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CLOSURE REPORT HARBOR ISLAND STATION PORT ARANSAS, TEXAS

July 7, 1999



9441 W. Sam Houston Pkwy. S. Suite 103 Houston, Texas 77099-1849 (713) 777-8585 (713) 777-8584 FAX

CLOSURE REPORT HARBOR ISLAND STATION PORT ARANSAS, TEXAS

Prepared for

Mr. Brian Magruder
EXXON PIPELINE COMPANY
800 Bell Street
Houston, Texas 77002

Prepared by

KEI

Marshall H. Smith, PE Senior Engineer

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EXECUTIVE SUMMARY

This report describes the activities conducted to assess and remediate the former Harbor Island Station, located in Port Aransas, Texas. The Harbor Island Station is a former crude oil storage and transfer facility which was operated by Exxon Pipeline Company Inc. (EPC) from the late 1920's until 1993. Operations ceased and decommissioning of the facility was initiated in 1993. EPC sold the site to KOCH Gathering Systems, Inc. in 1995. KOCH subsequently sold the site to the Port of Corpus Christi Authority.

EPC submitted an initial environmental site assessment of the 300 acre site to the Texas Railroad Commission (RRC) by letter dated April 19, 1994. A remediation workplan for the site was prepared and submitted to the RRC by letter dated June 17, 1994. This remediation plan was approved by the RRC with several modifications by letter dated July 15, 1994. A copy of the RRC approval letter is provided in Appendix A. Additional assessment and remediation activities conducted at the site have been coordinated with the RRC with reports submitted to document significant activities.

Several environmental site investigations have been conducted from 1994 to date to define site conditions. Data gathered from these investigations was used to develop site specific remediation goals for the site and to design a site remediation system. The investigations concluded that the environmental impacts at the facility were limited to total petroleum hydrocarbon (TPH) concentrations in soil and light non-aqueous phase liquids (LNAPL) on shallow ground water. Soil and ground water impacts were determined to be confined within the site property boundaries, not impacting any off-site receptors. Assessment of the site consisted of completing more than 650 soil borings, collecting more than 900 soil samples, installing 35 ground water monitoring wells/temporary piezometers and obtaining ground water samples. Remediation goals were established for TPH in soils and removal of LNAPL from ground water. A total of approximately 545,000 cubic yards of impacted soil was remediated and 3,000 barrels of LNAPL recovered.

Remediation activities were conducted to allow closure of the site in accordance with the RRC approved remediation plan. Soils with TPH levels in excess of 10% were excavated and treated in on-site soil treatment areas. When TPH levels were documented to be below 5%, these soils were replaced in the excavations. Areas of soils with TPH levels ranging from 5 to 10% were mixed inplace and treated to enhance biodegradation of the organic constituents. Biological degradation of the hydrocarbon constituents is occurring with hydrocarbon concentrations being below 1% in most samples collected from the site.

A system designed to remove LNAPL from shallow ground water was installed at the site. This system was operated in 3 areas of the site and removed all LNAPL in 2 of the areas. Additional LNAPL recovery was conducted in Area 10 during subsequent soil remediation activities. Remediation activities have achieved the ground water remediation standard by removing all evidence of LNAPL at the site. The only organic constituent detected in the groundwater monitoring wells was ethyl benzene at 0.140 mg/L. The maximum TPH level detected during monitoring well sampling events was 64 mg/L. A summary of ground water analytical data is provided in TABLE III.

Extensive soil sampling and analytical data have documented that TPH concentrations in soil at the site are approaching 1%. A statistical evaluation of the soil analytical data was used to determine whether the closure objective has been achieved. The maximum, minimum, mean and 95% UCL concentration of TPH in soils in each remediation area at the site is presented in TABLE I. Based on available information, the closure objective has been achieved at this site.

INTRODUCTION

The Harbor Island Station is located along Highway 361 in Port Aransas, Texas and consists of approximately 300 acres. The location of the facility is shown on FIG 1. The facility, shown in FIG 2, was constructed as a crude oil tank farm in the late 1920's and was in operation until 1993. Exxon Pipeline Company Inc. (EPC) has completed investigations of the site to identify areas affected by previous operations and verify remediation of impacted areas.

Significant assessment and remediation activities have been conducted at the site to identify impacted areas, lower TPH levels and enhance microbial degradation of organic constituents. Areas with total petroleum hydrocarbon (TPH) in concentrations above the approved cleanup levels have been remediated and LNAPL has been eliminated from shallow ground water in all areas of the facility.

Remediation Objective

Clean-up levels for soil and ground water at the site were developed to ensure protection of human health and the environment. The site is intended to remain in industrial use and the standards applied to this site are based on this use. The remediation standards found in RRC State Wide Rule 91 are not applicable to this site, but these guidelines have been generally followed. The remediation objectives included in the Remedial Action Workplan and approved by the RRC by letter dated July 15, 1994 include:

- 1. Remediate soil with TPH concentrations greater than 10% by excavation and bioremediation in an on-site treatment area. Remediated soils shall be replaced into original excavations when TPH concentrations are below 5%.
- 2. Remediate surficial soil containing TPH concentrations between 5 and 10% by in-place mixing and tilling to a depth of 2 feet, using soil enhancements as needed to enhance bioremediation. The soil shall be remediated to less than 5% TPH by mixing and bioremediation, followed by limited soil sampling after active remediation to ensure the TPH level in soils is approaching 1%.
- 3. Remove LNAPL from the shallow ground water to minimize the potential for migration and impact to sensitive receptors. The ground water cleanup level calls for the reduction of LNAPL thickness to 0.01 feet (sheen) or less, followed by sampling for TPH.
- 4. The location of a soil sample (PBC-6) which contained 1,1,2-trichloroethane (TCE) was investigated and it was determined to be the result of laboratory contamination. A copy of the RRC letter dated October 19, 1994 stating that no further action was required is provided in Appendix A.

SITE INVESTIGATION AND REMEDIATION ACTIVITIES

Several environmental investigations have been conducted to identify areas of impacted soil and ground water at the site. The assessment activities identified areas of residual TPH present in concentrations up to 20% in the underlying soil. Elevated TPH concentrations were generally confined to the upper 5 feet of soil and diminished with depth. LNAPL was encountered in three areas at the facility. Remediation has been conducted in all areas where impacted soils or ground water were encountered.

For convenience in identifying sample locations and implementing remediation activities, the site was divided into 18 management areas. Two additional management areas were added during subsequent investigations. Soil samples and excavation areas are identified using these area designations. The location of each of these areas are shown on FIG. 2.

CHRONOLOGY OF SITE INVESTIGATION AND REMEDIATION ACTIVITIES

A chronology documenting site investigation and remediation activities is provided below. Detailed reports have been submitted to the RRC after completion of each of the significant activities conducted at the site.

Initial Investigation

This investigation was conducted by KEI during 1994 to document site conditions and identify areas of concern.

- An Electromagnetic (EM) conductivity study was conducted to identify areas of contamination.
- Soil samples were obtained from 450 borings using a hydraulic push probe technology.
 Locations were probed until ground water was evident. Soil samples were tested to determine the concentration of TPH and BTEX.
- Ground water samples were obtained from 65 boring locations and analyzed for the presence of TPH and BTEX.
- Soil and ground water samples from several locations were tested to determine the concentration of metals and other organic constituents.
- Eight test pits were excavated throughout the site to evaluate subsurface stratigraphy.
- A total of 26 piezometers were installed and sampled to evaluate ground water conditions at the site.
- Soils with TPH levels ranging from 1 to 20% were identified in 18 areas.
- LNAPL was identified in 3 areas at the site.
- During August 1994, an aquifer pump test was conducted at the site.
- The results of this investigation were provided in the Environmental Assessment dated April 15, 1994.

Initial Remediation Activities

Soil remediation activities were conducted by KEI during 1994:

- Approximately 49,000 cubic yards of soil were excavated from areas which had TPH concentrations greater than 10%, transported to the soil treatment areas, treated to reduce TPH levels to < 5%, then returned to the original excavations.
- Approximately 445,000 cubic yards of soil with TPH concentrations >5% but <10% were treated in-situ to reduce TPH levels to < 5%.
- Approximately 195 soil samples were obtained from the soil treatment area to verify soil remediation
- Approximately 250 verification samples were obtained from the excavation areas to document removal and treatment of soils containing > 5% TPH.
- Treated soils were backfilled and the site graded to minimize erosion.
- The remediation activities were documented in the Soil Remediation Report transmitted by letter dated October 4, 1995.

LNAPL Removal Activities

LNAPL recovery trenches were installed by KEI at 3 locations and a system to separate recovered ground water and LNAPL installed:

- The 3 LNAPL recovery trenches and the ground water treatment system were installed in late 1994 and early 1995.
- Pumps located in two of three recovery areas were shut down in February 1995 because no significant volumes of hydrocarbon remained.
- During May 1996 two additional trenches were installed in the third area, Area 10.
- After recovering over 1,000 barrels of LNAPL, the system in Area 10 was removed in late 1997 during soil remediation activities. The soil remediation activities allowed a more aggressive remediation approach (see "Area 10 Remediation" below).

Fluor/GTI Investigation

This investigation was conducted in 1996 by Fluor/GTI on behalf of the Port of Corpus Christi Authority (POCCA) to verify that TPH levels in soil were progressing toward the goal of 1%.

- Fluor/GTI conducted sampling to verify site conditions.
- A total of 83 soil samples were collected from 43 soil borings advanced at the site.
- 5 temporary monitoring wells were installed at the site.
- Ground water samples were obtained from 3 of the 5 existing wells and the 5 temporary wells.
- Selected soil and ground water samples were analyzed for TPH, BTEX, volatile and semi-volatile organic compounds and RCRA metals.
- LNAPL was detected in 2 ground water monitoring wells in Area 10.
- The study concluded that the TPH levels in soils had decreased an average of 27,000 mg/kg across the site.
- A copy of the Verification Sampling Report was provided to the RRC by letter dated September 24, 1996.

Area 10 Investigation

This investigation was conducted by KEI during December 1996 to determine the extent of LNAPL present within Area 10 and to evaluate alternative LNAPL removal methods.

- 26 borings were completed in the area of Tank 945.
- LNAPL was detected in 10 of the 26 borings completed.
- The extent of the LNAPL plume in Area 10 was defined.
- The results of this investigation and a workplan for remediation of Area 10 were submitted to the RRC by fax dated September 30, 1997.

Area 10 Remediation

Remediation activity was conducted by KEI between October and December 1997 in Area 10 to remove LNAPL and impacted soil.

 An 84,575 square foot area was excavated to allow treatment of impacted soils and removal of LNAPL.

- Approximately 41,000 cubic yards of soil were blended and treated to meet the remediation objective.
- Approximately 1,950 barrels of LNAPL was recovered from the surface of the water in the excavation.
- 65 soil samples were obtained from the excavation areas to document removal of soils containing > 1% TPH.
- 89 soil samples were obtained from the soil treatment area to verify treatment.
- Treated soils were backfilled and the site graded to minimize erosion.
- The Area 10 Remediation report was transmitted to the RRC by letter dated June 18, 1998.

APT Investigation

This investigation was conducted in March 1998 by Applied Petroleum Technology Ltd. (APT) on behalf of the POCCA to verify that TPH levels in soil were continuing to progress toward the goal of 1%.

- A total of 134 soil samples were collected from 160 locations at the site.
- 5 new and 1 replacement monitoring wells were installed at the site.
- Ground water samples were obtained from the 4 existing wells and the 5 new wells.
- Selected soil and ground water samples were analyzed for TPH, BTEX, volatile and semi-volatile organic compounds and RCRA metals.
- The study identified areas where the TPH levels in soils exceeded 1%.
- LNAPL was not detected in any of the ground water monitoring wells.
- Ground water samples did not contain detectable levels of benzene; ethylbenzene was detected in one sample at 0.140 mg/L and TPH levels were below 64 mg/L in all samples.
- The results of this investigation were presented in the Confirmation Sampling Investigation report.

Closure Investigation

This investigation was conducted by KEI during February 1999 to determine whether areas with soil TPH concentrations greater than 2% remained at the site.

- 26 soil samples were collected at locations identified previously as containing TPH levels in excess of 2%.
- 6 areas were determined to contain soils with TPH levels in excess of 2%.

Additional Areas Remediation

Areas which contained soil TPH concentrations in excess of 2% were remediated during April 1999.

- Approximately 9,500 cubic yards of soil were excavated and blended to meet the remediation standard.
- 53 verification samples were obtained from the excavation areas to document removal of soils containing > 1% TPH.
- 31 soil samples were obtained from the soil treatment areas to verify treatment to <1%
 TPH.
- Treated soils were backfilled and the site graded to minimize erosion.

 A copy of the Additional Areas Remediation report is being transmitted to the RRC with this report.

REMEDIATION PROCEDURES

Remediation activities conducted at the site included removal of LNAPL and on-site soil treatment by mixing, blending and enhanced bioremediation. A brief description of the procedures used to complete remediation and verify completion are provided below.

Soil Excavation

Areas with soils containing greater than 10% TPH were excavated and transferred to on-site soil treatment areas. Areas with TPH levels greater than 2% were excavated for treatment or treated in place.

Soil Treatment

Soils containing greater than 10% TPH were excavated and transferred to on-site soil treatment areas. Within the soil treatment areas, soils from various areas were mixed to reduce the TPH to less than 5% and nutrients were added to enhance microbial degradation. Soils treated in the treatment areas were tested to ensure a TPH concentration of less than 5% prior to removal from the treatment area and replacement into the original excavation.

Soil Mixing Activities

Soils which contained TPH levels between 5 and 10% were treated in-place to lower TPH levels. Soils were mixed, aerated and treated with nutrients to enhance microbial degradation of the hydrocarbon constituents. The soil treatment activities were conducted in a manner which minimized the runoff of potentially impacted stormwater.

Excavation Area Verification Testing

Soil samples were collected and analyzed from the base and sidewalls of each excavation area to determine if in-place soils met the soil cleanup criteria. Areas which contained soils with TPH concentrations greater than 2% were over excavated and re-sampled until this cleanup level was achieved.

The results of verification samples collected from excavation area base and sidewalls to verify completion of excavation activities are summarized in TABLE II.

LNAPL Recovery

Removal of LNAPL was determined to be necessary in 3 areas of the site. A remediation system designed to remove LNAPL and allow discharge of recovered water was installed. The system eliminated the presence of LNAPL in 2 areas of the site. Over 1,000 barrels of oil was recovered using this system. Additional LNAPL in Area 10 was removed by excavating soils to below the water table and recovering the floating oils from the excavation using vacuum pumps. Approximately 1,950 barrels of oil were recovered in this manner. Total LNAPL recovery from the entire site was over 3,000 barrels. Recovered LNAPL was returned to EPC's crude oil pipeline system at a remote location.

Site Restoration

Treated soils were used to backfill the excavations and restore natural grade. The excavation areas were graded to restore drainage patterns in the area and minimize the potential for erosion.

COMPARISON TO CLOSURE STANDARDS

Soil remediation activities at the site have been conducted to ensure that TPH levels in soils are approaching 1% in all areas and that LNAPL has been removed from shallow ground water to a thickness of 0.01 feet or less. Statistical analysis was used to evaluate the data for each area where soil remediation or sampling has been conducted. A summary of the statistical analysis is provided in TABLE I. A summary of the analytical data from samples collected to identify impacted areas and to verify remediation is provided in TABLE II.

The soil analytical data is summarized in a manner which allows the statistical evaluation to be completed only on the most recent samples collected in each remediation area. When an area is remediated or re-sampled, the old data is eliminated from the statistical evaluation but retained in the overall data table. The last column shows only the most recent data collected at a specific location (i.e. old sample locations are included unless remediation or re-sampling has been conducted at that location). The most recent data collected at the site has been subjected to statistical analysis to evaluate whether the soil remediation objective has been achieved. A summary of the statistical evaluation which includes the most recent soil analytical data for a specific sample location is presented in TABLE II.

All of the soil analytical data collected at the site is presented in TABLE II including samples collected prior to and after remediation activities. The table is formatted with the oldest data on the left and the most recent data on the right. A description of the data set entered in each column is provided below with Area 1 used as an illustrative example.

AREA 1

This column contains data from the preliminary assessment completed by KEI in 1994.

AREA 1 REM

This column includes the data from the verification sampling conducted upon completion of remediation activities in 1994. For areas where soil remediation activities were not conducted, data from the preliminary assessment is carried over in this column.

AREA 1 FD

This column contains additional data from sampling conducted by Fluor/GTI in 1996 to determine current TPH levels. This re-sampling allowed previous sampling data to be eliminated from the data set. Data is carried over in a similar manner as described above.

AREA 1 APT

This column incorporates additional data from sampling conducted by APT in 1998 to determine current TPH levels. This column also contains data obtained by KEI during the Area 10 remediation, the Closure Investigation and carry over data. For many areas, this column contains the final data and statistics.

AREA 1 FINAL

This column contains data obtained by KEI after completion of remediation activities in areas where TPH levels above 2% were detected as well as carryover data. This column contains the final statistics for those areas where remediation was conducted in 1999.

CONCLUSIONS

The Harbor Island Station has been evaluated to ensure the remediation standards for soils and ground water at the site have been achieved. The remediation standards for the site were determined based on the nature of the contaminants and site specific conditions. The remediation standards were outlined in the July 15, 1994 approval letter from the RRC.

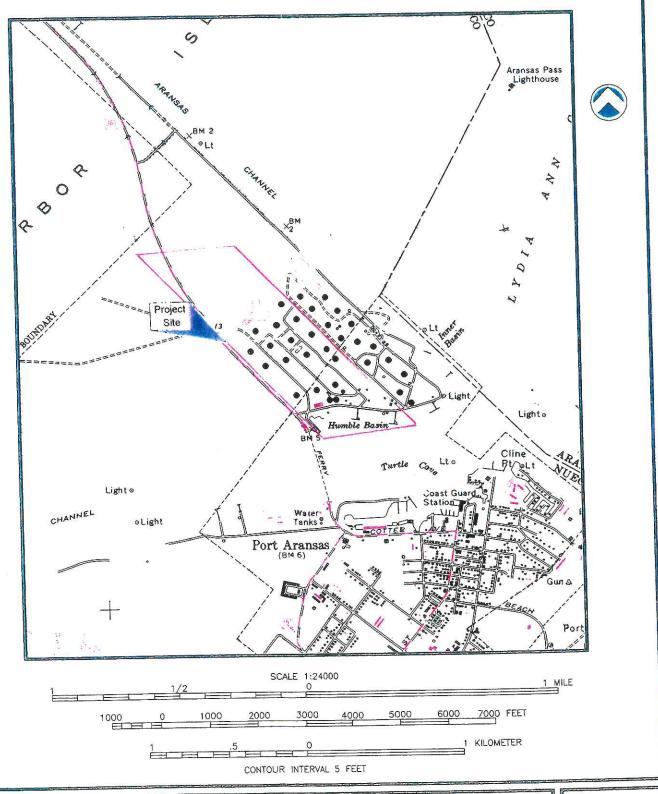
The area of impacted soils at the site was limited to on-site areas. The contaminants in soil consist of weathered/biodegradable long chain hydrocarbons which are not generally mobile in the environment. The concentrations of volatile and semi-volatile organic compounds detected at the site are negligible. No significantly elevated levels of metals and no PCBs were detected during site sampling activities. TPH concentrations in soil at the site are approaching 1% and continue to decrease through natural attenuation of the hydrocarbon constituents.

The area of impacted ground water at the site was limited to on-site areas. The shallow ground water at the site is not a usable source of water. All LNAPL has been removed from the ground water to a thickness of 0.01 feet or less. No detectable levels of benzene were observed in ground water samples obtained from the monitoring wells installed at the site.

In summary, the following conclusions are presented with respect to remediation of the former EPC Harbor Island Station site:

- TPH concentrations in soil are below or approaching 1% by weight,
- LNAPL has been removed from shallow ground water to a thickness of 0.01 feet or less,
- Remediation of the Harbor Island Station has been completed in accordance with the Remedial Action Plan approved by the RRC by letter dated July 15, 1994.

PORT ARANSAS QUADRANGLE TEXAS NUECES CO. LAT-27° 50'51" N LONG-97° 03'44" W PHOTOREVISED 1975





SITE LOCATION MAP

HARBOR ISLAND STATION

PORT ARANSAS, TEXAS

430003

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TABLE I

CLOSURE VERIFICATION STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

LOCATION	MAX (mg/kg)	MIN (mg/kg)	MEAN (mg/kg)	STDEV	N	TSTAT	DETECTS	95th UCL (mg/kg)
AREA-1	12,300	18	1,906	2,973	40	1.684	40	2,697
AREA-2	13,080	10	2,844	4,912	9	N/A	8	N/A
AREA 3	17,600	10	3,375	4,742	46	1.6792	43	4,549
AREA 4	10	10	10	N/A	1	N/A	1	N/A
AREA 5	13,200	10	3,786	4,830	25	1.708	20	5,436
AREA 6	3,050	11	560	22	26	1.7058	26	568
AREA 7	19,300	1,230	6,810	7,744	5	N/A	5	N/A
AREA 8	13,220	111	2,881	3,953	10	1.812	10	5,146
AREA 9	14,300	62	1,794	4,055	15	1.753	15	3,629
AREA 10	19,685	10	2,168	4,077	64	1.670	41	3,019
AREA 11	10,900	32	1,662	3,833	14	1.761	14	3,466
AREA 12	2,240	259	843	945	4	N/A	4	N/A
AREA 13	19,000	6	2,303	4,128	133	1.657	116	2,896
AREA 14	14,260	10	3,010	4,110	53	1.675	52	3,956
AREA 15	17,700	10	1,098	3,271	158	1.656	82	1,529
AREA 16	9,300	10	1,014	2,321	20	1.725	12	1,910
AREA 17	11,000	41	4,368	4,590	6	N/A	6	N/A
AREA 18	8,570	10	2,449	3,533	5	N/A	4	N/A
AREA 19	13,900	642	6,838	4,855	5	N/A	5	N/A
OTHER AREAS	6,400	26	964	1,615	41	1.6832	41	1,389

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 9	AREA	9 REM	AREA	9 FD	AREA	A 9 APT		
max	57,100	max	36,100	max	36,100	max	14,300		
min	67	min	67	min	67	min	62		
mean	17,641	mean	11,065	mean	8,423	mean	1,794		
stdev	21,856	stdev	14,489	stdev	13,186	stdev	4,055		
N	7	N	6	N	8	N	15		
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	1.753		
detect	7	detect		detect	8	detect	15		
95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A	95th UCL	3,629		

SOI	L DATA:		ARI	EA 9	AREA	9 REM	AREA	\ 9 FD	AREA	9 APT
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCS-1		2/18/94	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330
CS-7		2/21/94	36,100	36,100	36,100	36,100	36,100	36,100		
CS-7C		2/21/94	20,200	20,200	20,200	20,200	20,200	20,200		
PCS-2		2/18/94	57,100	57,100			-			
PCS-4		2/18/94	8,430	8,430	8,430	8,430	8,430	8,430	8,430	8,430
PCS-5		2/18/94	67	67	67	67	67	67	67	67
area 9-1	0-2	9/13/94	260	260	260	260	260	260	260	260
9-9-1A	1.5	7/18/96					315	315	315	315
9-9-1B	3	7/18/96					680	680	680	680
						}				
APT-9-1	0-2	3/1/98							62	62
9-1	3-5	3/1/98							67	67
9-2	0-2	3/1/98							65	65
9-2	4-6	3/1/98				ļ			127	127
9-3	0-2	3/1/98							260	260
9-3	4-6	3/1/98							158	158
9-4	0-2	3/1/98							561	561
9-4	2-4	3/1/98							227	227
CS-7C	3 - 3.5	2/17/99							14,300	14,300

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARI	EA 1	AREA	1 REM	ARE/	1 FD	AREA	1 APT	AREA 1	IFINAL
max	101,000	max	97,000	max	97,000	max	97,000	max	12,300
min	24	min	24	min	24	min	24	min	18
mean	26,892	mean	10,545	mean	11,116	mean	8,007	mean	1,793
stdev	38,551	stdev	22,488	stdev	21,943	stdev	18,936	stdev	2,859
N	12	N	26	N	28	N	36	N	44
tstat	1.782	tstat	1.7058	tstat	1.7014	tstat	1.6888	tstat	1.6808
detect	12	detect	26	detect	28	detect	36	detect	44
95th UCL	46,723	95th UCL	18,068	95th UCL	18,172	95th UCL	13,337	95th UCL	2,517

Sample Depth Location (feet) Date (mg/kg)	S	OIL DATA		AR	EA 1	AREA	1 REM	ARE	A 1 FD	AREA	1 APT	AREA	1 FINAL
Location (feet) Date (mg/kg) (mg/kg)	4			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated	L.ab	Calculated
AS-8 AS-8 AS-8 B	Sample	Depth		Results	Results								
AS-8B	Location	(feet)	Date	(mg/kg)	(mg/kg)								
AS-22A 953-3	AS-8		2/21/94	53,800	53,800	53,800	53,800	53,800	53,800	53,800	53,800		
953-3 2/21/94 138 138 138 138 138 138 138 138 138 138 138 138 138 36 36 36 36 36 36 36	AS-8B		2/21/94	24	24	24	24	24	24	24	24	24	24
951-3 2/21/94 36 36 36 36 36 36 36 3	AS-22A		3/1/94	284	284	284	284	284	284	284	284	284	284
953-2 953-4	953-3		2/21/94	138	138	138	138	138	138	138	138	138	138
953-4 AS-23A 951-2 953-1 2/21/94 101,000 101,000 953-1 2/21/94 79 79 79 79 79 79 79 79 79 79 79 79 79	951-3		2/21/94	36	36	36	36	36	36	36	36	36	36
AS-23A 951-2 971/94 230 230 230 230 230 230 230 230 230 230			2/21/94	28,700	28,700								
951-2 953-1 2/21/94 79 79 79 79 79 79 79 79 79 79 79 79 79	953-4		2/21/94	41,200	41,200								
953-1 AS-24A BS-19 2/21/94 79 79 79 79 79 79 79 79 79 79 79 79 79	AS-23A		3/1/94	230	230	230	230	230	230	230	230	230	230
AS-24A BS-19	951-2			101,000	101,000]
BS-19	953-1					79	79		79	79	1 1		1
area 1-1			3/1/94	209	209	209	209	209	209	209	209	209	209
area 1-2 2 to 4 9/1/94 26<	B S-19		2/28/94	97,000	97,000	97,000	97,000	97,000	97,000	97,000	97,000		
area 1-2 2 to 4 9/1/94 26<													
area 1-3 2 to 4 9/1/94 28,000 28,000 33		2 to 4	9/1/94			66		66	66	66	66	66	66
area 1-4 2 to 4 9/1/94 33<	area 1-2	2 to 4	9/1/94			26	26	26	26	26	26	26	26
area 1-5 2 to 4 9/1/94 10,600 10,600 <td>area 1-3</td> <td>2 to 4</td> <td>9/1/94</td> <td></td> <td></td> <td>28,000</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	area 1-3	2 to 4	9/1/94			28,000							
area 1-6 2 to 4 9/1/94 853 513	area 1-4	2 to 4	9/1/94			33	33	33	33	33	33	33	33
area 1-7 2 to 4 9/1/94 513	area 1-5	2 to 4	9/1/94			10,600	10,600	10,600	10,600	10,600	10,600	10,600	10,600
area 1-8 area 1-8 area 1-9 2 to 4 9/1/94 area 1-9 3 to 4 9/1/94 area 1-10 3 to 4 9/1/94 area 1-10 3 to 4 9/1/94 area 1-10 28,000 28,000 28,000 28,000 28,000 28,000 28,000 2,100	area 1-6	2 to 4	9/1/94			853	853	853	853	853	853	853	853
area 1-9 3 to4 9/1/94 37,300 37,300 2,100 100 100 100 100 100 100 100 100 100 100	area 1-7	2 to 4	9/1/94			513	513	513	513	513	513	513	513
area 1-10 3 to 4 9/1/94 2,100 100 100 100 100 100 100 100 100 100 100 100 12,300 12,300 12,300 12,300 <td>area 1-8</td> <td>2 to 4</td> <td>9/1/94</td> <td></td> <td></td> <td>28,000</td> <td>28,000</td> <td>28,000</td> <td>28,000</td> <td>28,000</td> <td>28,000</td> <td></td> <td>:</td>	area 1-8	2 to 4	9/1/94			28,000	28,000	28,000	28,000	28,000	28,000		:
area 1-11 3 to 4 9/1/94 173 126 1230 12,300 <td>area 1-9</td> <td>3 to4</td> <td>9/1/94</td> <td></td> <td></td> <td>37,300</td> <td>37,300</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>•</td>	area 1-9	3 to4	9/1/94			37,300	37,300						•
area 1-12 3 to 4 9/1/94 126 12300 12,300 12,300 12,300 12,300 <	area 1-10	3 to 4	9/1/94			2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
area 1-13 3 to 4 9/1/94 100 12,300	area 1-11	3 to 4	9/1/94			173	173	173	173	173	173	173	173
area 1-14 3 to 4 9/1/94 12,300 450 450 450 450 450 450 450 450 450 450 450 1,080 1,080 1,080 1,080 1,080 1,080 1,080 1,080 1,080 1,080 640 <td>area 1-12</td> <td>3 to 4</td> <td>9/1/94</td> <td>ŀ</td> <td></td> <td>126</td> <td>126</td> <td>126</td> <td>126</td> <td>126</td> <td>126</td> <td>126</td> <td>126</td>	area 1-12	3 to 4	9/1/94	ŀ		126	126	126	126	126	126	126	126
area 1-15G 0 to 2 9/14/94 450 1,080 1,080 1,080 1,080 1,080 1,080 1,080 1,080 1,080 640	area 1-13	3 to 4	9/1/94			100	100	100	100	100	100	100	100
area 1-16G	area 1-14	3 to 4	9/1/94			12,300	12,300	12,300	12,300	12,300	12,300	12,300	12,300
area 1-17	area 1-15G	0 to 2	9/14/94			450	450	450	450	450	450	450	450
1-1-9A 2 7/17/96 19,700 19,700	area 1-16G	0 to 2	9/14/94			1,080	1,080	1,080	1,080	1,080	1,080	1,080	1,080
1-1-9A 2 7/17/96 19,700 19,700	area 1-17	0-2	9/14/94			640	640	640	640	640	640	640	640
	1												
	1-1-9A	2	7/17/96			•		19,700	19,700				
1 1-1-9B 3.5 7/17/96 	1-1-9B	3.5	7/17/96			•		13,500	13,500				
1-1-2A 2 7/16/96 42,900 42,900	1-1-2A	2	7/16/96										
1-1-2B 5 7/16/96 26,300 26,300	1-1-2B	5	7/16/96					26,300					

TABLE!

so	IL DATA:		AR	EA1	AREA	1 REM	AREA	A 1 FD	AREA	1 APT	AREA	1 FINAL
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
APT-1-9	0-2	3/1/98							4,600	4,600	4,600	4,600
APT-1-9	2~4	3/1/98							872	872	872	872
APT-1-3	0-2	3/1/98							3,230	3,230	3,230	3,230
APT-1-3	2-4	3/1/98							8,080	8,080	8,080	8,080
APT-1-8	0-2	3/1/98							4,420	4,420	4,420	4,420
APT-1-8	2-4	3/1/98							3,450	3,450	3,450	3,450
APT-951	0-1	3/1/98							960	960	960	960
APT-951	1-2	3/1/98							175	175	175	175
0.50		0/4/00							000	200	000	000
953	0-1	3/1/98							209	209	209	209
953	2-3	3/1/98							1,305	1,305	1,305	1,305
40.0	2 - 2.5	2/17/99							< 10.8	< 10.8		
AS-8	2 - 2.5	2/11/99							10.0	10.0		
BS-19	5 - 5.5	2/17/99							28,400	28,400		
03-19	3 - 3.5	2/17/33							20,400	20,100		·
BS19-B	0-1	4/8/99									21	21
BS19-B2	0-1	4/13/99									18	18
BS19-S	0-1	4/12/99									1,800	1,800
BS19-S2	0-1	4/13/99	l	•							375	375
B\$19-N	0-1	4/12/99									671	671
B\$19-N2	0-1	4/13/99	l		Ì						191	191
BS19-W	0-1	4/12/99									1,550	1,550
BS19-E	0-1	4/13/99									1,400	1,400
1-8-W	0-1	4/2/99			1						35	35
1-8-E	0-1	4/2/99	Ì								7,450	7,450
1-8-S	0-1	4/2/99									3,300	3,300
1-8-N	0-1	4/2/99							23,700	23,700		
1-8-NA	0-1	4/6/99		į							907	907
1-8-B	0-1	4/2/99			Ī						3,800	3,800
			<u> </u>			<u> </u>				L		<u></u>

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 2	AREA	2 REM	AREA	2 FD	AREA	2 APT
max	84,000	max	47,700	max	47,700	max	13,080
	32,000	min	10	min	10	min	10
	54,567	mean	13,344	mean	7,227	mean	2,354
	26,671		21,124	stdev	17,867	stdev	4,527
N		N	6	N	7	N	11
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	1.796
detect		detect		detect	6	detect	10
95th UCL		95th UCL	#N/A	95th UCL	#N/A	95th UCL	4,805

SOL	L DATA:	ſ	ARI	EA 2	AREA	2 REM	AREA	\ 2 FD	AREA	2 APT
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
1798-1		2/21/94	32,000	32,000	32,000	32,000		ļ		1
BS-26		2/28/94	84,000	84,000						
1354-1		2/21/94	47,700	47,700	47,700	47,700	47,700	47,700		
						[2.0
area 2-1	2 to 4	8/31/94			240	240	240	240	240	240
area 2-2	2 to 4	8/31/94			99	99	99	99	99	99
area 2-3	2 to 4	8/31/94		!	13	13	13	13	13	13
area 2-4	2 to 4	8/31/94			nd	10	nd	10	nd	10
							İ			
2-1798-3	1.5	7/18/96					2,340	2,340	2,340	2,340
FD-2-2-5	2	7/18/96					184	184	184	184
1							1	1	400	192
APT-1798	0-1	3/1/98	1	İ					192	
APT-1798	1-2	3/1/98							9,440	9,440
APT-1798-W	1-2	3/1/98	1			ļ			13,080	13,080
			ļ		1	1			160	160
1355	0-1	3/1/98		1						
1355	1-2	3/1/98							135	135
1	1		Į	1				i		<u> </u>

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 3	AREA	3 REM	AREA	3 FD	AREA	3 APT	AREA	3 FINAL
max	191,000	max	38,900	max	40,900	max	40,100	max	17,600
min	1,160	min	10	min	10	min	10	min	10
mean	59,923	mean	11,188	mean	7,844	mean	6,305	mean	3,375
stdev	72,247	stdev	12,736	stdev	10,675	stdev	9,163	stdev	4,742
N	7	N	28	N	34	N	39	N	46
tstat	#N/A	tstat	1.7014	tstat	1.6914	tstat	1.6852	tstat	1.6792
detect	7	detect	25	detect	31	detect	36	detect	43
95th UCL	#N/A	95th UCL	15,283	95th UCL	10,941	95th UCL	8,778	95th UCL	4,549

SOL	L DATA:		ARE	A 3	AREA	3 REM	AREA	3 FD	AREA	3 APT	AREA	3 FINAL
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PAS-8		2/15/94	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160	1,160
PAS-9A		2/21/94	125,000	125,000								
PAS-8A		2/21/94	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
PAS-15		2/15/94	54,300	54,300								
PAS-21A		2/21/94	191,000	191,000								
PAS-22		2/15/94	35,700	35,700								
PBS-2A		2/25/94	11,000	11,000								
area 3-1	2 to 4	9/1/94			66	66	66	66	66	66	66	66
area 3-2	2 to 4	9/1/94			8,530	8,530	8,530	8,530	8,530	8,530	8,530	8,530
area 3-3	2 to 4	9/1/94			9,060	9,060	9,060	9,060	9,060	9,060	9,060	9,060
area 3-4	2 to 4	9/1/94			38,900	38,900						
area 3-5	2 to 4	9/1/94			9,860	9,860	9,860	9,860	9,860	9,860	9,860	9,860
area 3-6	2 to 4	9/1/94			30,600	30,600						
area 3-7	2 to 4	9/1/94			460	460	460	460	460	460	460	460
area 3-8	2 to 4	9/1/94			413	413	413	413	413	413	413	413
area 3-9	2 to 4	9/1/94			1,740	1,740	1,740	1,740	1,740	1,740	1,740	1,740
area 3-10	3 to 4	9/1/94			30,600	30,600	30,600	30,600	30,600	30,600		
area 3-11	3 to 4	9/1/94			5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400
area 3-12	3 to 4	9/1/94			13,400	13,400	13,400	13,400	13,400	13,400	13,400	13,400
area 3-13	3 to 4	9/1/94			7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
area 3-14	3 to 4	9/1/94			166	166	166	166	166	166	166	166
area 3-15	3 to 4	9/1/94			206	206	206	206	206	206	206	206
area 3-16	3 to 4	9/1/94			25,900	25,900	25,900	25,900	25,900	25,900		
area 3-17	3 to 4	9/1/94			33,000	33,000	33,000	33,000		,	į	
area 3-18	3 to 4	9/1/94			36,500	36,500						
area 3-19	3 to 4	9/1/94			16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000
area 3-20	3 to 4	9/1/94			14,100	14,100	14,100	14,100	14,100	14,100	14,100	14,100
area 3-21	3 to 4	9/1/94			17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600
area 3-22R	4.5	9/14/94			70	70	70	70	70	70	70	70
area 3-22G	3 to 4	9/12/94			nd	10	nd	10	nd	10	nd	10
area 3-23	3 to 4	9/12/94			nd	10	nd	10	nd	10	nd	10
area 3-24	3 to 4	9/12/94		<u> </u>	nd	10	nd	10	nd	10	nd	10
area 3-25	3 to 4	9/12/94	<u> </u>		11,200	11,200	11,200	11,200	11,200	11,200	11,200	11,200

	soil	L DATA:	l	ARE	A 3	AREA	3 REM	AREA	4 3 FD	AREA	3 APT	AREA:	FINAL
ľ				Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
	Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
	Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
ı													
1	3-3-4A	2	7/16/96					5,000	5,000	5,000	5,000	5,000	5,000
- 1	3-3-4B	4	7/16/96					147	147	147	147	147	147
-1	3-3-6A	2	7/17/96					2,640	2,640	2,640	2,640	2,640	2,640
Į	3-3-6B	4	7/17/96					234	234	234	234	234	234
1	3-3-22A	2	7/17/96					6,040	6,040	6,040	6,040	6,040	6,040
Í	3-3-22B	4	7/17/96					303	303	303	303	303	303
	3-3 - 18A	2	7/17/96					2,110	2,110	2,110	2,110	2,110	2,110
į	3-3-18B	4	7/17/96					2,070	2,070	2,070	2,070	2,070	2,070
1	3-3-26	3	7/17/96					40,900	40,900				
1													
	APT-3-10	0-2	3/1/98							209	209	209	209
	APT-3-10	4-6	3/1/98							1,170	1,170	1,170	1,170
ı	APT-3-18	0-2	3/1/98							1,820	1,820	1,820	1,820
1	APT-3-18	3-5	3/1/98		!					3,200	3,200	3,200	3,200
	APT-3-26	0-2	3/1/98							<25	<25	<25	<25
Ĺ	APT-3-26	3-5	3/1/98]					4,920	4,920	4,920	4,920
					•								1
	3-10	5.5 - 6	2/17/99							1,680	1,680	1	
	3-16	5 - 5.5	2/17/99							40,100	40,100		
										İ			
	3-16W]	4/6/99									2,650	2,650
	3-16-W2	1	4/8/99									1,900	1,900
ı	3-16-B		4/8/99									71	71
	3-16-B2		4/8/99							ŀ		36	36
j	3-16-B3	ļ	4/8/99									383	383
١	3-16-B4		4/8/99					1				411	411
	3-16-N		4/8/99									73	73 850
	3-16-E		4/8/99									850	850 86
1	3-16-E2		4/8/99							1		86 26	26
ļ	3-16-S	1	4/8/99	1								26	
	3-16-S2		4/8/99									1,150	1,150
į			<u> </u>	<u> </u>	<u> </u>	L	<u> </u>	<u> </u>	1	L	<u> </u>	<u> </u>	<u> </u>

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

AR	EA 4	AREA	4 REM	AREA	4 FD	AREA	4 APT
max	46,200	max	46,200	max	46,200	max	10
min	46,200	min	46,200	min	46,200	min	10
mean	46,200	mean	46,200	mean	46,200	mean	10
stdev	#DIV/0!	stdev	#DIV/0!	stdev	#DIV/0!	stdev	#DIV/0!
N	t	N	1 .	N	1	N	1
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	#N/A
detect	1	detect	1	detect	1	detect	0
95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A

so	IL DATA:		AREA 4		AREA	4 REM	AREA 4 FD		AREA 4 APT	
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PAS-3		2/15/94	46,200	46,200	46,200	46,200	46,200	46,200		
PAS-3	3.5 - 4	2/17/99			:				ND	10

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	EA 5	AREA	5 REM	AREA	\ 5 FD	AREA	5 APT	AREA!	FINAL
max	44,100	max	87,300	max	44,100	max	44,100	max	13,020
min	505	min	10	min	10	min	10	min	10
mean	23,835	mean	15,179	mean	11,790	mean	7,858	mean	3,786
stdev	21,959	stdev	24,256	stdev	14,455	stdev	11,221	stdev	4,830
N	3	N	15	N	19	N	23	N	25
tstat	#N/A	tstat	1.753	tstat	1.729	tstat	1.714	tstat	1.708
detect	3	detect	13	detect	17	detect	18	detect	20
95th UCL	#N/A	95th UCL	26,158	95th UCL	17,524	95th UCL	11,868	95th UCL	5,436

	SOIL	. DATA:		ARI	EA 5	AREA	5 REM	AREA	\ 5 FD	AREA	5 APT	AREA	5 FINAL
				Lab	Calculated	Lab	Calculated	Lab	Caiculated	Lab	Calculated	Lab	Calculated
÷	Sample	Depth	,	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
3	Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
	PBS-2B		2/21/94	505	505	505	505	505	505	505	505	505	505
	PBS-6		2/16/94	26,900	26,900	26,900	26,900	26,900	26,900	26,900	26,900		
1	PBS-8		2/16/94	44,100	44,100	44,100	44,100	44,100	44,100	44,100	44,100		
1													
	area 5-1	3 to 5	8/30/94			386	386	386	386	386	386	386	386
	area 5-2	3 to 5	8/30/94			13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000
	area 5-3	3 to 5	8/30/94			32,800	32,800	32,800	32,800				i I
:	area 5-4	3 to 5	8/30/94			9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000
-	area 5-5	3 to 5	8/30/94			87,300	87,300						
1	area 5-6	3 to 5	8/30/94			6,950	6,950	6,950	6,950	6,950	6,950	6,950	6,950
	area 5-7	3 to 5	8/30/94			660	660	660	660	660	660	660	660
	area 5-8	3 to 5	8/30/94			630	630	630	630	630	630	630	630
ı	area 5-9	3 to 5	8/30/94			5,300	5,300	5,300	5,300	5,300	5,300	5,300	5,300
]	area 5-10	3 to 4	8/30/94			nd	10	nd	10	nd	10	nd	10
	area 5-11	3 to 4	8/30/94			130	130	130	130	130	130	130	130
	area 5-12	3 to 4	8/30/94			nd	10	nd	10	nd	10	nd	10
1	5-5-5A	2	7/18/96		-			305	305	305	305	305	305
i	5-5-5A 5-5-5B	5	7/18/96					40,300	40,300	000		000	
1	FD-5-5-3	3	7/18/96					11,300	11,300	11,300	11,300	11,300	11,300
ı	5-5-13A	2	7/18/96 7/18/96					9,730	9,730	11,500	11,000	11,000	11,500
j.	5-5-13B	5	7/18/96					22,000	22,000				
	3-3-130	,	1710/30					22,000	22,000				
	APT-5-5	0-2	3/1/98							830	830	830	830
	APT-5-5	2-4	3/1/98							12,990	12,990	12,990	12,990
	APT-5-3	0-2	3/1/98							ND	25	ND	25
	APT-5-3	3-5	3/1/98							13,020	13,020	13,020	13,020
	APT-5-13	0-2	3/1/98							ND	25	ND	25
	APT-5-13	3-5	3/1/98							9,340	9,340	9,340	9,340
													'
	PBS-6	4.5 - 5	2/17/99	ł						ND	10	ND	10
	PBS-8	4.5 - 5	2/17/99							25,300	25,300		
	PBS8-B		4/2/99									354	354
	PBS8-S		4/2/99	1								2,650	2,650
١	PBS8-W		4/2/99							ļ		5,050	5,050
	PBS8-E	,	4/2/99									214	214
	PBS-8N		4/2/99						,			1,950	1,950
į	**-*			<u> </u>									

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	EA 6	AREA	6 REM	ARE/	6 FD	AREA	6 APT	AREA	FINAL
max	29	max	60	max	70,700	max	45,370	max	3,050
min	29	min	29	min	29	min	29	min	11
mean	29	mean	45	mean	23,596	mean	25,102	mean	560
stdev	#DIV/0!	stdev	22	stdev	40,793	stdev	18,228	stdev	22
N	1	N	2	N	3	N	10	N	26
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	1.812	tstat	1.7058
detect	1	detect	2	detect	3	detect	10	detect	26
95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A	95th UCL	35,547	95th UCL	568

	SOIL	L DATA:	ĺ	AR	EA 6	AREA	6 REM	AREA	A 6 FD	AREA	6 APT	AREA	FINAL
Γ	· iii · · · · · ·			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
	Sample	Depth		Results	Results	Results	Resuits	Results	Results	Results	Results	Results	Results
	Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
ſ	952-3		2/15/98	29	29	29	29	29	29	29	29	29	29
	area 6-1	0 to 2	9/13/94			60	60	60	60	60	60	60	60
		_ *											
•	6-952-3	3	7/18/96					70,700	70,700				
	0.4	0.4	3/1/98							21,070	21,070		
-	6-1 6-1	0-1 1-2	3/1/98							32,530	32,530		
	6-2	0-1	3/1/98							45,370	45,370		ļ
	6-2	1-2	3/1/98							18,930	18,930		
ı	6-3	1-2	3/1/98							41,130	41,130		
		'	G, 1, 00							, ,,,,,,,	.,,,,,,,,,,		
	APT-6-1	1.5 - 2	2/17/99							17,400	17,400		
1	APT-6-2	1.5 - 2	2/17/99							36,800	36,800		
. 1	APT-6-3	1.5 - 2	2/17/99							37,700	37,700		
	:]				
[APT6-2S	0-1	4/12/99									< 10.0	< 10.0
]	APT6-2B	0-1	4/8/99									28	28
. :	APT6-2B2	0-1	4/9/99									29	29
1	APT6-2B3	0-1	4/12/99						1			27	27
ı	APT6-2B4	0-1	4/12/99									11	11
	APT6-2E	0-1	4/9/99									33	33
1	APT6-2E2	0-1	4/9/99									2,450	2,450
-	APT6-2E3	0-1	4/12/99									13	13
	APT6-2N	0-1	4/13/99									21	21
1	ADTO OO		4/0/00									3,050	2 050
	APT6-3S	0-1	4/8/99 4/8/99		ļ							3,050 564	3,050 564
	APT6-3W APT6-3W2	0-1 0-1	4/8/99 4/9/99	:								29	29
ı	APT6-3W2 APT6-3W3	0-1	4/9/99 4/9/99		1							29 29	29
	APT6-3W4	0-1	4/9/99	İ	1							51	51
:	APT6-3W5	0-1	4/9/99	1		l		i				2,400	2,400
ı	. 74 10-3445	J - 1	710100									2, 100	
9		1	T		1	P	1	Ē	,	§	1	R	L

<u>-</u>	SOIL	L DATA:		ARI	EA 6	AREA	6 REM	AREA	4 6 FD	AREA	6 APT	AREA (FINAL
Γ				Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
ı	Sample	Depth		Results	Results								
	Location	(feet)	Date	(mg/kg)	(mg/kg)								
Γ	APT6-3E	0-1	4/13/99			•						211	211
1	APT6-3N	0-1	4/13/99									2,600	2,600
	АРТ6-3-В	0-1	4/8/99									2,050	2,050
-	APT6-3B2	0-1	4/8/99									63	63
	APT6-3B3	0-1	4/8/99									31	31
	APT6-3B4	0-1	4/8/99									21	21
1	APT6-3B5	0-1	4/8/99						-			700	700
1	APT6-3B6	0-1	4/8/99									29	29
1	APT6-3B7	0-1	4/8/99									15	15
1	APT6-3B8	0-1	4/8/99									26	26
L													

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

AR	A 7	AREA	7 REM	AREA	7 FD	AREA	7 APT
max	40,700	max	40,700	max	40,700	max	19,300
min	9,400	min	9,400	min	1,230	min	1,230
mean	25,050	mean	25,050	mean	11,090	mean	6,810
stdev	22,132	stdev	22,132	stdev	16,888	stdev	7,744
N	2	N	2	N	5	. N	5
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	#N/A
detect	2	detect	2	detect	5	detect	5
95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A

SOIL	DATA:		AR	EA 7	AREA	7 REM	AREA	17 FD	AREA	7 APT
		·	Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PBS-25		2/16/94	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400
PBS-32		2/16/94	40,700	40,700	40,700	40,700	40,700	40,700		
FD-7-PBS-19A	1 - 1.5	7/18/96					1,390	1,390	1,390	1,390
FD-7-PBS-19B	2.5 - 3	7/18/96					2,730	2,730	2,730	2,730
FD-7-PBS-19C	2.5 - 3	7/18/96					1,230	1,230	1,230	1,230
55.00		0/17-19-5							40.000	10.000
PBS-32	5 - 5.5	2/17/99							19,300	19,300

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	EA 8	AREA	8 REM	AREA	8 FD	AREA	8 APT
max	55,800	max	18,900	max	63,400	max	13,220
min	55,800	min	725	min	725	min	111
mean	55,800	mean	6,452	mean	15,670	mean	2,881
stdev	#DIV/0!	stdev	7,393	stdev	22,652	stdev	3,953
N	1	N	7	N	8	N	10
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	1.812
detect	1	detect	7	detect	8	detect	10
95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A	95th UCL	5,146

SOIL	DATA:	1	ARI	EA8	AREA	8 REM	AREA	1 8 FD	AREA	8 APT
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
1351-1		2/21/94	55,800	55,800						
1										
area 8-1	0-2	12/9/94			4,310	4,310	4,310	4,310	4,310	4,310
area 8-2	0-2	12/9/94			2,840	2,840	2,840	2,840	2,840	2,840
area 8-3	0-2	12/9/94			767	767	767	767	767	767
area 8-4	0-2	12/9/94			18,900	18,900				
area 8-5	0-2	12/9/94			2,520	2,520	2,520	2,520	2,520	2,520
area 8-6	0-2	12/9/94			725	725	725	725	725	725
area 8-7	0-2	12/9/94			15,100	15,100	15,100	15,100		
1										
8-8-4A	1.5	7/18/96					63,400	63,400		
8-8-4B	3	7/18/96					35,700	35,700		
										1
APT-8-4	0-2	3/1/98							275	275
APT-8-4	2-3	3/1/98							3,825	3,825
APT-8-7	0-2	3/1/98							219	219
APT-8-7	3-5	3/1/98							111	111
APT- 8-7-A	0-2	3/1/98			1				13,220	13,220
i			1					<u> </u>		

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	EA 10	AREA 1	10 REM	AREA	10 FD	AREA	10 APT
max	74,400	max	60,900	max	60,900	max	19,685
min	2,660	min	10	min	10	min	10
mean	34,831	mean	13,348	mean	14,472	mean	2,168
stdev	28,957	stdev	16,198	stdev	16,428	stdev	4,077
N	9	N	44	N	49	N	64
tstat	#N/A	tstat	1.6808	tstat	1.6768	tstat	1.6694
detect	9	detect	43	detect	48	detect	41
95th UCL	#N/A	95th UCL	17,453	95th UCL	18,408	95th UCL	3,019

	sc	OIL DATA:		ARE	A 10	AREA :	O REM	AREA	10 FD	AREA 10 APT	
				Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sa	ample	Depth	•	Results	Results	Results	Results	Results	Results	Results	Results
Loc	cation	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PE	3S-38		2/21/94	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660
1	S-34B		2/21/94	60,900	60,900	60,900	60,900	60,900	60,900	·	•
PC	CC-1A		2/21/94	6,260	6,260	6,260	6,260	6,260	6,260	6,260	6,260
P	CC-2		2/21/94	23,400	23,400						
P	CC-7		2/25/94	70,000	70,000						:
P	CC-4		2/21/94	24,500	24,500						
PC	CC-5A		2/21/94	47,700	47,700						
P(CC-6		2/17/94	74,400	74,400						
P	CC-5		2/17/94	2,660	2,660	2,660	2,660	2,660	2,660	2,660	2,660
1			0(10101				200	222	000	222	222
	a 10-1	0-2	9/13/94			680	680	680	680	680	680
	a 10-2	0-2	9/13/94			1,900	1,900	1,900	1,900	1,900	1,900
	a 10-3	0-2	9/13/94			nd 040	10	nd 340	10 340	nd 340	10 340
1	a 10-4	0-2	9/13/94			340	340				
	a 10-5 a 10-6	0-2 0-2	9/13/94 9/13/94			2,100 49,300	2,100 49,300	2,100	2,100	2,100	2,100
	a 10-6	0-2 0-2	9/13/94			2,600	2,600	2,600	2,600		
E .	a 10-7	0-2	9/13/94			2,600 26	2,000	2,000	2,000	26	26
'É	a 10-9	0-2	9/13/94			12,200	12,200	12,200	12,200	20	20
	a 10-9	0-2 0-2	9/13/94			1,460	1,460	1,460	1,460	1,460	1,460
	a 10-10	0-2	9/13/94			70	70	70	70	70	70
	a 10-11	0-2	9/13/94			18,100	18,100	18,100	18,100	'	, 0
I .	a 10-13	0-2	9/13/94			16,300	16,300	16,300	16,300		
i i	a 10-14	0-2	9/13/94			6,900	6,900	6,900	6,900	6,900	6,900
1	a 10-15	0-2	9/13/94			9,800	9,800	9,800	9,800	0,-00	5,555
	a 10-16	0-2	9/13/94			41,800	41,800	.,	,		
	a 10-17	0-2	9/13/94			9,300	9,300	9,300	9,300		
	a 10-18	0-2	9/13/94			390	390	390	390		
1	a 10-19	0-2	9/13/94			11,200	11,200	11,200	11,200		
	a 10-20	0-2	9/13/94			36,300	36,300	36,300	36,300	36,300	
	a 10-21	0-2	9/13/94			35,500	35,500	35,500	35,500		
- 6	a 10-22	0-2	9/13/94			46,600	46,600				
i i	a 10-23	0-2	9/13/94			26,100	26,100	26,100	26,100		
	a 10-24	0-2	9/13/94			13,800	13,800	13,800	13,800		
	a 10-25	0-2	9/13/94			42,400	42,400	42,400	42,400		
area	a 10-26	0-2	9/13/94			19,500	19,500	19,500	19,500		

	so	OIL DATA:		ARE	A 10	AREA ⁻	10 REM	AREA	10 FD	AREA	10 APT
I				Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
	Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
	Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
ı	area 10-27	0-2	9/13/94		, y y,	290	290	290	290	(11.9/1.19)	(//19/119)
	area 10-28	0-2	9/13/94			90	90	90	90		
	area 10-29	0-2	9/13/94			28,500	28,500	28,500	28,500		
	area 10-30	0-2	9/13/94			1,700	1,700	1,700	1,700		
ı	area 10-31	0-2	9/13/94			4,900	4,900	4,900	4,900		
١	area 10-32	0-2	9/13/94		:	6,900	6,900	6,900	6,900		
١	area 10-33	0-2	9/13/94			22,600	22,600	22,600	22,600		
	area 10-34	0-2	9/13/94			28,000	28,000	28,000	28,000		
	area 10-35	0-2	9/13/94			6,300	6,300	6,300	6,300		
	area 10-36	0-2	9/13/94			110	110	110	110		
	area 10-37	0-2	9/13/94			1,070	1,070	1,070	1,070		
	area 10-38	0-2	9/13/94			2,120	2,120	2,120	2,120		
	area 10-39	0-2	9/13/94			5,800	5,800	5,800	5,800		
-	area 10-40	0-2	9/13/94			790	790	790	790		
	10-10-6A	2	7/16/96					15,500	15,500		
	10-10-6B	4	7/16/96					22,600	22,600		
	10-10-16A	2	7/17/96					50,000	50,000		
	10-10-16B	4	7/17/96					43,800	43,800		
	10-10-22A	2	7/17/96					54,800	54,800		
	10-10-22B	4	7/17/96					25,700	25,700		
ı	10-10-25A	2	7/17/96					7,720	7,720		
I	10-10-25B	4	7/17/96					39,400	39,400		
	EV-1	12	10/14/97							ND	10
	EV-2	12	10/15/97							ND	10
ļ	EV-3	12	10/16/97							ND	10
	EV-4	12	10/16/97							ND	10
	EV-5	13	10/17/97							2,200	2,200
	EV-6 RE	13	10/20/97							3,200	3,200
ı	EV-7 RE	13	10/20/97							ND	10
١	EV-8 EV-9	12	10/20/97							2,550	2,550
ı	EV-9 EV-10	12	10/21/97							7,460	7,460
l	EV-10 EV-11	12	10/21/97 10/22/97							25,800	40
Ì	EV-11	12 12	10/22/97							ND	10 10
	EV-12	12	10/23/97	1						ND 45	10 45
·	EV-13	12	10/24/97							45 ND	45 10
	EV-15	12	10/24/97							ND	10
	EV-15	12	10/25/97			ļ				ND	10
ı	EV-17B	14	10/27/97							ND 5 100	10
1	EV-17B	15	10/27/97							5,100	5,100
	EV-17D	16	10/27/97					1		ND	10
	EV-17D EV-17E	17	10/28/97							ND	10
٠ ;	EV-17E	12	10/28/97							ND 401	10
	EV-18	12	10/28/97							491	491
	EV-20	12	10/29/97							3,160 ND	3,160
1											10
L	EV-21	12	10/29/97							690	690

SOIL	DATA:	ΔΒΙ	EA 10						
		Lab	Calculated		10 REM	AREA	10 FD	AR	EA 10 APT
Location (Depth (feet) Date 12 11/5/97	Results (mg/kg)	Results (mg/kg)	Lab Results (mg/kg)	Calculated Results (mg/kg)	Lab Results (mg/kg)	Calculated Results	Lab Results	Calcula Resul
EV-23 EV-24 EV-25 EV-26 EV-27C EV-28 EV-29 EV-30 EV-31 EV-32 EV-32 1	12							(mg/kg 101 ND 6,560 71 1,160 34 ND ND ND ND ND ND 446 79 ND 63 54 100 <25 13,350 11,040 19,685 25,030 7,590 7,970 3,160 154 ND ND ND ND ND ND ND ND ND ND	(mg/kg 101 10 6,560 71 1,160 34 10 10 10 10 10 446 79 10 63 54 100 <25 13,350 11,040 19,685 7,590 7,970 3,160 154 10 15,900 10 10

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 11	AREA	11 REM	AREA 11	FD	AREA 11	APT
max	78,200	max	78,200	max	78,200	max	10,900
min	40	mìn	32	min	32	min	32
mean	50,680	mean	15,902	mean	14,592	mean	1,662
stdev	43,911	stdev	30,016	stdev	28,977	stdev	3,833
N	3	N	11	N	12	N	14
tstat	#N/A	tstat	1.796	tstat	1.782	tstat	1.761
detect	3	detect		detect		detect	10
95th UCL	#N/A	95th UCL	32,156	95th UCL	29,498	95th UCL	3,466

SOIL	SOIL DATA:		AREA 11		AREA 11 REM		AREA 11	FD	AREA 11 APT	
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
DS-46		2/28/94	40	40	40	40	40	40	40	40
DS-4		2/21/94	73,800	73,800	73,800	73,800	73,800	73,800	l	
DS-2		2/21/94	78,200	78,200	78,200	78,200	78,200	78,200	1	
										ĺ
area 11-1	0-2	12/9/94			620	620	620	620	620	620
area 11-2	0-2	12/9/94			10,500	10,500	10,500	10,500	10,500	10,500
area 11-3	0-2	12/9/94			10,900	10,900	10,900	10,900	10,900	10,900
area 11-4	0-2	12/9/94			200	200	200	200	200	200
area 11-5	0-2	12/9/94		i	253	253	253	253	253	253
area 11-6	0-2	12/9/94		ļ	95	95	95	95	95	95
area 11-7	0-2	12/9/94		1	279	279	279	279	279	279
area 11-8	0-2	12/9/94			32	32	32	32	32	32
FD-11-11-3	3	7/18/96					184	184	184	184
APT-11-1	0-2	3/1/98							ND	40
APT-11-1	2-4	3/1/98							ND	40
1										
DS-2	3.5 - 4	2/17/99							ND	40
DS-4	3 - 3.5	2/17/99							ND	40
	<u> </u>								<u> </u>	

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 12	AREA	12 REM	AREA 12	FD	AREA 12	APT
max	2,240	max	2,240	max	2,240	max	2,240
min	600	min	600	min	259	min	259
mean	1,420	mean	1,420	mean	843	mean	843
stdev	1,160	stdev	1,160	stdev	945	stdev	945
N	2	N	2	N	4	N	4
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	#N/A
detect	2	detect	2	detect	L	detect	4
95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A

SOIL	DATA:		AREA 12		AREA 12 REM		AREA 12 FD		AREA 12	APT
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
PCS-17A		2/25/94	600	600	600	600	600	600	600	600
PDS-5		2/18/94	2,240	2,240	2,240	2,240	2,240	2,240	2,240	2,240
12-12-2A	2	7/18/96] 	273	273	273	273
12-12-2B	4.5	7/18/96				•	259	259	259	259

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 13	AREA	13 REM	AREA	13 FD	AREA 13	APT
max	102,000	max	36,000	max	24,000	max	19,000
min	3,520	min	10	min	10	min	6
mean	45,691	mean	3,472	mean	2,746	mean	2,303
stdev	31,074	stdev	7,166	stdev	4,975	stdev	4,128
N	9	N	119	N	124	N	133
tstat	#N/A	tstat	1.65815	tstat	1.65768	tstat	1.65696
detect	9	detect	102	detect	107	detect	116
95th UCL	#N/A	95th UCL	4,561	95th UCL	3,487	95th UCL	2,896

SOII	L DATA:		ARE	A 13	AREA	13 REM	AREA	13 FD	AREA 13	APT
		·	Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
DS-37		2/22/94	102,000	102,000						
DS-28		2/22/94	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520
DS-21		2/22/94	43,700	43,700	:					
DS-35		2/22/94	13,000	13,000					[
DS-29		2/22/94	58,700	58,700				:		
DS-24		2/22/94	68,400	68,400	:					
DS-31		2/22/94	49,000	49,000						
DS-33		2/22/94	56,900	56,900						
DS-22		2/22/94	16,000	16,000						
483.4										
area 13A-1	6 to 8	9/15/94			60	60	60	60	60	60
area 13A-2	8 to 9	9/15/94			50	50	50	50	50	50
area 13A-3	9	9/15/94			930	930	930	930	930	930
area 13A-4	8 to 9	9/15/94			480	480	480	480	480	480
area 13A-5	8 to 9	9/15/94			110	110	110	110	110	110
area 13A-6	7.5	10/19/94			80	80	80	80	80	80
area 13A-7	7.5	10/19/94			110	110	110	110	110	110
area 13A-8	7	10/20/94			nd	10	nd	10	nd	6
area 13A-9	7	10/20/94			nd	10	nd	10	nd	6
area 13A-10	7	10/20/94			30	30	30	30	30	30
area 13A-11	7	10/20/94			140	140	140	140	140	140
area 13A-12	7	10/20/94			240	240	240	240	240	240
area 13A-13	7	10/20/94			120	120	120	120	120	120
area 13A-14	7	10/20/94			nd	10.	nd	10	nd	6
area 13B-1	7 to 8	9/15/94			980	980	980	980	980	980
area 13B-2	7 to 8	9/15/94			290	290	290	290	290	290
area 13B-3	7 to 8	9/15/94			190	190	190	190	190	190
area 13B-4	7 to 8	9/15/94			70	70	70	70	70	70
area 13C-1	10	9/15/94			60	60	60	60	60	60
area 13C-2	10	9/15/94			70	70	70	70	70	70
area 13C-3	10	9/15/94			60	60	60	60	60	60
area 13C-4	10	9/15/94			nd	10	nd	10	nd	6
area 13C-5	10	9/15/94			nd	10	nd	10	nd	6
13C-5B	7	10/20/94			50	50	50	50	50	50
area 13C-6	7	10/19/94			nd	10	nd	10	nd	6
area 13C-7	6	10/19/94			3,000	3,000	3,000	3,000	3,000	3,000

so	IL DATA	•	ARE	A 13	AREA	13 REM	AREA	13 FD	AREA 13 APT	
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
area 13C-8	6	10/19/94			2,200	2,200	2,200	2,200	2,200	2,200
area 13C-9	6	10/19/94	i .		6,700	6,700	6,700	6,700	6,700	6,700
area 13C-10	7	10/19/94			12,000	12,000	12,000	12,000	12,000	12,000
area 13D-2	7.5-8	9/15/94			60	60	60	60	60	60
area 13D-3	7.5-8	9/15/94		,	80	80	80	80	80	80
area 13D-4	7.5-8	9/15/94	ļ		40	40	40	40	40	40
area 13D-5	7.5-8	9/15/94			210	210	210	210	210	210
area 13D-7	4	9/23/94			103	103	103	103	103	103
area 13D-8	6	10/14/94			90	90	90	90	90	90
area 13D-9	. 6	10/14/94			80	80	80	80	80	80
area 13D-10	6	10/14/94			nd	10	nd	10	nd	6
area 13D-11	6	10/14/94			160	160	160	160	160	160
area 13D-12	6	10/17/94			140	140	140	140	140	140
area 13D-13	6	10/17/94			80	80	80	80	80	80
area 13D-14	6	10/17/94			430	430	430	430	430	430
area 13D-15	6	10/17/94			170	170	170	170	170	170
area 13E-2	6	9/29/94			220	220	220	220	220	220
area 13E-3	6	9/29/94			170	170	170	170	170	170
area 13E-5	6	9/29/94			220	220	220	220	220	220
area 13E-6	6	9/24/94			1,800	1,800	1,800	1,800	1,800	1,800
area 13E-8	5.5	10/4/94			150	150	150	150	150	150
area 13E-9	5.5	10/4/94			220	220	220	220	220	220
area 13E-10	5.5	10/4/94			190	190	190	190	190	190
area 13E-11	5.5	10/4/94			24,000	24,000	24,000	24,000		
area 13E-12	7	10/11/94			nd	10	nd	10	nd	6
area 13E-13	6	10/11/94			140	140	140	140	140	140
area 13E-14	6	10/11/94			370	370	370	370	370	370
area 13E-15	5.5	10/11/94			12,000	12,000	12,000	12,000	12,000	12,000
area 13F-4	5.5	10/5/94			100	100	100	100	100	100
area 13F-6	5.5	10/5/94			290	290	290	290	290	290
13F-6-F1	5 to 6	10/4/94		Ì	160	160	160	160	160	160
area 13F-7	6	10/5/94			350	350	350	350	350	350
area 13F-8	5.5	10/5/94			590	590	590	590	590	590
area 13F-9	6	10/5/94		1	320	320	320	320	320	320
area 13F-11	5.5	10/5/94		ŀ	410	410	410	410	410	410
area 13F-12	5.5	10/5/94	j		110	110	110	110	110	110
area 13F-13	5.5	10/5/94			370	370	370	370	370	370
area 13F-14	5.5	10/5/94		ĺ	370	370	370	370	370	370
area 13F-15	5.5	10/5/94	İ		1,090	1,090	1,090	1,090	1,090	1,090
13F16R	5	10/31/94	j	j	4,100	4,100	4,100	4,100	4,100	4,100
area 13F-17	5.5	10/7/94	ļ	i	31,000	31,000				ł
area 13F-18	6	10/28/94	-		30	30	30	30	30	30
area 13F-19	6.5	10/28/94		İ	3,900	3,900	3,900	3,900	3,900	3,900
13F-20	4.5	10/28/94		İ	3,100	3,100	3,100	3,100	3,100	3,100
area 13G-1	5.5	10/7/94		ĺ	170	170	170	170	170	170
area 13G-2	6	10/7/94			160	160	160	160	160	160
area 13G-3	5.5	10/10/94		-	100	100	100	100	100	100
area 13G-7	5.5	10/10/94		İ	nd	10	nd	10	nd	6

SOIL	. DATA:	I	ARE	A 13	AREA 1	13 REM	AREA	13 FD	AREA 13	APT
	1		Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
area 13G-13	5.5-6	10/14/94	3 3/	<u> </u>	310	310	310	310	310	310
area 13G-14	5.5	10/14/94			110	110	110	110	110	110
area 13G-15	6	10/17/94			140	140	140	140	140	140
area 13G-16	6	10/18/94		ļ.	120	120	120	120	120	120
area 13G-17	6	10/18/94			120	120	120	120	120	120
area 13G-18	6	10/18/94			3,200	3,200	3,200	3,200	3,200	3,200
area 13G-19	6	10/18/94			19,000	19,000	19,000	19,000	19,000	19,000
area 13G-20	6	10/18/94			24,000	24,000	•	,		·
area 13G-21	4.5	10/21/94			3,700	3,700	3,700	3,700	3,700	3,700
area 13G-22	4.5	10/21/94			9,400	9,400	9,400	9,400	9,400	9,400
area 13G-23	4.5	10/21/94			12,000	12,000	12,000	12,000	12,000	12,000
area 13G-24	4.5	10/21/94			440	440	440	440	440	440
area 13G-25	4.5	10/21/94			30	30	30	30	30	30
area 13G-26	4.5	10/21/94			640	640	640	640	640	640
area 13G-27	4.5	10/21/94			nd	10	nd	10	nd	6
area 13G-28	4.5	10/21/94			13,800	13,800	13,800	13,800	13,800	13,800
area 13G-29	4.5	10/21/94			310	310	310	310	310	310
area 13G-31	4.5	10/25/94			5,900	5,900	5,900	5,900	5,900	5,900
area 13G-32	4.5	10/25/94			12,600	12,600	12,600	12,600	12,600	12,600
area 13G-33	4.5	10/25/94			12,000	12,000	12,000	12,000	12,000	12,000
area 13G-34	4.5-5	10/25/94			33,000	33,000	,	,	,	,
area 13G-35	5	10/25/94			19,000	19,000	19,000	19,000	19,000	19,000
area 13G-36	5	10/25/94			7,600	7,600	7,600	7,600	7,600	7,600
area 13G-37	6	10/25/94			nd	10	nd	10	nd	6
area 13G-38	6	10/25/94			8,500	8,500	8,500	8,500	8,500	8,500
area 13G-39	6.5	10/25/94			20	20	20	20	20	20
area 13G-40	6.5	10/25/94			1,900	1,900	1,900	1,900	1,900	1,900
area 13G-41	3	10/25/94			11,000	11,000	11,000	11,000	11,000	11,000
area 13G-42	4	10/26/94			190	190	190	190	190	190
area 13G-43	5	10/26/94			8,200	8,200	8,200	8,200	8,200	8,200
area 13G-44	5.5	10/26/94			21,700	21,700	21,700	21,700		
area 13G-45	6	10/27/94			20	20	20	20	20	20
area 13G-46	3.5	10/27/94			9,900	9,900	9,900	9,900	9,900	9,900
area 13G-48	3.5	10/27/94		1	36,000	36,000	,	ļ '		
area 13G-49	4	10/27/94			12,000	12,000	12,000	12,000	12,000	12,000
area 13H-1	6	10/27/94			nd	10	nd	10	nd	6
area 13H-2	4.5	10/27/94			nd	10	nd	10	nd	6
area 13H-3	6	10/27/94			25	25	25	25	25	25
area 13H-4	6.5	10/27/94			nd	10	nd	10	nd	6
area 13H-5	6.5	10/27/94			nd	10	nd	10	nd	6
area 13H-6	7	10/27/94			nd	10	nd	10	nd	6
area 13H-7	8.5	10/27/94			nd	10	nd	10	nd	6
area 13H-8	8 8	10/27/94			6,700	6,700	6,700	6,700	6,700	6,700
•	1				35	35	35	35	35	35
area 13H-9	9	10/28/94			33	ا	33	33		
10 5 474		7/19/06					10,600	10,600	10,600	10,600
13-F-17A	2	7/18/96					1,990	1,990	1,990	1,990
13-F-17B	5.5	7/18/96					5,100	5,100	5,100	5,100
13-G-20A	2	7/18/96	<u> </u>	<u></u>	<u> </u>		5,100	1 5,100	5,100	3,100

SOIL DATA:		AREA 13		AREA 13 REM		AREA 13 FD		AREA 13 APT		
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
13-G-20B	6	7/18/96					11,300	11,300	11,300	11,300
13-G-34A	2	7/18/96				ļ	8,380	8,380	8,380	8,380
13-G-34B	5	7/18/96					375	375	375	375
13-G-34C	5	7/18/96					4,270	4,270	4,270	4,270
13-G-48A	2	7/18/96					6,210	6,210	6,210	6,210
13-G-48B	3.5	7/18/96				!	3,110	3,110	3,110	3,110
APT-13E-11	0-2	3/1/98							249	249
13E-11	4-6	3/1/98							2,590	2,590
13F-17	0-2	3/1/98							222	222
13F-17	2-4	3/1/98							843	843
13G-20	0-2	3/1/98							843	843
13G-20	4-6	3/1/98							2,560	2,560
13G-34	0-2	3/1/98							350	350
13G-34	4-6	3/1/98							955	955
13G-48	0-1	3/1/98							337	337
13G-48	1-2	3/1/98				1			169	169
13-G-44	3.5 - 4	2/17/99							2,440	2,440

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

AREA 14		AREA 14 REM		AREA 14	FD	AREA 14	AREA 14 APT		
max	21,000	max	72,800	max	32,000	max	14,260		
min	16	min	10	min	10	min	10		
mean	10,508	mean	8,314	mean	3,718	mean	3,010		
stdev	14,838	stdev	17,016	stdev	6,331	stdev	4,110		
N	2	N	39	N	43	N	53		
tstat	#N/A	tstat	1.6852	tstat	1.6816	tstat	1.6745		
detect	2	detect	38	detect	42	detect			
95th UCL	#N/A	95th UCL	12,905	95th UCL	5,341	95th UCL	3,956		

SOIL DATA:		AREA 14		AREA 14 REM		AREA 14 FD		AREA 14 APT		
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth	1	Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
1358-3		2/21/94	21,000	21,000	21,000	21,000	21,000	21,000		
1358-4		2/21/94	16	16	16	16	16	16	16	16
							i			
area 14-1	2.5-4	9/1/94			306	306	306	306	306	306
area 14-1R	2.5-4	9/15/94			1,590	1,590	1,590	1,590	1,590	1,590
area 14-2	2.5-4	9/1/94			nd	10	nd	10	nd	10
area 14-2R	2.5-4	9/15/94		ĺ	1,990	1,990	1,990	1,990	1,990	1,990
area 14-3	2.5-4	9/1/94			66	66	66	66	66	66
area 14-3R	2.5-4	9/15/94			990	990	990	990	990	990
area 14-4	2.5-4	9/1/94	•		26	26	26	26	26	26
area 14-4R	2.5-4	9/15/94			10,900	10,900	10,900	10,900	10,900	10,900
area 14-5	2.5-4	9/1/94			1,860	1,860	1,860	1,860	1,860	1,860
area 14-5R	2.5-4	9/15/94			1,320	1,320	1,320	1,320	1,320	1,320
area 14-6	2.5-4	9/1/94		<u> </u>	853	853	853	853	853	853
area 14-6R	2.5-4	9/15/94			32,000	32,000	32,000	32,000		
area 14-7	2.5-4	9/1/94			38,900	38,900		ļ		
area 14-7R	2.5-4	9/15/94			1,260	1,260	1,260	1,260	1,260	1,260
area 14-8	2.5-4	9/1/94			246	246	246	246	246	246
area 14-8R	2.5-4	9/15/94		}	1,180	1,180	1,180	1,180	1,180	1,180
area 14-9R	2.5-3	9/8/94			380	380	380	380	380	380
area 14-10R	4	9/12/94			30	30	30	30	30	30
area 14-11	4	9/15/94			170	170	170	170	170	170
area 14-12	4	9/15/94			440	440	440	440	440	440
area 14-14	4	9/15/94			610	610	610	610	610	610
area 14-15	4	9/15/94			10,400	10,400	10,400	10,400	10,400	10,400
area 14-16	4	9/15/94			1,680	1,680	1,680	1,680	1,680	1,680
area 14-17	4	9/15/94	i		820	820	820	820	820	820
area 14-18	4	9/15/94	1		11,400	11,400	11,400	11,400	11,400	11,400
area 14-19	4	9/15/94			72,800	72,800	1			
area 14-20	4	9/15/94			68,300	68,300	1			
area 14-21	0-2	12/9/94			3,890	3,890	3,890	3,890	3,890	3,890
area 14-22	0-2	12/9/94			683	683	683	683	683	683
area 14-23	0-2	12/9/94	İ		1,380	1,380	1,380	1,380	1,380	1,380
area 14-24	0-2	12/9/94	l		4,420	4,420	4,420	4,420	4,420	4,420
area 14-25	0-2	12/9/94			4,100	4,100	4,100	4,100	4,100	4,100
area 14-26	0-2	12/9/94			2,130	2,130	2,130	2,130	2,130	2,130

TABLE II

SOI	L DATA:		ARE	A 14	AREA	14 REM	AREA 14	FD	AREA 14	APT
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
area 14-27	0-2	12/9/94			657	657	657	657	657	657
area 14-28	0-2	12/9/94			326	326	326	326	326	326
area 14-29	0-2	12/9/94			13,900	13,900	13,900	13,900	13,900	13,900
area 14-30	0-2	12/9/94			11,200	11,200	11,200	11,200	11,200	11,200
14-14 - 19A	1.5	7/16/96		1			853	853	853	853
14-14-19B	4	7/16/96					532	532	532	532
14-14-19C	6	7/16/96					594	594	594	594
14-14-20A	1.5	7/18/96					849	849	849	849
14-14-20B	4	7/18/96		}			3,890	3,890	3,890	3,890
14-14-7A	1.5	7/18/96					3,880	3,880	3,880	3,880
14-14-7B	4	7/18/96					5,040	5,040	5,040	5,040
						ŀ			ļ	
14-6	0-2	3/1/98						ļ	1,310	1,310
14-6	4-6	3/1/98							270	270
14-7	0-2	3/1/98							575	575
14-7	4-6	3/1/98			ŀ		İ		61	61
14-19	0-1	3/1/98		1	ł				8,639	8,639
14-19	4-6	3/1/98		1	1				13,410	13,410
14-20	0-2	3/1/98							120	120
14-20	2-4	3/1/98							14,260	14,260
14-31	0-1	3/1/98							258	258
14-31	1-2	3/1/98					1		1,340	1,340
14-32	0-1	3/1/98							4,410	4,410
14-32	1-2	3/1/98	i		1				8,030	8,030
						1	<u> </u>			

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 15	AREA	15 REM	AREA	15 FD	AREA	15 APT
max	202,000	max	64,000	max	54,100	max	17,700
min	14	min	10	min	10	min	10
mean	106,023	mean	2,505	mean	1,876	mean	1,098
stdev	73,297	stdev	8,546	stdev	5,972	stdev	3,271
N	5	N	146	N	158	N	158
tstat	#N/A	tstat	1.656	tstat	1.656	tstat	1.656
detect	5	detect	72	detect	84	detect	82
95th UCL	#N/A	95th UCL	3,677	95th UCL	2,662	95th UCL	1,529

SOIL	DATA:	ľ	ARE	A 15	AREA	15 REM	AREA	15 FD	AREA	15 APT
	,		Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
1356-3		2/21/94	14	14	14	14	14	14	14	14
DS-16A		3/1/94	134,000	134,000						
DS-15A		3/1/94	104,000	104,000			•			
DS-15		2/21/94	202,000	202,000						
DS-14A		3/1/94	90,100	90,100						
area 15-1		9/12/94			64,000	64,000				
area 15-2		9/12/94			nd	10	nd	10	nd	10
area 15-3		9/12/94	,	i	65	65	65	65	65	65
area 15-5	4.5	11/1/94			nd	10	nd	10	nd	10
area 15-6	3.5	11/1/94			nd	10	nd	10	nd	10
area 15-7	4.5	11/1/94		ļ	nd	10	nd	10	nd	10
area 15-8	3.5	11/1/94			nd	10	nd	10	nd	10
area 15-9	4	11/1/94			nd	10	nd	10	nd	10
area 15-10	3.5	11/1/94			nd	10	nd	10	nd	10
area 15-11	4	11/1/94			nd	10	nd	10	nd	10
area 15-12	4	11/1/94			nd	10	nd	10	nd	10
area 15-13	5.5	11/1/94		1	nđ	10	nd	10	nd	10
area 15-14	5	11/1/94			nd	10	nd	10	nd	10
area 15-15	5.5	11/1/94			nd	10	nd	10	nd	10
area 15-16	6	11/1/94			nd	10	nd	10	nd	10
area 15-17	5	11/1/94	1		nd	10	nd	10	nd	10
area 15-18	5	11/2/94			530	530	530	530	530	530
area 15-19	4 to 5	11/2/94	ļ		nd	10	nd	10	nd	10
area 15-20	6	11/2/94			nd	10	nd	10	nd	10
area 15-21R	3	12/15/94			237	237	237	237	237	237
area 15-22	6.5	11/2/94			nd	10	ndi	10	nd	10
area 15-23	6.5	11/2/94			nd	10	nd	10	nd	10
area 15-24	5.5	11/2/94			nd	10	nd	10	nd	10
area 15-25	5.5	11/2/94	1		60	60	60	60	60	60
area 15-26	6	11/2/94			nd	10	nd	10	nd	10
area 15-27	6.5	11/2/94			140	140	140	140	140	140
area 15-28	6	11/2/94			40	40	40	40	40	40
area 15-29	6.5	11/2/94			20	20	20	20	20	20
area 15-30	6.5	11/2/94			nd	10	nd	10	nd	10
area 15-31	6.5	11/2/94			20	20	20	20	20	20

	SOIL	L DATA:		ARE	A 15	AREA	15 REM	AREA	15 FD	AREA	15 APT
Coastion Coastion				l.ab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
area 15-32 5.5 11/3/94 30 30 30 30 30 30 30 30 30 30 30 30 30	Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
area 15-33 6 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-35 6 11/3/94 nd 10 nd 10 nd 10 nd 10 nd 10 area 15-35 6 11/3/94 50 50 50 50 50 50 50 50 area 15-37 6 11/3/94 110 110 110 110 110 110 110 110 area 15-38 7 11/3/94 30 30 30 30 30 30 30 30 30 30 30 30 30	Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
area 15-34 5.5 11/3/94	area 15-32	5.5	11/3/94			60	60	60	60	60	60
area 15-35 6 6 11/3/94 50 50 50 50 50 50 50 50 50 50 area 15-37 6 11/3/94 110 110 110 110 110 110 110 110 110 area 15-39 6.5 11/3/94 30 30 30 30 30 30 30 30 30 30 area 15-40 7 11/3/94 nd 10 nd 10 nd 10 nd 10 nd 10 area 15-42 7 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-45 6 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-45 6 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-45 6 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-45 6 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-47 7.5 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-47 7.5 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-45 6 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-47 7.5 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-47 7.5 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-47 7.5 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-47 7.5 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-47 7.5 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-47 7.5 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-47 7.5 11/3/94 nd 10 nd 10 nd 10 nd 10 area 15-50 7.5 11/4/94 d0 40 40 40 40 40 40 40 40 40 area 15-50 7.5 11/4/94 nd 10 nd 10 nd 10 nd 10 area 15-50 7.5 11/4/94 nd 10 nd 10 nd 10 nd 10 area 15-50 7.5 11/4/94 nd 10 nd 10 nd 10 nd 10 area 15-53 7 to 8 11/4/94 nd 10 nd 10 nd 10 nd 10 area 15-53 7 to 8 11/4/94 nd 10 nd 10 nd 10 nd 10 area 15-53 7 to 8 11/4/94 nd 10 nd 10 nd 10 nd 10 area 15-50 5.5 11/4/94 nd 10 nd 10 nd 10 nd 10 area 15-7 5.5 11/4/94 80 60 60 60 60 60 60 60 60 60 60 area 15A-1 5.5 11/8/94 nd 10 nd 10 nd 10 nd 10 nd 10 area 15A-1 5.5 11/8/94 nd 10 nd 10 nd 10 nd 10 area 15A-1 5.5 11/8/94 nd 10 nd 10 nd 10 nd 10 nd 10 area 15A-1 5.5 11/8/94 nd 10 nd 10 nd 10 nd 10 nd 10 area 15A-1 5.5 11/8/94 nd 10 nd	area 15-33	6	11/3/94			30	30	30	30	30	30
area 15-36 5.5 11/3/94 110 110 110 110 110 110 110 110 110 11	area 15-34	5.5	11/3/94			nd	10	nd	10	nd	10
area 15-36	area 15-35	6	11/3/94			nđ	10	nd	10	nd	10
area 15-37 6 11/3/94 110 110 110 110 110 110 110 110 110 area 15-39 6.5 11/3/94 30 30 30 30 30 30 30 30 area 15-40 7 11/3/94 9	area 15-36	5.5	11/3/94			50	50			50	50
area 15-38 7 11/3/94 30 30 30 30 30 30 30 30 30 30 30 30 30	area 15-37	6				110	110	110	1	110	110
area 15-39 6.5 11/3/94 nd 10 nd	1					110	110	110	1	110	110
area 15-40	area 15-39	6.5				30	30	30		30	30
area 15-41 7 11/3/94 530 530 530 530 530 530 530 530 530 530	4					nd	10	nd	t .		10
area 15-42 7 11/3/94 nd 10 nd	4	· · 7				nd	10		i .		10
area 15-43 6.5 11/3/94	area 15-42	7				530	530	530	I .		530
area 15-44 6 11/3/94 120 120 120 120 120 120 120 120 120 120			1						i .		3 1
area 15-45 6 11/3/94						1					1 1
area 15-46 6 11/3/94 110 110 110 110 110 110 110 110 110 11	L i					1					ł i
area 15-47 7.5 11/3/94 110 40	l l									Ī	
area 15-48 7.5 11/4/94 40					}					1	
area 15-49 7 11/4/94 40										1	
area 15-50 7.5 11/4/94 nd 10											
area 15-51 7.5 11/4/94 nd 10 nd 10 nd 10 nd 10 and 10 nd 10 nd 10 and 10 nd 10 nd 10 and 10	3									•	
area 15-52 7.5 11/4/94 2,200 20 20 20 600 </td <td></td> <td></td> <td></td> <td>:</td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>1</td> <td></td>				:					1	1	
area 15-53 7 to 8 11/4/94 600	1						1		1	B.	1 7
area 15A-1 4 to 6 9/14/94 60 10 nd 10 <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td>3</td>	1								1		3
area 15A-5 5.5 11/8/94 nd 10 nd 10 nd 10 area 15A-6 6 11/8/94 nd 10 nd 10 nd 10 area 15A-7 5.5 11/8/94 nd 10 nd 10 nd 10 area 15A-8 5.5 11/8/94 nd 10 nd 10 nd 10 area 15A-9 5.5 11/8/94 240 <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>i i</td> <td></td> <td>}</td> <td></td> <td>3</td>	1						i i		}		3
area 15A-6 6 11/8/94 nd 10 nd 10 nd 10 area 15A-7 5.5 11/8/94 nd 10 nd 10 nd 10 area 15A-8 5.5 11/8/94 nd 10 nd 10 nd 10 area 15A-10 5.5 11/8/94 240	4					ľ	l '		ì		1 :
area 15A-7 5.5 11/8/94 nd 10 nd 10 nd 10 area 15A-8 5.5 11/8/94 240	1										10
area 15A-8 5.5 11/8/94 nd 10 nd 10 nd 10 area 15A-9 5.5 11/8/94 240		5.5				nd			i .	nd	10
area 15A-10 5.5 11/9/94 20	area 15A-8	5.5	11/8/94			nd	10	nd	10	nd	10
area 15A-11 5.5 11/9/94 1,600 1,600 1,600 1,600 1,600 1,600 1,600 1,600 1,600 30	area 15A-9	5.5	11/8/94			240	240	240	240	240	240
area 15A-12 5.5 11/9/94 30	area 15A-10	5.5	11/9/94			20	20	20	20	20	20
area 15B-4 5.5 11/8/94 95<	area 15A-11	5.5	11/9/94			1,600	1,600	1,600	1,600	1,600	1,600
area 15B-5 5.5 11/8/94 105 100 170 170 170 170 170 170 170 170 170 170 170 170 170 170 170 170 170 175 175 175 175 175 175 175 175 175 175 175 175 175 1760 1,760 1,760 1,760 1,	area 15A-12	5.5	11/9/94			30	30	30	30	30	30
area 15B-5 5.5 11/8/94 105 100 175 175 175 175 175 175 175 175 175 175 175 175 175 175 175 175 1760 1,760 <td>area 15B-4</td> <td>5,5</td> <td>11/8/94</td> <td></td> <td></td> <td>95</td> <td>95</td> <td>95</td> <td>95</td> <td>95</td> <td>95</td>	area 15B-4	5,5	11/8/94			95	95	95	95	95	95
area 15B-6 area 15B-7 area 15B-7 area 15B-8 area 15B-13 area 15B-14 area 15B-15 area 15B-16 area 15B-16 area 15B-16 area 15B-16 area 15B-16 area 15B-16 area 15B-16 area 15B-17 area 15B-18 area 15B-17 area 15B-18 area 15B-18 6						R .	i	i	1	105	105
area 15B-7 5 11/8/94 170 175	l I						1		i		170
area 15B-8 5.5 11/8/94 175 176	area 15B-7		î l			170	170	170	170	170	170
area 15B-9 area 15B-10 area 15B-10 area 15B-11 6.5 11/8/94 area 15B-12 area 15B-13 5.5 11/8/94 area 15B-14 area 15B-15 6.5 11/9/94 area 15B-16 area 15B-16 area 15B-17 area 15B-17 area 15B-18 6 11/9/94 11/8/94 10 15,000 15,	area 15B-8	5.5	11/8/94				175	175	175	175	175
area 15B-10 5 11/8/94 1,760 15,000 15,000 15,000 15,000 15,000 15,000 15,000 15,000 15,000 205							t	i .			
area 15B-11 6.5 11/8/94 15,000 205 <t< td=""><td></td><td>! !</td><td></td><td></td><td></td><td>ľ</td><td>1 .</td><td>•</td><td>l .</td><td></td><td></td></t<>		! !				ľ	1 .	•	l .		
area 15B-12 6.5 11/8/94 205 205 205 205 205 area 15B-13 5.5 11/8/94 9,100 9,100 9,100 9,100 9,100 9,100 area 15B-14 5.5 11/8/94 185 185 185 185 185 area 15B-15 5.5 11/9/94 nd 10 nd 10 nd 10 area 15B-16 6 11/9/94 nd 10 nd 10 nd 10 area 15B-17 6 11/9/94 20 20 20 20 20 20 area 15B-18 6 11/9/94 nd 10 nd 10 nd 10) :				1	•		1		
area 15B-13 5.5 11/8/94 9,100 9,100 9,100 9,100 9,100 9,100 area 15B-14 5.5 11/8/94 185 185 185 185 185 area 15B-15 5.5 11/9/94 nd 10 nd 10 nd 10 area 15B-16 6 11/9/94 nd 10 nd 10 nd 10 area 15B-17 6 11/9/94 20 20 20 20 20 area 15B-18 6 11/9/94 nd 10 nd 10 nd 10						i .	}	1			
area 15B-14 5.5 11/8/94 185 185 185 185 185 area 15B-15 5.5 11/9/94 nd 10 nd 10 nd 10 area 15B-16 6 11/9/94 nd 10 nd 10 nd 10 area 15B-17 6 11/9/94 20 20 20 20 20 20 area 15B-18 6 11/9/94 nd 10 nd 10 nd 10	L					l .	í		i		
area 15B-15 5.5 11/9/94 nd 10 nd 10 nd 10 area 15B-16 6 11/9/94 nd 10 nd 10 nd 10 area 15B-17 6 11/9/94 20 20 20 20 20 20 area 15B-18 6 11/9/94 nd 10 nd 10 nd 10		1 .	i e			B .	ł)	•	
area 15B-16 6 11/9/94 nd 10 nd 10 nd 10 area 15B-17 6 11/9/94 20 20 20 20 20 20 area 15B-18 6 11/9/94 nd 10 nd 10 nd 10			i				1	•	i		
area 15B-17 6 11/9/94 20 20 20 20 20 area 15B-18 6 11/9/94 nd 10 nd 10 nd 10							1				
area 15B-18 6 11/9/94 nd 10 nd 10 nd 10		•					3		ł		
							1				
									i	1	
area 15B-20 5 11/9/94 20 20 20 20 20 20	B .						ł .				

son	L DATA:	ľ	ARE	A 15	AREA	15 REM	AREA	15 FD	AREA	15 APT
			Lab	Calculated	Lab	Calculated	Lab	Calculated	L.ab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
area 15B-21	6	11/9/94	<u> </u>	V . 9 . 97	23,000	23,000				
area 15B-22	5.5	11/9/94			60	60	60	60	60	60
area 15B-23	5.5	11/9/94			12,800	12,800	12,800	12,800	12,800	12,800
area 15B-24	6.5	11/9/94			11,000	11,000	11,000	11,000	11,000	11,000
area 15B-25	5.5	11/9/94			14,600	14,600	14,600	14,600	14,600	14,600
area 15B-26	5.5	11/9/94			3,400	3,400	3,400	3,400	3,400	3,400
area 15B-27	5.5	11/9/94			11,500	11,500	11,500	11,500	11,500	11,500
area 15C-1	4 to 6	9/14/94			120	120	120	120	120	120
area 15C-3	5	11/14/94			60	60	60	60	60	60
area 15C-4	- 5	11/14/94			5,300	5,300	5,300	5,300	5,300	5,300
area 15C-5	6	11/14/94		ļ	220	220	220	220	220	220
area 15C-6	5.5	11/15/94			30,800	30,800				
area 15C-7	4.5	11/15/94			800	800	800	800	800	800
	5	11/15/94			20	20	20	20	20	20
area 15C-8	6	11/15/94		i	50 50	50	50	50	50	50
area 15C-9 area 15C-10	6	11/15/94			6,900	6,900	6,900	6,900	6,900	6,900
		11/17/94			nd	10	nd	10	nd	10
area 15C-11 area 15C-12	5 5	11/17/94			nd	10	nd	10	nd	10
l.	5	11/17/94			nd	10	nd	10	nd	10
area 15C-13			:		nd	10	nd	10	nd	10
area 15C-14	5.5	11/17/94			nd	10	nd	10	nd	10
area 15C-15	5	11/17/94			nd	10	nd	10	nd	10
area 15C-16	5.5	11/17/94			1	10	nd	10	nd	10
area 15C-17	5	11/17/94			nd nd	10	nd	10	nd	10
area 15D-3	5.5	11/30/94			nd	10	nd	10	nd	10
area 15D-4	5.5	11/30/94			nd	10	nd	10	nd	10
area 15D-5	5.5	11/30/94			1	10	nd	10	nd	10
area 15D-6	6	11/30/94			nd nd	10	nd	10	nd	10
area 15D-7	5.5	11/30/94				10	nd	10	nd	10
area 15D-8	5.5	11/30/94			nd 187	187	187	187	187	187
area 15D-9	5.5	11/30/94				10		10	nd	10
area 15D-10	5	11/30/94]	nd	1	nd	10	· IIG	10
area 15D-11	5	11/30/94			38,000	38,000			1	
area 15D-12	5 5	11/30/94			36,600	36,600	1 720	4,730	4,730	4,730
area 15D-13	5	11/30/94			4,730	4,730	4,730	10		10
area 15D-14	5	11/30/94			nd	10	nd	1	nd	'
area 15D-15	5	11/30/94]		29,000	29,000	29,000	29,000		
area 15D-16	4.5	11/30/94			35,300	35,300		10	54	10
area 15D-17	5	11/30/94			nd	10	nd	10	nd nd	10
area 15E-1	5.5	11/30/94			nd	10	nd	10	nd	10
area 15E-2	5.5	11/30/94			nd ,	10	nd l	10	nd	10
area 15E-3	5.5	11/30/94			nd	10	nd	10	nd	10
area 15E-4	5	11/30/94			nd	10	nd	10	nd	10
area 15E-5	5.5	11/30/94	Ī		24	24	24	24	24	24
area 15E-6	5	11/30/94			nd	10	nd	10	nd	10
area 15E-7	5.5	11/30/94			31	31	31	31	31	31
area 15E-8	4	12/1/94	ŀ		nd	10	nd	10	nd	10
area 15E-9	4	12/1/94			nd	10	nd	10	nd	10
area 15E-10	4	12/1/94			470	470	470	470	470	470

SOIL	DATA:		ARE	A 15	AREA 1	15 REM	AREA	15 FD	AREA	15 APT
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
area 15E-11	5.5	12/1/94			74	74	74	74	74	74
area 15E-12	5.5	12/1/94			nd	10	nd	10	nd	10
area 15E-13	6	12/1/94			nd	10	nd	10	nd	10
area 15E-14	5.5	12/1/94			nd	10	nd	10	nd	10
area 15E-15	6	12/1/94			431	431	431	431	431	431
area 15E-16	6	12/1/94			179	179	179	179	179	179
area 15E-17	6	12/1/94			53	53	53	53	53	53
area 15G-1	5.5	11/30/94	!		974	974	974	974	974	974
area 15G-2	5.5	11/30/94	•		nd	10	nd	10	nd	10
area 15G-3	6.5	11/30/94			nd	10	nd	10	nd	10
area 15G-4	5.5	11/30/94			nd	10	nd	10	nd	10
area 15H-1	5.5	12/1/94			nd	10	nd	10	nd	10
area 15H-2	5.5	12/1/94			nd	10	nd	10	nd	10
area 15H-3	5.5	12/1/94			nd	10	nd	10	nd	10
area 15H-4	5	12/1/94			nd	10	nd	10	nd	10
area 15H-5	6.5	12/1/94			nd	10	nd	10	nd	10
area 15H-6	6	12/1/94			32	32	32	32	32	32
area 15H-7	5	12/1/94			nd	10	nd	10	nd	10
area 15H-8	5	12/1/94			nd	10	nd	10	nd	10
15-15-1A	3	7/17/96					1,060	1,060	1,060	1,060
15-15-1B	6	7/17/96					156	156	156	156
15-DS-14A	3	7/17/96					6,550	6,550	6,550	6,550
15-DS-14B	6	7/17/96					11,800	11,800	11,800	11,800
15-DS-15A	3	7/17/96					9,680	9,680		
15-DS-15B	6	7/17/96			}		2,030	2,030		ŀ
15-B-21A	3	7/17/96	ľ				195	195	195	195
15-B-21B	6	7/17/96					271	271	271	271
15-C-6A	3	7/17/96					6,030	6,030		
15-C-6B	6	7/17/96			j		10,700	10,700		
15-D-11A	3	7/17/96					16,700	16,700		
15-D-11B	5	7/17/96	i				54,100	54,100		240
15-D-12A	3	7/17/96	İ	<u> </u>	1		242	242	242	242
15-D-12B	5	7/17/96					332	332	332	332
15-D-16A	3	7/17/96		1	-		3,600	3,600	3,600	3,600
15-D-16B	5	7/17/96					125	125	125	125
15-PT-FA	3	7/16/96			I		17,000	17,000	17,000	17,000 17,700
15-PT-FB	5	7/16/96					17,700	17,700	17,700	17,700
15DS-15	0-2	3/1/98							1,720	1,720
15DS-15	4-6	3/1/98							2,400	2,400
15C-6	0-2	3/1/98	j	1					228	228
15C-6	3-5	3/1/98				ľ			ND	25
15D-11	0-2	3/1/98							102	102
15D-11	4-6	3/1/98							ND	25
15-D15	4 - 4.5	2/17/99							844	844

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 16	AREA 1	16 REM	AREA1	6 + FD	AREA	16 APT
max	110,000	max	110,000	max	110,000	max	9,300
min		min	10	min	10	min	10
mean	38,413	mean	9,633	mean	8,489	mean	1,014
	62,050	stdev	30,287	stdev	28,203	stdev	2,321
N		N	13	N	15	N	20
tstat	#N/A	tstat	1.771	tstat	1.753	tstat	1.725
detect		detect	 	detect	10	detect	12
95th UCL		95th UCL	24,510	95th UCL	21,254	95th UCL	1,910

son	L DATA:		ARE	A 16	AREA	16 REM	AREA ⁻	16 + FD		16 APT
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Trench D-2		2/22/94	110,000	110,000	110,000	110,000	110,000	110,000		
PDS-11A		2/28/94	40	40	40	40	40	40	40	40
PDS-19A		2/28/94	5,200	5,200	5,200	5,200	5,200	5,200	5,200	5,200
									_	
area 16-1	4 to 6	8/31/94		1	nd	10	nd	10	nd	10
area 16-3	4 to 6	8/31/94			140	140	140	140	140	140
area 16-4	4 to 6	8/31/94		1	nd	10	nd	10	nd	10
area 16-5	5.5	9/6/94			9,300	9,300	9,300	9,300	9,300	9,300
area 16-5G	2 to 4	9/14/94			nd	10	nd	10	nd	10
area 16-7	5.5	11/7/94	1		25	25	25	25	25	25
area 16-8	5.5	11/7/94			450	450	450	450	450	450
area 16-9	6.5	11/7/94			30	30	30	30	30	30
area 16-10	6	11/7/94			nd	10	nd	10	nd	10
area 16-11	6	11/7/94		ļ	nd	10	nd	10	nd	10
				1	İ					4 ==0
16-16-5A	2	7/17/96				1	1,550	1,550	1,550	1,550
16-16-5B	5.5	7/17/96					551	551	551	551
										40
16-1	0-2	3/1/98		ł					ND	13
16-1	3-5	3/1/98	1						69	69
16-2	0-2	3/1/98							312	312
16-2	3-5	3/1/98	1						2,530	2,530
16-3	0-2	3/1/98							ND	13
16-3	3-5	3/1/98			ł				ND	13
							<u> </u>	<u> </u>	<u> </u>	<u> </u>

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 17	AREA	17 REM	AREA	17 FD	AREA	17 APT
max	47,700	max	47,700	max	47,700	max	11,000
min	19,600	min	19,600	min	41	min	41
mean	33,650	mean	33,650	mean	16,854	mean	4,368
stdev	19,870	stdev	19,870	stdev	22,533	stdev	4,590
N.	2	N	2	N	4	N	6
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	#N/A
detect	2	detect	2	detect	4	detect	6
95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A

SOIL	DATA:		ARE	A 17	AREA	17 REM	AREA	17 FD	AREA	17 APT
			L.ab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
1354-1		2/21/94	47,700	47,700	47,700	47,700	47,700	47,700		
1353-2		2/21/94	19,600	19,600	19,600	19,600	19,600	19,600		
FD-17-1354-4A	1.5 - 2	2/21/94					41	41	41	41
FD-17-1354-4-B	4.5 - 5	2/21/94					75	75	75	75
		:								
1353	0-1	3/1/98							8,835	8,835
1353	1-2	3/1/98							3,890	3,890
										1
1354-1	1 - 1.5	2/17/99							2,365	2,365
1353-2	2.5 - 3	2/17/99	1						11,000	11,000

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	A 18	AREA	18 REM	AREA	18 FD	AREA	18 APT
max	47,900	max	47,900	max	47,900	max	8,570
min	47,900	min	47,900	min	8,570	min	10
mean	47,900	mean	47,900	mean	27,090	mean	2,449
stdev	#DIV/0!	stdev	#DIV/0!	stdev	19,765	stdev	3,532
Ν	1	N	1	N	3	N	5
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	#N/A
detect	1	detect	1	detect	3	detect	4
95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A

SOIL	DATA:		ARE	A 18	AREA	18 REM	AREA	18 FD	AREA	18 APT
			Lab	Calculated	Lab	Calculated	L.ab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
DS-8		2/21/94	47,900	47,900	47,900	47,900	47,900	47,900		
						}				
FD-18-DS-8A	1 - 2						8,570	8,570	8,570	8,570
FD-18-DS-8B	2.5 - 3	ľ		Ì			24,800	24,800		
18-DS-8	0-2								757	757
18-DS-8	4-6								2,365	2,365
				<u> </u>						
FD-18-DS-18	2.5 - 3	2/17/99							545	545
DS-8	4 - 4.5	2/17/99							ND	10
	ļ									

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

ARE	AREA 19		19 REM	AREA	19 FD	AREA	AREA 19 APT		
max	0	max	32,400	max	13,900	max	13,900		
min	0	min	8,510	min	642	min	642		
mean	#DIV/0!	mean	21,403	mean	6,347	mean	6,838		
stdev	#DIV/0!	stdev	11,997	stdev	4,566	stdev	4,855		
N	0	N	4	N	6	N	5		
tstat	#N/A	tstat	#N/A	tstat	#N/A	tstat	#N/A		
detect	0	detect	4	detect	6	detect	5		
95th UCL	#DIV/0!	95th UCL	#N/A	95th UCL	#N/A	95th UCL	#N/A		

SOII	SOIL DATA:		AREA 19		AREA 19 REM		AREA 19 FD		AREA 19 APT	
			Lab	Calculated	Lab	Calculated	Lab	Calculated	Lab	Calculated
Sample	Depth		Results	Results	Results	Results	Results	Results	Results	Results
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
area 19-1	0-2	12/9/94			30,800	30,800				
area 19-2	0-2	12/9/94			13,900	13,900	13,900	13,900	13,900	13,900
area 19-3	0-2	12/9/94			32,400	32,400				
area 19-4	0-2	12/9/94			8,510	8,510	8,510	8,510	8,510	8,510
19-19-1A	2	7/18/96					642	642	642	642
19-19-1B	4	7/18/96					5,480	5,480	5,480	5,480
19-19-3A	2	7/18/96					6,240	6,240		!
19-19-3B	4	7/18/96					3,310	3,310		
19-3	0-2	3/1/98							<25	<25
19-3	3-5	3/1/98				1			5,660	5,660

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS HARBOR ISLAND STATION PORT ARANSAS, TEXAS

OTHER	AREAS	FINAL				
max	28,240	max	6,400			
min	26	min	26			
mean	1,627	mean	964			
stdev	4,556	stdev	1,615			
N	41	N	41			
tstat	1.6832	tstat	1.6832			
detect		detect				
95th UCL	2,825	95th UCL	1,389			

	SOIL DATA:		OTHER	AREAS	FII	FINAL		
			Lab	Calculated	Lab	Calculated		
Sample	Depth		Results	Results	Results	Results		
Location	(feet)	Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		
PtF	0-2	3/1/98	2,830	2,830	2,830	2,830		
PtF	3-5	3/1/98	6,400	6,400	6,400	6,400		
20-1	0-2	3/1/98	486	486	486	486		
20-1	3-5	3/1/98	102	102	102	102		
20-2	0-2	3/1/98	989	989	989	989		
20-2	3-5	3/1/98	35	35	35	35		
20-3	0-2	3/1/98	6,250	6,250	6,250	6,250		
20-3	3-5	3/1/98	3,550	3,550	3,550	3,550		
20-4	0-2	3/1/98	43	43	43	43		
20-4	3-5	3/1/98	<25	<25	<25	<25		
		:						
Substa-1		3/1/98	<25	<25	<25	<25		
MPA	0-1	3/1/98	498	498	498	498		
MPA	0-2	3/1/98	137	137	137	137		
1								
LF-1	0-2	3/1/98	569	569	569	569		
LF-1	3-5	3/1/98	<25	<25	<25	<25		
LF-2	0-2	3/1/98	<25	<25	<25	<25		
LF-2	3-5	3/1/98	<25	<25	<25	<25		
LF-3	0-2	3/1/98	100	100	100	100		
LF-3	3-5	3/1/98	<25	<25	<25	<25		
LF-4	0-2	3/1/98	<25	<25	<25	<25		
LF-4	4-6	3/1/98	<25	<25	<25	<25		
LF-5	0-2	3/1/98	<25	<25	<25	<25		
LF-5	4-6	3/1/98	<25	<25	<25	<25		
TSP-1	Composite	3/1/98	<25	<25	<25	<25		

SUMMARY OF SOIL SAMPLING DATA AND STATISTICS

HARBOR ISLAND STATION PORT ARANSAS, TEXAS

TABLE II

Sample Location	Depth (feet)		Lab	Calculated	Lab	Calculated	
						Calculated	
Location	(feet)		Results	Results	Results	Results	
		Date	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
l i							
946	0-1	3/1/98	<25	<25	<25	<25	
946	1-2	3/1/98	297	297	297	297	
954	0-1	3/1/98	522	522	522	522	
954	1-2	3/1/98	<25	<25	<25	<25	
1359	0-1	3/1/98	51	51	51	51	
1359	1-2	3/1/98	<25	<25	<25	<25	
1799	0-2	3/1/98	1,260	1,260	1,260	1,260	
1799	2-4	3/1/98	178	178	178	178	
1799C	0-1	3/1/98	102	102	102	102	
1799C	2-3	3/1/98	232	232	232	232	
1953	0-1	3/1/98	997	997	997	997	
1953	1-2	3/1/98	490	490	490	490	
PG-1	0-2	3/1/98	930	930	930	930	
PG-1	2-4	3/1/98	4,700	4,700	4,700	4,700	
PG-2	0-2	3/1/98	<25	<25	<25	<25	
PG-2	4-6	3/1/98	37	37	37	37	
PG-3	0-2	3/1/98	26	26	26	26	
PG-3	4-6	3/1/98	40	40	40	40	
PG-4	0-2	3/1/98	118	118	118	118	
PG-4	4-6	3/1/98	100	100	100	100	
PG-5	0-2	3/1/98	525	525	525	525	
PG-5	4-6	3/1/98	223	223	223	223	
13-W	0-2	3/1/98	3,380	3,380	3,380	3,380	
13-W	3-5	3/1/98	60	60	60	60	
306	0-2	3/1/98	367	367	367	367	
306	4-6	3/1/98	337	337	337	337	
363	0-2	3/1/98	81	81	81	81	
363	4-6	3/1/98	394	394	394	394	
		0/4/0=	00.040				
BWP	1	3/1/98	28,240	28,240		,,,	
BWP	2	3/1/98	114	114	114	114	
BWP	3	3/1/98	459	459	459	459	
BWP	4	3/1/98	459	459	459	459	
BWP	1	2/17/99			1,060	1,060	

SUMMARY OF GROUND WATER ANALYTICAL DATA HARBOR ISLAND STATION PORT ARANSAS, TEXAS

SAMPLE LOCATION	SAMPLE DATE	BTEX METHOD	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	XYLENES (mg/L)	TOTAL BTEX (mg/L)	TPH 418.1 (mg/L)
AREA 1 MW-1 (a) MW-1 MW-1	7/16/96 7/16/96 3/20/98	8020 8060 8260B	4.8 < 0.010 < 0.005	4.8 < 0.010 < 0.005	5.8 < 0.010 < 0.005	17.0 < 0.010 < 0.005	32.4 < 0.040 < 0.020	83 NS 5.0
AREA 3 MW-2 (a) MW-2	7/16/96 3/20/98	8020 NT	1.1 NT	0.9 NT	1.1 NT	3.2 NT	6.3 NT	54.0 < 1.0
AREA 5 MW-6	3/20/98	8260B	< 0.005	< 0.005	< 0.005	< 0.005	< 0.020	64.0
AREA 6 MW-7	3/20/98	8260B	< 0.005	< 0.005	0.140	< 0.005	0.140	20.0
AREA 10 MW-3 (a) MW-3R	7/16/96 3/20/98	8020 8260B	1.2 < 0.005	1.4 < 0.005	1.2 < 0.005	3.2 < 0.005	7.0 < 0.020	104.0 39.0
AREA 13 MW-8	3/20/98	8260B	< 0.005	< 0.005	< 0.005	< 0.005	< 0.020	2.0
AREA 14 MW-4 (a) MW-4 MW-4	7/16/96 7/16/96 3/20/98	8020 8060 8260B	1.4 < 0.010 < 0.005	< 1.0 < 0.010 < 0.005	1.4 < 0.010 < 0.005	3.9 < 0.010 < 0.005	6.7 < 0.040 < 0.020	220.0 4.0
AREA 15 MW-5 (a) MW-5	7/16/96 3/20/98	8020 NA	1.1 NT	1.0 NT	1.1 NT	3.1 NT	6.3 NT	122.0 < 1
OTHER AREAS MW-9 MW-10	3/20/98 3/20/98	NA NA	NT NT	NT NT	NT NT	NT NT	NT NT	< 1.0 2.0

⁽a) - Sample results believed to be corrupt based on 8260 analysis and subsequent testing

ND - Not detected at method detection limit

NT - Not tested

NA - Not applicable

TABLE III

SUMMARY OF GROUND WATER ANALYTICAL DATA HARBOR ISLAND STATION PORT ARANSAS, TEXAS

WELL NUMBER	SAMPLE DATE	SILVER (mg/L)	ARSENIC (mg/L)	BARIUM (mg/L)	CADMIUM (mg/L)	CHROMIUM (mg/L)	MERCURY (mg/L)	LEAD (mg/L)	SELENIUM (mg/L)	VOLATILES (mg/L)	SEMI- VOLATILES (mg/L)
MW-1	07/16/96 03/20/98	< 0.2 NT	< 0.1 NT	0.28 NT	< 0.1 NT	< 0.5 NT	< 0.002 NT	< 1.0 NT	< 0.1 NT	ND ND	ND ND
MW-2	07/16/96 03/20/98	< 0.2 NT	< 0.1 NT	0.20 NT	< 0.1 NT	< 0.5 NT	< 0.002 NT	< 1.0 NT	< 0.1 NT	NT NT	NT NT
MW-3 MW-3R	07/16/96 03/20/98	< 0.2 NT	< 0.1 NT	0.37 NT	< 0.1 NT	< 0.5 NT	< 0.002 NT	< 1.0 NT	< 0.1 NT	NT ND	NT ND
MW-4	07/16/96 03/20/98	< 0.2 NT	< 0.1 NT	0.20 NT	< 0.1 NT	< 0.5 NT	< 0.002 NT	< 1.0 NT	< 0.1 NT	ND ND	ND ND
MW-5	07/16/96 03/20/98	< 0.2 NT	< 0.1 NT	0.34 NT	< 0.1 NT	< 0.5 NT	< 0.002 NT	< 1.0 NT	< 0.1 NT	NT NT	NT NT
MW-6	03/20/98	NT	NT	NT	NT	NT	NT	NT	NT	ND	ND
MW-7	03/20/98	NT	NT	NT	NT	NT	NT	NT	NT	(b)	ND
MW-8	03/20/98	NT	NT	NT	NT	NT	NT	NT	NT	ND	ND
MW-9	03/20/98	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-10	03/20/98	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

ND - Not detected at method detection limit

NT - Not tested

⁽b) All VOCs non-detect with the exception of ethyl benzene - see summary of BTEX and TPH data

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

MARY SCOTT NABERS, Commissioner R*RRY WILLIAMSON, Commissioner



DAVID M. GARLICK
Director
LORI WROTENBERY
Director of
Environmental Services
(512) 463-6790
Fax (512) 463-6780

I N. CONGRESS

P. O. BOX 12967

AUSTIN, TEXAS 78711-2967

July 15, 1994

Brian T. Magruder Exxon Pipeline Company P. O. Box 1215 La Porte, TX 77572-1215

Re: Environmental Investigation Report and Remedial Action Plan EPC Harbor Island Station Nueces County Port Aransas, Texas

Dear Mr. Magruder:

We have completed our review of the referenced assessment dated April 15, 1994, and the remediation proposal dated June 8, 1994.

Analytical results from soil samples taken at the site revealed eighteen (18) areas of soil total petroleum hydrocarbon (TPH) concentrations ranging from 1% to 20% by weight, with the higher concentrations generally near former or current storage tank locations.

A few of the soil samples indicated elevated lead levels near Tank #951 (220 mg/kg), Tank #952 (190 mg/kg), Tank #1351 (212 mg/kg), and Tank #1356 (261 mg/kg). However, all samples fell below the TCLP level for lead and it is our understanding that the future use of this property will be restricted.

1,1,2-Trichloroethane (TCE) was identified in one soil sample (PBC-6) near a former tank location at a depth of 4 feet with a concentration of 14 ppm. As we discussed today, additional investigation and/or cleanup requirements may be necessary. Please contact me next week so that we may discuss this issue further.

Groundwater was encountered at depths of less than five (5) feet below ground surface, with a general flow direction towards the ship channel. The ground water from this shallow, unconfined aquifer is unsuitable as a water supply. A phase separated hydrocarbon (PSH) layer was encountered at three locations contained within the site. Four areas with dissolved phase hydrocarbons were also discovered, with TPH levels as high as 40 ppm.

You have proposed a staged remedial action plan for contaminated soil. Soil with TPH concentrations greater than 10%

Exxon Pipeline Corp. Harbor Island Storage Facility Page 2

by weight will be remediated by excavation and bioremediation in an on-site treatment area to a TPH level of less than 5%, then placed back into the original excavations. Surficial soil containing TPH concentrations between 5% and 10% will be remediated by in-place mixing and tilling to a depth of 2 feet, using soil enhancements as needed to a level less than 5% TPH by weight. This proposal is acceptable with two slight modifications. First, precautions must be taken during remediation to preclude any discharge of oil from rainwater runoff. Second, please submit a schedule for limited soil sampling at some date after active remediation to ensure that bioremediation is continuing at such a rate that the TPH level in the soil after active remediation is approaching 1% by weight. is my understanding that the higher level of TPH has been chosen because of indications of good conditions for bioremediation at this site.

Your proposal to remove floating hydrocarbons from the shallow ground water using a trench system is also acceptable. You have proposed to operate the groundwater treatment system until the remaining PSH layer reaches a thickness of 0.01 feet or less. When this level has been reached, we request that you sample and analyze the remaining ground water for TPH.

It is our understanding that you will be submitting a site closure plan for our review.

Please call me at (512)463-7308 if you have any questions.

Sincerely yours,

Leslie Savage, Assistant Director for

Waste Management

LLS/ls

cc: Charles Ross, Director Regulatory Enforcement

> Fermin Munoz, Director Corpus Christi District Office

/ KEI
12502 Exchange Drive, Suite 440
Stafford, TX 77477
Attention: Alan Berryhill, P.G.

RAILROAD COMMISSION OF TEXAS OIL AND GAS DIVISION

MES E. (JIM) NUGENT, Chairman ARY SCOTT NABERS, Commissioner BARRY WILLIAMSON, Commissioner



DAVID M. GARLICK
Director
LORI WROTENBERY
Director of
Environmental Services
(512) 463-6790
Fax (512) 463-6780

1791 N. CONGRESS

P. O. BOX 12967

AUSTIN, TEXAS 78711-2967

October 19, 1994

Brian T. Magruder Exxon Pipeline Company P. O. Box 1215 La Porte, TX 77572-1215

Re:

Environmental Investigation and Remedial Action

EPC Harbor Island Station, Port Aransas

Nueces County, Texas

Dear Mr. Magruder:

This letter is in response to your letters dated September 7, 1994, requesting a minor permit, and October 3, 1994, forwarding KEI's investigation results relating to TCE.

I have reviewed and hereby approve your request to dispose of approximately 22 cubic yards of solids generated during cleaning of crude oil storage tanks at the referenced facility. This authorization is granted based on our understanding that the laboratory analysis was performed on a representative sample of the solids to be disposed of and that the solids will be placed in the on-site treatment area approved by this office by letter dated July 15, 1994.

In our letter to you dated July 15, 1994, we requested that you perform additional investigation into the 1,1,2-Trichloroethane (TCE) that was identified in one soil sample (PBC-6) near a former tank location at a depth of 4 feet with a concentration of 14 ppm. We have reviewed the investigation report prepared for you by KEI Consultants, Inc. We agree that the TCE encountered in the initial soil sample may represent lab contamination and that no further action on this matter is necessary.

Please call me at (512)463-7308 if you have any questions.

Sincerely yours,

Leslie Savage, Assistan Director for

Waste Management

cc: √KE

12502 Exchange Drive, Suite 440

Stafford, TX 77477

Attention: Alan Berryhill, P.G.

Charles Ross Fermin Munoz