	4X	0-20	Q
Manganese	91	98	80-120	5	0-20	
Sodium	4X	4X	80-120	4X	0-20	Q

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Quality Control - Spike/Spike Duplicate

GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648		Date F Work Prepa Metho		06/0 01-06-0 Total Dige: EPA 74		
Project: HR0575-3				_		
Spiked Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed 06/11/01		MS/MSD Batch Number
01-06-0451-9	Aqueous	Mercury	06/11/01			061101ms1
Parameter	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	<u>RPD CL</u>	Qualifiers

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GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

Date Received: Work Order No: Preparation: Method:

06/09/01 01-06-0459 Total Digestion EPA 6010B

Project: HR0575-3

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LCS Sample Number Matrix		Instrument	Date Analyzed	Lab File II	D LCS B	LCS Batch Number	
097-01-003-1,775	Aqueous	ICP 3300	06/12/01	010611-1	010611lcs7		
Parameter		Conc Added	Conc Recovered	%Rec	%Rec CL	Qualifiers	
Antimony		1.00	0.942	94	80-120		
Arsenic		1.00	0.900	90	80-120		
Barium		1.00	0.989	99	80-120		
Beryllium		1.00	0.991	99	80-120		
Cadmium		1.00	1.02	102	80-120		
Chromium (Total)		1.00	0.994	99	80-120		
Cobalt		1.00	1.04	104	80-120		
Copper		1.00	0.996	100	80-120		
Lead		1.00	0.983	98	80-120		
Molybdenum		1.00	0.995	100	80-120		
Nickel		1.00	1.02	102	80-120		
Selenium		1.00	0.970	97	80-120		
Silver		0.500	0.492	98	80-120		
Thallium		1.00	0.994	99	80-120		
Vanadium		1.00	0.993	99	80-120		
Zinc		1.00	1.03	103	80-120		
Calcium		1.00	1.04	104	80-120		
Iron		1,00	1.02	102	80-120		
Magnesium		1.00	1.03	103	80-120		
Manganese		1.00	0.992	99	80-120		
Sodium		10	11.3	113	80-120		

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Quality Control - Laboratory Control Sample

GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648			Date Received: Work Order No Preparation: Method:	06/09/01 01-06-0459 Total Digestion EPA 7470A		
Project: HR0575-3	3					
LCS Sample Number	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number	
099-04-008-558	Aqueous	Mercury	06/11/01	0106111	010611lcs1	
Parameter		Conc Added	Conc Recovered	%Rec	%Rec CL Qualifiers	
Mercury		0.0100	0.00929	93	90-122	

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GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	EPA 5030B
	Method:	EPA 8015M
Project: HR0575-3		

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Spiked Sample ID	Matrix	Instrument	Date Prepared	Date A	nalyzed	MS/MSD Batch Number
01-06-0665-1	Aqueous	GC 1	N/A	06/1	14/01	01061401ms
Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH for Gasoline	104	99	72-120	4	0-21	

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Quality Control - LCS/LCS Duplicate

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Project:	HR0575-3		
		Method:	EPA 8015M
Huntingto	n Beach, CA 92648	Preparation:	EPA 5030B
2100 Mai	n Street, Suite 150	Work Order No:	01-06-0459
GeoSynte	ec Consultants	Date Received:	06/09/01

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bat Number	ch
098-03-006-1,471	Aqueous	GC 1	N/A	06/14/01	01061401sa	
Parameter	LCS %	REC LCSD	<u>%REC %R</u>	EC CL RPD	RPD CL	Qualifiers
TPH for Gasoline	106	110	8	1-123 3	0-17	

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GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	EPA 3510B
	Method:	EPA 8270C

Project: HR0575-3

Spiked Sample ID	Matrix	Instrument	Date Prepared	Da	ate Analyzed	MS/MSD Batch Number
01-06-0451-9	Aqueous	GC/MS H	06/11/01		06/11/01	010604519
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	RPD	RPD CL	Qualifiers
Phenol	43	43	12-151	2	0-23	
2-Chlorophenol	95	93	45-135	2	0-18	
1,4-Dichlorobenzene	92	89	36-118	2	0-26	
N-Nitroso-di-n-propylamine	95	92	52-128	4	0-13	
1,2,4-Trichlorobenzene	104	98	42-120	6	0-21	
4-Chloro-3-Methylphenol	106	100	20-150	6	0-40	
Acenaphthene	97	94	51-137	3	0-11	
4-Nitrophenol	41	40	20-150	3	0-40	
2,4-Dinitrotoluene	95	91	25-143	5	0-36	
Pentachlorophenol	108	104	20-150	3	0-40	
Pyrene	99	101	45-135	2	0-20	

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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	EPA 3510B
	Method:	EPA 8270C
Project: HR0575-3		

LCS Sample Number	Matrix	Instrument	Date Prepare	d	Date Analyzed	LCS/LCSD Bate Number	ch
095-01-003-787	Aqueous	GC/MS H	06/11/0	1	06/11/01	0106113	
Parameter	LCS %	REC LCSI	%REC	%REC C	<u>L RPD</u>	RPD CL	Qualifiers
Phenot	58	6	2	12-151	5	0-23	
2-Chlorophenol	88	9	4	45-135	7	0-18	
1,4-Dichlorobenzene	84	8	3	36-118	3	0-26	
N-Nitroso-di-n-propylamine	92	9	3	52-128	1	0-13	
1,2,4-Trichlorobenzene	97	9	3	42-120	1	0-21	
4-Chloro-3-Methylphenol	100	10	2	20-150	2	0-40	
Acenaphthene	96	9	6	51-137	0	0-11	
4-Nitrophenol	47	5	7	20-150	19	0-40	
2,4-Dinitrotoluene	90	9	3	25-143	3	0-36	
Pentachlorophenol	91	10	5	20-150	14	0-40	
Pyrene	98	9	3	45-135	0	0-20	

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Quality Control - Spike/Spike Duplicate

GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	N/A
•	Method:	EPA 8260B

Project: HR0575-3

Spiked Sample ID	Matrix	Instrument	Date Prepared	Date	e Analyzed	MS/MSD Batch Number
01-06-0379-4	Aqueous	GC/MS T	N/A	0	6/12/01	01060379-4
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	RPD	RPD CL	Qualifiers
Benzene	96	102	72-127	6	0-25	
Carbon Tetrachloride	88	96	70-130	8	0-25	
Chlorobenzene	98	104	72-131	6	0-25	
1,2-Dichlorobenzene	99	105	70-130	6	0-25	
1,1-Dichloroethene	90	94	69-127	4	0-25	
Toluene	101	107	75-124	6	0-25	
Trichloroethene	93	99	60-137	6	0-25	
Vinyl Chloride	88	95	70-130	8	0-25	
Methyl-t-Butyl Ether (MTBE)	99	106	80-120	7	0-25	

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Quality Control - Spike/Spike Duplicate

GeoSyntec Consultants	Date Received:	06/09/01
2100 Main Street, Suite 150	Work Order No:	01-06-0459
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B

Project: HR0575-3

Spiked Sample ID	Matrix	Instrument	Date Prepared	Da	te Analyzed	MS/MSD Batch Number
01-06-0400-2	Aqueous	GC/MS T	N/A		06/11/01	01060400-2
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	Qualifiers
Benzene	96	102	72-127	7	0-25	
Carbon Tetrachloride	92	95	70-130	3	0-25	
Chlorobenzene	98	104	72-131	5	0-25	
1,2-Dichlorobenzene	100	105	70-130	5	0-25	
1,1-Dichloroethene	89	93	69-127	4	0-25	
Toluene	100	107	75-124	7	0-25	
Trichloroethene	95	100	60-137	6	0-25	
Vinyl Chloride	85	91	70-130	6	0-25	
Methyl-t-Butyl Ether (MTBE)	100	105	80-120	5	0-25	

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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648	Date Received: Work Order No: Preparation: Method:	06/09/01 01-06-0459 N/A EPA 8260B
Project: HR0575-3		

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bato Number	h
099-10-006-2,591	Aqueous	GC/MS T	N/A	06/12/01	061101BW	
Parameter	LCS %R	EC LCSD %	KREC <u>%RI</u>	E <u>C CL</u> RP	D RPD CL	Qualifiers
Benzene	103	101	72	2-127 2	0-25	×1
Carbon Tetrachloride	95	96	70)-130 1	0-25	
Chlorobenzene	107	102	72	2-131 5	0-25	
1,2-Dichlorobenzene	106	103	70	0-130 3	0-25	
1.1-Dichloroethene	92	94	69	9-127 3	0-25	
Toluene	109	106	75	5-124 3	0-25	
Trichloroethene	101	99	60	0-137 1	0-25	
Vinvl Chloride	94	95	79	9 -118 1	0-25	
Methyl-t-Butyl Ether (MTBE)	105	101	80	0-120 4	0-25	

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Quality Control - LCS/LCS Duplicate

GeoSynte 2100 Main Huntingto	ec Consultants n Street, Suite 150 n Beach, CA 92648	Date Received: Work Order No: Preparation: Method:	06/09/01 01-06-0459 N/A EPA 8260B
Project:	HR0575-3		

LCS Sample Number	Matrix	Instrument	Date Prepared	Da Anal	ite yzed	LCS/LCSD Bato Number	h
099-10-006-2,592	Aqueous	GC/MS T	N/A	06/11	1/01	061101AW	
Parameter	LCS %RE	<u>C LCSD %</u>	REC <u>%</u>	REC CL	RPD	RPD CL	Qualifiers
Benzene	99	102		72-127	3	0-25	
Carbon Tetrachloride	92	98		70-130	6	0-25	
Chlorobenzene	102	105		72-131	3	0-25	
1,2-Dichlorobenzene	102	105		70-130	3	0-25	
1,1-Dichloroethene	91	96		69-127	6	0-25	
Toluene	104	109		75-124	5	0-25	
Trichloroethene	98	101		60-137	3	0-25	
Vinvl Chloride	90	97		79-118	7	0-25	
Methyl-t-Butyl Ether (MTBE)	96	99		80-120	3	0-25	

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QUALITY ASSURANCE SUMMARY Method EPA 8310

GeoSyntec Consultants Page 1 of 1		Work Order N Date Analyze	01-06-0459 06/12/01		
LCS/LCS Duplicate	LCS%REC	LCSD%REC	Control <u>Limits</u>	<u>%RPD</u>	Control <u>Limits</u>
Benzo (b) Fluoranthene Benzo (k) Fluoranthene Benzo (a) Pyrene Indeno (1,2,3-c,d) Pyrene Dibenzo (a,h) Anthracene Benzo (g,h,i) Perylene	88 90 60 74 91 86	91 92 61 79 100 76	40 - 160 40 - 160 40 - 160 40 - 160 40 - 160 40 - 160	3 2 2 5 9 12	0 - 20 0 - 20 0 - 20 0 - 20 0 - 20 0 - 20 0 - 20

Surrogate Recoveries (in %)

Sample Number	<u>S1</u>
01-GW-001	64
01-GW-002	73
01-GW-003	68
02-GW-001	73
02-GW-002	78
Method Blank	62

Surrogate Compound

S1 > Decafluorobiphenyl

%REC Acceptable Limits

10 - 129

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ALL

QUALITY ASSURANCE SUMMARY

Method EPA 418.1

GeoSyntec Consultants Page 1 of 1		Work O Date Ar	01-06-0459 06/12/01				
LCS/LCS Duplicate	LCS%REC	LCSD%REC	Control Limits	%RPD	Control Limits		
Total Recoverable	100	100	70 - 130	0	0 - 30		
Petroleum Hydrocarbons	100	100	70 - 150	U	0 00		

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GLOSSARY OF TERMS AND QUALIFIERS



And ...

Work Order Number: 01-06-0459

Qualifier	Definition
D	The sample data was reported from a diluted analysis.
E	Concentration exceeds the calibration range.
ND	Not detected at indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the sample concentration exceeding the spike concentration by a factor of four or greater.

CALSCIENCE CHANGE ORDER

ORDER: 01-06-0459,01-06-0506,01-06-0540 PROJECT: HR0575-03 CHANGE: Add 8015 gas on all samples in the referenced work orders on a 24 hr TAT. Will be due 6/15/01. **REQUESTED BY:** ERIC Smalstig-Geosyntec fax: 969-0820 Approved by Client: Date: 13 JUNE D Sign, date & fax back to 894-7501 FROM: S. Nourk DATE: 6/13/01 1800 hrs.

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DRIES, INC.	.ULN WAY E, CA 92841-1432 • FAX: (714) 894-7501	-	cobyntic Lonsi	Sheet	Reach STATE	FAX: FAX: FAX:		R 🗌 48 HR 🗍 72 I	DDITIONAL COSTS MAY A	AMPLES PRESERVED			LOCATION/DESCRIPTIO	HROSSR	-				-				e)		(e)	(e)
BORATC	7440 LINC GARDEN GROVE · (714) 895-5494 •	ATORY CLIENT:	5 C	2100 Main	Himbioo ho		AROUND TIME	AME DAY	AL REQUIREMENTS (A VOCB REPORTING	AL INSTRUCTIONS 51	. AB.		SAMPLE ID	01-GW-001	01-6W-0007	01-612 - 003	M2 - GIAL-0661	02 · GW-003					quished by: (Signatur		quished by: (Signatur	quished by Signatur
	μ	LABOR		ADDRE	CITY	TEL:	TURNA	S D	SPECI BV	SPECI	1 of	LAB	USE	-	2	~	5	1					Relind		Relin	Relig

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client. Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Yellow and Pink copies respectively





June 22, 2001

Eric Smalstig GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

Subject: Calscience Work Order No.: 01-06-0838 Client Reference: NBR HR0575-03

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/15/01 and analyzed in accordance with the attached chain-of-custody.

The results in this analytical report are limited to the samples tested and any reproduction of this report must be made in its entirety.

If you have any questions regarding this report, require sampling supplies or field services, or information on our analytical services, please feel free to call me at (714) 895-5494.

Sincerely,

Calscience/Environmental Laboratories, Inc. Stephen Nowak Project Manager

William H. Christensen Quality Assurance Manager



GeoSyntec Consultants	Date Sampled:	06/15/01
2100 Main Street, Suite 150	Date Received:	06/15/01
Huntington Beach, CA 92648	Date Extracted:	06/19/01
	Date Analyzed:	06/20/01
	Work Order No.:	01-06-0838
Attn: Eric Smalstig	Method:	EPA 8015M
RE: NBR HR0575-03	Page 1 of 1	

All total petroleum hydrocarbon concentrations are reported in mg/kg (ppm) using Crude Oil as a standard.

Sample Number	Concentration	Reporting <u>Limit</u>
02-GW-002	960000	10000
Method Blank	ND	25

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.



GeoSyntec Consultants	Date Received:	06/15/01
2100 Main Street, Suite 150	Work Order No:	01-06-0838
Huntington Beach, CA 92648	Preparation:	Ext. + D/I
	Method:	TPH - Carbon Range
Project: NBR HR0575-03		Page 1 of 1

Project: NBR HR0575-03

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Client Sample Number:			Lab Samp Number	ole ::	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	QC Batch ID:		
02-GW-002			01-06-08	38-1	06/15/01	Oil	06/19/01	06/20/01	010619	04sa	
Parameter	Result	<u>RL</u>	DF Qual	<u>Units</u>	Parameter		Result	RL	DF Qual	Units	
C7	320		1000 D	mg/kg	C21-C22		32000		1000 D	mg/kg	
C8	1900		1000 D	mg/kg	C23-C24		31000		1000 D	mg/kg	
C9-C10	18000		1000 D	mg/kg	C25-C28		59000		1000 D	mg/kg	
C11-C12	44000		1000 D	mg/kg	C29-C32		61000		1000 D	mg/kg	
C13-C14	50000		1000 D	mg/kg	C33-C36		41000		1000 D	mg/kg	
C15-C16	43000		1000 D	mg/kg	C37-C40		27000		1000 D	mg/kg	
C17-C18	42000		1000 D	mg/kg	C41-C44		10000		1000 D	mg/kg	
C19-C20	42000		1000 D	mg/kg	C7-C44 Total		500000	5000	1000 D	mg/kg	
Surrogates:	<u>REC (%)</u>	Control	Qua	ļ							
Cachlorobiphenyl	88	<u>Limits</u> 45-149									
method Blank			098-03-00)2-1,121	N/A	Solid	06/19/01	06/19/01	010619	04sa	
Parameter	Result	<u>RL</u>	DF Qual	<u>Units</u>							
TPH as Diesel	ND	5.0	1	mg/kg							
Surrogates:	<u>REC (%)</u>	Control	Qua	L							
Decachlorobiphenyl	100	Limits 45-149									

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



記録

GeoSyntec Consultants	Date Sampled:	06/15/01
2100 Main Street, Suite 150	Date Received:	06/15/01
Huntington Beach, CA 92648	Date Extracted:	06/18/01
	Date Analyzed:	06/20/01
	Work Order No.:	01-06-0838
Attn: Eric Smalstig	Method:	EPA 8310
RE: NBR HR0575-03	Page 1 of 2	

All concentrations are reported in µg/kg (ppb).

Concentration	Reporting Limit
250000	10000
69000	1000
130000	1000
13000	1000
67000	10000
10000	1000
52000	10000
100000	10000
52000	10000
19000	1000
8200	1000
6500	1000
12000	1000
3300	1000
36000	1000
50000	10000
	Concentration 250000 69000 130000 13000 67000 10000 52000 100000 52000 100000 52000 100000 52000 100000 52000 10000 52000 10000 52000 52000 10000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 52000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 5000 50000 50000 50000 50000 50000 50000 50000



GeoSyntec Consultants	Date Sampled:	NA
2100 Main Street, Suite 150	Date Received:	NA
Huntington Beach, CA 92648	Date Extracted:	06/18/01
	Date Analyzed:	06/19/01
	Work Order No.:	01-06-0838
Attn: Eric Smalstig	Method:	EPA 8310
RE: NBR HR0575-03	Page 2 of 2	

All concentrations are reported in µg/kg (ppb).

Concentration	Reporting Limit
ND	1000
	Concentration ND ND ND ND ND ND ND ND ND ND ND ND ND

ND denotes not detected at indicated reportable limit.

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Each sample was received by CEL chilled, intact, and with chain-of-custody attached.



GeoSyntec Consultants	Date Received:	06/15/01
2100 Main Street, Suite 150	Work Order No:	01-06-0838
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B
Project: NBR HR0575-03		Page 1 of 2

Project: NBR HR0575-03

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Client Sample Number:			Lab Sample Number:			Date Collected:	Date Collected: Matrix:		Date Analyzed	QC Bat	QC Batch ID:		
02-GW-002			01-0	06-083	8-1	06/15/01	Oil	N/A	06/20/01	06200	IAE		
Parameter	Result	<u>RL</u>	DF	<u>Qual</u>	<u>Units</u>	Parameter		Result	<u>RL</u>	DF Qual	<u>Units</u>		
Acetone	ND	130000	2500		ug/kg	1,3-Dichloroprop	bane	ND	13000	2500	ua/ka		
Benzene	32000	13000	2500		ug/kg	2,2-Dichloroprop	bane	ND	13000	2500	ug/kg		
Bromobenzene	ND	13000	2500		ug/kg	1,1-Dichloroprop	bene	ND	13000	2500	ug/kg		
Bromochloromethane	ND	13000	2500		ug/kg	c-1,3-Dichloropr	opene	ND	13000	2500	ug/kg		
Bromodichloromethane	ND	13000	2500		ug/kg	t-1,3-Dichloropro	opene	ND	13000	2500	ug/kg		
Bromoform	ND	13000	2500		ug/kg	Ethylbenzene	-	53000	13000	2500	ug/kg		
Bromomethane	ND	13000	2500		ug/kg	2-Hexanone		ND	130000	2500	ua/ka		
2-Butanone	ND	130000	2500		ug/kg	Isopropylbenzen	e	ND	13000	2500	ug/kg		
n-Butylbenzene	ND	13000	2500		ug/kg	p-Isopropyltolue	ne	33000	13000	2500	ua/ka		
sec-Butylbenzene	26000	13000	2500		ug/kg	Methylene Chlor	ide	ND	130000	2500	ua/ka		
tert-Butylbenzene	ND	13000	2500		ug/kg	4-Methyl-2-Pent	anone	ND	130000	2500	ug/kg		
arbon Disulfide	ND	130000	2500		ug/kg	Naphthalene		350000	130000	2500	ua/ka		
Jrbon Tetrachloride	ND	13000	2500		ug/kg	n-Propylbenzene	9	29000	13000	2500	ua/ka		
Chlorobenzene	ND	13000	2500		ug/kg	Styrene		ND	13000	2500	ug/kg		
Chloroethane	ND	13000	2500		ug/kg	1,1,1,2-Tetrachle	oroethane	ND	13000	2500	ua/ka		
Chloroform	ND	13000	2500		ug/kg	1,1,2,2-Tetrachle	oroethane	ND	13000	2500	ua/ka		
Chloromethane	ND	13000	2500		ug/kg	Tetrachloroether	ne	ND	13000	2500	ua/ka		
2-Chlorotoluene	ND	13000	2500		ug/kg	Toluene		ND	13000	2500	ua/ka		
4-Chlorotoluene	ND	13000	2500		ug/kg	1,2,3-Trichlorobe	enzene	ND	25000	2500	ua/ka		
Dibromochloromethane	ND	13000	2500		ug/kg	1,2,4-Trichlorobe	enzene	ND	13000	2500	ua/ka		
1,2-Dibromo-3-Chloropropane	ND	25000	2500		ug/kg	1,1,1-Trichloroet	hane	ND	13000	2500	ua/ka		
1,2-Dibromoethane	ND	13000	2500		ug/kg	1,1,2-Trichloroet	hane	ND	13000	2500	ua/ka		
Dibromomethane	ND	13000	2500		ug/kg	Trichloroethene		ND	13000	2500	ua/ka		
1,2-Dichlorobenzene	ND	13000	2500		ug/kg	Trichlorofluorom	ethane	ND	130000	2500	ua/ka		
1,3-Dichlorobenzene	ND	13000	2500		ug/kg	1,2,3-Trichloropr	орапе	ND	13000	2500	ua/ka		
1,4-Dichlorobenzene	ND	13000	2500		ug/kg	1,2,4-Trimethylb	enzene	190000	13000	2500	ua/ka		
Dichlorodifluoromethane	NÐ	13000	2500		ug/kg	1,3,5-Trimethylb	enzene	53000	13000	2500	ua/ka		
1,1-Dichloroethane	ND	13000	2500		ug/kg	Vinvl Acetate		ND	130000	2500	ug/kg		
1,2-Dichloroethane	ND	13000	2500		ug/kg	Vinyl Chloride		ND	13000	2500	ug/kg		
1,1-Dichloroethene	ND	13000	2500		ua/ka	p/m-Xvlene		110000	13000	2500	na/ka		
c-1,2-Dichloroethene	ND	13000	2500		ua/ka	o-Xvlene		86000	13000	2500	ug/kg		
t-1,2-Dichloroethene	ND	13000	2500		ua/ka	Methyl-t-Butyl Ft	her (MTBE)	ND	13000	2500	ug/kg ug/kg		
1,2-Dichloropropane	ND	13000	2500		ug/kg			ne	10000	2000	uging		
Surrogates:	<u>REC (%)</u>	Control Limit	s	Qual		Surrogates:		<u>REC (%)</u>	Control Limi	ts Qual			
Dibromofluoromethane	104	80-120				8b-eneuloT		105	81-117				
1,4-Bromofluorobenzene	90	74-121				i olucile-uo		105	01-117				

RL - Reporting Limit ,

DF - Dilution Factor Qual - Qualifiers



Page 2 of 2

GeoSyntec Consultants	Date Received:	06/15/01
2100 Main Street, Suite 150	Work Order No:	01-06-0838
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B

Project: NBR HR0575-03

Client Sample Number:			Lat N	o Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed	: Q	C Bato	h ID:
Method Blank		des a la com	099	9-10-00	5-1,609	N/A	Solid	N/A	06/20/01	0	62001	AE
Parameter	Result	RL	DF	Qual	Units	Parameter		Result	RL	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Acetone	ND	500	10		ug/kg	1,3-Dichloropro	pane	ND	50	10		ua/ka
Benzene	ND	50	10		ug/kg	2,2-Dichloropro	pane	ND	50	10		ua/ka
Bromobenzene	ND	50	10		ug/kg	1,1-Dichloropro	pene	ND	50	10		ua/ka
Bromochloromethane	ND	50	10		ug/kg	c-1,3-Dichlorop	propene	ND	50	10		ua/ka
Bromodichloromethane	ND	50	10		ug/kg	t-1,3-Dichlorop	ropene	ND	50	10		ua/ka
Bromoform	ND	50	10		ug/kg	Ethylbenzene	•	ND	50	10		ua/ka
Bromomethane	ND	50	10		ug/kg	2-Hexanone		ND	500	10		ua/ka
2-Butanone	ND	500	10		ug/kg	Isopropylbenze	ne	ND	50	10		ua/ka
n-Butylbenzene	ND	50	10		ug/kg	p-Isopropyltolu	ene	ND	50	10		ug/kg
sec-Butylbenzene	ND	50	10		ug/kg	Methylene Chlo	oride	ND	500	10		ua/ka
tert-Butylbenzene	ND	50	10		ug/kg	4-Methyl-2-Per	ntanone	ND	500	10		ug/kg
arbon Disulfide	ND	500	10		ug/kg	Naphthalene		ND	500	10		ua/ka
arbon Tetrachloride	ND	50	10		ug/kg	n-Propylbenzer	ne	ND	50	10		ug/kg
Chlorobenzene	ND	50	10		ug/kg	Styrene		ND	50	10		ug/kg
Chloroethane	ND	50	10		ug/kg	1,1,1,2-Tetrach	nloroethane	ND	50	10		ug/kg
Chloroform	ND	50	10		ug/kg	1,1,2,2-Tetrack	loroethane	ND	50	10		ug/kg
Chloromethane	ND	50	10		ug/kg	Tetrachloroethe	ene	ND	50	10		ug/kg
2-Chlorotoluene	ND	50	10		ug/kg	Toluene		ND	50	10		ug/kg
4-Chlorotoluene	ND	50	10		ug/kg	1,2,3-Trichloro	benzene	ND	100	10		ug/kg
Dibromochloromethane	ND	50	10		ug/kg	1,2,4-Trichlorol	benzene	ND	50	10		ug/kg
1,2-Dibromo-3-Chloropropane	ND	100	10		ug/kg	1,1,1-Trichloro	ethane	ND	50	10		ug/kg
1,2-Dibromoethane	ND	50	10		ug/kg	1,1,2-Trichloro	ethane	ND	50	10		ua/ka
Dibromomethane	ND	50	10		ug/kg	Trichloroethene	2	ND	50	10		ug/kg
1,2-Dichlorobenzene	ND	50	10		ug/kg	Trichlorofluoror	nethane	ND	500	10		ug/kg
1,3-Dichlorobenzene	ND	50	10		ug/kg	1.2.3-Trichloro	propane	ND	50	10		ua/ka
1,4-Dichlorobenzene	ND	50	10		ug/kg	1,2,4-Trimethyl	benzene	ND	50	10		ua/ka
Dichlorodifluoromethane	ND	50	10		ug/kg	1,3,5-Trimethyl	benzene	ND	50	10		ua/ka
1,1-Dichloroethane	ND	50	10		ua/ka	Vinvl Acetate		ND	500	10		ua/ka
1,2-Dichloroethane	ND	50	10		ug/ka	Vinyl Chloride		ND	50	10		ug/ka
1,1-Dichloroethene	ND	50	10		ug/kg	p/m-Xylene		ND	50	10		ua/ka
c-1,2-Dichloroethene	ND	50	10		ua/ka	o-Xvlene		ND	50	10		ua/ka
t-1,2-Dichloroethene	ND	50	10		ua/ka	Methyl-t-Butyl F	ther (MTBE)	ND	50	10		ua/ka
1,2-Dichloropropane	ND	50	10		ug/kg					10		-3,13
Surrogates:	<u>REC (%)</u>	Control Lin	nits	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	its	Qual	
Dibromofluoromethane	112	80-120)			Toluene-d8		96	81-117			
1,4-Bromofluorobenzene	89	74-121										

Qual - Qualifiers



Quality Control - Spike/Spike Duplicate

GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648		Date F Work Prepa Metho		06/15/01 01-06-0838 Ext. + D/I			
Project: NBR HR0575-03							
Spiked Sample ID	Matrix	Instrument	Date Prepared	D	ate Analyzed	MS/MSD Batch Number	
01-06-0863-9	Solid	GC 15	06/19/01		06/19/01	01061904ms	
Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers	
TPH as Diesel	97	88	49-139	10	0-28		

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C. 11.1.1.

Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648		D V P M	Date Receiv Vork Order Preparation: Nethod:	06/15/01 01-06-0838 Ext. + D TPH - Carbon Range			
Project: NBR HR0575-03							
LCS Sample Number	Matrix	Instrument	Date t Prepa	e D red Ana	ate lyzed	LCS/LCSD Bate Number	h
098-03-002-1,121	Solid	GC 15	06/19/	′01 06/ [.]	19/01	01061904sa	
Parameter	LCS	%REC LC	SD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
TPH as Diesel	97	7	97		1	0-13	

alscience nvironmental aboratories, Inc.

Quality Control - Spike/Spike Duplicate

GeoSyntec Consultants	Date Received:	06/15/01
2100 Main Street, Suite 150	Work Order No:	01-06-0838
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B

Project: NBR HR0575-03

Spiked Sample ID	Matrix	Instrument	Date Prepared	Dat	e Analyzed	MS/MSD Batch Number	
01-06-0863-2	Solid	GC/MS S	N/A		06/20/01	0106086302	
Parameter	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers	
Benzene	93	98	72-127	5	0-25		
Carbon Tetrachloride	89	94	70-130	6	0-25		
Chlorobenzene	89	95	72-131	6	0-25		
1,2-Dichlorobenzene	86	90	70-130	5	0-25		
1,1-Dichloroethene	91	98	69-127	8	0-25		
Toluene	95	101	75-124	6	0-25		
Trichloroethene	91	95	60-137	5	0-25		
Vinyl Chloride	93	102	70-130	9	0-25		
Methyl-t-Butyl Ether (MTBE)	97	102	80-120	5	0-25		



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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received:	06/15/01			
2100 Main Street, Suite 150	Work Order No:	01-06-0838			
Huntington Beach, CA 92648	Preparation:	N/A			
	Method:	EPA 8260B			
Project: NBR HR0575-03					

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bat Number	ch	
099-10-005-1,609	Solid	GC/MS S	N/A	06/20/01	062001AE		
Parameter	LCS %R	EC LCSD %	REC %RE	CCL RPD	RPD CL	Qualifiers	
Benzene	101	98	72	-127 3	0-25		
Carbon Tetrachloride	95	90	70	-130 6	0-25		
Chlorobenzene	96	98	72	-131 2	0-25		
1,2-Dichlorobenzene	98	97	70	-130 1	0-25		
1,1-Dichloroethene	98	94	69	-127 5	0-25		
Toluene	101	102	75	-124 2	0-25		
Trichloroethene	100	95	60	-137 5	0-25		
Vinyl Chloride	101	101	79	-118 0	0-25		
Methyl-t-Butyl Ether (MTBE)	99	95	80	-120 4	0-25		

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

nvironmental

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aboratories, Inc.

QUALITY ASSURANCE SUMMARY

Method EPA 8015M - Crude Oil

GeoSyntec Consultants Page 1 of 1		Work O Date Ar	01-06-0838 06/20/01		
LCS/LCS Duplicate			Control		Control
Analyte	LCS%REC	LCSD%REC	Limits	<u>%RPD</u>	Limits
TPH- Crude Oil	91	90	65 - 124	0	0 - 13

Surrogate Recoveries (in %)

Sample Number	<u>S1</u>
02-GW-002	94
Method Blank	70

Surrogate Compound

S1 > Decachlorobiphenyl

%REC Acceptable Limits

45 - 149



QUALITY ASSURANCE SUMMARY

Method EPA 8310

GeoSyntec Consultants	;	Work Order	01-06-0838		
Fage For F			Date Analyz	eu.	00/20/01
LCS/LCS Duplicate					
• • • • •			Control		Control
<u>Analyte</u>	LCS%REC	LCSD%REC	Limits	%RPD	Limits
Benzo (b) Fluoranthene	97	95	40 - 160	2	0 - 20
Benzo (k) Fluoranthene	92	92	40 - 160	0	0 - 20
Benzo (a) Pyrene	112	106	40 - 160	6	0 - 20
Indeno (1,2,3-c,d) Pyrene	90	91	40 - 160	1	0 - 20
Dibenzo (a,h) Anthracene	104	111	40 - 160	1	0 - 20
Benzo (g,h,i) Perylene	104	110	40 - 160	6	0 - 20

Surrogate Recoveries (in %)

Sample Number	<u>S1</u>
02-GW-002	807 ^{Note 1}
Method Blank	117

Surrogate Compound

1

S1 > Decafluorobiphenyl

%REC Acceptable Limits

22 - 153

1. The surrogate recovery was out of control due to a matrix interference effect. The batch method blank surrogate was in control and, hence, the associated sample data was reported with no further corrective action required.

Calscience GLOSSARY OF TERMS AND QUALIFIERS nvironmental aboratories, Inc.

Work Order Number: 01-06-0838

Qualifier	Definition
D	The sample data was reported from a diluted analysis.
ND	Not detected at indicated reporting limit.

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White with	10 F 10000
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VIIAIN VI VUOI VE NILVIIV	Date C/15/D	Page of	ECT NAME / NUMBER: HAOSTS-03	TAGE MALSTIC LAB USE ONLY		Hencloop	REQUESTED ANALYSES	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	S (8021B) S (8021B) S (8021B) S (601(S (802)) S (601(S (802)) S (802) S (8	мовям (вобра) (вобра) (вобра) (вобра) (вобра) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (стем) (сте					AP) Date: Time:	Date: Time:	y: (Signature) Date: Time: Co-1S-O) (によっ)	10/01/00 Revision
er.			CLIENT PROJE	PROJECT CON	SAMPLER(S): (Duinh			(81208	W18E () ol)	а) нат 0) нат 1 хэтв				by bignature	by: (Signature)	for Laboratory by	
			ILTANTS	210	84926	MAIL	S DAYS 11 DAYS				AMPLING MATRIX CONT	5 ivan or			Received	Received	Received	rellow and Pink to Client
ATORIES INC.	LINCOLN WAY 10VE, CA 92841-1432	194 • FAX: (714) 894-7501	FIERSYNTEC. CONISI	MAAIN ST, #150	That BEACH CA	00 FX:)769-0820 E	24 HB 72 HB 72 HB	TS (ADDITIONAL COSTS MAY APPLY)	s 100 W/ 105 75 32		LOCATION/DESCRIPTION DATE	22 TANKENAM 61			ature)	nature)	H. B. S.	ION: White with final eport, Green to File, N
	7440 L GARDEN GR	TEL: (714) 895-54	LABORATORY CLIENT	ADDRESS: ZIOO	HWAT NG	平1969-08	TURNAROUND TIME		SPECIAL INSTRUCTION		LAB USE SAMPLE ID ONLY	02-Can-8			Reinquished by: (Sign	Revinquished by: (Sign	Relinquished by: (Sign	DISTRIBUTI

Q&Q Craphic (714) 898-9702





June 27, 2001

Eric Smalstig GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

Subject: Calscience Work Order No.: Client Reference:

01-06-1322 Newport Oil / HR0575

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/26/01 and analyzed in accordance with the attached chain-of-custody.

The results in this analytical report are limited to the samples tested and any reproduction of this report must be made in its entirety.

If you have any questions regarding this report, require sampling supplies or field services, or information on our analytical services, please feel free to call me at (714) 895-5494.

Sincerely,

Calicience Environmental Laboratories, Inc. Stephen Nowak Project Manager

William H. Christensen Quality Assurance Manager



GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648		Date Received: Work Order No: Preparation: Method:							06/26/01 01-06-1322 Ext. + D/I EPA 8015M
Project: Newport Oi	/ HR0575								Page 1 of 1
Client Sample Number:		Lab Nu	Sample		Matrix:	Date Collected:	Date Prepared:	Date Analyzed;	QC Batch ID:
02-GW-001		01-06-	1322-1		Aqueous	06/26/01	06/26/01	06/27/01	01062601sa
Parameter	Result	<u>RL</u>	DF	Qual	Units				
TPH as Diesel	ND	1000	1		ug/L				
Surrogates:	<u>REC (%)</u>	<u>Control</u> Limits		Qual					
Decachlorobiphenyl	96	53-141							
01-GW-001		01-06-1	1322-2		Aqueous	06/26/01	06/26/01	06/27/01	01062601sa
Parameter	Result	RL	DF	Qual	<u>Units</u>				
TPH as Diesel	ND	1000	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
Decachlorobiphenyl	83	53-141							
01-GW-002		01-06-1	322-3		Aqueous	06/26/01	06/26/01	06/27/01	01062601sa
Parameter	Result	<u>RL</u>	DF	Qual	<u>Units</u>				
TPH as Diesel	ND	1000	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
Decachlorobiphenyl	90	53-141							
Method Blank		098-03	003-666		Aqueous	N/A	06/26/01	06/26/01	01062601sa
Parameter	<u>Result</u>	RL	DF	Qual	<u>Units</u>				
TPH as Diesel	ND	1000	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
Decachlorobiphenyl	96	<u>Limits</u> 53-141							



GeoSyntec Consultar 2100 Main Street, Su Huntington Beach, C/	Date Received:06/2Work Order No:01-06-7Preparation:EPA 50Method:EPA 80							06/26/01 01-06-1322 EPA 5030B EPA 8015M	
Project: Newport Oil	/ HR0575								Page 1 of 1
Client Sample Number:		Lab S Nu	Sample mber:		Matrix:	Date Collected:	Date Prepared:	Date Analyzed:	QC Batch ID:
02-GW-001		01-06-1	322-1		Aqueous	06/26/01	N/A	06/27/01	01062701sa
Parameter	Result	<u>RL</u>	DF	Qual	Units				
TPH for Gasoline	ND	100	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
1,4-Bromofluorobenzene	87	49-157							
01-GW-001		01-06-1	322-2		Aqueous	06/26/01	N/A	06/27/01	01062701sa
Parameter	Result	RL	DF	Qual	Units				
TPH for Gasoline	ND	100	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
1,4-Bromofluorobenzene	86	49-157							
01-GW-002		01-06-1	322-3		Aqueous	06/26/01	N/A	06/27/01	01062701sa
Parameter	Result	RL	DF	Qual	Units				
TPH for Gasoline	ND	100	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		Qual					
1,4-Bromofluorobenzene	64	49-157							
Method Blank		098-03-	006-1,519		Aqueous	N/A	N/A	06/26/01	01062701sa
Parameter	<u>Result</u>	RL	DF	Qual	<u>Units</u>				
TPH for Gasoline	ND	100	1		ug/L				
Surrogates:	REC (%)	Control		Qual					
1,4-Bromofluorobenzene	85	<u>Limits</u> 49-157							

RL - Reporting Limit

Limit , DF - Dilution Factor , Qual - Qualifiers



GeoSyntec Consultants	Date Sampled:	06/26/01
2100 Main Street, Suite 150	Date Received:	06/26/01
Huntington Beach, CA 92648	Date Extracted:	06/26/01
	Date Analyzed:	06/26-27/01
	Work Order No.:	01-06-1322
Attn: Eric Smalstig	Method:	EPA 8015M
RE: Newport Oil / HR0575	Page 1 of 1	

All total petroleum hydrocarbon concentrations are reported in μ g/L (ppb) using crude oil as a standard.

Sample Number	Concentration	Reporting <u>Limit</u>
02-GW-001 01-GW-001 01 GW 002	ND ND	5000 5000
Method Blank	ND	5000

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.


Page 1 of 4

GeoSyntec Consultants	Date Received:	06/26/01
2100 Main Street, Suite 150	Work Order No:	01-06-1322
Huntington Beach, CA 92648	Preparation:	N/A
•	Method:	EPA 8260B

Project: Newport Oil / HR0575

Client Sample Number:			Lal N	o Samp lumber:	le :	Date Collected:	Matrix:	Date Prepared:	Date Analyzed	: с	C Bato	sh ID:
02-GW-001	enti enti		01-	06-132	2-1	06/26/01	Aqueous	N/A	06/27/01	ı i	062601	BW
Parameter	Result	RL	DF	<u>Qual</u>	<u>Units</u>	Parameter		Result	RL	DF	Qual	Units
Acetone	ND	10	1		ug/L	1,3-Dichloropro	opane	ND	1.0	1		ug/L
Benzene	ND	0.50	1		ug/L	2,2-Dichloropro	opane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropro	opene	ND	1.0	1		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichlorop	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	ropene	ND	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1		ug/L	Isopropylbenze	ene	ND	1.0	1		ug/L
n-Butylbenzene	ND	1.0	1		ug/L	p-Isopropyltolu	ene	ND	1.0	1		ug/L
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chlo	oride	ND	10	1		ug/L
tert-Butylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Per	ntanone	ND	10	1		ug/L
arbon Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L
arbon Tetrachloride	ND	0.50	1		ug/L	n-Propylbenzer	ne	ND	1.0	1		ug/L
*Chlorobenzene	ND	1.0	1		ug/L	Styrene		ND	1.0	1		ug/L
Chloroethane	ND	1.0	1		ug/L	1,1,1,2-Tetrach	nloroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1		ug/L	1,1,2,2-Tetract	nloroethane	ND	1.0	1		ug/L
Chloromethane	ND	1.0	1		ug/L	Tetrachloroeth	ene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1		ug/L	Toluene		4.8	1.0	1		ug/L
4-Chlorotoluene	ND	1.0	1		ug/L	1,2,3-Trichloro	benzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	1		ug/L	1,2,4-Trichloro	benzene	ND	1.0	1		ug/L
1,2-Dibromo-3-Chloropropane	ND	5.0	1		ug/L	1,1,1-Trichloro	ethane	ND	1.0	1		ug/L
1,2-Dibromoethane	ND	1.0	1		ug/L	1,1,2-Trichloro	ethane	ND	1.0	1		ug/L
Dibromomethane	ND	1.0	1		ug/L	Trichloroethen	e	ND	1.0	1		ug/L
1.2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluoro	methane	ND	10	1		ug/L
1.3-Dichlorobenzene	ND	1.0	1		ug/L	1,2,3-Trichloro	propane	ND	5.0	1		ug/L
1.4-Dichlorobenzene	ND	1.0	1		ug/L	1,2,4-Trimethy	lbenzene	ND	1.0	1		ug/L
Dichlorodifluoromethane	ND	1.0	1		ug/L	1,3,5-Trimethy	lbenzene	ND	1.0	1		ug/L
1.1-Dichloroethane	ND	1.0	1		ua/L	Vinvl Acetate		ND	10	1		ug/L
1.2-Dichloroethane	ND	0.50	1		ua/L	Vinvl Chloride		ND	0.50	1		ug/L
1.1-Dichloroethene	ND	1.0	1		ua/L	p/m-Xvlene		ND	1.0	1		ug/L
c-1 2-Dichloroethene	ND	1.0	1		ua/l	o-Xvlene		ND	1.0	1		ug/L
t-1 2-Dichloroethene	ND	1.0	i		ua/L	Methyl-t-Butyl	Ether (MTBE)	ND	1.0	1		ug/L
1,2-Dichloropropane	ND	1.0	1		ug/L		()					Ū
Surrogates:	<u>REC (%)</u>	Control Lin	nits	Qual		Surrogates:		<u>REC (%)</u>	Control Lir	nits	Qual	
Dibromofluoromethane	109	86-118	5			Toluene-d8		98	88-110)		

1,4-Bromofluorobenzene

86-115

95

Qual - Qualifiers



Provide the second s		
GeoSyntec Consultants	Date Received:	06/26/01
2100 Main Street, Suite 150	Work Order No:	01-06-1322
Huntington Beach, CA 92648	Preparation:	N/A
-	Method:	EPA 8260B

Project: Newport Oil / HR0575

Page 2 of 4

Client Sample Number:			Lat N	b Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed	: 0	2C Batc	h ID:
01-GW-001			01-	06-132	2-2	06/26/01	Aqueous	N/A	06/27/01	<u> </u>	0626018	3W
Parameter	Result	RL		Qual	Units	Parameter		Result	RL	DF	Qual	<u>Units</u>
Acetone	ND	10	1		ug/L	1,3-Dichloropr	opane	ND	1.0	1		ug/L
Benzene	ND	0.50	1		ug/L	2,2-Dichloropr	opane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropr	opene	ND	1.0	1		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichloro	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	oropene	ND	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1		ug/L	Isopropylbenze	ene	ND	1.0	1		ug/L
n-Butylbenzene	ND	1.0	1		ug/L	p-Isopropyltolu	iene	ND	1.0	1		ug/L
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chl	oride	ND	10	1		ug/L
tert-Butylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Per	ntanone	ND	10	1		ug/L
vrbon Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L
urbon Tetrachloride	ND	0.50	- 1		ug/L	n-Propylbenze	ne	ND	1.0	1		ug/L
Chlorobenzene	ND	1.0	- ĩ		ug/L	Styrene		ND	1.0	1		ug/L
Chloroethane	ND	1.0	1		ug/L	1,1,1,2-Tetraci	hloroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1		ug/L	1,1,2,2-Tetracl	hloroethane	ND	1.0	1		ug/L
Chloromethane	ND	1.0	1		ug/L	Tetrachloroeth	ene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1		ug/L	Toluene		3.8	1.0	1		ug/L
4-Chlorotoluene	ND	1.0	1		ug/L	1,2,3-Trichloro	benzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	1		ug/L	1,2,4-Trichloro	benzene	ND	1.0	1		ug/L
1,2-Dibromo-3-Chloropropane	ND	5.0	1		ug/L	1,1,1-Trichloro	ethane	ND	1.0	1		ug/L
1,2-Dibromoethane	ND	1.0	1		ug/L	1,1,2-Trichloro	ethane	ND	1.0	1		ug/L
Dibromomethane	ND	1.0	1		ug/L	Trichloroethen	e	ND	1.0	1		ug/L
1,2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluoro	methane	ND	10	1		ug/L
1,3-Dichlorobenzene	ND	1.0	1		ug/L	1,2,3-Trichloro	propane	ND	5.0	1		ug/L
1,4-Dichlorobenzene	ND	1.0	1		ug/L	1,2,4-Trimethy	lbenzene	ND	1.0	1		ug/L
Dichlorodifluoromethane	ND	1.0	1		ug/L	1,3,5-Trimethy	lbenzene	ND	1.0	1		ug/L
1,1-Dichloroethane	ND	1.0	1		ua/L	Vinvl Acetate		ND	10	1		ug/L
1,2-Dichloroethane	ND	0.50	1		ug/L	Vinyl Chloride		0.51	0.50	1		ug/L
1,1-Dichloroethene	ND	1.0	1		ua/L	p/m-Xylene		ND	1.0	1		ug/L
c-1.2-Dichloroethene	1.2	1.0	1		ua/L	o-Xvlene		ND	1.0	1		ug/L
t-1.2-Dichloroethene	ND	1.0	1		ua/L	Methyl-t-Butyl	Ether (MTBE)	ND	1.0	1		ug/L
1,2-Dichloropropane	ND	1.0	1		ug/L							5
Surrogates:	<u>REC (%)</u>	Control Lim	nits	<u>Qual</u>		Surrogates:		<u>REC (%)</u>	Control Lin	nits	Qual	
Dibromofluoromethane	111	86-118				Toluene-d8		100	88-110			
1,4-Bromotluorobenzene	99	86-115										

RL - Reporting Limit ,

ng Limit , DF - Dilution Factor , Qu

tor , Qual - Qualifiers

Page 3 of 4



É.

GeoSyntec Consultants	Date Received:	06/26/01
2100 Main Street, Suite 150	Work Order No:	01-06-1322
Huntington Beach, CA 92648	Preparation:	N/A
0	Method:	EPA 8260B

Project: Newport Oil / HR0575

Client Sample Number:			Lat N	o Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:	Q	C Bato	h ID:
01-GW-002			01-	06-132	2-3	06/26/01	Aqueous	N/A	06/27/01	0	626011	BW
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	<u>Units</u>
Acetone	ND	10	1		ug/L	1,3-Dichloropr	opane	ND	1.0	1		ug/L
Benzene	ND	0.50	1		ug/L	2,2-Dichloropr	opane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropr	opene	ND	1.0	1		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichloro	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	propene	ND	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene	•	ND	1.0	1		ug/L
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1		ug/L	Isopropylbenze	ene	ND	1.0	1		ug/L
n-Butylbenzene	ND	1.0	1		ug/L	p-Isopropyltolu	iene	ND	1.0	1		ug/L
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chl	oride	ND	10	1		ug/L
tert-Butylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Pe	ntanone	ND	10	1		ug/L
urbon Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L
urbon Tetrachloride	ND	0.50	1		ug/L	n-Propylbenze	ne	ND	1.0	1		ug/L
Chlorobenzene	ND	1.0	1		ug/L	Styrene		ND	1.0	1		ug/L
Chloroethane	ND	1.0	1		ug/L	1,1,1,2-Tetrac	hloroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1		ug/L	1,1,2,2-Tetrac	hloroethane	ND	1.0	1		ug/L
Chloromethane	ND	1.0	1		ug/L	Tetrachloroeth	ene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1		ug/L	Toluene		3.6	1.0	1		ug/L
4-Chlorotolyene	ND	1.0	1		ug/L	1,2,3-Trichlord	benzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	1		ug/L	1,2,4-Trichlord	benzene	ND	1.0	1		ug/L
1.2-Dibromo-3-Chloropropane	ND	5.0	1		ug/L	1,1,1-Trichlord	ethane	ND	1.0	1		ug/L
1.2-Dibromoethane	ND	1.0	1		ug/L	1 1,2-Trichlord	oethane	ND	1.0	1		ug/L
Dibromomethane	ND	1.0	1		ug/L	Trichloroethen	e	ND	1.0	1		ug/L
1.2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluoro	methane	ND	10	1		ug/L
1.3-Dichlorobenzene	ND	1.0	1		ug/L	1,2,3-Trichlord	propane	ND	5.0	1		ug/L
1.4-Dichlorobenzene	ND	1.0	1		ug/L	1,2,4-Trimethy	Ibenzene	ND	1.0	1		ug/L
Dichlorodifluoromethane	ND	1.0	1		ug/L	1.3.5-Trimethy	lbenzene	ND	1.0	1		ug/L
1.1-Dichloroethane	ND	1.0	1		ua/L	Vinvl Acetate		ND	10	1		ug/L
1.2-Dichloroethane	ND	0.50	1		ua/L	Vinvl Chloride		15	0.50	1		ug/L
1.1-Dichloroethene	ND	1.0	1		ua/L	p/m-Xvlene		ND	1.0	1		ug/L
c-1 2-Dichloroethene	36	1.0	1		ug/L	o-Xvlene		ND	1.0	1		ug/L
t-1 2-Dichloroethene	ND	1.0	1		ua/l	Methyl-t-Butyl	Ether (MTBE)	ND	1.0	1		ug/L
1,2-Dichloropropane	ND	1.0	1		ug/L	·····,·	,					
Surrogates:	<u>REC (%)</u>	Control Lin	nits	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	nits	Qual	
Dibromofluoromethane	110	86-118	5			Toluene-d8		100	88-110			
1,4-Bromofluorobenzene	97	86-115										

RL - Reporting Limit

DF - Dilution Factor

Qual - Qualifiers



Page 4 of 4

GeoSyntec Consultants	Date Received:	06/26/01
2100 Main Street, Suite 150	Work Order No:	01-06-1322
Huntington Beach, CA 92648	Preparation:	N/A
·	Method:	EPA 8260B

Project: Newport Oil / HR0575

Client Sample Number:	ent Sample Number:		Lab Sample Date Number: Collected: Matr			Matrix:	Date Prepared:	Date Analyzed	c	QC Batch ID:			
Method Blank			09	9-10-00	6-2,750	N/A	Aqueous	N/A	06/27/01	(62601	BW	
Parameter	Result	<u>RL</u>	DF	<u>Qual</u>	<u>Units</u>	Parameter		Result	<u>RL</u>	DF	Qual	<u>Units</u>	
Acetone	ND	10	1		ug/L	1,3-Dichloropr	opane	ND	1.0	1		ug/L	
Benzene	ND	0.50	1		ug/L	2.2-Dichloropr	opane	ND	1.0	1		ug/L	
Bromobenzene	ND	1.0	1		ug/L	1.1-Dichloropr	opene	ND	1.0	1		ug/L	
Bromochloromethane	ND	1.0	1		ug/L	c-1.3-Dichloro	propene	ND	0.50	1		ug/L	
Bromodichloromethane	ND	1.0	1		ug/L	t-1.3-Dichloron	propene	ND	0.50	1		ug/L	
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L	
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L	
2-Butanone	ND	10	1		ug/L	Isopropylbenze	ene	ND	1.0	1		ug/L	
n-Butylbenzene	ND	1.0	1		ug/L	p-Isopropyltolu	iene	ND	1.0	1		ug/L	
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chl	oride	ND	10	1		ug/L	
tert-Butylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Pe	ntanone	ND	10	1		ug/L	
arbon Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L	
rbon Tetrachloride	ND	0.50	1		ug/L	n-Propylbenze	ne	ND	1.0	1		ug/L	
Jhlorobenzene	ND	1.0	1		ug/L	Styrene		ND	1.0	1		ug/L	
Chloroethane	ND	1.0	1		ug/L	1,1,1,2-Tetrac	hloroethane	ND	1.0	1		ug/L	
Chloroform	ND	1.0	1		ua/L	1.1.2.2-Tetrac	hloroethane	ND	1.0	1		ug/L	
Chloromethane	ND	1.0	1		ua/L	Tetrachloroeth	ene	ND	1.0	1		ug/L	
2-Chlorotoluene	NÐ	1.0	1		ua/L	Toluene		ND	1.0	1		ug/L	
4-Chlorotoluene	ND	1.0	1		ua/L	1.2.3-Trichlord	benzene	ND	1.0	1		ug/L	
Dibromochloromethane	ND	1.0	1		ug/L	1.2.4-Trichlord	benzene	ND	1.0	1		ug/L	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		ug/L	1 1 1-Trichlord	ethane	ND	1.0	1		ug/L	
1,2-Dibromoethane	ND	1.0	1		ua/L	1.1.2-Trichlord	ethane	ND	1.0	1		ug/L	
Dibromomethane	ND	1.0	1		ug/L	Trichloroethen	e	ND	1.0	1		ug/L	
1.2-Dichlorobenzene	ND	1.0	1		ua/L	Trichlorofluoro	methane	ND	10	1		ug/L	
1.3-Dichlorobenzene	ND	1.0	1		ua/L	1.2.3-Trichlord	propane	ND	5.0	1		uq/L	
1.4-Dichlorobenzene	ND	1.0	1		ua/L	1 2.4-Trimethy	lbenzene	ND	1.0	1		ua/L	
Dichlorodifluoromethane	ND	1.0	1		ua/L	1.3.5-Trimethy	lbenzene	ND	1.0	1		ua/L	
1.1-Dichloroethane	ND	1.0	1		ug/l	Vinvl Acetate		ND	10	1		ua/L	
1.2-Dichloroethane	ND	0.50	- ñ		ug/l	Vinvl Chloride		ND	0.50	1		ua/L	
1 1-Dichloroethene	ND	1.0	- î		ug/L	n/m-Xvlene		ND	1.0	ିଶ		uo/L	
c-1 2-Dichloroethene	ND	1.0	1		ug/L	o-Xvlene		ND	1.0	्य		ug/l	
t-1.2-Dichloroethene	ND	1.0	1		ug/L	Methyl-t-Butyl	Ether (MTRE)	ND	1.0	1		ua/L	
1 2-Dichloropropane	ND	1.0	- î		ug/L	meanyr e Datyr		iii b	1.0	2		-9.2	
	110	1.0			uy/L								
Surrogates:	<u>REC (%)</u>	Control Lin	<u>nits</u>	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	nits	Qual		
Dibromofluoromethane	108	86-118				Toluene-d8		101	88-110				
1 4-Bromofluorobenzene	95	86-115											

on Factor Qual - Qualifiers



GeoSyntec Consultants	Date Received:	06/26/01
2100 Main Street, Suite 150	Work Order No:	01-06-1322
Huntington Beach, CA 92648	Preparation:	EPA 5030B
	Method:	EPA 8015M
Project: Newport Oil / HR0575		

Spiked Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
01-06-1274-4	Aqueous	GC 1	N/A	06/27/01	01062701ms
Parameter	MS %REC	MSD %REC	%REC CL	RPD RPD C	L Qualifiers
TPH for Gasoline	118	107	72-120	9 0-21	

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GeoSyntec Consultants	Date Received:	06/26/01
2100 Main Street, Suite 150	Work Order No:	01-06-1322
Huntington Beach, CA 92648	Preparation:	EPA 5030B
-	Method:	EPA 8015M

Project: Newport Oil / HR0575

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LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Ba Number	tch
098-03-006-1,519	Aqueous	GC 1	N/A	06/26/01	01062701sa	
Parameter	LCS %R	EC LCSD	<u>%REC %R</u>	EC CL R	PD RPD CL	Qualifiers
TPH for Gasoline	104	106	8	1-123	2 0-17	

E M.I



GeoSyntec Consultants	Date Received:	06/26/01
2100 Main Street, Suite 150	Work Order No:	01-06-1322
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B

Project: Newport Oil / HR0575

Spiked Sample ID	Matrix	Instrument	Date Prepared	Da	te Analyzed	MS/MSD Batch Number
01-06-1242-8	Aqueous	GC/MS T	N/A		06/27/01	01061242-8
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	RPD CL	Qualifiers
Benzene	104	106	72-127	2	0-25	
Carbon Tetrachloride	104	104	70-130	0	0-25	
Chlorobenzene	96	98	72-131	2	0-25	
1,2-Dichlorobenzene	99	103	70-130	4	0-25	
1,1-Dichloroethene	113	112	69-127	1	0-25	
Toluene	102	104	75-124	2	0-25	
Trichloroethene	102	103	60-137	2	0-25	
Vinyl Chloride	108	111	70-130	3	0-25	
Methyl-t-Butyl Ether (MTBE)	116	119	80-120	3	0-25	



GeoSyntec Consultants	Date Received:	06/26/01
2100 Main Street, Suite 150	Work Order No:	01-06-1322
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B
Destant Neumant Oil / LID0575		

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Project: Newport Oil / HR0575

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bat Number	ch
099-10-006-2,750	Aqueous	GC/MS T	N/A	06/27/01	062601BW	
Parameter	LCS %F	REC LCSD %	REC <u>%REC</u>	<u>CL</u> <u>RPD</u>	RPD CL	Qualifiers
Benzene	105	103	72-1	27 2	0-25	
Carbon Tetrachloride	104	106	70-1	30 2	0-25	
Chlorobenzene	97	96	72-1	31 1	0-25	
1,2-Dichlorobenzene	100	101	70-1	30 1	0-25	
1,1-Dichloroethene	96	112	69-1	27 15	0-25	
Toluene	103	100	75-1	24 3	0-25	
Trichloroethene	103	103	60-1	37 0	0-25	
Vinyl Chloride	110	112	79-1	18 2	0-25	
Methyl-t-Butyl Ether (MTBE)	110	111	80-1	20 0	0-25	



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GeoSyntec Consultants	Date Received:	06/26/01
2100 Main Street, Suite 150	Work Order No:	01-06-1322
Huntington Beach, CA 92648	Preparation:	Ext. + D/I
5	Method:	EPA 8015M
Project: Nowport Oil / HP0575		

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Project: Newport Oil / HR0575

LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyze	ed	LCS/LCSD Bato Number	h
098-03-003-666	Aqueous	GC 6	06/26/01	06/26/0	1	01062601sa	
Parameter	LCS %R	EC LCSD	%REC <u>%</u> f	REC CL	<u>RPD</u>	RPD CL	Qualifiers
TPH as Diesel	84	84	6	67-128	0	0-21	

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Calscience Invironmental Laboratories, Inc.

K M.I. -

QUALITY ASSURANCE SUMMARY

Method EPA 8015M - Crude Oil

GeoSyntec Consultants Page 1 of 1			Work Order No.: Date Analyzed:		01-06-1322 6/27/01
Laboratory Control Sample					
Analyte	Co <u>Ad</u>	onc. Ided	Conc. <u>Rec.</u>	%REC	Control Limits
TPH- Crude Oil	40	000	33500	84	67 - 128
Surrogate Recoveries (in %)				т. Т	
Sample Number	<u>S1</u>				
02-GW-001 01-GW-001 01-GW-002 Method Blank	96 83 90 96			%REC	
Surrogate Compound				Acceptable Limit	5
S1 > Decachlorobiphenyl				53 - 141	

GLOSSARY OF TERMS AND QUALIFIERS

alscience GL nvironmental aboratories, Inc.

1.

Work Order Number: 01-06-1322

Qualifier Definition

ND Not detected at indicated reporting limit.

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

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Do: 0/01/00 Revision LN M Se Co PSC1 [M Time: Time: Time: COOLER RECEIPT HROSTS كالأجد 26,20 (ride ð 1:0 V7 ts t P.O. NO. TEMP = FIXED GASES (25.1) or (D1946) REQUESTED ANALYSES CH* / LENMO (25.1) Date: Date: Date: VOCs (T0-14A) or (AP1-0T) 230V (01C8) 2AN9 Page ACCENT CAC, T22 METALS (60108) PANCHUD EOB / DBCP (504.1) or (8011) PCBs (8082) HR0575 ALAM / PRESERVE (A1808) T239 CLIENT PROJECT NAME / NUMBER: (30728) s30VS Eric Sinalsha VOCs (5035 / 82608) EnCore Received for Laboratory by Signature) SAMPLER(S): (SIGNATURE) Brian Hevelron VOCs (8260B) FN \sim N NCW DON' 0:1 PROJECT CONTACT: 0 Z (81208) 2NO89A30JAH BTEX / MTBE (8021B) Received by: (Signature) Received by: (Signature) 10 (O) H9T (9) Hd1 3 11 2 NO. OF CONT. 00 10 DAYS to 3°C in field MATRIX Water 92648 1345 1520 5491 30 TIME SAMPLING 5 DAYS E-MAIL: ARCHIVE SAMPLES UNTIL SULF 6126 SPECIAL INSTRUCTIONS Preserved samples w/ lee DATE LABORATORY CLIENT: GOOSYNAC CONSULTANTS SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) 714)969-0800 🗌 72 HR Shue Nowad LOCATION/DESCRIPTION 4 TEL: (714) 895-5494 • FAX: (714) 894-7501 STATE GARDEN GROVE, CA 92841-1432 Main Sheet 148 HR 0 0 3 Rech FAX SAME DAY X 24 HR RWOCB REPORTING Confirm analysis w Relinquished by: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) 01 - GW - COI 02-GW-001 01-6W-002 Huntington emp blank 2100 1-114) 96.9-0500 SAMPLE ID TURNAROUND TIME ADDRESS: CITY USE USE

CHAIN UP CUS LOUNS (ECURD

JUNC

Date_

ORATORIES, INC.

7440 LINCOLN WAY





June 28, 2001

Eric Smalstig GeoSyntec Consultants 2100 Main Street, Suite 150 Huntington Beach, CA 92648

Subject: Calscience Work Order No.: Client Reference:

01-06-1371 Newport Oil / HR0575

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/27/01 and analyzed in accordance with the attached chain-of-custody.

The results in this analytical report are limited to the samples tested and any reproduction of this report must be made in its entirety.

If you have any questions regarding this report, require sampling supplies or field services, or information on our analytical services, please feel free to call me at (714) 895-5494.

Sincerely,

Calscience Environmental Laboratories, Inc. Stephen Nowak Project Manager

William H. Christensen Quality Assurance Manager



GeoSyntec Consultants	Date Sampled:	06/27/01
2100 Main Street, Suite 150	Date Received:	06/27/01
Huntington Beach, CA 92648	Date Extracted:	06/27/01
	Date Analyzed:	06/27/01
	Work Order No.:	01-06-1371
Attn: Eric Smalstig	Method:	EPA 8015M
RE: Newport Oil / HR0575	Page 1 of 1	

All total petroleum hydrocarbon concentrations are reported in µg/L (ppb) using crude oil as a standard.

Sample Number	Concentration	Reporting Limit
02-GW-003	26000	5000
Method Blank	ND	5000

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.



GeoSyntec Consultants	Date Received:	06/27/01
2100 Main Street, Suite 150 Huntington Beach, CA 92648	Work Order No: Preparation: Method:	01-06-1371 Ext. + D/I EPA 8015M
Project: Newport Oil / HR0575		Page 1 of 1

Client Sample Number:		Lab Nu	Sample mber:		Matrix:	Date Collected:	Date Prepared:	Date Analyzed:	QC Batch ID:
02-GW-003	0	01-06-1	371-1		Aqueous	06/27/01	06/27/01	06/27/01	01062601sa
Parameter	Result	RL	DF	Qual	<u>Units</u>				
TPH as Diesel	2200	1000	1		ug/L				
Surrogates:	<u>REC (%)</u>	Control		<u>Qual</u>					
Decachlorobiphenyl	79	<u>Limits</u> 53-141							
Method Blank		098-03-	003-666		Aqueous	N/A	06/26/01	06/26/01	01062601sa
Parameter	Result	RL	DF	Qual	<u>Units</u>				
TPH as Diesel	ND	1000	4		ug/L				
<u>urrogates:</u>	<u>REC (%)</u>	Control		Qual					
Decachlorobiphenyl	96	53-141							

RL - Reporting Limit , DF - Dilution Factor . Qual - Qualifiers



Project: Newport Oil / HR0575				Page 1 of 1
2100 Main Street, Suite 150 Huntington Beach, CA 92648	Wo Pre Met	rk Order No: paration: hod:		01-06-1371 EPA 5030B EPA 8015M
GeoSyntec Consultants	Dat	e Received:		06/27/01

Client Sample Number:		Lab Nu	Sample Imber:	Matrix:		Date Collected:	Date Prepared:	Date Analyzed:	QC Batch ID:
02-GW-003		01-06-1	1371-1	,	Aqueous	06/27/01	N/A	06/28/01	01062701sa
Parameter	Result	<u>RL</u>	DF	Qual	Units				
TPH for Gasoline	ND	100	1		ug/L				
Surrogates:	REC (%)	Control		Qual					
1,4-Bromofluorobenzene	89	Limits 49-157							
Method Blank		098-03	006-1,521		Aqueous	N/A	N/A	06/27/01	01062701sa
Parameter	Result	RL	DF	Qual	Units				
TPH for Gasoline	ND	100	1		ug/L				
urrogates:	REC (%)	Control		Qual					
1,4-Bromofluorobenzene	100	49-157							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



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Page 1 of 2

GeoSyntec Consultants	Date Received:	06/27/01
2100 Main Street, Suite 150	Work Order No:	01-06-1371
luntington Beach, CA 92648	Preparation:	N/A
-	Method:	EPA 8260B

Project: Newport Oil / HR0575

Client Sample Number:			Lal N	b Samp lumber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed:		QC Bato	sh ID:
02-GW-003			01	06-137	1.1	06/27/01	Aqueous	N/A	06/27/01	1	062701	AW
Parameter	Result	<u>RL</u>	DF	Qual	<u>Units</u>	Parameter		Result	RL	DF	Qual	<u>Units</u>
Acetone	ND	10	1		ug/L	1,3-Dichloropro	opane	ND	1.0	1		ug/L
Benzene	ND	0.50	1		ug/L	2,2-Dichloropro	opane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropro	opene	ND	1.0	1		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichloro	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	ropene	ND	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	1.0	1		ug/L	2-Hexanone		ND	10	1		ug/L
2-Butanone	ND	10	1		ug/L	Isopropylbenze	ene	ND	1.0	1		ug/L
n-Butylbenzene	ND	1.0	1		ug/L	p-Isopropyltolu	ene	ND	1.0	1		ug/L
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chlo	oride	ND	10	1		ug/L
🚊 🖆 Putylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Per	ntanone	ND	10	1		ug/L
1 Disulfide	ND	10	1		ug/L	Naphthalene		ND	10	1		ug/L
Secon Tetrachloride	ND	0.50	1		ug/L	n-Propylbenzer	ne	ND	1.0	1		ug/L
Chlorobenzene	ND	1.0	1		ug/L	Styrene		ND	1.0	1		ug/L
Chloroethane	ND	1.0	1		ug/L	1,1,1,2-Tetrack	nloroethane	ND	1.0	1		ug/L
Chloroform	ND	1.0	1		ug/L	1,1,2,2-Tetrack	nloroethane	ND	1.0	1		ug/L
Chloromethane	ND	1.0	1		ug/L	Tetrachloroeth	ene	ND	1.0	1		ug/L
2-Chlorotoluene	ND	1.0	1		ug/L	Toluene		1.1	1.0	1		ug/L
4-Chlorotoluene	ND	1.0	1		ug/L	1,2,3-Trichloro	benzene	ND	1.0	1		ug/L
Dibromochloromethane	ND	1.0	1		ug/L	1,2,4-Trichloro	benzene	ND	1.0	1		ug/L
1,2-Dibromo-3-Chloropropane	ND	5.0	1		ug/L	1,1,1-Trichloro	ethane	ND	1.0	1		ug/L
1,2-Dibromoethane	ND	1.0	1		ug/L	1,1,2-Trichloro	ethane	ND	1.0	1		ug/L
Dibromomethane	ND	1.0	1		ug/L	Trichloroethen	е	ND	1.0	1		ug/L
1,2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluoro	methane	ND	10	1		ug/L
1,3-Dichlorobenzene	ND	1.0	1		ug/L	1,2,3-Trichloro	propane	ND	5.0	1		ug/L
1,4-Dichlorobenzene	ND	1.0	1		ug/L	1,2,4-Trimethy	lbenzene	ND	1.0	1		ug/L
Dichlorodifluoromethane	ND	1.0	1		ug/L	1,3,5-Trimethy	lbenzene	ND	1.0	1		ug/L
1,1-Dichloroethane	ND	1.0	1		ua/L	Vinvl Acetate		ND	10	1		ug/L
1,2-Dichloroethane	ND	0.50	1		ug/L	Vinyl Chloride		ND	0.50	1		ug/L
1,1-Dichloroethene	ND	1.0	1		ua/L	p/m-Xvlene		ND	1.0	1		ua/L
c-1,2-Dichloroethene	ND	1.0	1		ua/l	o-Xvlene		ND	1.0	1		ua/L
t-1,2-Dichloroethene	ND	1.0	1		ug/L	Methyl-t-Butyl I	Ether (MTBE)	ND	1.0	1		ug/L
1,2-Dichloropropane	ND	1.0	1		ug/L							5 -
Surrogates:	<u>REC (%)</u>	Control Lim	iits	Qual		Surrogates:		<u>REC (%)</u>	Control Lim	its	Qual	
Dibromofluoromethane	95 106	86-118				Toluene-d8		109	88-110			

RL - Reporting Limit ,

orting Limit , DF - Dilution Factor , Qual - Qualifiers



Page 2 of 2

GeoSyntec Consultants	Date Received:	06/27/01
2100 Main Street, Suite 150	Work Order No:	01-06-1371
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B

Project: Newport Oil / HR0575

1

Client Sample Number:			Lat N	o Samp umber:	le	Date Collected:	Matrix:	Date Prepared:	Date Analyzed	i: (QC Bate	ch ID:
Method Blank			099	-10-00	6-2,757	N/A	Aqueous	N/A	06/27/0	1	062701	AW
Parameter	Result	RL	<u>DF</u>	Qual	Units	Parameter		Result	RL	DF	Qual	<u>Units</u>
Acetone	ND	10	1		ug/L	1,3-Dichloropro	opane	ND	1.0	1		ug/L
Benzene	ND	0.50	1		ug/L	2,2-Dichloropro	opane	ND	1.0	1		ug/L
Bromobenzene	ND	1.0	1		ug/L	1,1-Dichloropro	opene	ND	1.0	1		ug/L
Bromochloromethane	ND	1.0	1		ug/L	c-1,3-Dichloro	propene	ND	0.50	1		ug/L
Bromodichloromethane	ND	1.0	1		ug/L	t-1,3-Dichlorop	propene	NÐ	0.50	1		ug/L
Bromoform	ND	1.0	1		ug/L	Ethylbenzene		ND	1.0	1		ug/L
Bromomethane	ND	1.0	1		ua/L	2-Hexanone		NÐ	10	1		ua/L
2-Butanone	ND	10	1		ug/L	Isopropylbenze	ene	ND	1.0	1		ua/L
n-Butylbenzene	ND	1.0	1		ua/L	p-Isopropyltolu	ene	ND	1.0	1		ua/L
sec-Butylbenzene	ND	1.0	1		ug/L	Methylene Chl	oride	ND	10	1		ua/L
Sutylbenzene	ND	1.0	1		ug/L	4-Methyl-2-Per	ntanone	ND	10	1		ua/L
n Disulfide	ND	10	1		ua/L	Naphthalene		ND	10	1		ua/L
ou pon Tetrachloride	ND	0.50	1		ua/L	n-Propylbenze	ne	ND	1.0	1		ua/L
Chlorobenzene	ND	1.0	1		ua/L	Styrene		ND	1.0	1		ua/L
Chloroethane	ND	1.0	1		ua/L	1.1.1.2-Tetract	hloroethane	ND	1.0	1		ua/L
Chloroform	ND	1.0	1		ua/L	1.1.2.2-Tetract	hloroethane	ND	1.0	1		ua/L
Chloromethane	ND	1.0	1		ua/L	Tetrachloroeth	ene	ND	1.0	1		ua/L
2-Chlorotoluene	ND	1.0	1		na/l	Toluene		ND	1.0	1		ug/L
4-Chiorotoluene	ND	1.0	1		ua/t	1 2 3-Trichloro	henzene	ND	1.0	1		ua/l
Dibromochloromethane	ND	1.0	1		ua/l	1 2 4-Trichloro	benzene	ND	1.0	1		ua/L
1.2-Dibromo-3-Chloropropane	ND	5.0	1		- <u>3</u>	1 1 1-Trichloro	ethane	ND	1.0	1		ua/l
1.2-Dibromoethane	ND	1.0	1		ug/L	1 1 2-Trichloro	ethane	ND	1.0			ug/L
Dibromomethane	ND	1.0	1		ua/l	Trichloroethen	ρ	ND	1.0	- 1		ug/L
1.2-Dichlorobenzene	ND	1.0	1		ug/L	Trichlorofluoro	methane	ND	10	-		ug/L
1.3-Dichlorobenzene	ND	1.0	1		ug/L	1 2 3-Trichloro	nronane	ND	50	1		ug/L
1.4-Dichlorobenzene	ND	1.0	1		ug/L	1 2 4 Trimethy	lhenzene	ND	1.0	- 4		ug/L
Dichlorodifluoromethane	ND	1.0	1		ug/L	1 3 5-Trimethy	lhanzana	ND	1.0			ug/L
1 1-Dichloroethane	ND	1.0	1		ug/L	Vinul Acetate		ND	10	1		ug/L
1 2-Dichloroethane	ND	0.50	1		ug/L	Vinyl Chloride			0.50	- 1		ug/L
1 1-Dichloroethene	ND	1.0	1		ug/L	n/m-Yylene		ND	1.0			ug/L
c-1 2-Dichloroethene	ND	1.0	4		ug/L			ND	1.0	1		ug/L
t-1 2-Dichloroethene	ND	1.0	1		ug/L	Mothul t Dund I		ND	1.0	- 6		ug/L
1.2 Dichloropropago	ND	1.0	1		ug/L	wearyi-t-Dutyi i		NU	1.0			ug/L
r,2-Dichloropropane	ND	1.0			ug/L							
Surrogates:	<u>REC (%)</u>	Control Lim	<u>its</u>	Qual		Surrogates:		<u>REC (%)</u>	Control Lin	nits	Qual	
Dibromofluoromethane	96	86-118				Toluene-d8		110	88-110			
1.4-Bromofluorobenzene	106	86-115										

RL - Reporting Limit ,

g Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate

GeoSyntec Consultants		Date Received:						
2100 Main Street, Suite 150		Work Order No:						
Huntington Beach, CA 92648		Prepar	Preparation:					
		Metho	d:			EPA 8015M		
Project: Newport Oil / HR0575								
Spiked Sample ID	Matrix	Instrument	Date Prepared	Dat	e Analyzed	MS/MSD Batch Number		
01-06-1244-2	Aqueous	GC 24	N/A	0	6/27/01	01062701ms		
Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers		
TPH for Gasoline	110	109	72-120	1	0-21			

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100

Parameter

TPH for Gasoline

Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants		Date	e Received:		06/27/01			
2100 Main Street, Suite 150		Wor	k Order No:		01-06-1371			
Huntington Beach, CA 92648		Prep	paration:		EPA 5030B			
C		Metl	hod:		EPA 8015M			
Project: Newport Oil / HR0575								
LCS Sample Number	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
098-03-006-1,521	Aqueous	GC 24	N/A	06/27/01	01062701sa			

LCSD %REC

107

%REC CL

81-123

RPD

2

RPD CL

0-17

Qualifiers

LCS %REC

109

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Instrument

Prepared

GeoSyntec Consultants 2100 Main Street, Suite 150	Date Rec Work Ore	ceived: der No:	06/27/0 01-06-137			
Huntington Beach, CA 92648	Preparati Method:	ion:		N/A EPA 8260B		
Project: Newport Oil / HR0575	 	il <u>a</u> tion and				
	 	Date	Date Analyzed	MS/MSD Batch Number		

Matrix

Spiked Sample ID	Matrix	Instrument	Prepared			Number
02-GW-003	Aqueous	GC/MS R	N/A		06/28/01	0106137101
Parameter	MS %REC	MSD %REC	<u>%REC CL</u>	<u>RPD</u>	RPD CL	Qualifiers
Benzene	100	98	72-127	1	0-25	
Carbon Tetrachloride	115	119	70-130	3	0-25	
Chlorobenzene	100	98	72-131	1	0-25	
1,2-Dichlorobenzene	101	101	70-130	1	0-25	
1,1-Dichloroethene	108	112	69-127	4	0-25	
Toluene	104	100	75-124	4	0-25	
Trichloroethene	107	103	60-137	4	0-25	
Vinyl Chloride	111	108	70-130	2	0-25	
Methyl-t-Butyl Ether (MTBE)	107	106	80-120	1	0-25	

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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received:	06/27/01
2100 Main Street, Suite 150	Work Order No:	01-06-1371
Huntington Beach, CA 92648	Preparation:	N/A
	Method:	EPA 8260B
Project: Newport Oil / HR0575		

Date LCS/LCSD Batch Date LCS Sample Number Matrix Prepared Analyzed Number Instrument 099-10-006-2,757 062701AW Aqueous GC/MS R N/A 06/27/01 Parameter LCS %REC LCSD %REC %REC CL <u>RPD</u> RPD CL Qualifiers 0 0-25 Benzene 100 100 72-127 Carbon Tetrachloride 70-130 3 0-25 116 121 Chlorobenzene 101 101 72-131 1 0-25 70-130 3 0-25 1,2-Dichlorobenzene 103 100 1,1-Dichloroethene 101 103 69-127 2 0-25 Toluene 75-124 2 0-25 107 105 Trichloroethene 109 108 60-137 1 0-25 Vinyl Chloride 103 100 79-118 3 0-25 Methyl-t-Butyl Ether (MTBE) 94 103 80-120 9 0-25

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Quality Control - LCS/LCS Duplicate

GeoSyntec Consultants	Date Received:	06/27/01
2100 Main Street, Suite 150	Work Order No:	01-06-1371
Huntington Beach, CA 92648	Preparation:	Ext. + D/I
0	Method:	EPA 8015M
Project: Newport Oil / HR0575		

LCS/LCSD Batch Date Date Number LCS Sample Number Matrix Instrument Prepared Analyzed 06/26/01 01062601sa GC 6 06/26/01 098-03-003-666 Aqueous Qualifiers <u>RPD</u> RPD CL LCS %REC LCSD %REC %REC CL Parameter 0-21 84 67-128 0 84 **TPH as Diesel**

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QUALITY ASSURANCE SUMMARY

Method EPA 8015M - Crude Oil

GeoSyntec Consultants Page 1 of 1			Work Order No Date Analyzed	p.: :	01-06-1371 6/27/01
Laboratory Control Sample					
<u>Analyte</u> TPH- Crude Oil		Conc. <u>Added</u> 40000	Conc. <u>Rec.</u> 33500	<u>%REC</u> 84	Control <u>Limits</u> 67 - 128
Surrogate Recoveries (in %)					
Sample Number	<u>S1</u>				
02-GW-003 Method Blank	78 96			%REC	
Surrogate Compound				Acceptable Lim	its
S1 > Decachlorobiphenyl				53 - 141	

Calscience GLOSSARY OF TERMS AND QUALIFIERS

Work Order Number: 01-06-1371

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Qualifier	Definition
ND	Not detected at indicated reporting limit.

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

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7440 LINCOLN WAY							Da	9)	UNC	7	-	
GARDEN GROVE, CA 92841-1432 TEL: (714) 895-5494 • FAX: (714) 894-7501							Ра	9 		_	ď	_	
LABORATORY CLIENT: Geo Sunte Consultants		CLIENT PRO	ECT NAI	ME / NUN	MBER:	HD	575		-	Ň. O.	H	1201	io
ADDRESS: 2100 Main Sheef 11	So	PROJECT do	NTACT:	-					প্রার্থাপ	ABU		کا ۱	
orr Huntington Beach State CA	ZIP 92G48	SAMPLER(S):	(SIGNAT	LOIST LURE)	J.		ŧ		3		ER RE	SEIPT	
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SPECIAL INSTRUCTIONS SAMPLES PRESERVED W/ IC	E IN	(812	80518)	u3 (80)			3) 10 (f. 10312		it-01) 1	().() 10 ([<u>-</u>			
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LAB SAMPLE ID LOCATION/DESCRIPTION DATE TIME	MATRIX CONT.)) H9T)) H9T (X3T8	ОЛАН	800V 800V	SVOC	PCBs	E08	sAN9	800 ×) ¹ C	
02-GW-C03 02 6/27 1430	0 M 00	ŝ		2							-	-	
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