

CON 12-15
Doc #16463

**REPORT OF
GROUNDWATER
SAMPLING**

MPS

MPS ENGINEERS, P.C.
119 – 19TH STREET
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SUBMITTED TO:

Mr. Robert Parker
Parker Lanco
13619 Bay Hill Court
Clive, IA 50325

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63099 AUG07'07 PM 2:03

August 4, 2007

REPORT OF GROUNDWATER SAMPLING

**PARKER OIL COMPANY
399 SE 7th STREET
DES MOINES, IOWA**

PREPARED FOR:

**Mr. Robert Parker
Parker Lanco
13619 Bay Hill Court
Clive, Iowa 50325**

August 4, 2007

INTRODUCTION

MPS Engineers was retained by Parker Lanco to conduct soil and groundwater sampling at 399 SE 7th Street, Des Moines, Iowa. This project was undertaken at the direction of Iowa Department of Natural Resources (IDNR).

FIELD ACTIVITIES

MPS Engineers installed one new monitoring well (MW-10) at this site. Three existing monitoring wells were sampled using Iowa Methods OA-1 and OA-2. Locations of these sampling points are depicted on the attached Scaled Site Map. Boring log for MW-10 is provided as attachment.

LABORATORY ANALYTICAL RESULTS

Results of laboratory analyses of samples collected on May 3, 2007 are tabulated below:

GROUNDWATER SAMPLE ANALYSIS FOR PETROLEUM HYDROCARBONS

MW LOCATION	Benzene	Toluene	Ethylbenzene	Xylene	TEH-D	TEH-WO
MW-7	<2	<2	<2	<4	9100	<100
MW-8	<1	<1	<1	<2	1000	<100
MW-9	<2	<2	<2	<4	3000	<100

the first two years after the onset of symptoms. The mean age at onset was 60 years (range 47–80). The mean duration of disease was 19 months (range 1–48).

The most common presenting symptom was pain in the lower back or legs, which occurred in 15 patients (75%). Pain was described as dull, constant, and worse at night. It was relieved by rest and analgesics. In some cases, the pain was associated with numbness or tingling in the legs. In one patient, the pain was associated with weakness in the legs.

In addition to pain, other symptoms included stiffness in the lower back or legs, which occurred in 10 patients (50%), and swelling in the lower back or legs, which occurred in 5 patients (25%).

All patients had a positive response to treatment with nonsteroidal anti-inflammatory drugs (NSAIDs) and/or corticosteroids. The NSAIDs used were ibuprofen, naproxen, and celecoxib. The corticosteroids used were prednisone and methylprednisolone. The response to treatment was defined as a reduction in pain and improvement in function.

The diagnosis of AS was confirmed by radiographic examination of the spine. All patients had evidence of sacroiliitis on plain film radiographs. In addition, three patients had evidence of spondylitis on computed tomography (CT) scans.

The follow-up period ranged from 6 months to 2 years. During this time, all patients remained free of symptoms and were able to resume their normal activities of daily living.

In conclusion, this study suggests that AS can present itself in a variety of ways, including pain, stiffness, and swelling. The diagnosis is confirmed by radiographic examination of the spine. Treatment with NSAIDs and/or corticosteroids is effective in relieving symptoms and improving function.

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971) using a Shimadzu 1601 UV-Visible Spectrophotometer.

[illegible]

1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 26

MW-10	<1	<1	<1	<2	<100	<100
ACTION LEVELS	4780	52,280	118,970	N/A	5,700,000	N/A

Notes: Groundwater concentrations are in ug/L.

Action levels are for groundwater vapor to enclosed space-nonresidential pathway.

CONCLUSIONS

The following conclusion was drawn based on this soil and groundwater sampling event:

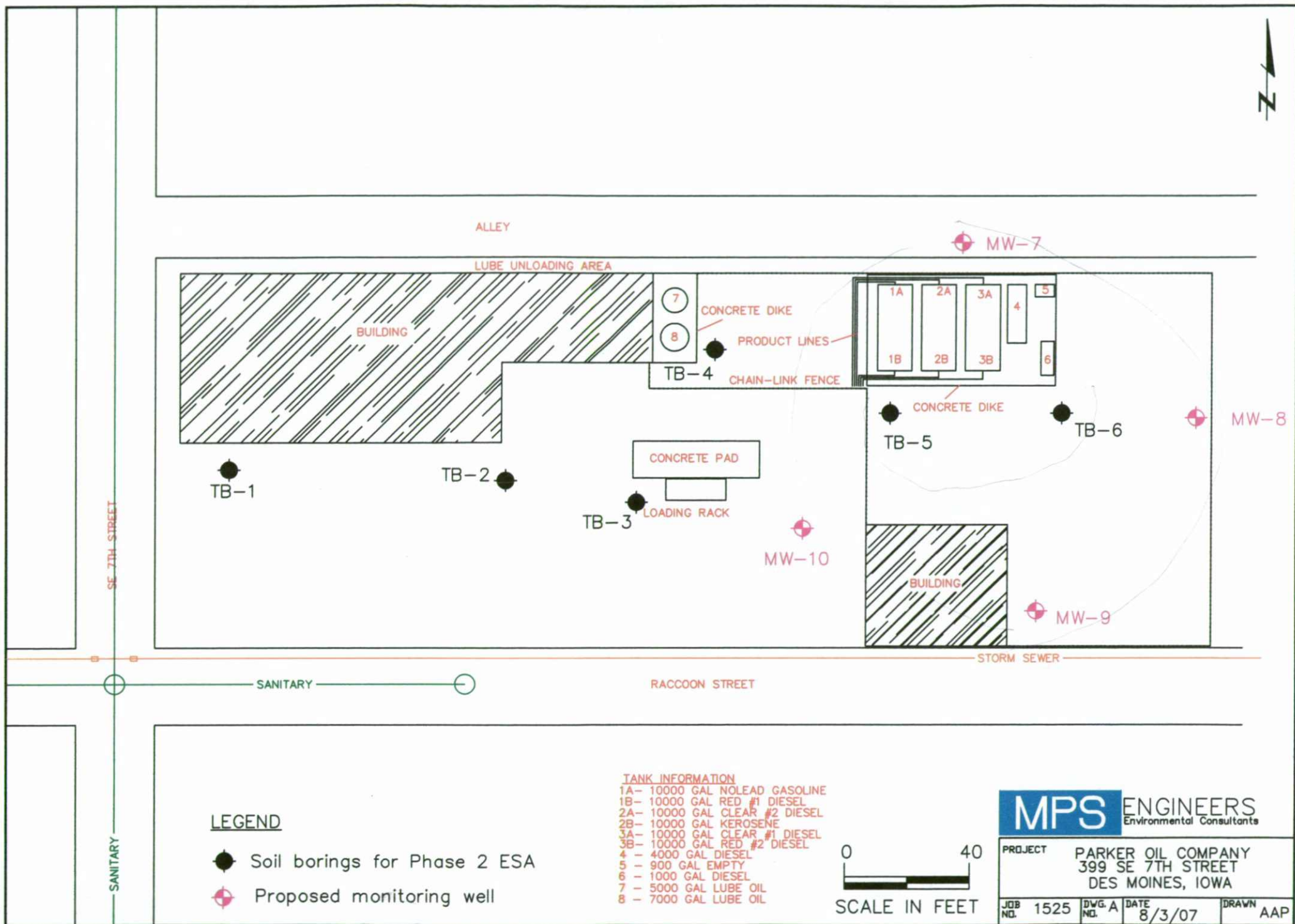
- ❖ Petroleum hydrocarbon concentrations above the IDNR action levels for groundwater vapor to enclosed space-confined space residential pathway were not detected in any of the samples collected during this phase of sampling.

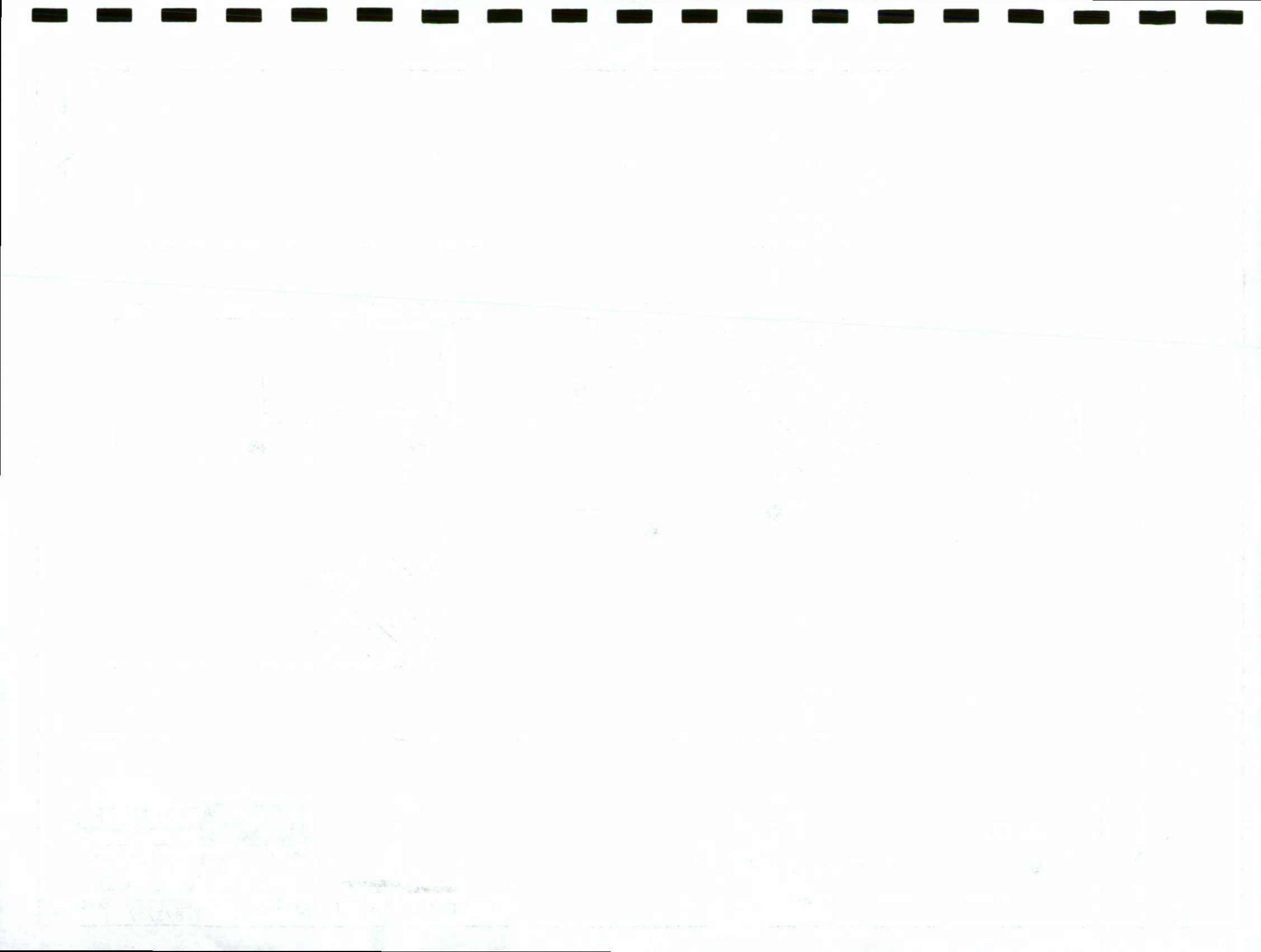
Respectfully submitted,
MPS ENGINEERS



Amit A. Pradhan, PE
Certified Groundwater Professional #1577

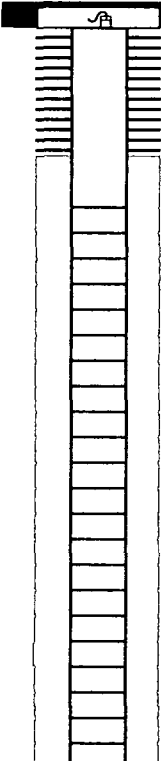
SCALED SITE MAP





MONITORING WELL CONSTRUCTION DIAGRAM

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM

Boring/Well # MW-10		Facility Parker Oil company Name:		Facility 399 SE 7 th Street Address: Des Moines, Iowa			
Boring Depth (feet) X Diameter (inches) 15' X 6"				Drilling Method: 4.25 ID HSA			
Well Contractor Jerrod Robinson Registration # 40617				Logged by Amit Pradhan			
Ground Surface Elevation: NA			Top of Casing Elevation : NA				
Date and 7/13/07 Time Start 11:30AM		Date and 7/13/07 Time End 12:30 PM		UST Number: NA			
Date and 7/13/07 Time Start 11:30AM		Date and 7/13/07 Time End 12:30 PM		LUST Number NA			
Depth in feet	Well Construction Details	Blow Count if applicable	Sample No. Type		PID/FID Reading		
0							
					0	Gravel	
					0	Top Soil, Organic black clay (OL), Moist, Soft, no odor	
			Push	1	SS	0	
						0	
5						0	
						0	
						0	
						0	
						0	
			Push	2	SS	0	Silty clay (CL) black, moist, soft No odor, some gravel
						0	
						0	
						0	
10						0	
					0		
		Push	3	SS	0	Alluvial silty sand (SM), moist no odor, black, wet	
					0		
					0		
15					0		
20							

SS (split spoon) HS (hollow stem auger)

OBSERVATIONS	Date:						
WATER LEVELS	Level:						
	TIME						

LABORATORY DATA SHEETS

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

July 30, 2007

Page 1 of 9

Work Order: 17G0706

Report To

Amit Pradhan
MPS Engineers
4949 Westown Parkway Suite 165-126
West Des Moines, IA 50266

Work Order Information

Date Received: 07/16/2007 1:00PM
Collector: Amit Pradhan
Phone: 515-221-9832
PO Number:

Project : UST
Project Number: Parker Oil Company

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
17G0706-01 MW-7				Matrix: Water		Collected: 07/16/07 09:00	
<i>Determination of Volatile Petroleum Hydrocarbons</i>							
Benzene	<2 ug/l	2	1G72541	Iowa OA-1	TVK	07/23/07 17:22	
Toluene	<2 ug/l	2	1G72541	Iowa OA-1	TVK	07/23/07 17:22	
Ethylbenzene	<2 ug/l	2	1G72541	Iowa OA-1	TVK	07/23/07 17:22	
Xylenes, total	<4 ug/l	4	1G72541	Iowa OA-1	TVK	07/23/07 17:22	
Surrogate: Chlorobenzene	88.7 %			60-123	TVK	07/23/07 17:22	
<i>Determination of Extractable Petroleum Hydrocarbons</i>							
TEH, as gasoline	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 15:02	
TEH, as #2 diesel fuel	9.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 15:02	
TEH, as waste oil	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 15:02	
Total Extractable Hydrocarbons	9.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 15:02	
Surrogate: Pentacosane	88.7 %			60-135	SMG	07/28/07 15:02	
17G0706-02 MW-8				Matrix: Water		Collected: 07/16/07 09:20	
<i>Determination of Volatile Petroleum Hydrocarbons</i>							
Benzene	<1 ug/l	1	1G72031	Iowa OA-1	TVK	07/17/07 14:37	
Toluene	<1 ug/l	1	1G72031	Iowa OA-1	TVK	07/17/07 14:37	
Ethylbenzene	<1 ug/l	1	1G72031	Iowa OA-1	TVK	07/17/07 14:37	
Xylenes, total	<2 ug/l	2	1G72031	Iowa OA-1	TVK	07/17/07 14:37	
Surrogate: Chlorobenzene	104 %			60-123	TVK	07/17/07 14:37	
<i>Determination of Extractable Petroleum Hydrocarbons</i>							
TEH, as gasoline	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 15:52	
TEH, as #2 diesel fuel	1.0 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 15:52	D-06
TEH, as waste oil	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 15:52	
Total Extractable Hydrocarbons	1.0 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 15:52	
Surrogate: Pentacosane	93.6 %			60-135	SMG	07/28/07 15:52	
17G0706-03 MW-9				Matrix: Water		Collected: 07/16/07 09:35	
<i>Determination of Volatile Petroleum Hydrocarbons</i>							
Benzene	<2 ug/l	2	1G72541	Iowa OA-1	TVK	07/23/07 18:04	
Toluene	<2 ug/l	2	1G72541	Iowa OA-1	TVK	07/23/07 18:04	
Ethylbenzene	<2 ug/l	2	1G72541	Iowa OA-1	TVK	07/23/07 18:04	
Xylenes, total	<4 ug/l	4	1G72541	Iowa OA-1	TVK	07/23/07 18:04	
Surrogate: Chlorobenzene	86.7 %			60-123	TVK	07/23/07 18:04	
<i>Determination of Extractable Petroleum Hydrocarbons</i>							
TEH, as gasoline	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 16:41	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted.



THE UNIVERSITY OF CHICAGO

1962-1963

1962

1963

The University of Chicago is a private research university in Chicago, Illinois. It was founded in 1837 and is one of the oldest and most prestigious universities in the United States. The university is known for its commitment to academic excellence and its diverse student body. It has a long history of producing world leaders in various fields of study.

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MPS Engineers
4949 Westown Parkway Suite 165-126
West Des Moines, IA 50266

July 30, 2007

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Work Order: 17G0706

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
17G0706-03	MW-9			Matrix: Water		Collected: 07/16/07 09:35	
Determination of Extractable Petroleum Hydrocarbons							
TEH, as #2 diesel fuel	3.0 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 16:41	
TEH, as waste oil	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 16:41	
Total Extractable Hydrocarbons	3.0 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 16:41	
Surrogate: Pentacosane	91.2 %			60-135	SMG	07/28/07 16:41	
17G0706-04	MW-10			Matrix: Water		Collected: 07/16/07 10:00	
Determination of Volatile Petroleum Hydrocarbons							
Benzene	<1 ug/l	1	1G72031	Iowa OA-1	TVK	07/17/07 15:19	
Toluene	<1 ug/l	1	1G72031	Iowa OA-1	TVK	07/17/07 15:19	
Ethylbenzene	<1 ug/l	1	1G72031	Iowa OA-1	TVK	07/17/07 15:19	
Xylenes, total	<2 ug/l	2	1G72031	Iowa OA-1	TVK	07/17/07 15:19	
Surrogate: Chlorobenzene	103 %			60-123	TVK	07/17/07 15:19	
Determination of Extractable Petroleum Hydrocarbons							
TEH, as gasoline	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 17:30	
TEH, as #2 diesel fuel	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 17:30	
TEH, as waste oil	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 17:30	
Total Extractable Hydrocarbons	<0.1 mg/l	0.1	1G72321	Iowa OA-2	SMG	07/28/07 17:30	
Surrogate: Pentacosane	93.2 %			60-135	SMG	07/28/07 17:30	

MPS Engineers
4949 Westown Parkway Suite 165-126
West Des Moines, IA 50266

July 30, 2007
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Work Order: 17G0706

Determination of Volatile Petroleum Hydrocarbons - Quality Control Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 17G2023 - 1G72031										
Calibration Check (17G2023-CCV1)				Prepared & Analyzed: 07/16/07						
Surrogate: Chlorobenzene	113		ug/l	111.200		101	80-120			
Benzene	115.6		"	118.000		98.0	80-120			
Toluene	118.1		"	117.600		100	80-120			
Ethylbenzene	123.0		"	117.600		105	80-120			
Xylenes, total	243.3		"	234.500		104	80-120			
Calibration Check (17G2023-CCV2)				Prepared & Analyzed: 07/16/07						
Surrogate: Chlorobenzene	116		ug/l	111.200		105	80-120			
Calibration Check (17G2023-CCV3)				Prepared: 07/16/07 Analyzed: 07/17/07						
Surrogate: Chlorobenzene	104		ug/l	111.200		93.1	80-120			
Benzene	102.8		"	118.000		87.1	80-120			
Toluene	94.8		"	117.600		80.6	80-120			
Ethylbenzene	113.6		"	117.600		96.6	80-120			
Xylenes, total	205.6		"	234.500		87.7	80-120			
Calibration Check (17G2023-CCV4)				Prepared: 07/16/07 Analyzed: 07/17/07						
Surrogate: Chlorobenzene	109		ug/l	111.200		98.2	80-120			
Batch 17G2516 - 1G72541										
Calibration Check (17G2516-CCV1)				Prepared & Analyzed: 07/23/07						
Surrogate: Chlorobenzene	94.5		ug/l	111.200		85.0	80-120			
Benzene	104.1		"	118.000		88.2	80-120			
Toluene	100.2		"	117.600		85.2	80-120			
Ethylbenzene	102.4		"	117.600		87.1	80-120			
Xylenes, total	203.0		"	234.500		86.6	80-120			

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MPS Engineers
4949 Westown Parkway Suite 165-126
West Des Moines, IA 50266

July 30, 2007
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Work Order: 17G0706

Determination of Volatile Petroleum Hydrocarbons - Quality Control Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 17G2516 - 1G72541										
Calibration Check (17G2516-CCV2)				Prepared & Analyzed: 07/23/07						
Surrogate: Chlorobenzene	96.7		ug/l	111.200		87.0	80-120			
Calibration Check (17G2516-CCV3)				Prepared: 07/23/07 Analyzed: 07/24/07						
Surrogate: Chlorobenzene	93.2		ug/l	111.200		83.8	80-120			
Benzene	106.2		"	118.000		90.0	80-120			
Toluene	96.5		"	117.600		82.0	80-120			
Ethylbenzene	99.1		"	117.600		84.3	80-120			
Xylenes, total	195.3		"	234.500		83.3	80-120			
Calibration Check (17G2516-CCV4)				Prepared: 07/23/07 Analyzed: 07/24/07						
Surrogate: Chlorobenzene	94.5		ug/l	111.200		85.0	80-120			
Batch 1G72031 - EPA 5030B										
Blank (1G72031-BLK1)				Prepared & Analyzed: 07/16/07						
Surrogate: Chlorobenzene	112		ug/l	111.200		101	60-123			
Benzene	ND	1	"							
Toluene	ND	1	"							
Ethylbenzene	ND	1	"							
Xylenes, total	ND	2	"							
LCS (1G72031-BS1)				Prepared & Analyzed: 07/16/07						
Surrogate: Chlorobenzene	158		ug/l	162.400		97.1	70-130			
Benzene	59.7	1	"	58.8000		102	60-140			
Toluene	43.5	1	"	41.8000		104	67-126			
Ethylbenzene	60.9	1	"	58.0000		105	60-115			
Xylenes, total	106.9	2	"	114.000		93.8	60-120			

[The page contains extremely faint, illegible text, likely bleed-through from the reverse side. The text is organized into several paragraphs and possibly a list or table structure, but the characters are too light to transcribe accurately.]

MPS Engineers
4949 Westown Parkway Suite 165-126
West Des Moines, IA 50266

July 30, 2007
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Work Order: 17G0706

Determination of Volatile Petroleum Hydrocarbons - Quality Control Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1G72031 - EPA 5030B										
Matrix Spike (1G72031-MS1)		Source: 17G0669-03			Prepared & Analyzed: 07/16/07					
Surrogate: Chlorobenzene	833		ug/l	812.000		103	70-130			
Benzene	1926	5	"	294.000	1676	85.1	61-140			
Toluene	318.2	5	"	209.000	99.6	105	63-130			
Ethylbenzene	781.8	5	"	290.000	454.3	113	60-118			
Xylenes, total	643.7	10	"	570.000	91.7	96.9	60-124			
Matrix Spike Dup (1G72031-MSD1)		Source: 17G0669-03			Prepared & Analyzed: 07/16/07					
Surrogate: Chlorobenzene	829		ug/l	812.000		102	70-130			
Benzene	1968	5	"	294.000	1676	99.2	61-140	2.12	16	
Toluene	316.4	5	"	209.000	99.6	104	63-130	0.552	10	
Ethylbenzene	780.0	5	"	290.000	454.3	112	60-118	0.236	11	
Xylenes, total	637.6	10	"	570.000	91.7	95.8	60-124	0.954	10	
Batch 1G72541 - EPA 5030B										
Blank (1G72541-BLK1)		Prepared & Analyzed: 07/23/07								
Surrogate: Chlorobenzene	98.3		ug/l	111.200		88.4	60-123			
Benzene	ND	1	"							
Toluene	ND	1	"							
Ethylbenzene	ND	1	"							
Xylenes, total	ND	2	"							
LCS (1G72541-BS1)		Prepared & Analyzed: 07/23/07								
Surrogate: Chlorobenzene	134		ug/l	162.400		82.2	70-130			
Benzene	57.3	1	"	58.8000		97.5	60-140			
Toluene	41.8	1	"	41.8000		100	67-126			
Ethylbenzene	55.1	1	"	58.0000		94.9	60-115			
Xylenes, total	97.3	2	"	114.000		85.4	60-120			

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^a Values are means ± SD.

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Determination of Volatile Petroleum Hydrocarbons - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1G72541 - EPA 5030B										
Matrix Spike (1G72541-MS1)		Source: 17G0853-03			Prepared & Analyzed: 07/23/07					
Surrogate: Chlorobenzene	734		ug/l	812.000		90.4	70-130			
Benzene	287.9	5	"	294.000	5.4	96.1	61-140			
Toluene	197.6	5	"	209.000	ND	94.5	63-130			
Ethylbenzene	274.6	5	"	290.000	ND	94.7	60-118			
Xylenes, total	482.4	10	"	570.000	ND	84.6	60-124			
Matrix Spike Dup (1G72541-MSD1)		Source: 17G0853-03			Prepared & Analyzed: 07/23/07					
Surrogate: Chlorobenzene	633		ug/l	812.000		78.0	70-130			
Benzene	260.4	5	"	294.000	5.4	86.8	61-140	10.0	16	
Toluene	184.1	5	"	209.000	ND	88.1	63-130	7.07	10	
Ethylbenzene	250.6	5	"	290.000	ND	86.4	60-118	9.14	11	
Xylenes, total	440.0	10	"	570.000	ND	77.2	60-124	9.19	10	

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Work Order: 17G0706

Determination of Extractable Petroleum Hydrocarbons - Quality Control Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 17G2423 - 1G71839										
Calibration Check (17G2423-CCV1)				Prepared & Analyzed: 07/23/07						
Surrogate: Pentacosane	70.9		mg/l	62.0800		114	85-115			
TEH, as gasoline	2137		"	2000.80		107	85-115			
TEH, as #2 diesel fuel	2174		"	2037.60		107	85-115			
TEH, as waste oil	2284		"	2044.80		112	85-115			
Calibration Check (17G2423-CCV2)				Prepared: 07/23/07 Analyzed: 07/24/07						
Surrogate: Pentacosane	71.5		mg/l	62.0800		115	85-115			
TEH, as gasoline	2277		"	2000.80		114	85-115			
TEH, as #2 diesel fuel	2297		"	2037.60		113	85-115			
TEH, as waste oil	2277		"	2044.80		111	85-115			
Batch 17G2610 - 1G72612										
Calibration Check (17G2610-CCV1)				Prepared & Analyzed: 07/25/07						
Surrogate: Pentacosane	56.2		mg/l	62.0800		90.6	85-115			
TEH, as gasoline	2244		"	2000.80		112	85-115			
TEH, as #2 diesel fuel	2053		"	2037.60		101	85-115			
TEH, as waste oil	1809		"	2044.80		88.5	85-115			
Batch 17G3006 - 1G72321										
Calibration Check (17G3006-CCV1)				Prepared & Analyzed: 07/27/07						
Surrogate: Pentacosane	61.7		mg/l	62.0800		99.4	85-115			
TEH, as gasoline	2003		"	2000.80		100	85-115			
TEH, as #2 diesel fuel	1940		"	2037.60		95.2	85-115			
TEH, as waste oil	2086		"	2044.80		102	85-115			

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...and the other is the fact that the system is not yet fully operational.

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Determination of Extractable Petroleum Hydrocarbons - Quality Control Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 17G3006 - 1G72321										
Calibration Check (17G3006-CCV2)				Prepared: 07/27/07 Analyzed: 07/28/07						
Surrogate: Pentacosane	61.7		mg/l	62.0800		99.4	85-115			
TEH, as gasoline	1953		"	2000.80		97.6	85-115			
TEH, as #2 diesel fuel	1945		"	2037.60		95.4	85-115			
TEH, as waste oil	2087		"	2044.80		102	85-115			
Batch 1G72321 - 3510C OA-2 Sep Fnl										
Blank (1G72321-BLK1)				Prepared: 07/23/07 Analyzed: 07/24/07						
Surrogate: Pentacosane	0.0648		mg/l	0.0620800		104	60-135			
TEH, as gasoline	ND	0.1	"							
TEH, as #2 diesel fuel	ND	0.1	"							
TEH, as waste oil	ND	0.1	"							
Total Extractable Hydrocarbons	ND	0.1	"							
LCS (1G72321-BS1)				Prepared: 07/23/07 Analyzed: 07/24/07						
Surrogate: Pentacosane	0.0662		mg/l	0.0620800		107	60-135			
TEH, as #2 diesel fuel	9.92	0.1	"	10.0530		98.7	62-122			
LCS Dup (1G72321-BSD1)				Prepared: 07/23/07 Analyzed: 07/24/07						
Surrogate: Pentacosane	0.0637		mg/l	0.0620800		103	60-135			
TEH, as #2 diesel fuel	9.73	0.1	"	10.0530		96.8	62-122	1.90	23	
Reference (1G72321-SRM1)				Prepared: 07/23/07 Analyzed: 07/26/07						
Surrogate: Pentacosane	0.0513		mg/l	0.0620800		82.6	60-135			
TEH, as #2 diesel fuel	10.23	0.1	"	10.0530		102	70-130			

ND = Non Detect; REC= Recovery; RPD= Relative Percent Difference

Notes and Definitions

D-06 The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

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West Des Moines, IA 50266

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Work Order: 17G0706

End of Report

Sue Thompson

Keystone Laboratories, Inc.
Sue Thompson
Project Manager I

Keystone

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PRINT OR TYPE INFORMATION BELOW

SAMPLER: Amit A. Pradhan
SITE NAME: Parker Oil Company
ADDRESS: 399 SE 7th St.
CITY/ST/ZIP: Des Moines, Iowa
PHONE: _____

REPORT TO:

NAME: Amit A. Pradhan
COMPANY NAME: MPS Engineers
ADDRESS: 4949 Westown Pkwy, Ste 165-126
CITY/ST/ZIP: W. Des Moines, IA 50266
PHONE: 515-221-9832
FAX: 515-222-2625

BILL TO:

NAME: APR
COMPANY NAME: MPS Engineers
ADDRESS: 4949 Westown Pkwy, Ste 165-126
CITY/ST/ZIP: W. Des Moines, IA 50266
PHONE: 515-221-9832

Keystone Quote No.: _____ (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED										LAB USE ONLY	
							BTEX	BY	OA	1	2	3	4	5	6	7	LABORATORY WORK ORDER NO.	LABORATORY SAMPLE NUMBER
MW-7	7/16/07	9:00	MW-7	3	Wat	G	X	X									1760706	
MW-8	7/16/07	9:20	MW-8	3	Wat	G	X	X										02
MW-9	7/16/07	9:35	MW-9	3	Wat	G	X	X										03
MW-10	7/16/07	10:00	MW-10	3	Wat	G	X	X										04

Relinquished by: (Signature)

Date

7/16/07

Time

11:00

Received by: (Signature)

Date

7/16/07

Time

1:00 PM

Turn Around:

☒ Standard☐ Rush

Contact Lab Prior to Submission

Relinquished by: (Signature)

Date

Time

Received for Lab by: (Signature)

Remarks:



SECRET

SECRET

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