

RECEIVED

Project No. **5403.3.002.01**

July 15, 2003

Mr. David Weiss AAA Truck & Van Parts 3884 Depot Road Hayward, CA 94545 10:35 am, Sep 08, 2009

Alameda County
Environmental Health

Subject:

AAA Truck & Van Parts

3884 Depot Road Hayward, California

GROUNDWATER MONITORING WELL INSTALLATION

References:

- 1. Alameda County Environmental Health Services; Groundwater Monitoring Wells for 3884 Depot Road, Hayward, California; February 11, 2002
- 2. ENGEO Inc.; Work Plan for the Installation of Groundwater Monitoring Wells, AAA Truck & Van Parts, 3884 Depot Road, Hayward, California; March 27, 2002.
- 3. Alameda County Environmental Health Services; Work Plan Approval for 3884 Depot Road, Hayward, California; September 4, 2002.

Dear Mr. Weiss:

ENGEO Incorporated is pleased to present this report which provides details of well construction and groundwater sampling activities for three groundwater monitoring wells on the subject property in Hayward, California (Figure 1). The work was performed at the request of the Alameda County Environmental Health Department (ACEHD) in the letter dated February 11, 2002 (Reference 1). The scope of services included:

- Observation of the drilling and construction of three 20-foot deep, two-inch-diameter groundwater monitoring wells.
- Recovery of soil samples during drilling with organic vapor screening.
- Observation of the development of the three monitoring wells.
- Laboratory analysis of soil and groundwater samples collected at the time of the well construction.

MONITORING WELL INSTALLATION AND DEVELOPMENT

Activities associated with the installation of the three monitoring wells were conducted on December 16 and 30, 2002. The well locations are shown on Figure 2. Weather conditions during the first day of drilling included rain showers with periods of heavy rain. Weather conditions on December 30th were overcast with occasional rain showers. Ponded water was observed on portions of the site due to continuing rains.

Prior to beginning the drilling activities, well permits were obtained from the Alameda County Public Works Department (ACPWD). Copies of the ACPWD well permits are included in Appendix B. Based on anticipated shallow depth to groundwater, ACPWD approved a 5-foot thick sanitary seal. The well boreholes were drilled to a depth of 20 feet by Gregg Drilling & Testing, Inc. (Gregg), based in Martinez, California. Work was performed in general conformance with the work plan (Reference 2) and the Alameda County work plan approval letter (Reference 3).

Monitoring Wells MW-1 and MW-2 were installed on December 16, 2002, using a Mobil B-61 drill rig. The location of MW-3 was inaccessible on December 16 due to soft soil conditions. Monitoring Well MW-3 was installed on December 30, 2002, with the use of a tracked Rhino (Marl M5T). The three bore holes were advanced using 8-inch-diameter hollow stem auger. Drilling was performed under the direction of an environmental geologist and logged in accordance with the Unified Soil Classification System.

Geologic logging of the soil boring samples and auger cuttings found approximately $2\frac{1}{4}$ -feet to $2\frac{3}{4}$ -feet of a gravelly fill, overlying an approximately 4-foot thick clay layer. Soil consisting of varying percentages of silts, clays, and sands were observed beneath the clay layer. Groundwater was encountered at approximately 8 to 9 feet below the ground surface at the time of drilling for borings B-2 (MW-2) and B-3 (MW-3). Boring B-1 (MW-1) was inundated from the start of drilling by the saturated granular surface fill. Boring log information including soil descriptions and field PID screenings are included Appendix C.

The monitoring wells were constructed using a 2-inch-diameter Schedule 40 PVC casing with flush threaded couplings. The lower 15 feet of casing consisted of 0.010-inch slotted pipe with the upper ±5 feet consisting of solid casing. The wells were backfilled with #2/16 sand to the top of the screened interval. A 12-inch-thick seal of bentonite chips was placed on top of the sand filter pack. The remaining annular space was backfilled with a cement/bentonite grout. Each well casing was capped using a locking waterproof plug and was covered by a flush-mounted 12-inch-diameter manhole. Following completion of field activities, a Well Completion Report was prepared in accordance with Department of Resources (DWR) regulations. The DWR Well Completion Report and monitoring well construction details are included Appendix C.

After the cement/bentonite grout had set for at least 72 hours, Gregg personnel developed the wells using a surge block and bailer. At least 50 gallons of groundwater, approximately 20 well casing volumes, were removed from each of the three wells during the development process.

SOIL AND GROUNDWATER SAMPLING

Soil samples and auger cuttings were recovered during the well installation and were screened in the field using a Thermo Electron 580A photoionization detector (PID) to measure volatile compounds relative to the calibration standard (Isobutelene 100 ppm). Low concentrations (<10 parts per million) of volatile compounds were detected in B-1 and B-3, with no volatile compounds detected in B-2. Soil samples were submitted from the 7-foot to 7½-foot depth interval for laboratory analysis.

Water samples were recovered from the monitoring wells on January 23, 2003. Prior to sampling, the static groundwater level, pH, total dissolved solids, conductivity, and temperature were recorded for each of the wells. This information is recorded on the groundwater sampling forms that are included in Appendix D.

The groundwater samples were collected for laboratory testing using dedicated polyethylene bailers. The samples were decanted into pre-cleaned laboratory glassware and cooled in an ice chest until delivery under documented chain-of-custody to McCampbell Analytical, Inc., in Pacheco, California. Copies of the groundwater sampling forms and the well data summary are presented in Appendix D. Soil and groundwater sampling protocols are included in Appendix E.

LABORATORY ANALYSIS

Laboratory testing was performed by McCampbell Analytical, Inc., a State licensed analytical laboratory located in Pacheco, California. The scope of laboratory testing was outlined in the ENGEO work plan (Reference 2) and ACEHD work plan approval letter (Reference 3). The requested analysis and test methods for the soil and groundwater samples are presented in Table I:

TABLE I Sample Analysis Test Methods

Test	EPA Method Number
TPH Gasoline (TPHg),	EPA 8015M / 8021B
TPH Diesel (TPHd)	EPA 3550 / 8015M
TPH Motor Oil (TPHmo)	EPA 3550 / 8015M
Volatile Organic Compounds (VOCs) ("Standard list" comprised of 67 compounds)	EPA 8260B
Oil and Grease	EPA 1664
Metals (LUFT heavy metals)	EPA 6010B

Based on the identified presence of naturally occurring organic compounds reported in a previous site characterization, a silica gel cleanup was performed on the oil and grease fraction prior to analysis. Filtering for the metals samples was performed by the analytical laboratory.

Mr. David Weiss
AAA Truck & Van Parts
GROUNDWATER MONITORING WELL INSTALLATION

The laboratory analysis report for the soil samples is summarized in Tables II and III and in Tables IV and V for the groundwater samples.

TABLE II
Soil Sample Analysis Summary for Organic Compounds
(Concentrations reported in parts per million)

Sample Number	Sample Interval	ТРН	TPH d/mo	Benzene / Toluene	Ethyl- benzene	Xylenes / MtBE	Cumulative VOCs	Petroleum O&G
1-2	7.0 – 7.5	27 ^{2, 3}	27 ^{4, 5} / 21	ND ⁶ / 0.012	0.025	0.041 / 0.010	0.491	ND
2-2	7.0 – 7.5	ND	ND / ND	ND/ND	ND	ND/ND	ND	ND
3-2	7.0 - 7.5	ND	ND/ND	ND/ND	ND	ND/ND	ND	ND

- 1. Sample interval depth as measured from the ground surface.
- 2. Strongly aged gasoline or diesel range compounds are significant.
- 3. No recognizable pattern.
- 4. Oil range compounds are significant.
- 5. Stoddard solvent / mineral oil.
- 6. ND: Non detect; concentration below laboratory reporting limit.

Selected soil samples recovered from the three borings were submitted to the testing laboratory for analysis with one sample submitted from each of the three borings. The three samples were reported by the laboratory to contain petroleum oil and grease concentrations below the laboratory reporting limits. Soil samples recovered from B-2 and B-3 were also documented to contain concentrations of gasoline, diesel and motor oil range petroleum hydrocarbons and VOCs below the laboratory reporting limits.

The analytical laboratory report for the organic compounds detected the presence of an aged gasoline/diesel fraction and 11 volatile organic compounds for boring B-1 sample 1-2. The analytical laboratory report detected the presence of an aged gasoline/ diesel fraction at a concentration of 27 parts per million (ppm). Eleven VOCs were reported above the laboratory detection limit for soil sample 1-2 analysis, including the common gasoline constituents Toluene, Ethylbenzene, Xylenes, and MtBE reported at concentrations of 12 parts per billion (ppb), 25 ppb, 41 ppb, and 10 ppb, respectively. The concentration of four VOC compounds, Naphthalene, 1,2,4-Trimethylbenzene, n-Butyl Benzene, and n-Propyl Benzene, were reported above 50 ppb at 150 ppb, 74, 61, and 55 ppb, respectively. Three volatile organic compounds whose concentrations were listed as below 50 ppb and not typical of gasoline fuel components were also identified in the VOC analysis. These VOCs are 1,3,5-Trimethylbenzene at 30 ppb, sec-Butyl Benzene at 20 ppb, and Isopropylbenzene at 13 ppb.

TABLE III
Soil Sample Analysis for LUFT Metals
(Concentrations reported in parts per million)

Sample Number	Sample Interval ¹	Cadmium Cd	Chromium Cr	Lead Pb	Nickel Ni	Zinc Zn
1-2	7.0 – 7.5	ND ²	30	12	32	64
2-2	7.0 – 7.5	ND	40	8.8	51	55
3-2	7.0 – 7.5	ND	23.	4.8	34	36

- 1. Sample interval depth as measured from the ground surface.
- 2. ND: Non detect; concentration below laboratory reporting limit.

The reported metal concentrations for the soil samples ranged from 23 ppm to 40 ppm for Chromium, 4.8 ppm to 12 ppm for Lead, 32 ppm to 51 ppm for Nickel, and 36 ppm to 64 ppm for Zinc.

TABLE IV
Groundwater Sample Analysis Summary for Organic Compounds
(Concentrations reported in parts per billion)

Well Number	Water Elevation ¹	ТРНд	TPH d/mo	Benzene / Toluene	Ethyl Benzene	Xylenes / MtBE	Cumulative VOCs	Petroleum O&G
MW-1	5.75	ND^2	76 ³ / ND	ND / ND	ND	ND/71	71	ND
MW-2	3.54	ND	ND/ND	ND/ND	ND	ND / 1.3	1.3	ND
MW-3	4.80	ND	53 ³ / ND	ND/ND	ND	ND / ND	ND	ND

- 1. Water elevation as feet above mean sea level.
- 2. ND: Non detect; concentration below laboratory reporting limit.
- 3. Aged diesel? is significant.

TABLE V Groundwater Sample Analysis for LUFT Metals (concentrations reported in parts per billion)

Well Number	Water Elevation ¹	Cadmium Cd	Chromium Cr	Lead Pb	Nickel Ni	Zinc Zn
MW-1	5.75	ND ²	ND	ND	ND	ND
MW-2	3.54	ND	ND	ND	ND	ND
MW-3	4.80	ND	ND	ND	ND	ND

- 1. Sample interval depth as measured from the ground surface.
- 2. ND: Non detect; concentration below laboratory reporting limit.

As shown in Table IV detectable concentrations of diesel range petroleum hydrocarbons were reported in the groundwater for monitoring wells MW-1 and MW-3. The diesel range hydrocarbon concentrations are reported at 76 ppb for well MW-1 and 53 ppb for well MW-3. Methyl tertiary Butyl Ether (MtBE) was the only VOC reported above detection limits, with concentrations reported in wells MW-1 and MW-2 at 71 ppb and 1.3 ppb, respectively.

Concentrations of gasoline range and motor oil range petroleum hydrocarbons, petroleum oil and grease (Table IV) and LUFT metals (Table V) were below the laboratory detection limits. Laboratory procedures are included in Appendix E and a copy of the McCampbell Analytical Report is presented in Appendix F.

DISCUSSION

Detectable concentrations of diesel range petroleum hydrocarbons were reported in the groundwater sampled from monitoring wells, MW-1 and MW-3, at concentrations of 76 ppb and 53 ppb, respectively. A single volatile organic compound, MtBE, was detected out of the 67 target VOCs. The levels of MtBE in the groundwater were documented above laboratory reporting limits at wells, MW-1 and MW-2, at concentrations of 71 ppb and 1.3 ppm, respectively. Concentrations of gasoline and motor oil range petroleum hydrocarbons, petroleum oil and grease, VOCs with the exception of MtBE, and dissolved LUFT metals are reported below laboratory detection limits for the three water samples.

The reported MtBE concentration for MW-1 is above the 13 ppb State of California Maximum Contaminant Level (MCL) primary drinking water standard. Neither primary nor secondary MCLs have been established for diesel range petroleum hydrocarbons.

Direction of groundwater flow has been calculated to be toward the northwest at a gradient of 0.0135 (Figure 2). In accordance with the workplan, the monitoring wells are scheduled to be

Mr. David Weiss AAA Truck & Van Parts GROUNDWATER MONITORING WELL INSTALLATION 5403.3.002.01 July 15, 2003 Page 7

sampled on a quarterly basis through the course of one year. The next scheduled sampling event is in October 2003.

A copy of this report should be provided to Ms. Eva Chu, Alameda County Environmental Health Services. We appreciate the opportunity to be of continued service to you on this project. If you have any questions, please contact our office.

Very truly yours,

ENGEO INCORPORATED

Lina Nowly

Keith Nowell Staff Geologist

kn/cc:well

Reviewed by:

Shawn Munger

ČHG 413

Attachments: Appendix A – Site Maps

Appendix B -- Permits - Alameda County Public Works

Appendix C – Well Completion Reports

Appendix D – Groundwater Well Installation Data

Appendix E – Procedures and Protocols

Appendix F – McCampbell Analytical Report



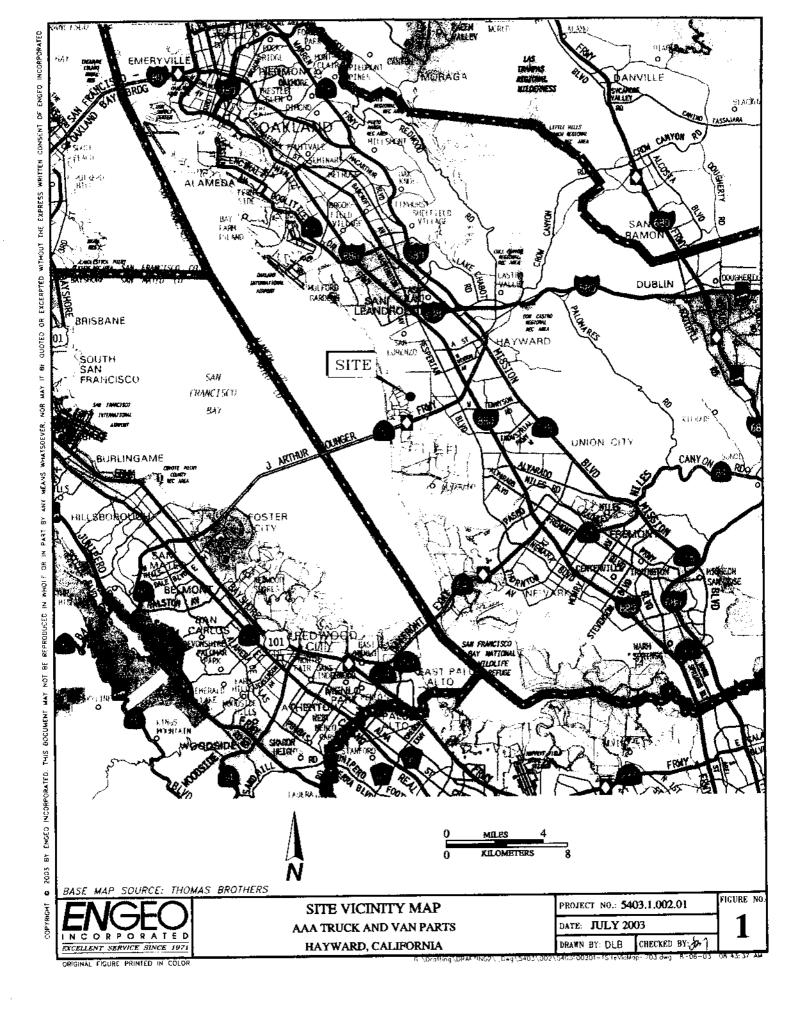
APPENDIX A

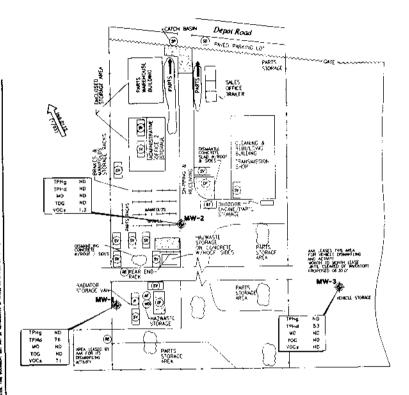
Figure 1

Site Location Map

Figure 2

Site Map Showing Well Locations





EXPLANATION

APPROXIMATE LOCATION OF MONITORING WELL (INSTALLED DECEMBER 2002)

TPH9 GASOLINE RANGE HYDROCARBONS

THE DIESEL RANGE HYDROCARBONS

NO MOTOR OIL RANGE HYDROCARHONS

TOG TOTAL OIL AND GREASE

VOCS CUMULATIVE VOLATILE ORGANIC COMPOUNDS REP

NO ANALYTE CONCENTRATION BELOW LABORATORY R) (CONCENTRATIONS REPORTED IN PARTS FOR BILLION UNLE:



BASE PLAN SOURCE, NEST ENVIRONMENTAL SERVICES

ENGEO STEPL

SITE PLAN SHOWING MONITORING WELL LOCATIONS

AAA TRUCK AND VAN MARTS

HAYWARD, CALIFORNIA

A P P E N D I X

B



APPENDIX B

PERMITS

Alameda County Public Works Department Well Permits



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94344-1395 PHONE (518) 670-6623 James Yee

FAX (510)782-1939 applicants: please attach a site map for all drilling permit applications

DESTRUCTION OF WELLS OVER 45 WEST REQUIRES A SEPARATE PERMIT APPLICATION DRILLING PERMIT APPLICATION FOR OFFICE USE FOR APPLICANT TO COMPLETE PERMIT NUMBER LOCATION OF PROJECT WELL NUMBER ATTA TOUCK PURTY 3094 Hayward CA 94345 PERMIT CONDUTIONS Circled Permit Requirements Apply CCIENT A. CENERAL THAP YOU'S David Mais Address 3884 Dart Pa. Phone 510/782-9433 City Hay weard Zip 34545 1. A parmit application should be submitted on as to Attive at the ACPWA office five days prior to City Mayor Market The market in proposed surpling date. 2. Submit to ACPWA within 60 days after completion of APPLICANT pormitted original Department of Water Resources-Name ENGCO INC - Keikh Molvell Far 925/838-7425 Addrew 2401 Corbuicon Rd Phone 425/838-1600 City San Paman 210 246-2 Well Campletion Report. 1. Permit is void if project not begun within 90 days of approval date B. WATER SUPPLY WELLS t. Minimum surface seal thickness is two inches of coment grout piaced by tremic. TYPE OF PROJECT 2. Minimum seed depth is 50 feet for musicipal and Gestechnies! Investigation Well Coasbuction Industrial wells or 20 feet for domestic and imigation CI Cathodic Protection General walls unless a lessor depth is specially approved. Contamination Water Supply C. GROUNDWATER MONITORING WELLS Well Destraption Manitorina INCLUDING PIEZOMETERS I. Minimum surface seal thickness is two inches of PROPOSED WATER SUPPLY WELL USE cament grout placed by tremio. Replacement Domestic New Domestic 11 2. Minimum seal depth for monitoring wells is the Γï palgation Municipal maximum depth practicable or 20 fast. Industrial 17 Other D. QEOTECHNICAL Backfill bare hole by tremis with astment grout or coment DRILLING METHOD: groups and mixture. Upper two-three fuet replaced in kind Auger Mad Ratury 11 Air Rotary or with compacted cuttings. Other Cable E. CATHODIC Bill hale scrode zone with concrete placed by tremic. DRILLER'S NAME. P. WELL DESTRUCTION Send a map of work alle. A separate permit is required DRILLIBR'S LICENSEND. C 5.7for wells deaper than 45 feet G. SPECIAL CONDITIONS WELL PROJECTS NOTE: One application must be submitted for each well or wall Drill Hole Dlameter 3 Maximum Casing Diameter ___ Z " Depth <u> 2,0</u> Ո. destruction. Multiple borings on one application are acceptable for gootschnical and contamination investigations. Surface Sent Dopth - 3 Owner's Well Number GEOTECHNICAL PROJECTS Number of Dorings Maximum Hole Diameter ____ Depth. DATE 10-11-02 ESTIMATED STARTING DATE APPROVED ESTIMATED COMPLISION DATE 10-13-07 I hereby agree to emply with all requirements of this permit and Alameda County Ordinance No. 73-68. ANYLICANT'S SIGNATURE



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
390 ELIMINUST ST. HAYWARD CA. 04544-1375
PHONE (\$10) 670-6633 James You
FAX (\$10)782-1939

Applicants: Please attach a site map for all drilling fermit applications destruction of wells over 45 feet requires a separate permit application

DRILLING PERMIT APPLICATION

FOR OFFICE USE FOR APPLICANT TO COMPLETE AAH TOYCK PACTE PERMIT NUMBER WELL NUMBER Hayward CB PRRMIT CONDITIONS Circled Permit Requirements Apply CLIENT CLIENT Name Drawie Weis / HAN Truck / HAZ-9433 City Handward Zip 24545 A. GENERAL 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date. 2. Spomit to ACPWA within 60 days after completion of APPLICANT Name ENGEO Inc permitted original Department of Water Resources-Address 2401 Craw Cyn Rd Phone 475/838-7425 Well Completion Report. 3. Permit is void if project not begun within 90 days of City San Gruntin approval date B. WATER SUPPLY WELLS 1. Minimum surface scal this liness is two inches of TYPE DE PROJECT coment grout placed by tremic. 2. Minimum seal death is 50 feet for inventeinal and Well Construction Guotechnical Investigation industrial wells or 20 feet for domestic and imbanion Centeral E) Cathouic Proteotion wells unless a lesser depth is specially approved. Vincu2 juteW Contamination n CROUNDWATER MONITORING WELLS Mantioring Well Description INCLUDING PIEZOMETERS 1. Minimum surface seal thickness is two Inches of PROPOSED WATER SUPPLY WELL USE Replacement Domestic coment grout placed by tremie. New Donicatio 11 Municipal 2.Minimum seal death for monitoring wells is the 11 Irrigation I) maximura depth practicable or 20 feet. Industrial Other_ D. GEOTECHNICAL DRILLING METHODI Backfill have hale by fremic with cornect grout or coment Med Rotary Air Rotary U groupsend mixture. Upper two-shree feet replaced in kind or with compacted cuttings. E. CATRODIC DRILLER'S NAME Eres Fill hole anodo zone with concrets placed by wernie. F. WELL DESTRUCTION DRULER'S LICUNSEND C57 Send a map of work site. A separate permit is required for wells deeper than 45 feet. G. SPECIAL CONDITIONS WELL PROJECTS Drill Hole Diameter In. Casing Diarrater Zii in. NOTE: One application must be submitted for each well or well Maximum Depth ZO (L destruction. Multiple borings on one application are acceptable Surface Scal Depth _____ A. for geotechnical and contamination investigations. GEOTECHNICAL PROJECTS Number of Borings Maximum Hole Diameter Depth. ___DATE 10-21-02 ESTIMATED STARTING DATE ESTIMATED COMPLETION DATE 10, 23-02 17:16-02 APPROVED 1 kereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68. APPLICANT'S SIGNATURE COM NOVEM DATE 10-17-02 PLEASE PRINT NAME ____ Rev. 5-13-00



PLEASE PRINT NAME TO IT L NOWELL

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94544-1398 PHONE (510) 670-6613 James Yes FAX (510)782-1939

applicants: Plrase attack a site map for all drilling permit applications

destruction of wells over 43 feet requires a separate permit application DRILLING PERMIT APPLICATION FOR APPLICANT TO COMPLETE PERMIT NUMBER LOCATION OF PROJECT ATTA Truck Parts WELL NUMBER 3004 Depot Haymand... C.B... PERMIT CONDITIONS Circled Permit Requirements Apply CLIENT Oly Howard Weis / HAA Truck | 742-9433 A. CENERAL. 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting data. 2. Submit to ACPWA within 60 days efter completion of APPLICANT Name ENGED The permitted original Department of Water Resources-Well Completion Report Fax 725/ 838-7425 Address 2401 Crau Cya Rd Phone 425/838-1608 City San Ramen 20 94863 3. Pennit is void if project not begun within 90 days of approval date B. WATER SUPPLY WELLS 1. Minimum nurface soul thickness is two inches of TYPE OF PROJECT coment grout placed by tremic. Ocotechnical Investigation 2. Minimum seal depth is 50 feet for municipal and Well Construction Industrial wells or 20 feet for domastic and irrigation Garces) Cythodic Protection Contamination wells unloss a leasur depth is specially approved. Water Supply. C. GROUNDWATER MONITORING WELLS Well Destruction Monitoring INCLUDING PIEZOMETERS 1. Minimum surface sest thickness to two inches of PROPOSED WATER SUPPLY WELL USE ecment grout placed by tremie. New Domestic 11 Replacement Domestic 11 2. Minimum seed depth for montaoring wells to the Municipal Intigation 1) Industrial Other ____ maximum depth practicable or 20 feet. D. CEOTECHNICAL. DRILLING METHOD: Backfill bore hole by tremle with coment grout or coment groubsand mixture. Upper two-three feet replaced in kind Mud Rotery Air Rosary () or with compented cuttings II. CATHODIC Fill hale snade zone with concrete placed by tremis. V. WELL DESTRUCTION DRILLER'S LICENSENO. C.5.3-Send a map of work site. A separate permit is required for wells deeper than 45 feet. G. SPECIAL CONDITIONS WELL PROJECTS NOTE: One application must be submitted for each well or well Drill Hole Dimmeter Dopth 20 Cashig Diameter destruction. Multiple borings on one application are acceptable Owner's Well Number MW-3 for gootechnical and contamination investigations. GROTEGENICAL PROJECTS Maximum Number of Barings Hole Dinnieler _____in ESTIMATED STARTING DATE TOTTOMATED COMPLETION DATE 10-13-01 APPROVED I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

TOTAL P.06



APPENDIX C

DEPARTMENT OF WATER RESOURCES
Well Completion Reports
(To be included after signatures are recorded)

Well Borelogs
Well Construction Diagrams
Department of Water Resources 188 Rev 11-97 Forms

				DATE OF BORING: December 16, 2002		ОУМ	IN PI	ACE
(1.E.E.T.)	STERS)	3MBER	ION AN	SURFACE ELEVATION: Approx. 9 feet (3 meters)	BLOWS/FT	READING P.I.D. (10 0eV)	DRY UNIT	MOIST. CONTENT
рертн (гент)	DEPTH (METERS	SAMPLE NUMBER	LOG, LOCATION AND TYPE OF SAMPLE	DESCRIPTION		(Parts Per Million By Volume)	WEIGHT (PCF)	% DRY WEIGHT
-0	-			☐ CLAYEY SANDY GRAVEL (GP-GC), dark grayish brown, wet, becoming saturated, gravels to 3 inches maximum dimension, subangular to subrounded, trace wood fragment and metal parts. (FILL)			-	
- - - - 5	-1	I -1		SILTY CLAY (CH), dark grayish brown, stiff, very moist to wet, organic matter, common, organic odor.	15	6.9		
- - -	-2	1-2		SILTY fine to medium sand (SM), grayish brown, saturated, loose.	10	<1		
- 10	-3			Same as above, with coarsening sand. SILTY CLAY (Cl.), gray, very stiff, very moist.	29	<1		į
-	-4	1-3						
- 15	 - -5	1-4	\$ 53. \$ 53.	SANDY SILTY CLAY (CL), very moist CLAYEY GRAVEL with sand (GC), very moist, gravels to 1 inch maximum diameter, subrounded CLAYEY fine to medium sand (SC), yellowish brown, very moist, loose to		<1	•	
-				medium dense Same as above, with fine-grained sand.	:			ţ
20	-6	1-5			10	5 </td <td></td> <td>!</td>		!
Good College	-7			Bottom of boring at approximately 21 ⁻¹ / ₂ feet at 10:58 Groundwater level at 0.3 feet upon completion of drilling.				
- 25	5 F8							
S403H00HH AAAHKUMWAAFAANDO CAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	0 -9						1	
	_ <u>_</u> _	VGI	<u></u> ⊥⊥.	AAA TRUCK AND VAN PARTS	-		IW-1	FIGURE NO.
<u>≅</u> IN	Q C	RPOR	ATE	HAYWARD, CALIFORNIA	L	D BY: K Nowell	CHENEDBY	<u>C1</u>

				DATE OF BORING: December 16, 2002		OVM	IN PI	.ACE
DEPTH (FEET)	DEPTH (METERS)	SAMPLE NUMBER	OG. LOCATION ANI TYPE OF SAMPLE	SURFACE ELEVATION, Approx. 10 feet (3 meters)	BLOWS/FT	READING P.I.D. (10.0eV)	DRY UNIT WEIGHT	MOIST. CONTENT
DEPTH	DEPTH (SAMPLE	LOG, LOCATION AND TYPE OF SAMPLE	DESCRIPTION		(Parts Per Million By Volume)	(PCF)	% DRY WEIGHT
- 0				SILTY SANDY GRAVE!. (GP-SM), wet, frace metal parts. (FILL)		<1		
-5	-	2-1		SILTY CLAY (CH), very dark grayish brown, stiff to very stiff, very moist.	24	<1	:	
	-2	2-2			15	<1		,
10	3	2-3		Y SH.TY CLAY (CICH), dark grayish brown, very stiff, very moist.	14	<1	1	
- 15	-4	; ; ; ; 2-4		SILTY SAND with fine gravel (SM), dark grayish brown, sand is fine to coarse, gravels to ³ /, inch maximum dimension, subangular, saturated. SILTY CLAY (CL), mottled very dark grayish brown/grayish brown/white, stiff, very moist, locally abundant carbonates	18	;		
- 20				SILTY fine SAND (SM), dark grayish brown, saturated, medium dense.				
	-7	2-8		Very SILTY CLAY (CL), yellowish brown, very stiff, wet. Bottom of boring at approximately 21 ¹ / ₂ feet at 12.45. Groundwater at 8 8 feet upon completion of drilling.	30	<	1	
S463 (00 III) AAA I KUCAKAANPAKA ISONA OFI SAGAS	;							
STOOTUL AAATRUCK	- -9 -				ļ	,	,	
N L N	<u>co</u>	VGE RPOR	ATEC	HAYWARD, CALIFORNIA	LOGGET	NG NO.: N D BY: K Nowell :: 5403.1.001.0	CIRCLEDRY	FIGURE C2

				DATE OF BORING: December 16, 2002		OVM	IN PI	.ACE
EET)	TERS)	UMBER	ION AN	SURFACE ELEVATION: Approx. 10 feet (3 meters)	BLOWS/FT	READING P.J.D. (10.0eV)	DRY UNIT	MOIST.
DEPTH (FEE'I)	DEPTH (METERS)	SAMPLE NUMBER	LOG, LOCATION AND TYPE OF SAMPLE	DESCRIPTION		(Parts Per Milhon By Volume)	WEIGHT (PCF)	% DRY WEIGHT
0	-			CLAYEY GRAVEL (GC), very dark grayish brown, with fine to coarse sand, and gravel is fine to coarse, wet to saturated. (FILL)				
	-1	3-1		SILTY CLAY (CH), very dark brown, stiff, very moist, abundant organic material.		1.9		
5	-			Same as above, dark grayish brown.				
	-2	3-2		SILTY SANDY CLAY, (CL), dark grayish brown, very moist, sand is predominantly coarse grained, trace chunk carbonates.		2.3		
10	-3			SILTY SANDY CLAY (CL) mortled grayish brown/dark yellowish brown, stiff, very moist, sand is predominantly fine grained, minor carbonates.				
		3-3				3.1		
	-4							
15	5	3-4				1,2	ì	
		 		CLAYEY fine SAND (SC), yellowish brown, very moist, loose to medium dense.				
- 20	6	3-5				<1		
	-7			Bottom of boring at approximately 20 ½ feet at 10:50. Groundwater at 7.8 feet upon completion of drilling.			ł	
2.								
25	-8	F 1			,			
. 30	-9				:) } †	ţ.	7
			<u> </u> =0	AAA TRUCK AND VAN PARTS	BORIN	IG NO.: N	IW-3	FIGURE NO.
		RPOR BOYEARS OF E	ATED	HAYWARD, CALIFORNIA		BY: K. Nowell . 5403.1.001.0	1 827	<u>C3</u>

BORING/WELL NO. MW-1 MONITORING WELL DETAIL PROJECT NUMBER 5403.1.001.01 DATE OF INSTALLATION 12/16/02 PROJECT NAME AAA TRUCK & VAN PARTS TOP OF CASING ELEV 8.86' COUNTY ALAMEDA GROUND SURFACE ELEV. 9.25' WELL PERMIT NO. M 01-1107 DATUM MONUMENT AT 3898 DEPOT RD. CITY OF HAYWARD DATA *KKKKKKKKK* EXPLORATORY BORING 21.5 FT A. TOTAL DEPTH 8 IN B. DIAMETER Δ. DRILLING METHOD CONTINUOUS FLIGHT HOLLOW STEM AUGER Δ WELL CONSTRUCTION 20____FT. C. CASING LENGTH F MATERIAL SCH 40 PVC 2 IN. DIAMETER ____**15**___ FT. D. SLOTTED INTERVAL LENGTH SLOTTED INTERVAL FROM _____5 TO _____ FT. ____0.010____IN. SLOT SIZE E. FILTER PACK INTERVAL 4.75 TO 20 FT. FILTER MATERIAL MONTEREY #2/16 SAND D F. FILTER PACK SEAL 3.75 TO 4.75 FT. SEAL MATERIAL BENTONITE CHIPS G. GROUT INTERVAL 0 TO 3.75 FT. GROUT MATERIAL NEET CEMENT H. 12-INCH FLUSH MOUNT MONUMENT - B -

OR EXCERPTED

010160

BORING/WELL NO. MW-2 MONITORING WELL DETAIL PROJECT NUMBER 5403.1.001.01 DATE OF INSTALLATION 12/16/02 PROJECT NAME AAA TRUCK & VAN PARTS TOP OF CASING ELEV. 9.80' GROUND SURFACE ELEV. 10.22' COUNTY ALAMEDA WELL PERMIT NO. M 01-1107 DATUM MONUMENT AT 3898 DEPOT RD. CITY OF HAYWARD DATA XXXXXXXXXXX EXPLORATORY BORING Δ Δ 21.5 FT Δ A. TOTAL DEPTH **8** ____IN. B. DIAMETER Δ . G DRILLING METHOD CONTINUOUS FLIGHT HOLLOW STEM AUGER Δ Δ WELL CONSTRUCTION 20 FT. C. CASING LENGTH F MATERIAL SCH 40 PVC 2 IN. DIAMETER Α C 15 FT. D. SLOTTED INTERVAL LENGTH SLOTTED INTERVAL FROM <u>5</u> TO <u>20</u> FT. _____0.010____ IN. SLOT SIZE E. FILTER PACK INTERVAL 4.75 TO 20 FT. FILTER MATERIAL MONTEREY #2/16 SAND D F. FILTER PACK SEAL 3.75 TO 4.75 FT. SEAL MATERIAL BENTONITE CHIPS G. GROUT INTERVAL 0 TO 3.75 FT. GROUT MATERIAL NEET CEMENT



H. 12-INCH FLUSH MOUNT MONUMENT

- B -

OF ENGEO INCORPORATED.

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BORING/WELL NO. MW-3 MONITORING WELL DETAIL PROJECT NUMBER 5403.1.001.01 DATE OF INSTALLATION 12/30/02 PROJECT NAME AAA TRUCK & VAN PARTS TOP OF CASING ELEV. 9.52' COUNTY ALAMEDA GROUND SURFACE ELEV. 9.78' WELL PERMIT NO. M 01-1107 DATUM MONUMENT AT 3898 DEPOT RD. CITY OF HAYWARD DATA NAMES OF THE PROPERTY OF THE P EXPLORATORY BORING ._Δ. Δ 20.5 FT A. TOTAL DEPTH 8___IN. B. DIAMETER DRILLING METHOD CONTINUOUS FLIGHT HOLLOW STEM AUGER WELL CONSTRUCTION 20 FT C. CASING LENGTH MATERIAL SCH 40 PVC _____ IN. DIAMETER 15 FT. D. SLOTTED INTERVAL LENGTH SLOTTED INTERVAL FROM 5 TO 20 FT. 0.010 IN. SLOT SIZE E. FILTER PACK INTERVAL 4.75 TO 20 FT. FILTER MATERIAL MONTEREY #2/16 SAND D F. FILTER PACK SEAL _______ TO _____ TO _____ FT. SEAL MATERIAL BENTONITE CHIPS G. GROUT INTERVAL 0 TO 3.75 FT. GROUT MATERIAL NEET CEMENT H. 12-INCH FLUSH MOUNT MONUMENT 0 2003 В

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P P E N D I X D



APPENDIX D

GROUNDWATER WELL INSTALLATION DATA

Soil Sampling Forms Groundwater Monitoring Well Sampling Forms Groundwater Monitoring Well Data

ENGEO INCORPORATED SOIL SAMPLING INFORMATION

Job Name:	AAA Truck & Van	Job Number:	5403.3.002.01
Location1:	3884 Depot Road	Date:	12/16/2002
Location2:	Hayward, California	By:	K. Nowell
Client:	D. Weiss		

DRILLING INFORMATION

Drilling Contractor:	Gregg	License No.:	C-57 485165
Auger Type:	Continuous flight	Sampler Type:	CA Modified 3-inch OD
Hole Diameter:	8-inch	-	

SAMPLING INFORMATION

Decon Procedure:	TSP: X	Tap Wate	r: X	
	Solvent:	Acid:		_
	· · · · · · · · · · · · · · · · · · ·	-		

Sample Number	Time	Size	Test	Comments
1- 1	10:40	2.5" x 6"	Hold	3 - 3.5-foot sample interval
1- 2	10:47	2.5" x 6"	TPH,VOC,TOG,LUFTm	7 - 7.5-foot sample interval
1- 3	10:52	2.5" x 6"	Hold	11 - 11.5-foot sample interval
1- 4	10:55	2.5" x 6"	Hold	15 - 15.5-foot sample interval
1- 5	10:58	2.5" x 6"	Hold	21 - 21.5-foot sample interval
2- 1	12:25	2.5" x 6"	Hold	4 - 4.5-foot sample interval
2- 2	12:30	2.5" x 6"	TPH,VOC,TOG,LUFTm	7 - 7.5-foot sample interval
2- 3	12:35	2.5" x 6"	Hold	11 - 11.5-foot sample interval
2- 4	12:40	2.5" x 6"	Hold	16 - 16.5-foot sample interval
2- 5	12:45	2.5" x 6"	Hold	21 - 21.5-foot sample interval
			<u> </u>	

ENGEO INCORPORATED SOIL SAMPLING INFORMATION

Job Name:	AAA Truck & Van	Job Number:	5403.3.002.01	
Location1:	3884 Depot Road	Date:	12/30/2002	
Location2:	Hayward, California	By:	K. Nowell	
Client:	D. Weiss			

DRILLING INFORMATION

Drilling Contractor:	Gregg	License No.: C-57 485165
Auger Type:	Continuous flight	Sampler Type: CA Modified 2-inch OD
Hole Diameter:	8-inch	

SAMPLING INFORMATION

Decon Procedi	ure: TSP:	X	Tap	Water:	Х	
	Solven	t:	Acid			
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ample Number	Time	Size	Test		Comments	

Sample Number	Time	Size	Test	Comments
3- 1	10:40	1.5" x 6"	Hold	3 - 3.5-foot sample interval
3- 2	10:47	1.5" x 6"	TPH,VOC,TOG,LUFTm	7 - 7.5-foot sample interval
3- 3	10:52	1.5" x 6"	Hold	11 - 11.5-foot sample interval
3- 4	10:55	1.5" x 6"	Hold	15 - 15.5-foot sample interval
3- 5	10:58	1.5" x 6"	Hold	20 - 20.5-foot sample interval

ENGEO INCORPORATED GROUNDWATER SAMPLING INFORMATION

Job Name:	AAATruck & Van Parts
Location:	3884 Depot Road
	Hayward, California
Client:	AAATruck & Van Parts

Job Number:	5403.3.002.01
Date:	01/23/03
Ву:	K. Nowell

WELL INFORMATION

Well Number:	MW-1	
Total Depth (ft.):	19.48	TOC
Depth to Water (ft.):	4.05	TOC

Casing Diameter (in.):	2.00
Screen Length (ft.):	15
Casing Volume (gal.):	2.7

PURGING INFORMATION

Bailer:	Χ	Pump:	Rate:	
Volume	Rer	noved (gal	.):	12

Time (init./fin.):	14:44 / 15:20
Number of Casing V	olumes: 4.5

Time	Volume Removed (Gal.)	Total Casing Volumes	Temperature (Degrees Centigrade)	Conductivity (micromohs)	Hq	TDS (ppm)	Comments
14:44					•		Initial, no odor, no sheen
14:51	3.0	1.1	15.7	3420	6.7	≥999	Moderately turbid
15:00	6.0	2.2	15.7	3390	6.7	≥999	Moderately turbid
15:11	9.0	3.3	16.0	3350	6.7	≥999	Slightly turbid
15:20	12.0	4.5	15.9	3370	6.7	≥999	Slightly turbid

SAMPLE INFORMATION

	Disposable:	X
Decon Procedure:	TSP	
Bailer: X Pump:		

Distilled Water:	
Other:	

Time	0120714	umber	Preservative	Test	Comments
15:25	40 ml	3	None	TPHg / VOCs	Slightly turbid
15:30	500 ml	1	None	Luft metals	Slightly turbid
15:35	1000 ml	3	None	TEPH / O&G	Slightly turbid
-	15:30	15:30 500 ml	15:30 500 ml 1	15:30 500 ml 1 None	15:30 500 ml 1 None Luft metals

ENGEO INCORPORATED GROUNDWATER SAMPLING INFORMATION

Job Name:	AAATruck & Van Parts
Location:	3884 Depot Road
	Hayward, California
Client:	AAATruck & Van Parts

Job Number:	5403.3.002.01	_
Date:	01/23/03	_
Ву:	K. Nowell	-

WELL INFORMATION

Well Number:	MW-2	
Total Depth (ft.):	19.44	TOC
Depth to Water (ft.):	5.32	TOC

Casing Diameter (in.):	2.00
Screen Length (ft.):	15
Casing Volume (gal.):	2.5

PURGING INFORMATION

Baiter: X Pump: Ra	ate:	Time (init./fin.):	13:13 / 13:39
Volume Removed (gal.):	10	Number of Casing V	olumes: 4.1

Time	Volume Removed (Gal.)	Total Casing Volumes	Temperature (Degrees Centigrade)	Conductivity (micromohs)	pН	TDS (ppm)	Comments
13:13							Initial, no odor, no sheen
13:18	2.5	1.0	16.8	5000	6.6	≥999	Moderately turbid
13:25	5.0	2.0	16.8	5560	6.5	≥999	Moderately turbid
13:33	7.5	3.0	16.6	5650	6.5	≥999	Moderately turbid
13:39	10.0	4.1	16.7	5610	6.6	≥999	Slightly turbid

SAMPLE INFORMATION

Bailer: X Pump:		
Decon Procedure:	TSP	Distilled Water:
	Disposable: X	Other:

Sample	Time	Size / I	Number	Preservative	Test	Comments
MW-2	13:45	40 ml	3	None	TPHg / VOCs	Slightly turbid
11	13:50	500 ml	1	None	Luft metals	Slightly turbid
11	13:55	1000 ml	3	None	TEPH / O&G	Slightly turbid

ENGEO INCORPORATED GROUNDWATER SAMPLING INFORMATION

Job Name:	AAATruck & Van Parts	Job Number:	5403.3.002.01	
Location:	3884 Depot Road	Date:	01/23/03	
	Hayward, California	Ву:	K. Nowell	
Client:	AAATruck & Van Parts			

WELL INFORMATION

Well Number:	MW-3		Casing Diameter (in.):	2.00
Total Depth (ft.):	20.09	TOC	Screen Length (ft.):	15
Depth to Water (ft.):	4.72	TOC	Casing Volume (gal.):	2.7

PURGING INFORMATION

Bailer: X Pump: Rate:	Time (init./fin.): 11:00	11:35
Volume Removed (gal.): 12	Number of Casing Volumes:	4.5

Time	Volume Removed (Gal.)	Total Casing Volumes	Temperature (Degrees Centigrade)	Conductivity (micromohs)	pН	TDS (ppm)	Comments
11:00							Initial, no odor, no sheen
11:08	3.0	1.1	16.8	2210	6.7	≥999	Turbid
11:18	6.0	2.2	16.7	2220	6.7	≥999	Turbid
11:26	9.0	3.4	16.9	2210	6.7	≥999	Moderately turbid
11:35	12.0	4.5	16.8	2210	6.7	≥999	Moderately turbid
·····							
1							
	1						

SAMPLE INFORMATION

Bailer: X Pump:			
Decon Procedure:	TSP		Distilled Water:
	Disposable:	Х	Other:

Sample	Time	Size / N	lumber	Preservative	Test	Comments
MW-3	11:50	40 ml	3	None	TPHg / VOCs	Moderatetly turbid
U	11:55	500 mi	1	None	Luft metals	Moderately turbid
"	12:00	1000 ml	3	None	TEPH / O&G	Moderately turbid

ENGEO INCORPORATED GROUNDWATER MONITORING WELL DATA

Project: AAATruck & Van Parts

Project No: 5403.3.002.01

3884 Depot Road

Location: Hayward, California

Proj. Date: 1/23/2002

GROUND-WATER GRADIENT CALCULATION

Maximum Elevation (ft-ms)

3.54 Minimum Elevation (ft-msl)

Mid Elevation (ft-msl):

4.80 163 Distance Max - Min (ft):

Equipotential Point:

(Feet From Min Point along Min-Max line)

Data based on wells MW 1, 2 & 3:

Gradient, i:

0.0135

5.75

93

(Vertical feet per linear foot,)

Flow direction:

North -northwest

WATER ELEVATION DATA

WELL#	Vauit Elevation (msl)	Casing Elevation (msl)	Casing Height (ft)	Depth to Water (tc/ft)	Water Elev (msl)	Water Depth (ft)
MW-1	10.22	9.80	0.42	4.05	5.75	4.47
MW-2	9.25	8.86	0.39	5.32	3.54	5.71
MW-3	9.78	9.52	0.26	4.72	4.80	4.98

WELL CONSTRUCTION DETAILS

	Installation Date	Boring Diameter (in)	Total Depth (ft)	Casing Diameter (in)	Top of Screen (bgl)	Top of Filter Pack (bgl)
WELL# 1 MW-1	16-Dec-02	8.00	20.0	2.00	5.0	4.8
MW-2	16-Dec-02	8.00	20.0	2.00	5.0	4.8
MW-3	30-Dec-02	8.00	20.0	2.00	5.0	4.8

	Distances		
Distances based	on co-ordinates MW-1, MW-	2, MVV-3	
Well	X- coordinate	Y- coordinate	
MW-1	2,058,423	6,088,281	High well
MW-2	2,058,579	6,088,329	Low well
MW-3	2,058,588	6,088,528	Mid well
Distance between	high and low wells	163.34	feet

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APPENDIX E

PROCEDURES AND PROTOCOLS

Laboratory Procedures Groundwater Sampling Protocols Soil Sampling Protocols



GROUNDWATER SAMPLING PROTOCOL

Equipment Cleaning

Ground-water samples are recovered in pre-cleaned disposable polyethylene or Teflon bailers. The samples are then placed in pre-cleaned laboratory supplied glassware. Sample bottles and caps remain sealed until actual usage at the site. Before and during use at the site, equipment which comes in contact with the well or ground water is thoroughly cleaned with trisodium phosphate or Alquinox and rinsed with deionized or distilled water. This procedure occurs between each sampling event. Monitoring wells are sampled in approximate order of increasing contamination.

Prior to field activities groundwater and field monitoring equipment are calibrated using the appropriate calibration standards.

Water Level Measurements

Prior to checking for floating product, purging of the well and sampling, the depth to water is measured in each well using a sealed sounding tape of a scaled electric sounder. Water levels are recorded in the field to the nearest 0.01 foot from a common reference point on the well casing.

Floating Product Thickness

A field check for floating product is made with a clean and clear acrylic or Teflon bailer. Thickness of floating product as well as odor and color of the water is recorded. A clean nylon or cotton cord is used in each well. The cords are replaced with new cords prior to the sampling event.

Water Sampling Procedures

Prior to sampling of the groundwater, a minimum of four to ten well-casing volumes of water are removed from the well. The volume of water to be removed is calculated from the measurements of the water level, casing diameter, and the well depth. Water is removed by bailer, hand pump, or submersible electric pump. During purging, temperature, pH, dissolved solids, and oxidation-reduction potential are monitored for stabilization (±10%). Turbidity of the water is also noted either qualitatively or by means of a NTU instrument. A water sample is collected using a clean disposable polyethylene bailer when the appropriate volume has been purged or when the parameters have stabilized and a minimum of four well-casings have been purged. If the well is dewatered during purging, the well is allowed to recover to 80 percent of the static water level prior to sampling. If recovery exceeds a



two-hour duration, the sample will be collected when a sufficient volume is available for the specific laboratory analyses.

Collection of Samples

Groundwater samples are collected in the appropriately sized pre-cleaned laboratory containers. Samples for volatile organic analyses are recovered in 40-milliliter vials lined with a Teflon septum. The volatile organic samples are recovered with zero headspace to prevent the loss of volatile constituents.

Groundwater samples for metal analyses are either filtered in the field using a pressurized bailer system, or filtered in the analytical laboratory. Following filtering, the metal samples are acidified to pH < 2 with HNO_3 or HCl.

The water sample containers are labeled with the appropriate sample number, location, project name and number, time of collection and the date. Chain-of-custody forms are logged with the same information, signed and accompany the samples. Samples are placed in an iced cooler and transported to a state-certified analytical laboratory. Travel and equipment blanks are submitted on a project-specific basis to provide for laboratory and field QA/QC.



SOIL SAMPLING PROTOCOL

Soil Sampling by Drill Rig

Review and confirmation of the proposed boring locations and special instructions are discussed with the client prior to sampling. Underground Service Alert (USA) and/or private utility locators are contacted to mark utilities in the area before beginning the drilling activities.

Equipment used in drilling is steam cleaned prior to its arrival at the site. Equipment includes, but is not limited to, augers, bits, drilling rod, samplers and sample liners. The sampler is thoroughly cleaned with trisodium phosphate or Alquinox and rinsed with distilled water between sampling intervals.

Each exploratory boring is drilled with a truck-mounted drilling rig using either solid flight or hollow stem augers. The boring is advanced to the desired sampling depth and the sampler is then lowered to the bottom of the hole. The sampler is driven a maximum of 18 inches by a 140-pound, rig-operated hammer falling 30 inches. The number of blows required to drive the sampler the final 12 inches is recorded on the boring log.

The samplers commonly used are either a California-type sampler (3-inch or 2.5-inch) or a standard penetrometer (2-inch). If samples are collected for laboratory analysis, a California sampler equipped with brass or stainless steel liners is used.

Upon retrieval, the sampler is disassembled into its component parts. One or more of the liners are selected for chemical analysis. The selected liner(s) are sealed with Teflon sheets, plastic caps, and tape. The samples are then labeled, logged on the chain-of-custody and preserved in a cooled ice chest.

Each soil sample is classified in the field with the aid of the Unified Soil Classification System and a Munsell soil color chart. Soil descriptions are detailed on the boring log.

Soil samples may also be field-screened for volatile organic vapor with a photoionization detector (PID) calibrated to a 100 ppm isobutylene standard. Soil samples or auger cuttings are placed into polyethylene bags or glass mason jars and allowed to accumulate (PID) headspace vapors for a period of five to ten minutes (temperature dependent). The instrument probe is inserted into the bags or mason jars and the maximum reading is recorded.

Samples are held in the possession of ENGEO personnel until transfer to the analytical laboratory. The transfer is accomplished in one of three ways; on-site pick up by the



laboratory, pick up by the laboratory at ENGEO offices; or delivery to the laboratory by ENGEO. Each transfer of responsibility is documented on a chain-of-custody log that accompanies the sample(s).



LABORATORY PROCEDURES

Laboratory Contractor Selection

The laboratories selected to perform the analytical work are certified by the California State Department of Health Services as qualified to perform the selected analyses. The selected laboratories are reviewed by ENGEO to provide that an adequate quality control program is in place and certified by the State of California.

Chain-of-Custody Control

The following procedures are used during sampling and analytical activities to provide chain-of-custody control during transfer of samples from collection through delivery to the laboratory.

- Contact with the laboratory prior to the sampling date to attain the appropriate containers
 for the desired analysis and to alert the laboratory to the date of sampling and sample
 pick up.
- Documentation of the field sampling activities is logged.
- Each sample is clearly and completely labeled for identification.
- Chain-of-custody record documenting the transfer and possession of samples is maintained.
- A laboratory analysis request sheet for documenting analyses to be performed is completed.

Samples Containers

Sample containers vary with each type of analytical parameter. Selected container types and materials are non-reactive with the sample and the particular analytical parameter being tested. Sample containers are cleaned and sterilized by the certified laboratory according to the EPA protocol for the individual analyses.

Sample Preservation and Shipment

Various preservatives are used by the certified laboratory to retard chemical changes in the samples. The samples are stored on ice after collection. Sample shipment from ENGEO to laboratories performing the selected analyses routinely occurs within 24 hours of sample



collection. Sample holding times designated by DHS and the EPA for the specific analyses are observed.

Analytical Procedures

The analysis of groundwater and soil samples is conducted in accordance with accepted quantitative analytical procedures. The following publications are considered the primary references for ground-water sample analysis, and the contracts with the laboratories analyzing the samples stipulate that the methods set out in these publications be used. These procedures used are periodically updated by federal and state agencies.

Standard Methods for the Examination of Water and Wastewater, 16th Edition, American Public Health Association, et al., 1985.

Methods for Chemical Analysis of Water and Wastes, United States Environmental Protection Agency, 600/4-79-020, March 1979.

<u>Test Methods for Evaluation of Solid Waste: Physical/Chemical Methods</u>, United States Environmental Protection Agency, SW-846, 1982.

Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, United States Environmental Protection Agency, 600/4-82-057, 1982.

Practical Guide for Ground-Water Sampling, United States Environmental Protection Agency, 600/2-85/104.

RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, United States Environmental Protection Agency, September 1986.

<u>Leaking Underground Tank Field Manual</u>, State of California Leaking Underground Fuel Tank Task Force; October 1989.

Tri-Regional Board Staff Recommendations For Preliminary Evaluation and Investigation of Underground Tank Sites, State of California Regional Water Quality Control Board (Regions 1, 2, and 5), August 10, 1990.

A P P E N D I

F



APPENDIX F

McCampbell Analytical Inc.

Laboratory Analytical Report

McCampbell	Analytical	Inc
	-	

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622

2500				http://www.i	nccampbell.com E-mail: 1	паіл@піссатр	bell.com	<u> </u>
ENGEO Inco	orporated		ject ID: #5403	1.002.01; Truck	Date Sampled:	12/16/02		
2401 Crow C	Canyon Rd, Ste. 200	& Van			Date Received:	12/16/02		
San Ramon,	CA 04583	Client Cor	ntact: Keith Nov	vell	Date Extracted:	12/16/02-	12/18/	02
Buil Ruitoli,	CA 94365	Client P.O	J.:	Date Analyzed:	12/19/02			
Extraction method:	SW5030B	line Range		ile Hydrocarbons hods: SW8021B/8015Crt		We	ork Order:	0212283
Lab ID	Client ID	Matrix		TPH(g)			DF	% SS
002A	1-2	S		27,g,m			1	107
006A	2-2	S		ND			1	107
							! 	
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water and vapor camples are reported in up	da bac lica. Ily	udge samples in murker uppe samples in unduring and TCLD extends in und	
above the reporting limit	3	1.0	mg/K.g
ND means not detected at or		1.0	
Reporting Limit for DF =1;	W j	NA	NA

Reporting Limit for DF =1;

⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; c) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas), m) no recognizable pattern.



NA

[#] cluttered chromatogram; sample peak coclutes with surrogate peak.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

ENGEO Incorporated	Client Project ID: #5403.1.002.01; Truck & Van	Date Sampled: 12/16/02
2401 Crow Canyon Rd, Ste. 200	CC Vali	Date Received: 12/16/02
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 12/16/02-12/18/02
, 	Client P.O.:	Date Analyzed: 12/17/02-12/20/02

Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil*

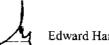
Extraction method: S	W3550C	···	Analytical methods: SW8015	C	Work Ord	ет: 021228;	
Lab ID	Client ID	Matrix	ТРН(d)	TPH(mo)	DF	% SS	
0212283-002A	1-2	s	27,n,g	21	ī	89.3	
0212283-006A	2-2	S	ND	ND	1	104	
					 		
:					†· †-		
		;					
••							
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:					-		
					7	-	
Reporting L ND means or	imit for DF =1; of detected at or	W	NA	NA	ug/I	_	
above the	reporting limit	S	1.0	5.0	mg/Kg		

^{*} water and vapor samples are reported in $\mu g/L_s$ wipe samples in ug/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L_s and all TCLP / STLC / SPLP extracts in $\mu g/L_s$

[#] cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent / mineral spirit.

McC	ampbell Analytic	al Inc.		1	2nd Avenue South, #D7, Pacher Telephone: 925-798-1620 Fax www.mccampbell.com E-mail: n	c: 925-798-1622
ENGEO Incor	porated		roject ID: #54	403.1.002.01; Truc		12/16/02
2401 Crow Ca	inyon Rd, Ste. 200	& Van			Date Received:	12/16/02
San Ramon, CA 94583		Client Co	ontact: Keith	Nowell	Date Extracted:	12/16/02-12/18/02
Dan Kamon, C	01 Crow Canyon Rd, Ste. 200 Cli Ramon, CA 94583 Petr alytical Method: SM5520E/F Lab ID Client ID 12283-002A 1-2	Client P.	O.:	~	Date Analyzed:	12/18/02
Analytical Method:		Petroleum	n Oil & Grea	se with Silica Gel	Clean-Up*	Work Order: 0212283
Lab ID	Client ID		Matrix		POG	<u></u>
0212283-002A	1-2		s	<u></u>	ND	
0212283-006A	2-2		s		ND	
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			w	-	NA	
Method A	accuracy and Reporting Units	,	s		NA 50 mg/Kg	
			1		~ .	



110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
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		2 mass statistical poeticons
ENGEO Incorporated	Client Project ID: #5403.1.002.01; Truck & Van	Date Sampled: 12/16/02
2401 Crow Canyon Rd, Ste. 200		Date Received: 12/16/02
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 12/16/02-12/18/02
	Client P.O.:	Date Analyzed: 12/20/02

Volatiles Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0212283

Client ID Matrix	110	50 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	I-2 Soil Compound Benzene Bromochloromethane Bromoform 2-Butanone (MEK) sec-Butyl benzene Carbon Disulfide Chlorobenzene 2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane 1,3-Dichlorobenzene	Concentration * ND	DF 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Reporting Limit 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
Compound Concent Acetone ND< Bromobenzene N Bromodichloromethane N Bromomethane N n-Butyl benzene tert-Butyl benzene N Carbon Tetrachloride N Chloroethane N	110	50 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	Soil Compound Benzene Bromochloromethane Bromoform 2-Butanone (MEK) sec-Butyl benzene Carbon Disulfide Chlorobenzene 2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND N	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
Acetone NDS Bromobenzene N Bromodichloromethane N Bromomethane N n-Butyl benzene tert-Butyl benzene N Carbon Tetrachloride N Chloroethane N	110	50 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	Benzene Bromochloromethane Bromoform 2-Butanone (MEK) sec-Butyl benzene Carbon Disulfide Chlorobenzene 2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND N	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
Bromobenzene N Bromodichloromethane N Bromomethane N n-Butyl benzene tert-Butyl benzene N Carbon Tetrachloride N Chloroethane N	D 1.0	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Bromochloromethane Bromoform 2-Butanone (MEK) sec-Butyl benzene Carbon Disulfide Chlorobenzene 2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND ND ND ND ND ND ND ND	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0
Bromodichloromethane N. Bromomethane N. n-Butyl benzene tert-Butyl benzene N. Carbon Tetrachloride N. Chloroethane N.	D 1.0 D 1.0 C 1.0 D 1.0	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Bromoform 2-Butanone (MEK) sec-Butyl benzene Carbon Disulfide Chlorobenzene 2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND ND 20 ND ND ND ND ND ND ND N	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	5.0 5.0 10 5.0 5.0 5.0 5.0 5.0
Bromomethane N	D 1.0 61 1.0 D 1.0	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	2-Butanone (MEK) sec-Butyl benzene Carbon Disulfide Chlorobenzene 2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND 20 ND ND ND ND ND ND ND	1.0 1.0 1.0 1.0 1.0 1.0	5.0 10 5.0 5.0 5.0 5.0 5.0
n-Butyl benzene N tert-Butyl benzene N Carbon Tetrachloride NI Chloroethane NI	61 1.0 D 1.0	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	sec-Butyl benzene Carbon Disulfide Chlorobenzene 2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	20 ND ND ND ND ND ND ND	1.0 1.0 1.0 1.0 1.0 1.0	5.0 5.0 5.0 5.0 5.0 5.0
tert-Butyl benzene N Carbon Tetrachloride NI Chloroethane NI	D 1.0 D 1.0 D 1.0 D 1.0 D 1.0 D 1.0 D 1.0 D 1.0	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Carbon Disulfide Chlorobenzene 2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND ND ND ND ND ND ND ND	1.0 1.0 1.0 1.0 1.0	5.0 5.0 5.0 5.0 5.0
Carbon Tetrachloride NI Chloroethane NI	D 1.0 D 1.0 D 1.0 D 1.0 D 1.0 D 1.0 D 1.0	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Chlorobenzene 2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND ND ND ND ND ND ND ND	1.0 1.0 1.0 1.0	5.0 5.0 5.0 5.0
Chloroethane N	D 1.0 D 1.0 D 1.0 D 1.0 D 1.0 D 1.0	5.0 5.0 5.0 5.0 5.0 5.0	2-Chloroethyl Vinyl Ether Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND ND ND ND ND	1.0 1.0 1.0 1.0	5.0 5.0 5.0
!	D 1.0 D 1.0 D 1.0 D 1.0 D 1.0	5.0 5.0 5.0 5.0 5.0	Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND ND ND ND	1.0 1.0 1.0	5.0 5.0
Chloroform	D 1.0 D 1.0 D 1.0 D 1.0	5.0 5.0 5.0 5.0	Chloromethane 4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND ND ND	1.0	5.0
1	D 1.0 D 1.0 D 1.0	5.0 5.0 5.0	4-Chlorotoluene 1,2-Dibromo-3-chloropropane Dibromomethane	ND ND	1.0	
2-Chlorotoluene Ni) 1.0 D 1.0	5.0 5.0	1,2-Dibromo-3-chloropropane Dibromomethane	ND		1 11
Dibromochloromethane Ni	D 1.0	5.0	Dibromomethane	·	1 11	5.0
1,2-Dibromoethane (EDB) N			1 3-Dichlorobenzene		1.0	5.0
1,2-Dichlorobenzene NI	1.0		T A 1-2 A 21 COTOLO DO CITA CITA	ND	1.0	5.0
1,4-Dichlorobenzene Ni		5.0	Dichlorodifluoromethane	ND	1.0	5.0
I,1-Dichloroethane Ni	0.1	5.0	1.2-Dichlorocthane (1,2-DCA)	ND ND	1.0	5.0
1,1-Dichloroethene NI	0.1	5.0	cis-1,2-Dichloroethene	ND ND	1.0	5.0
trans-1,2-Dichloroethene NI) 1.0	5.0	1,2-Dichloropropane	ND ND	1.0	5.0
1,3-Dichloropropane NI		. 5.0	2,2-Dichloropropane	ND	1.0	5.0
1,1-Dichloropropene NI	1.0	5.0	cis-1,3-Dichloropropene	ND I	1.0	5.0
trans-1,3-Dichloropropene NI) 1.0	5.0	Ethylbenzene	25	1.0	5.0
Hexachlorobutadiene NI	0.1	5.0	2-Hexanone	ND ND	1.0	5.0
lodomethane (Methyl iodide) NI	0.1	10	4-Isopropyl toluene	ND ·	1.0	5.0
Isopropylbenzene	13 1.0	5.0	4-Methyl-2-pentanone (MIBK)	ND I	1.0	5.0
Methylene chloride NDs		5.0	Methyl-t-butyl ether (MTBE)	10	$\frac{1.0}{1.0}$;	5.0
Naphthalene	150 1.0	5.0	n-Propyl benzene	55	1.0	5.0
Styrene NI	1.0	5.0	1,1,1,2-Tetrachloroethane	ND	1.0	5.0
1,1,2,2-Tetrachloroethane NI		5.0	Tetrachloroethene	ND	1.0	5.0
Toluene	12 1.0	5.0	1,2,3-Trichlorobenzene	ND ND	:-0 1.0	5.0
1,2,4-Trichlorobenzene NI		5.0	1,1,1-Trichloroethane	ND -	1.0	5.0
1,1,2-Trichloroethane NI	+	5.0	Trichloroethene	ND ND	1.0	5.0
Trichlorofluoromethane NI	+	5.0	1,2,3-Trichloropropane	ND ND	1.0	
1,2,4-Trimethylbenzene	74 1.0	5.0	1,3,5-Trimethylbenzene	30	1.0	5.0 5.0
Vinyl Acetate N[50	Vinyl Chloride	ND	1.0	5.0
Xylcnes	41 1.0	5.0		L [[1.0	3.0
	Sur	rogate Re	ecoveries (%)			
%SS1:	106		%SS2:	106		
%SS3:	106		· · · · · · · · · · · · · · · · · · ·	i		
Comments:						

^{*} water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.



ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com/E-mail: main@mccampbell.com/

ENGEO Incorporated	Client Project ID: #5403.1.002.01; Truck & Van	Date Sampled: 12/16/02
2401 Crow Canyon Rd, Ste. 200	& van	Date Received: 12/16/02
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 12/16/02-12/18/02
Ball Ramon, CA 94303	Client P.O.:	Date Analyzed: 12/20/02

Volatiles Organics by P&T and GC/MS (Basic Target List)*

 Extraction Method:
 SW 5030B
 Analytical Method:
 SW 8260B
 Work Order: 0212283

 Lab ID
 0212283-006A

 Client ID
 2-2

 Matrix
 Soil

Matrix Soil							
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<110	1.0	50	Benzene	ND	1.0	5.0
Bromobenzene	ND	1.0	5.0	Bromochloromethane	ND	1.0	5.0
Bromodichloromethane	ND	1.0	5.0	Bromoform	ND	1.0	5.0
Bromomethane	ND	1.0	5.0	2-Butanone (MEK)	ND	0.1	10
n-Butyl benzene	ND	1.0	5.0	sec-Butyl benzene	ND	1.0	5.0
tert-Butyl benzene	ND	1.0	5.0	Carbon Disulfide	ND	1.0	5.0
Carbon Tetrachloride	ND	1.0	5.0	Chlorobenzene	ND	1.0	5.0
Chloroethane	ND	1.0	5.0	2-Chloroethyl Vinyl Ether	ND	1.0	5.0
Chloroform	ND	1.0	5.0	Chloromethane	··· ND	1.0	5.0
2-Chlorotoluene	ND	1.0	5.0	4-Chlorotoluene	ND	1.0	5.0
Dibromochloromethane	ND	1.0	5.0	1,2-Dibromo-3-chloropropane	ND	1.0	5.0
1,2-Dibromoethane (EDB)	ND	1.0	5.0	Dibromomethane	ND ND	1.0	5.0
1,2-Dichlorobenzene	ND	1.0	5.0	1,3-Dichlorobenzene	ND	1.0	5.0
1,4-Dichlorobenzene	ND	1.0	5.0	Dichlorodifluoromethane	ND	1.0	5.0
1,1-Dichlorocthane	ND	1.0	5.0	1,2-Dichloroethane (1,2-DCA)	ND	1.0	5.0
1,1-Dichloroethene	ND	1.0	5.0	cis-1,2-Dichloroethene	ND	1.0	5.0
trans-1,2-Dichloroethene	ND	1.0	5.0	1,2-Dichloropropane	ND	1.0	5.0
1,3-Dichloropropane	ND	1.0	5.0	2,2-Dichloropropane	ND	1.0	5.0
1,1-Dichloropropene	ND	1.0	5.0	cis-1,3-Dichloropropene	ND	1.0	5.0
trans-1,3-Dichloropropene	ND	1.0	5.0	Ethylbenzene	ND	1.0	5.0
Hexachlorobutadiene	ND	1.0	5.0	2-Hexanone	ND	1.0	5.0
Iodomethane (Methyl iodide)	ND	1.0	10	4-Isopropyl toluene	ND	1.0	5.0
Isopropylbenzene	ND	1.0	5.0	4-Methyl-2-pentanone (MIBK)	ND	1.0	5.0
Methylene chloride	ND<35	1.0	5.0	Methyl-t-butyl ether (MTBE)	ND	1.0	5.0
Naphthalene	ND	1.0	5.0	n-Propyl benzene	ND	1.0	5.0
Styrene	ND	1.0	5.0	1,1,1,2-Tetrachloroethane	ND	1.0	5.0
1,1,2,2-Tetrachloroethane	ND	1.0	5.0	Tetrachloroethene	! ND	1.0	5.0
Toluene	ND<10	1.0	5.0	1,2,3-Trichlorobenzene	ND	1.0	5.0
1,2,4-Trichlorobenzene	ND	0.1	5.0	1,1,1-Trichloroethane	, ND	1.0	5.0
1,1,2-Trichloroethane	ND	1.0	5.0	Trichloroethene	ND ND	1.0	5.0
Trichlorofluoromethane	ND	1.0	5.0	1,2,3-Trichloropropane	ND	1.0	5.0
1,2,4-Trimethylbenzene	ND	1.0	5.0	1,3,5-Trimethylbenzene	, ND	1.0	5.0
Vinyl Acctate	ND	1.0	50	Vinyl Chloride	ND	1.0	5.0
Xylenes	ND	1.0	5.0				
		Suri	rogate Re	ecoveries (%)			` '
%SS1:	111	1		%SS2:	105		
%SS3: 93.2							

Comments:



^{*} water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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ENGEO Incorporated	Client Project ID: #5403.1.002.01; Truck & Van	Date Sampled: 12/16/02
2401 Crow Canyon Rd, Ste. 200		Date Received: 12/16/02
_	Client Contact: Keith Nowell	Date Extracted: 12/16/02-12/18/02
	Client P.O.:	Date Analyzed: 12/17/02-12/20/02

Extraction med	hod: SW3050B				5 Metals* I methods: 60100			11/2	101	
Lab ID	Client ID	Matrix	Extraction	Cadmium	Chromium	Lead	Nickel	Zinc	rk Order: 0	% SS
002A	1-2	S	TTLC	ND	30	12	32	64	1	90.2
006A	2-2	S	TTLC	ND	40	8.8	51	55	 I	92.9
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	Limit for DF =1; not detected at or	W	TTLC	NA	NA	NA	NA	NA	N.A	—

* water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in µg/wipe and all TCLP / STLC / DISTLC / SPLP extracts in

3.0

2.0

ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

TTLC

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water-Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes -As, Se, TI); 7471B (Hg).

DISTLC extractions are performed using STLC methodology except that deconized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; 2) reporting limit raised due to matrix interference

DHS Certification No. 1644

above the reporting limit

Edward Hamilton, Lab Director

mg/Kg

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S

WorkOrder: 0212283

EPA Method: SW802	1B/8015Cm E	xtraction:	SW5030E	3	BatchID:	5361	S	e ID: N/A		
Compound	Sample	Spiked	. MS*	MSD*	MS-MSD*	LCS	LCSD	ILCS-LCSD	Acceptance	Criteria (%)
Compound	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	l Low	High
TPH(gas)	N/A	0.60	N/A	N/A	N/A	110	103	6.80	1 80	120
мтве	N/A	0.10	N/A	N/A	N/A	104	101	3.55		120
Benzene	N/A	0.10	N/A	N/A	N/A	111	111	0.106	80	120
Toluene	N/A	0.10	N/A	N/A	N/A	103	103	0.142	80	120
Ethylbenzene	N/A	0.10	N/A	N/A	N/A	107	107	0.236	80	120
Xylenes	N/A	0.30	N/A	N/A	N/A	103	103	0	80	120
%SS:	N/A	100	N/A	N/A	N/A	110	111	0.458	80	: 120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

[%] Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2

^{*} MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if. a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR SW8015C

Matrix: S

WorkOrder: 0212283

EPA Method: SW8015C	E	xtraction:	SW3550C	:	BatchID:	5343	s	piked Sampl	le ID: N/A	
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Sempound	mg/Kg	mg/Kg	% Rec.	% Rec	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	150	N/A	N/A	N/A	89	90.8	2.08	70	130
%SS:	N/A	100	N/A	N/A	N/A	98.6	101	2.15	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

[%] Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

^{*} MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR SM5520E/F

Matrix: S

WorkOrder: 0212283

EPA Method: SM5520E/F	E	xtraction:	PR9071_	sg_s	BatchID:	5127	Spiked Sample ID: 0212028-001A				
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)	
Compound	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High	
POG	ND	200	109	109	0	105	105	0	70	130	

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR 6010C

Matrix: S

WorkOrder: 0212283

EPA Method: 6010C	E	3	BatchID:	5397	Spiked Sample ID: N/A					
	Sample	Spiked	MS*	M\$D*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Cadmium	N/A	500	N/A	N/A	N/A	97.3	111	12.9	70	130
Chromium	N/A	500	N/A	N/A	N/A	90.9	97.1	6.57	70	130
L£ad	N/A	500	N/A	N/A	N/A	88.7	102	13.6	70	130
Nickel	N/A	500	N/A	N/A	N/A	87.4	97	10.4	70	130
Zinc	N/A	500	N/A	N/A	N/A	89.5	95	6.02	70	130
%SS:	N/A	100	N/A	N/A	N/A	92.8	99.6	7.08	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or landlyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.



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San Ramon, CA 94583

Phone: (925) 838-1600

Fax (925) 838-7425

CHAIN OF CUSTODY RECORD

PROJECT NUMBER:		PROJECT NAMI	r:				1	тъ	,		Γ	1	-					<u> </u>				
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SAMPLED BY: (SKGHAT	URE)	C / / =					SOL	0168	ARO (602	11.80	OR6	CEC SE70	. & G 5520	2.Ds	[]	Ē	MET,				REQUIRED	
5403,6.0 sampled by:(skishat Keith 1	Novell (Ken!	Nowen	")			TPH CANOLINE	PH- 1	CABLE CX (FP)	(EPA 60	ATILE EPA 62	OLATILE OF	TOTAL OIL & GREASE (SWWW 5520 (E/F))	PC RPA 60	27.37	φĐ	LUFT METALS				DETECTION LIMITS	
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2-1	12-16-02	12:25	Soil	· · · · · · · · · · · · · · · · · · ·	2" ×67	lce.	<u> </u>		-	 -	ند	ļ	 				$\frac{1}{x}$	-	+		Hotel.	
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CHAIN-OF-CUSTODY RECORD

Page 1 of 1

A

110 Second Avenue South, #D7 Pacheco, CA 94553-5560 (925) 798-1620

WorkOrder: 0212283

Client:

ENGEO Incorporated 2401 Crow Canyon Rd, Ste. 200 San Ramon, CA 94583 TEL:

(925) 838-1600 (925) 838-7425

FAX: ProjectNo:

#5403.1.002.01; Truck & Van

PO:

Date Received:

12/16/02

Date Printed:

12/18/02

					—		F	lequested Tests				
Sample ID	ClientSampID	Matrix	Collection Date	Hold	6010C	SM5520E/F	SW8015C	8021B/8015	SW8260B			
0212283-001	 1-1	Soil	12/16/02 10:40:00 AM	*			A	A ;				
0212283-002	1-2	Soil	12/16/02 10:47:00 AM		A	Α	Α	A	A			
0212283-003	1-3	Soil	12/16/02 10:52:00 AM	*			Α	А				
0212283-004	1-5	Soil	12/16/02 10:50:00 AM	V			Ä	Ā				
0212283-005	2-1	Soil	12/16/02 12:25:00 PM	4			A	Α			:	
0212283-006	2-2	Soil	12/16/02 12:30:00 PM		A	Α	Α	Α	Α		:	
0212283-007	2-3	Soil	12/16/02 12:35:00 PM	Ý			Ä	A	-			
0212283-008	2-4	Soil	12/16/02 12:40:00 PM	V			A	А		**************************************		
0212283-009	2-5	Soil	12/16/02 12:45:00 PM	Y			A	A		:		
0212283-010	1-4	Soil	12/16/02 10:55:00 AM	7	·	···· -·	A	T A T				

Prepared by: Sonia Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 http://www.mccampbell.com E-mail: main@mccampbell.com

ENGEO Incorp	porated	Client Pr Truck &	oject ID: #5403.1.002.01; AAA	Date Sampled:	12/30/02		
2401 Crow Ca	nyon Rd, Ste. 200	Truck &	v ali	Date Received:	12/30/02		
San Ramon, C.	A 94583	Client Co	ontact: Keith Nowell	Date Extracted:	12/30/02		
Sun Rutton, C.		Client P.	O.:	Date Analyzed:	12/31/02-0	01/03/0	03
Extraction method: S		line Range	e (C6-C12) Volatile Hydrocarbons Analytical methods: SW8021B/8015Cr		Wor	k Order:	0212463
Lab ID	Client ID	Matrix	TPH(g)			DF	% SS
002A	3-2	S	ND	<u>,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, </u>]	108
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*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

W

Reporting Limit for DF =1;

ND means not detected at or

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



NA

NA

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ENGEO Incorporated	Client Project ID: #5403.1.002.01; AAA Truck & Van	Date Sampled: 12/30/02
2401 Crow Canyon Rd, Ste. 200	Truck & van	Date Received: 12/30/02
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 12/30/02
San Ramon, Cit 94303	Client P.O.:	Date Analyzed: 12/30/02

Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil*

Analytical methods: SW8015C Extraction method: SW3550C Work Order: 0212463

Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0212463-002A	3-2	S	ND	ND	1	106
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Reporti	ng Limit for DF =1;	w	NA	NA	u	2/L
ND mea above	ins not detected at or the reporting limit	S	1.0	5.0	mg	/Kg

^{*} water and vapor samples are reported in µg/L, wipe samples in ug/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all TCLP / STLC / SPLP extracts in µg/L

⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent / mineral spirit.



[#] cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
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ENGEO Incor	porated	Client Pr	oject ID: #5403.1.002.01; AAA	Date Sampled: 12/3	0/02	
	-	Truck &		Date Received: 12/3		·
2401 Crow Ca	nyon Rd, Ste. 200	Client C	entest. Voith Now-19	Date Extracted: 12/3		
San Ramon, C	A 94583		ontact: Keith Nowell			
		Client P.	U.;	Date Analyzed: 12/3	0/02	***
		Petroleun	n Oil & Grease with Silica Gel Cle	an-Up*		
Analytical methods:	SM5520E/F Client ID	Moteir	The state of the s		Work Order:	
Lab ID	Chent ID	Matrix	POG		DF	% SS
0212463-002A	3-2	s	ND		1	N/A
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Reporting ND means	Limit for DF =1; not detected at or	<u>w</u>	NA	· · ·		IA
	e reporting limit	S	50		mg	ŗ/K g

DF = dilution factor (may be raised to dilute target analyte or matrix interference)

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment.



^{*} water and vapor samples and all TCLP & SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in mg/wipe, product/oil/non-aqueous liquid samples in mg/L.

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Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

ENGEO Incorporated	Client Project ID: #5403.1.002.01; AAA	Date Sampled: 12/30/02
2401 Crow Canyon Rd, Ste. 200	Truck & Van	Date Received: 12/30/02
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 12/30/02
San Ramon, CA 94363	Client P.O.:	Date Analyzed: 01/03/03

Volatiles Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0212463

Lab ID				0212463-002A			
Client ID				3-2			
Matrix				Soil			
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	50	Benzene	ND	1.0	5.0
Bromobenzene	ND	0.1	5.0	Bromochloromethane	ND	1.0	5.0
Bromodichloromethane	ND	1.0	5.0	Bromoform	ND	1.0	5.0
Bromomethane	ND	1.0	5.0	2-Butanone (MEK)	ND	1.0	10
n-Butyl benzene	ND	1.0	5.0	sec-Butyl benzene	ND	1.0	5.0
tert-Butyl benzene	ND	1.0	5.0	Carbon Disulfide	ND	1.0	5.0
Carbon Tetrachloride	ND	1.0	5.0	Chlorobenzene	ND	1.0	5.0
Chloroethane	ND	1.0	5.0	2-Chloroethyl Vinyl Ether	ND	1.0	5.0
Chloroform	ND	1.0	5.0	Chloromethane	ND	1.0	5.0
2-Chlorotoluene	ND	1.0	5.0	4-Chlorotoluene	ND	1.0	5.0
Dibromochloromethane	ND	1.0	5.0	1,2-Dibromo-3-chloropropane	ND	1.0	5.0
1,2-Dibromoethane (EDB)	ND	1.0	5.0	Dibromomethane	ND	1.0	5.0
1,2-Dichlorobenzene	ND	1.0	5.0	1,3-Dichlorobenzene	ND	1.0	5.0
1,4-Dichlorobenzene	ND	1.0	5.0	Dichlorodifluoromethane	ND	1.0	5.0
1,1-Dichloroethane	ND	1.0	5.0	1,2-Dichloroethane (1,2-DCA)	ND	1.0	5.0
1,1-Dichloroethene	ND	1.0	5.0	cis-1,2-Dichloroethene	ND	1.0	5.0
trans-1,2-Dichloroethene	ND	1.0	5.0	1,2-Dichloropropane	ND	1.0	5.0
1,3-Dichloropropane	ND	1.0	5.0	2,2-Dichloropropane	ND	0.1	5.0
1,1-Dichloropropene	ND	1.0	5.0	cis-1,3-Dichloropropene	ND	1.0	5.0
trans-1,3-Dichloropropene	ND	1.0	5.0	Ethylbenzene	ND	1.0	5.0
Hexachlorobutadiene	ND	1.0	5.0	2-Hexanone	ND	1.0	5.0
fodomethane (Methyl iodide)	ND	1.0	10	4-Isopropyl toluene	ND	1.0	5.0
Isopropylhenzene	ND	1.0	5.0	4-Methyl-2-pentanone (MIBK)	ND	1.0	5.0
Methylene chloride	ND	1.0	5.0	Methyl-t-butyl ether (MTBE)	ND	1.0	5.0
Naphthalene	ND	1.0	5.0	n-Propyl benzene	ND	1.0	5.0
Styrene	ND ND	1.0	5.0	1,1,1,2-Tetrachloroethane	ND	1.0	5.0
1,1,2,2-Tetrachloroethane	ND	1.0	5.0	Tetrachloroethene	ND	1.0	5.0
Toluene	ND	1.0	5.0	1,2,3-Trichlorobenzene	ND	1.0	5.0
1,2,4-Trichlorobenzene	ND	1.0	5.0	1,1,1-Trichloroethane	ND	1.0	5.0
1,1,2-Trichloroethane	ND	1.0	5.0	Trichloroethene	ND	1.0	5.0
Trichlorofluoromethane	ND	1.0	5.0	1,2,3-Trichloropropane	ND	1.0	5.0
1,2,4-Trimethylbenzene	ND	1.0	5.0	1,3,5-Trimethylbenzene	ND	1.0	5.0
Vinyl Acetate	ND	1.0	50	Vinyl Chloride	DND	1.0	5.0
Xylenes	ND<10	1.0	5.0				
		Sur	rogate R	ecoveries (%)			
%SS1:	79.	0		%SS2:	104		
%SS3:	107	7					
Comments:							

Comments:

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) tighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.



NONE

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S

WorkOrder: 0212463

EPA Method:	SW8021B/8015	Cm	Extraction:	SW5030B	,	Batch(D:	5499	S	piked Sampl	le ID: 02124	63-002A
Compound		Sample	Spiked	MS*	MSD.	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Сопровна		mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)		ND	0.60	104	102	1.87	108	110	2.02	80	120
мтве		ND	0.10	97.3	98.3	1.03	95.8	95.4	0.380	80	120
Benzene		0.007891	0.10	96.8	92.3	4.32	104	105	0.922	80	120
Toluene		0.01997	0.10	91.5	87.3	3.80	110	112	1.52	80	120
Ethylbenzene		ND	0.10	105	101	3.97	106	109	2.78	80	120
Xylenes		0.0055	0.30	94.8	94.8	0	103	107	3.17	80	120
%SS:		119	100	117	116	0.496	115	111	2.90	80	120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

[%] Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR SW8015C

Matrix: S

WorkOrder: 0212463

EPA Method: SW8015C	E	xtraction:	SW35500	;	BatchID:	5463	S	piked Sampl	e ID: N/A	
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	mg/Kg	mg/Kg	% Rec.	% Rec	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	150	N/A	N/A	N/A	112	84.4	27.9	70	130
%SS:	N/A	100	N/A	N/A	N/A	109	75.6	36.5	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

^{*} MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR SM5520E/F

Matrix: S

WorkOrder: 0212463

EPA Method: SM5520E/F	E	xtraction:	PR9071_	SG_S	BatchID:	5418	S	oiked Sampl	e ID: N/A	
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Acceptance Criter	High
POG	N/A	200	N/A	N/A	N/A	107	104	2.28	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions; NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2

^{*} MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR SW8260B

Matrix: S

WorkOrder: 0212463

EPA Method: SW8260B	E	xtraction:	SW5030E	3	BatchID:	5500	S	piked Sampl	e ID: 02124	63-002A
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	µg/Kg	µg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Benzenc	ND	50	113	102	8.22	97.5	101	3.13	70	130
Chlorobenzene	ND	50	112	105	6.67	130	101	25.3	70	130
1,1-Dichloroethene	ND	50	87.9	80.7	8.47	110	ιοι	8.65	70	130
Methyl-t-butyl ether (MTBE)	ND	50	102	93	9.64	79.7	101	23.8	70	130
Toluene	ND	50	110	102	6.83	111	109	2.00	70	130
Trichloroethene	ND	50	77.4	74.9	3.20	93	73	24.0	70	130
%SS1:	ND	100	105	107	1.66	101	112	10.2	70	130
%SS2:	ND	100	102	101	1.07	86.3	102	16.2	70	130
%SS3:	ND	100	102	98	4.13	110	97.1	12.8	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MMS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.



ENGEO INCORPORATED

2401 Crow Canyon Road Suite 200 San Ramon, CA 94583

Phone: (925) 838-1600

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CHAIN OF CUSTODY RECORD

MOTECT NOMBER. 5403.1.00 ARMHED BY: (SIGNATO)		PAA		E Vien			TPB- GASOUNE (RPA 8015/5030)	SEL 0/3510)	OMATICS 2, 8020)	OCARBONS ate)	VOLATILE ORGANICS (EPA 624, 9260)	ORCANICS	GREASE (E/F))	1082)	WTA1.S	Einin	METALS				REMARKS/
Keith N	lowell	(Keic	e 1/2	well)			19 GASO	PH DIE A 8015/355	X (EPA 60	EFA 601,8	TILE OR	SLATTLE EPA 827	VE OIL &	PCBs (EFA 605, 8082)	T.R. 26 M	(17)	LEFT MET				REQUIRED DETECTION LIMITS
Sample Number	DATE	пмв	MATRIX	CONTAINER NUMBER	CONTAINER SIZE	PRESER- VATIVE	£ 5	T (R)	PURGE	PURGEA	voi	SEMI V	TOT.								2
3-1	12-36-02	10123	So.1	(1.5"FE+	14	11														Hold
3.2	12-30 02	10:30	Sext	<u> </u>	1.5"x6"		区	X	ļ′		Х		X	<u></u>		_				1	
3-3	12-30-62	10:38	Sal	<u> </u>	1.5 %xe 1	+	 '		ļ	<u> </u>		 		 	\dashv				-	11	Hold
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ELINQUISHED BY			15.		RECREVED BY	{ \/ 	-		 		ELINQI.							D	ATE/	ПМЕ	RECEIVED BY:
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CHAIN-OF-CUSTODY RECORD

Page 1 of 1

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110 Second Avenue South, #D7 Pacheco, CA 94553-5560 (925) 798-1620

WorkOrder: 0212463

Client:

ENGEO Incorporated

2401 Crow Canyon Rd, Ste. 200

San Ramon, CA 94583

TEL:

(925) 838-1600

FAX:

(925) 838-7425

ProjectNo:

#5403.1,002.01; AAA Truck & Van

PO:

Date Received:

12/30/02

Date Printed:

12/30/02

							Re	quested Te	ests	-·· · · · —	
Sample ID	ClientSampID	Matrix	Collection Date	Hold	SM5520E/F	SW8015C	8021B/8015	SW8260B			
0212463-001	3-1	Soil	12/30/02 10:23:00 AM	ų.			. A				
0212463-002	3-2	Soil	12/30/02 10:30:00 AM		Α	Α	Α	A			
0212463-003	3-3	Soil	12/30/02 10:38:00 AM	¥			Α				
0212463-004	3-4	Soil	12/30/02 10:43:00 AM	¥			<u>A</u>				
0212463-005	3-5	Soil	12/30/02 10:50:00 AM	¥							

Prepared by: Sonia Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 http://www.mccampbell.com/E-mail: main@mccampbell.com/

Client Project ID: #5403.1.002.01; AAA Date Sampled: 12/30/02 **ENGEO** Incorporated Truck & Van Date Received: 12/30/02 2401 Crow Canyon Rd, Ste. 200 Date Extracted: 02/04/03 Client Contact: Keith Nowell San Ramon, CA 94583 Client P.O.: Date Analyzed: 02/04/03

LUFT 5 Metals*

Extraction m	ethod: SW3050B			Analytical	methods: 6010C			Wor	k Order:	0212463
Lab ID	Client ID	Matrix	Extraction	Cadmium	Chromium	Lead	Nickel	Zinc	DF	% SS
002A	3-2	S	TTLC	ND	23	4.8	34	36	1	96.0
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	· · · · · · · · · · · · · · · · · · ·	;			<u>. </u>	<u> </u>				

Reporting Limit for DF =1; ND means not detected at or	W	TILC	NA	NA	NA	NA	NA	NA
above the reporting limit	S	TTLC	0.5	0.5	3.0	2.0	1.0	mg/Kg
* water samples are reported in mg/	L, soil/slu	dge/solid/pro	duct samples in	mg/kg, wipes in	μg/wipe and all	TCLP / STLC /	DISTLC / SPLI	extracts in

mg/L. ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water-Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes -As, Se, Tl); 7471B (Hg).

DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid.

DISTLC results are not applicable to STLC regulatory limits.

i) liquid sample that contains greater than -2 vol. % sediment, this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; z) reporting limit raised due to matrix interference.

QC SUMMARY REPORT FOR 6010C

Matrix: S

WorkOrder: 0212463

EPA Method: 6010C	E	xtraction:	SW3050E	3	BatchID:	5792	s	piked Sampl	le ID: 03014	19-008A
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec	% Rec.	% RPD	Low	High
Cadmium	ND	500	94.6	i 10	15.0	95.6	100	4.75	70	130
Chromium	15.36	500	92.5	92.2	0.321	99.7	98.5	1.19	70	130
Lead	22.43	500	92.9	106	12.4	97.5	103	5.85	70	130
Nickel	23.98	500	89.7	90.8	1.14	99.3	99.7	0.361	70	130
Zinc	50.69	500	93.9	90.8	3.02	99.3	99.9	0.660	70	130
%SS:	102	100	95	98.7	3.81	100	102	1.95	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - M\$D) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

110 Second Avenue South, #D7 Pacheco, CA 94553-5560 (925) 798-1620

WorkOrder: 0212463

Client:

ENGEO Incorporated 2401 Crow Canyon Rd, Ste. 200 San Ramon, CA 94583 TEL:

PO:

(925) 838-1600

FAX: ProjectNo: (925) 838-7425 #5403.1.002.01; AAA Truck & Van

Date Received:
Date Printed:

12/30/02

2/4/03

			· · · · · · · · · · · · · · · · · · ·					Requested Test	S		
Sample ID	ClientSampID	Matrix	Collection Date	Hold	6010C	SM5520E/F	SW8015C	8021B/8015	SW8260B	-	
0040482 004	3-1	 Soil	12/30/02 10:23:00 AM	į.			. =	A			
0212463-001 0212463-002	3-2		12/30/02 10:30:00 AM		A	Α	Α	Α	Α		
0212463-003	3-3	Soil	12/30/02 10:38:00 AM	✓			.]	<u>A</u>			
0212463-004	3-4	Soil	12/30/02 10:43:00 AM	Ý		· · · · · · · · · · · · · · · · · · ·	ļ	A		•	
0212463-005	3-5	Soil	12/30/02 10:50:00 AM				l	.l <u>A</u>	<u>.</u>		

Prepared by: Melissa Valles

Comments:

bill client per keith nowell 1/21; luft added 02-03-03 for sample 002 per keith nowell

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



ENGEO INCORPORATED

2401 Crow Canyon Road Suite 200 San Ramon, CA 94583

Phone: (925) 838-1600

CHAIN OF CUSTODY RECORD

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CTHUMBER YOJ, 1,507	2.01	PROJECT NAME:		E Vien			LINE 030)	SEL 0/351(t)	OMATICS 12, 8020)	OCARBON-	KGANICS S260)	TO)	20 (EVP))	, 8082)	STATE	3/8	STATE OF THE STATE				REMARKS/ REQUIRED DETECTION
Keith N	(RF)	(Kin	er No	well)	[TPH- GASO(1NF (EPA 8015/5030)	TP11. DIE EPA 8015/355	CEABLE AR	EABLEHAD (RPA 601.8	OLATILE OF	EPA 82	(SWWW 5520 (E/P))	PCBs (EPA 605, 8082)		20 10 10 10 10 10 10 10 10 10 10 10 10 10	LUET MEJALA	 			LIMITS
MPLE NUMPER	DATE	TIME	MATRIX	CONTAINER	CONTAINER SIZE	 	_			PUB	> 	SECTION SECTION	-			¥					Hold
3-1	12-30-02	10:23	50.1 Soil	1	1.5"x6"	100	本	×	 		2		X	 		X		 			Hoid Hoid
3~3	12-30-62	10:38	Seil		1.5 "xe"	lee	+-	+-	+							_		 -		+	Heid
3-5	12-30-0	10!50	50.1		1/3 //6	- 100	-] 			 	 			 - + - 			
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				DATECTIME		BIAT NOT UE	iogar of	ত 8₹			PEN	ARKS:	 T	EPH	1 4	ıs V), e.s.e	l and	mo	tor	o.l , Run silica 1t.
RELINQUISHE	ED BY		1	\								un.	U	e Co	^ C	L	Ĝ.	STAn	konst	7 7 1	11.

Mel. Hollow

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 http://www.mccampbell.com E-mail: main@mccampbell.com

		Cli	ID. #5402.2.002.01. A.A.A	Date Sampled: 01/23/03	<u></u>	
ENGEO Incorp	oorated	Truck & Van	ID: #5403.3.002.01; AAA			
2401 Crow Car	nyon Rd, Ste. 200			Date Received: 01/23/03	,	
a B a	. 04502	Client Contact	t: Keith Nowell	Date Extracted: 01/24/03	i	
San Ramon, CA	A 94583	Client P.O.:		Date Analyzed: 01/24/03	;	
		line Range (C6	-C12) Volatile Hydrocarbons		ork Order:	0201007
Extraction method: S\		L Waster I	Analytical methods: 8015Cm TPH(g)		DF	% SS
Lab ID	Client ID	Matrix	trn(g)		, P	70 055
001A	MW-1	w	ND		: 1	97.8
002A	MW-2	w	ND		l	95.9
003A	MW-3	w	ND		1	96.7
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Reporting	Limit for DF =1;	W	50		1	ıg/L
	s not detected at or				- 1 -	Ni A

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

above the reporting limit

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

NA

NA

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

ENGEO Incorporated	Client Project ID: #5403.3.002.01; AAA	Date Sampled: 01/23/03
2401 Crow Canyon Rd, Ste. 200 San Ramon, CA 94583	Truck & Van	Date Received: 01/23/03
	Client Contact: Keith Nowell	Date Extracted: 01/23/03
	Client P.O.:	Date Analyzed: 01/24/03

Lab ID						
1	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% S S
0301297-001B	MW-1	w	76,c	ND	1	99.6
9301297-002B	MW-2	w	ND	NÐ	1	100
0301297-003B	MW-3	w	53,c	ND	1	103
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Reporting Limit for DF =1;	w	50	250	μg/L
ND means not detected at or above the reporting limit	S	NA	NA	mg/Kg

^{*} water and vapor samples are reported in $\mu g/L$, wipe samples in $\mu g/L$, wipe samples in $\mu g/L$, and all TCLP / STLC / SPLP extracts in $\mu g/L$

⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent / mineral spirit.



[#] cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 ttp://www.mccampbell.com/E-mail: main@mccampbell.com/

230	пирлуучу.	писатроен сот тэная напавляесануюстсот
ENGEO Incorporated	Client Project ID: #5403.3.002.01; AAA	Date Sampled: 01/23/03
2401 Crow Canyon Rd, Ste. 200	Truck & Van	Date Received: 01/23/03
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 01/23/03
	Client P.O.:	Date Analyzed: 01/24/03
Н	exane Extractable Material with Silica Gel	Clean Up*
Extraction method: SM5520BF_W	Analytical methods: E1664A	Work Order: 0301297
		75 P 00

Extraction method: SM:	5520BF_W		Analytical methods: E1664A W	ork Order:	030129
Lab ID	Client ID	Matrix	HEMSGT	DF	% S
0301297-001D	MW-I	w	ND	1	N/A
0301297-002D	MW-2	w	ND	1	N/A
0301297-003D	MW-3	w	ND	1	N/A
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Reporting L	timit for DF =1; not detected at or	w	5.0		ng/L
ND means n	reporting limit	S	NA		NA

water samples are reported in mg/L,	wipe samples in mg/wipe	and soils and sludges in mg/kg.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

DF = dilution factor (may be raised to dilute target analyte or matrix interference).

[#] surrogate diluted out of range or not applicable to this sample.

g) sample extract repeatedly cleaned up with silica gel until constant IR result achieved; h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment.

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ENGEO Incorporated	Client Project ID: #5403.3.002.01; AAA	Date Sampled: 01/23/03
2401 Crow Canyon Rd, Ste. 200	Truck & Van	Date Received: 01/23/03
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 01/25/03-01/28/03
San Ramon, CA 74303	Client P.O.:	Date Analyzed: 01/25/03-01/28/03

Volatiles Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0301297

	<u> </u>	
Lab ID	0301297-001C	
Client ID	MW-1	
Matrix	Water	
	Description 1	16.00

Matrix Water							
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<17	3.3	5.0	Benzene	ND<1.7	3.3	0.5
Bromobenzene	ND<1.7	3.3	0.5	Bromochloromethane	ND<1.7	3.3	0.5
Bromodichloromethane	ND<1.7	3.3	0.5	Bromoform	ND<1.7	3.3	0.5
Bromomethane	ND<1.7	3.3	0.5	2-Butanone (MEK)	ND<3.3	3.3	1.0
n-Butyl benzene	ND<1.7	3.3	0.5	sec-Butyl benzene	ND<1.7	3.3	0.5
tert-Butyl benzene	ND<1.7	3.3	0.5	Carbon Disulfide	ND<1.7	3.3	0.5
Carbon Tetrachloride	ND<1.7	3.3	0.5	Chlorobenzene	ND<1.7	3.3	0.5
Chloroethane	ND<1.7	3.3	0.5	2-Chloroethyl Vinyl Ether	ND<1.7	3.3	0.5
Chloroform	ND<1.7	3.3	0.5	Chloromethane	ND<1.7	3.3	0.5
2-Chlorotoluene	ND<1.7	3.3	0.5	4-Chlorotoluene	ND<1.7	3.3	0.5
Dibromochloromethane	ND<1.7	3.3	0.5	1,2-Dibromo-3-chloropropane	ND<1.7	3.3	0.5
1,2-Dibromoethane (EDB)	ND<1.7	3.3	0.5	Dibromomethane	ND<1.7	3.3	0.5
1,2-Dichlorobenzene	ND<1.7	3.3	0.5	1,3-Dichlorobenzene	ND<1.7	3.3	0.5
1,4-Dichlorobenzene	ND<1.7	3.3	0.5	Dichlorodifluoromethane	ND<1.7	3.3	0.5
1,1-Dichloroethane	ND<1.7	3.3	0.5	1,2-Dichloroethane (1,2-DCA)	ND<1.7	3.3	0.5
1.1-Dichloroethene	ND<1.7	3.3	0.5	cis-1,2-Dichloroethene	ND<1.7	3.3	0.5
trans-1,2-Dichloroethene	ND<1.7	3.3	0.5	1,2-Dichloropropane	ND<1.7	3.3	0.5
1,3-Dichloropropane	ND<1.7	3.3	0.5	2,2-Dichloropropane	ND<1.7	3.3	0.5
1,1-Dichloropropene	ND<1.7	3.3	0.5	cis-1,3-Dichloropropenc	ND<1.7	3.3	0.5
trans-1,3-Dichloropropene	ND<1.7	3.3	0.5	Ethylbenzene	ND<1.7	3.3	0.5
Hexachlorobutadiene	ND<1.7	3.3	0.5	2-Hexanone	ND<1.7	3.3	0.5
Iodomethane (Methyl iodide)	ND<3.3	3.3	1.0	4-Isopropyl toluene	ND<1.7	3.3	0.5
Isopropylbenzene	ND<1.7	3.3	0.5	4-Methyl-2-pentanone (MIBK)	ND<1.7	3.3	0.5
Methylene chloride	ND<1.7	3.3	0.5	Methyl-t-butyl ether (MTBE)	71	3.3	: 0.5
Naphthalene	ND<1.7	3.3	0.5	n-Propyl benzene	ND<1.7	3.3	0.5
Styrene	ND<1.7	3.3	0.5	1,1,2-Tetrachloroethane	ND<1.7	3.3	0.5
1,1,2,2-Tetrachloroethane	ND<1.7	3.3	0.5	Tetrachloroethene	ND<1.7	3.3	0.5
Toluene	ND<1.7	3.3	0.5	1,2,3-Trichlorobenzene	ND<1.7	3.3	0.5
1,2,4-Trichlorobenzene	ND<1.7	3.3	0.5	I,I,I-Trichloroethane	ND<1.7	3.3	0.5
1,1,2-Trichloroethane	ND<1.7	3.3	0.5	Trichloroethene	ND<1.7	3.3	0.5
Trichlorofluoromethane	ND<1.7	3.3	0.5	1,2,3-Trichloropropane	ND<1.7	3.3	0.5
1,2,4-Trimethylbenzene	ND<1,7	3.3	0.5	1,3,5-Trimethylbenzene	ND<1.7	3.3	0.5
Vinyl Acetate	ND<17	3.3	5.0	Vinyl Chloride	ND<1.7	3.3	0.5
Xylenes	ND<1.7	3.3	0.5				1

	Surrogate Recoveries (%)						
	%SS1:	111	%SS2:	87.1			
	%SS3:	98.5					
1							

Comments

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.



^{*} water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 http://www.necampbell.com E-mail: main@mecampbell.com

ENGEO Incorporated	1	Date Sampled: 01/23/03
2401 Crow Canyon Rd, Ste. 200	Truck & Van	Date Received: 01/23/03
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 01/25/03-01/28/03
	Client P.O.:	Date Analyzed: 01/25/03-01/28/03

Volatiles Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B	Analytical Method: SW8260B	Work Order: 0301297
Lab JD	0301297-002C	
Client ID	MW-2	
Matrix	Water	

Matrix		Water									
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit				
Acetone	ND	1.0	5.0	Benzene	ND	1.0	0.5				
Bromobenzene	ND	1.0	0.5	Bromochloromethane	ND	1.0	0.5				
Bromodichloromethane	ND	1.0	0.5	Bromoform	ND	1.0	0.5				
Bromomethane	ND	1.0	0.5	2-Butanone (MEK)	ND	1.0	1.0				
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5				
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5				
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5				
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	DM	1.0	0.5				
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5				
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5				
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5				
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethanc	ND	1.0	0.5				
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5				
I,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5				
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5				
1,1-Dichloroethene	ND	: 1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5				
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5				
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5				
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5				
trans-1,3-Dichloropropene	ND	1.0	0.5	Ethylbenzene	ND	1.0	0.5				
Hexachlorobutadiene	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5				
Iodomethane (Methyl iodide)	ND	1.0	1.0	4-Isopropyl toluene	ND	1.0	0.5				
lsopropylbenzene	ND	1.0	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5				
Methylene chloride	ND	1.0	0.5	Methyl-t-butyl ether (MTBE)	1.3	1.0	0.5				
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5				
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5				
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5				
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5				
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5				
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5				
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5				
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5				
Vinyl Acetate	ND	1.0	5.0	Vinyl Chloride	ND	1.0	0.5				
Xylenes	ND	1.0	0.5	_ -							
		Sur	ranata D	ecoveries (%)							

Surrogate Recoveries (%)											
%SS1:	114	, %SS2:	90.6								
%SS3:	98.2										

Comments

^{*} water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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Telephone: 925-798-1620 Fax: 925-798-1622
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ENGEO Incorporated		Date Sampled: 01/23/03
2401 Crow Canyon Rd, Ste. 200	Truck & Van	Date Received: 01/23/03
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 01/25/03-01/28/03
Sali Kaliwii, CA 94383	Client P.O.:	Date Analyzed: 01/25/03-01/28/03

Volatiles Organics by P&T and GC/MS (Basic Target List)*

Extraction Method: SW5030B	Analytical Method: SW8260B	Work Order: 0301297
Lab ID	0301297-003C	
Client ID	MW-3	
Matrix	Water	

VIORIAL				** atci			
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Benzene	ND	1.0	0.5
Bromobenzene	ND	1.0	0.5	Bromochloromethane	ND	1.0	0.5
Bromodichloromethane	ND	1.0	0.5	Bromoform	ND	1.0	0.5
Bromomethane	ND	1.0	0.5	2-Butanone (MEK)	ND	1.0	1.0
π-Butyl benzene	ND	1.0	0.5	sec-Butyl benzenc	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	0.5
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	: ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	. 0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND ,	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Ethylbenzene	ND	1.0	0.5
Hexachlorobutadiene	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Iodomethane (Methyl iodide)	ND	1.0	1.0	4-Isopropyl toluene	NĐ	1.0	0.5
Isopropylbenzene	ND	0.1	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5
Methylene chloride	ND	1.0	0.5	: Methyl-t-butyl ether (MTBE)	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	0.1	0.5
Vinyl Acetate	ND	1.0	5.0	Vinyl Chloride	ND	1.0	0.5
Xylenes	ND	1.0	0.5				

	Surrogate Recoveries (%)											
%SS1:	117	%SS2:	87.2									
%SS3:	98.6											

Comments

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.



^{*} water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

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ENGEO Incorporated	Client Project ID: #5403.3.002.01; AAA	Date Sampled: 01/23/03
2401 Crow Canyon Rd, Ste. 200	Truck & Van	Date Received: 01/23/03
San Ramon, CA 94583	Client Contact: Keith Nowell	Date Extracted: 01/23/03
	Client P.O.:	Date Analyzed: 01/24/03

LUFT 5 Metals*

xtraction method: E200.7/E200.9 Analytical methods: E200.7/E200.9 Work Order: 0301297

Extraction me	thod: E200.7/E200.9			Analytica	I methods: E200.7	7/E200.9		Wor		
Lab ID	Client ID	Matrix	Extraction	Cadmium	Chromium	Lead	Nickel	Zinc	DF	% SS
3100	MW-1	w	DISS.	ND	ND	ND	ND	ND	1	N/A
002E	MW-2	w	DISS.	ND	ND	ND	ND	ND	1	N/A
003E	MW-3	w	DISS.	ND	ND	ND	ND	ND	1	N/A
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	ng Limit for DF =1; ns not detected at or	w	DISS.	0.005	0.02	0.005	0.05	0.05		g/L
	the reporting limit	S	TTLC	NA	NA	NA	NA	NA	1	NΑ

^{*} water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in µg/wipe and all TCLP / STLC / DISTLC / SPLP extracts in mg/L.

ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water-Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes - As, Se, Tl); 7471B (Hg).

DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; z) reporting limit raised due to matrix interference.



WorkOrder: 0301297

%SS:

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 5698 Spiked Sample ID: N/A LCSD LCS-LCSD Acceptance Criteria (%) MS-MSD* LCS Sample Spiked MS* MSD* Compound % Rec. % RPD High % RPD % Rec. Low µq/L % Rec. % Rec. µg/L 80 120 107 113 5.68 N/A 60 N/A N/A N/A TPH(gas) N/A 101 16.1 80 120 10 N/A N/A 86 MTBE N/A 120 N/A 10 N/A N/A N/A 100 109 8.26 80 Benzene 8.95 80 120 93.6 102 Toluene N/A 10 N/A N/A N/A 80 120 N/A 99.1 N/A 112 11.8 Ethylbenzene N/A 10 N/A 103 6.67 80 120 N/A N/A N/A 96.7 30 N/A Xylenes N/A 100 N/A N/A N/A 101 109 7.39 80 120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

MS and for MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

OC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0301297

EPA Method: SW8015C	SW3510C Batch1D: 5699			Spiked Sample ID: N/A						
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	7500	N/A	N/A	N/A	96.3	98.7	2.47	70	130
%SS:	N/A	100	N/A	N/A	N/A	91.3	93.3	2.13	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR E1664A

Matrix: W

WorkOrder: 0301297

EPA Method: E1664A	E	xtraction:	SM5520BF_W BatchID: 5592			Spiked Sample ID: N/A				
Commonad	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
HEMSGT	N/A	200	N/A	N/A	N/A	93	95	2.13	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0301297

EPA Method: SW8260B	E	xtraction:	SW5030E	3	BatchID: 5701			Spiked Sample ID: 0301288-004C				
0	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)		
Compound	µg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High		
Benzene	ND	10	110	110	0.298	105	104	1.37	70	130		
Chlorobenzene	ND	10	112	108	3.02	105	102	2.48	70	130		
1,1-Dichloroethene	ND	10	83.7	81.1	3.13	101	101	0.266	70	130		
Methyl-t-butyl ether (MTBE)	ND	10	95.3	102	6.58	81.4	76.9	5.78	70	130		
Toluene	ND	10	102	99	2.59	97.1	93.4	3.94	70	130		
Trichloroethene	ND	10	102	103	1.40	85.4	83.6	2.16	70	130		
%SS1:	106	100	97.3	98.3	1.00	110	105	4.84	70	130		
%SS2:	91.2	100	95.4	94.1	1.42	89.5	84.6	5.62	70	130		
%SS3:	93.0	100	93	92.3	0.754	98.6	98.1	0.506	70	130		

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

[%] Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

^{*} MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR E200.7/E200.9

Matrix: W

WorkOrder: 0301297

EPA Method: E200.7	/E200.9 E	9 Extraction:		E200.7/E200.9		BatchID: 5633		Spiked Sample ID: N/A			
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)	
Compound	mg/L	mg/L	% Rec. % Rec.		% RPD	% Rec.	% Rec	% RPD	Low	High	
Cadmium	N/A	10	N/A	N/A	N/A	111	113	1.50	70	130	
Chromium	N/A	10	N/A	N/A	N/A	97.6	97.4	0.185	70	130	
Nickel	N/A	10	N/A	N/A	N/A	104	96.8	7.31	70	130	
Zinc	N/A	10	N/A	N/A	N/A	108	102	5.90	70	130	

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

[%] Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

^{*} MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

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http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR E200.7/E200.9

Matrix: W

WorkOrder: 0301297

EPA Method: E200.7/E200.	9 E	xtraction:	E200.7/E	200.9	BatchID:	5632	Spiked Sample ID: N/A						
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High			
Lead	N/A	0.010	N/A	N/A	N/A	117	109	7.59	70	130			

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

INCORPORATED

0301297

2401 Crow Canyon Road Suite 200

San Ramon, CA 94583

Phone: (925) 838-1600 Fax (925) 838-7425

CHAIN OF CUSTODY RECORD

													4	1												
PANECT NUMBER 1 403 SAMPLED BY GIGNATUR	, 3·00	Z . O	<i>b</i>	AAA	Trucki	2 Van	DUNE	SELL FR	OMA [1CS 17 8020]	BIFA (FPA 602, 8020) FUNCEABLE HALOCARBONS (EFA 601,8010)	(GANICS	ORGANICS	GREASE	8082)	1.1.6	ETALS	TALS							REMAR		
F. 403.3.002.01 SAMPLED BY: GRENATURE: Keith Nowell (Heath Xlowell) CONTAINED CONTAINED PRESERVE						H - GASC	P.A P.H.— DIF	ABLE AR	SLE HAL	TILE OR	LATILE EPA 82	2 010 T	PCBs PCBs (EPA 605, 8082)	TIFLE 26 METALS	E 26 1.	LUFT MICTALS		,			REQUIRE DETECTION LIMITS		TION			
SAMPLE NUMBER	11VIR	TIMB	MATRIX	NUMBER	CONTAINER SIZE	PRESER- VATIVE		TI (BP	PURGE, BTE	PURCEAN	VOIA	SEMI VO	TOTA SEE	H.		+	3		,					LIMIT	S	
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MW-1	1-23-03	15:35	Aurens	3		None		X		1	 	1	X		, —		المحا		1			1	to 0	ccidi	<u> </u>	
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MW-2	1-23-63	10:55	Agreers Newwy	. 3				X		-	*	1	X		,		1		\Box			+			!	
LXXX-3	1-23-03	11.50	Nover 1	-3	1000 ml	None	Ιχ	.	+	+ -	X	1	1		,	. 1	1	1				 				
MW-3	1-23-03	11:55	Ryveas	1	SOUM!		1	1			1	1	1		,		iX^{\dagger}		1	[_	17			Y	
MW-3	1-23-03	- i	Pareces.		1 2 2 2			X	1	+	1	1	文		,		1	1	$\overline{}$		-	200	<i>z</i>		•	
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CHAIN-OF-CUSTODY RECORD

Page 1 of 1

110 Second Avenue South, #D7 Pacheco, CA 94553-5560 (925) 798-1620

WorkOrder: 0301297

Client:

ENGEO Incorporated 2401 Crow Canyon Rd, Ste. 200 San Ramon, CA 94583 TEL: FAX: (925) 838-1600

ProjectNo:

(925) 838-7425 #5403.3,002.01; AAA Truck & Van

Date Received:

1/23/03

PO:

Date Printed:

1/23/03

					Requested Tests											
Sample ID	ClientSampID	Matrix	Collection Date	Hold	E1664A	200_7/E200_	SW8015C	8021B/8015	SW8260B	- '	· · · · · ·					
0301297-001	MW-1	Water	1/2 3 /03		D	Ë	. В	, A	Ċ							
0301297-002	MW-2	Water	1/23/03		D	E	В	A	C							
0301297-003	MW-3	Water	1/23/03		D	E	В.] A .	С							

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.