CONTINUED MINIMUM SITE ASSESSMENT REPORT for SHAMROCK #63 3624 CERRILLOS ROAD SANTA FE, NEW MEXICO

May 28, 2008

Prepared for:

Polk Oil Company
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Investigation Report Forms

Risk-Based Decision Making For Petroleum Releases At Underground Storage Tank Sites In New Mexico

SITE NAME:	*Shamrock #63*
SITE LOCATION:	*3624 Cerrillos Road, Santa Fe, New Mexico*
SITE ID:	*4509*
FACILITY ID:	*29206*
SUBMITTAL DATE:	*May 28, 2008*
PREPARED BY:	*Michael Hannigan, P.E.*
REVIEWED BY:	*John E. Casey, P.E.*

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☐ *Check the box against the item, if the item is included.*

Form No.	Description	INVESTIGATION REPORT FORMS	
1.	Executive summary.		☑
2.	NAPL information.		☑
3.	Site stratigraphy and hydrogeology.		☑
4.	Analytical data summary for surficial soil (0-1 ft bgs).		☐
5.	Analytical data summary for subsurface soil (1 ft bgs to water table).		☑
6.	Analytical data summary for groundwater.		☑
7.	Conclusions and recommendations.		☑
8.	References and protocols.		☑

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All maps submitted to NMED must include a bar scale, legend, north arrow, location of all known soil borings and monitoring wells, and date of map, where appropriate.

☐ *Check the box against the item, if the item is included.*

Map No. Description **MAPS**

Maps 1-6 are part of 14 Day Report. Update and resubmit as appropriate.

Note: Maps may be combined ,as pappropriate.

1. Topographic map. ☑
2. Site map with UST system location(s), including tank ID number(s). ☑
3. Site map with utility locations. ☑
4. Land use map (radius of 1,000 feet). ☑
5. Receptor survey map: with detailed land use in the vicinity of the site (at least 1,000 feet in the downgradient direction and one property deep on all other sides including across the street). ☑
6. Area map with water use well locations: within one mile radius of the site (the wells on the map must be labeled). Maps must also indicate the location of surface water drains including but not limited to streams, lakes, and well head protection areas, within a 500 foot radius of the site. ☑
7. NAPL thickness contour map. ☐
8. Area geologic map. ☑
9. Groundwater gradient map: contoured map with the predominant flow direction from the most recent gauging event (add additional maps if the flow direction fluctuates). ☑
10. Soil and groundwater concentration contour maps showing boring and well locations and concentrations in each: for benzene, MTBE, total BTEX, and Total PAHs from the most recent sampling event. ☑

ADDITIONAL MAPS:

10a - Soil Analytical Map

10b - Ground Water Analytical Map

10c - Benzene Conentration Contour Map

10d - MTBE Concentration Contour Map

10e - Total BTEX Concentration Contour Map

10f - Total PAHs Concentration Contour Map

10g - Soil Boring Profile

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☐ *Check the box against the item, if the item is included.*

Attachment No. Description

ATTACHMENTS

Attachments 1 and 2 are part of 14 Day Report. Update and resubmit as appropriate.

1.	Most recent UST system test results.	☐
2.	Vapor screening results for utilities.	☐
3.	Estimation of NAPL present: Estimated thickness vs measured thickness of NAPL. Include calculation brief for estimated thickness.	☐
4.	Monitoring well construction digram.	☑
5.	Representative soil boring logs: cross-section(s) showing the stratigraphy of the site and the extent of contamination.	☑
6.	Historical groundwater monitoring data for all the monitoring wells. Include any data collected from temporary wells or borings.	☑
7.	Contaminant concentration and depth to groundwater vs. time graphs for wells with four or more sampling events.	☐

ADDITIONAL ATTACHMENTS:

Laboratory analytical report(s) not previously submitted to the department.

Monitoring well survey

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 1
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

EXECUTIVE SUMMARY

Facility name:	*Shamrock #63*
Facility address:	*3624 Cerrillos Road*
	Santa Fe, New Mexico
Status of UST system facility:	☐ Active ☑ Inactive
Ground surface condition:	*Asphalt pavement except in area of former building & USTs*
Estimated volume and type of product(s) released:	*Unknown quantity of gasoline and diesel fuel*
Has any vapor impacts been identified?	☑ No ☐ On-site ☐ Off-site
If yes (check all that apply):	☐ Utility corridor ☐ Subsurface structures ☐ Above surface structures
Is soil contaminated?	☐ No ☑ On-site ☐ Off-site
Is there any contaminant-saturated soil?	☑ No ☐ On-site ☐ Off-site
Is groundwater contaminated?	☐ No ☑ On-site ☐ Off-site
Has the source of release been identified?	☑ Yes ☐ No *Former UST system*
Has NAPL ever been detected?	☐ Yes ☑ No
Was NAPL removed?	☐ Yes ☑ No
Was NAPL detected in the most recent sampling event?	☐ Yes ☑ No
Has surface water been contaminated by the release?	☐ Yes ☑ No ☐ Unknown ☐ Suspected
Shallowest depth to groundwater (ft bgs.):	*78.8*
Average depth to groundwater (ft bgs.):	*80*
Has a drinking water supply well been contaminated by this release?	☐ Yes ☐ No ☑ Unknown ☐ Suspected
If yes	☐ Drinking ☐ Irrigation ☐ Other

RECOMMENDATIONS

- ☐ Collect additional soil data
- ☑ Collect additional groundwater data
- ☐ Continue NAPL removal
- ☐ Perform interim remedial action
- ☑ GW monitoing
- ☐ Perform a tier 1 evaluation

ADDITIONAL NOTES

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 2
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

NAPL INFORMATION

Has NAPL been found at the site?	☐ Yes ☑ No
(Note if No, proceed to the next report form)	
Date NAPL first reported at the site (if known):	
Type(s) of NAPL released:	
Estimated quantity of NAPL present (attach calculation brief):	
List the monitoring wells currently containing NAPL:	
Has NAPL removal been initiated?	☐ Yes ☐ No
If Yes, specify method of removal (bailer, pump, etc.)?	
If No, cite reason:	
Frequency of removal (weekly, monthly, etc.):	
Total number of recovery events to date:	
Total amount of water recovered:	
Water disposal method:	
Total amount of NAPL recovered:	
NAPL disposal method:	
Date of latest NAPL report submittal:	

ADDITIONAL NOTES

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 3
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

SITE STRATIGRAPHY AND HYDROGEOLOGY

STRATIGRAPHY OF THE SITE

Depth [feet]	Unified soil classification	Type of soil
0 to 15	Fill	Clay, silt, sand & gravel
15 to 63	SM	Decomposed granite, traces of clay, some cobble
63 to 65.5	SC	Sandy Clay, soft
65.5 to 83.8	SM	Decomposed granite, traces of clay, some cobble
83.8 to 94	SM	SAND, fine to med. Grained, saturated
Predominant soil type:	Decomposed granite	

Depth [feet]	Type of bedrock & geological formation (discuss rock properties and features)
Decomposed granite	Hard to very hard, moist to dry, brown to lt. brown, trace clay, non-plastic, some cobble layers occur beneath site between 20 to 57 feet bgs and 63 to at least 84 feet bgs. A sand layer occurs from 84 to at least 94 feet bgs.

HYDROGEOLOGY OF THE SATURATED ZONE

Type of contaminated aquifer(s)?	☐ Confined ☑ Unconfined ☐ Perched
Underlying predominant aquifer name:	unknown
TDS of contaminated aquifer(s) [mg/L]	817 (average)
Describe groundwater level fluctuations:	data are insufficient to describe
Average depth to static water level:	80
Average static water elevation relative to MSL [ft]	6538.06
Flow direction:	South
Hydraulic gradient (i) [ft/ft]:	0.002
Hydraulic conductivity (K) [cm/day]:	1.0 to 10.0
Hydraulic conductivity test method:	
☑ Grain size/Sieve analysis ☐ Slug test ☐ Pumping test; Duration (hrs):	
☐ Other (*specify and attach literature as appropriate*)	
Darcy velocity (K x i) [cm/year]:	3.65
Annual precipitation (average for last 10 years) [cm/year]:	38.71 cm/year

UNSATURATED ZONE CHARACTERISTICS

	Values/range			Method
Dry bulk density [g/cm^3]	1.8 to 2.2	☑ Estimated	☐ Measured	
Estimated porosity (θ) [cm^3/cm^3]:	0.4 to 0.6	☑ Estimated	☐ Measured	
Water content in volumetric units [cm^3/cm^3]:	0.10 to 0.12	☐ Estimated	☑ Measured	ASTM 2216
Fractional organic carbon content [g-C/g-soil]:	<0.13	☐ Estimated	☑ Measured	Walkley Black

ADDITIONAL NOTES

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 5
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

ANALYTICAL DATA SUMMARY FOR SUBSURFACE SOIL (1 FT BGS TO WATER TABLE) [mg/kg]

MW / SB No.	SB-1			SB-2			SB-3/MW-1			SB-4/MW-2			SB-5/MW-3			SB-6/MW-4					
Sampling date	2/16/2007			2/15/2007			11/7/2007			5/6/2008			5/7/2008			5/5/2008					
Sample depth (ft)	15	75		7	50		21	64	79	55	60	80	15	65	75	30	65	75			
ORGANIC CHEMICALS																					
Benzene	0.7	0.19		<0.29	0.22		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Toluene	4.9	0.11		<0.29	1.9		0.18	0.053	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Ethylbenzene	1.1	<0.056		0.3	0.24		0.35	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Xylenes (Total)	6.3	0.2		0.74	1.1		2.7	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			
Ethylene Dibromide (EDB)	<0.27	<0.056		<0.29	<0.056		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
1,2-Dichloroethane (EDC)	<0.27	<0.056		<0.29	<0.056		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
MTBE	<0.27	0.19		<0.29	<0.056		<0.05	0.19	<0.05	0.29	0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
POLYCYCLIC AROMATIC HYDROCARBONS																					
Acenaphthene	<1.3	<0.28		<14	<0.28		<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25			
Anthracene	<0.08	<0.017		<0.87	<0.017		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015			
Benzo(a)anthracene	<0.011	<0.0022		<0.12	<0.0022		<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.013	0.0088	<0.004			
Benzo(a)-pyrene	0.011	<0.0011		<0.058	0.0011		<0.001	<0.001	<0.001	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004			
Benzo(b)-fluoranthene	<0.021	<0.0045		<0.23	<0.0045		<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0055	<0.004	<0.004			
Benzo(k)-flouranthene	0.012	<0.0011		0.14	<0.0011		<0.001	<0.001	<0.001	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004			
Chrysene	<0.059	<0.012		2.2	<0.012		0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011			
Dibenz(a,h)anthracene	<0.016	<0.0033		<0.17	<0.0034		<0.003	<0.003	<0.003	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004			
Fluoranthene	<0.11	<0.022		<1.2	<0.022		<0.02	<0.02	<0.02	<0.020	0.024	<0.020	<0.020	<0.020	<0.020	0.078	0.057	0.023			
Fluorene	<0.16	<0.033		2	<0.034		<0.03	<0.03	<0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030			
Total Naphthalenes	7.2	<0.028		56	<0.28		<0.25	<0.25	<0.25	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75			
Phenanthrene	0.13	<0.017		12	<0.017		0.036	<0.015	<0.015	0.02	0.046	<0.015	<0.015	<0.015	<0.015	0.078	0.076	0.026			
Pyrene	<0.13	<0.028		<1.4	<0.028		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.04	0.029	<0.025			
INORGANIC CHEMICALS																					
Lead	2.8	3		3.3	5.7																

NOTE:

Provide any laboratory analytical report(s) not previously submitted to NMED Office. Add additional sheets as needed.

Non-detects can be expressed as "<(value of detection limit)". All concentrations should be in mg/kg.

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 6
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

ANALYTICAL DATA SUMMARY FOR GROUNDWATER

Monitoring well number		*MW-1*	*MW-2*	*MW-3*	*MW-4*								
Screen interval (feet below TOC)		74 to 94	74 to 94	70 to 90	70 to 90								
Water level (feet below TOC)		80.08	80.89	80.24	78.80								
Installation date (month/year)		11/8/2007	5/6/2008	5/7/2008	5/5/2008								
Number of times sampled		3	1	1	1								
Benzene	No. of detects	3	1	1	1								
WQCC STD. = 10 µg/L	Range (low - high)	1700-6500											
	Maximum (µg/l)	6500	1300	320	360								
	Mean (µg/l)	4733.000											
	Recent trend												
Toluene	No. of detects	3	1	1	1								
WQCC STD. = 750 µg/L	Range (low - high)	260-660											
	Maximum (µg/l)	660	430	7.4	1.2								
	Mean (µg/l)	520.000											
	Recent trend												
Ethylbenzene	No. of detects	3	1	0	0								
WQCC STD. = 750 µg/L	Range (low - high)	85-200											
	Maximum (µg/l)	200	180	<1.0	<1.0								
	Mean (µg/l)	145.000											
	Recent trend												
Xylenes	No. of detects	3	1	1	1								
WQCC STD. = 620 µg/L	Range (low - high)	1000-3200											
	Maximum (µg/l)	3200	1200	23	28								
	Mean (µg/l)	2333.000											
	Recent trend												

NOTE: Provide any laboratory report(s) not previously submitted to NMED Office. Add additional sheets as needed.

For "Range", use all available data.

For "Maximum" and "Mean", use the recent two (2) years' data.

For "Recent Trend", use the recent 2 years' data or the recent 8 measurements, as appropriate.

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 6
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

ANALYTICAL DATA SUMMARY FOR GROUNDWATER

Monitoring well number		*MW-1*	*MW-2*	*MW-3*	*MW-4*									
Screen interval (feet below TOC)		74 to 94	74 to 94	70 to 90	70 to 90									
Water level (feet below TOC)		80.08	80.89	80.24	78.80									
Installation date (month/year)		11/8/2007	5/6/2008	5/7/2008	5/5/2008									
Number of times sampled		3	1	1	1									
EDB	No. of detects	2	0	0	0									
WQCC STD. = 0.1 µg/L	Range (low - high)	<10-28												
	Maximum (µg/l)	28	<10	<1.0	<1.0									
	Mean (µg/l)	20.3												
	Recent trend													
EDC	No. of detects	3	1	0	1									
WQCC STD. = 10 µg/L	Range (low - high)	41-160												
	Maximum (µg/l)	160	20	<1.0	11									
	Mean (µg/l)	103.7												
	Recent trend													
MTBE	No. of detects	3	1	1	1									
WQCC STD. = 100 µg/L	Range (low - high)	1100-4400												
	Maximum (µg/l)	4400	100	4.7	5.7									
	Mean (µg/l)	3233.3												
	Recent trend													
Acenaphthene*	No. of detects	0	0	0	0									
Risk-based Target = 2,200 µg/L	Range (low - high)													
	Maximum (µg/l)	<5	<5	<5	<5									
	Mean (µg/l)													
	Recent trend													

NOTE: Provide any laboratory report(s) not previously submitted to NMED Office. Add additional sheets as needed.

For "Range", use all available data.

For "Maximum" and "Mean", use the recent two (2) years' data.

For "Recent Trend", use the recent 2 years' data or the recent 8 measurements, as appropriate.

* No WQCC Standard available, value shown is estimated (refer Table 4-7 of Guidance Document).

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 6
SITE ID: 4509		FACILITY ID: 29206
SUBMITTAL DATE: 28-May-08		PREPARED BY: Michael Hannigan, P.E.

ANALYTICAL DATA SUMMARY FOR GROUNDWATER

Monitoring well number		*MW-1*	*MW-2*	*MW-3*	*MW-4*								
Screen interval (feet below TOC)		74 to 94	74 to 94	70 to 90	70 to 90								
Water level (feet below TOC)		80.08	80.89	80.24	78.80								
Installation date (month/year)		11/8/2007	5/6/2008	5/7/2008	5/5/2008								
Number of times sampled		3	1	1	1								
Anthracene*	No. of detects	0	0	0	1								
Risk-based Target = 11,000 µg/L	Range (low - high)												
	Maximum (µg/l)	<0.60	<0.60	<0.60	3.4								
	Mean (µg/l)												
	Recent trend												
Benzo(a)anthracene*	No. of detects	0	0	0	0								
Risk-based Target = 1.2 µg/L	Range (low - high)												
	Maximum (µg/l)	<0.07	<0.07	<0.07	<0.07								
	Mean (µg/l)												
	Recent trend												
Benzo(a)pyrene	No. of detects	0	0	0	0								
WQCC STD = 0.7 µg/L	Range (low - high)												
	Maximum (µg/l)	<0.07	<0.07	<0.07	<0.07								
	Mean (µg/l)												
	Recent trend												
Benzo(b)-fluoranthene*	No. of detects	0	0	0	0								
Risk-based Target = 1.2 µg/L	Range (low - high)												
	Maximum (µg/l)	<0.1	<0.1	<0.1	<0.1								
	Mean (µg/l)												
	Recent trend												

NOTE: Provide any laboratory report(s) not previously submitted to NMED Office. Add additional sheets as needed.

For "Range", use all available data.

For "Maximum" and "Mean", use the recent two (2) years' data.

For "Recent Trend", use the recent 2 years' data or the recent 8 measurements, as appropriate.

*** No WQCC Standard available, value shown is estimated (refer Table 4-7 of Guidance Document).**

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 6
SITE ID: 4509		FACILITY ID: 29206
SUBMITTAL DATE: 28-May-08		PREPARED BY: Michael Hannigan, P.E.

ANALYTICAL DATA SUMMARY FOR GROUNDWATER

Monitoring well number		*MW-1*	*MW-2*	*MW-3*	*MW-4*									
Screen interval (feet below TOC)		74 to 94	74 to 94	70 to 90	70 to 90									
Water level (feet below TOC)		80.08	80.89	80.24	78.80									
Installation date (month/year)		11/8/2007	5/6/2008	5/7/2008	5/5/2008									
Number of times sampled		3	1	1	1									
Benzo(k)-fluoranthene*	No. of detects	*0*	*0*	*0*	*0*									
Risk-based Target = 1.2 µg/L	Range (low - high)													
	Maximum (µg/l)	*<0.07*	*<0.07*	*<0.07*	*<0.07*									
	Mean (µg/l)													
	Recent trend													
Chrysene*	No. of detects	*3*	*0*	*0*	*0*									
Risk-based Target = 117 µg/L	Range (low - high)													
	Maximum (µg/l)	*<0.2*	*<0.2*	*<0.2*	*<0.2*									
	Mean (µg/l)													
	Recent trend													
Dibenz(a,h)anthracene*	No. of detects	*0*	*0*	*0*	*0*									
Risk-based Target = 0.12 µg/L	Range (low - high)													
	Maximum (µg/l)	*<0.07*	*<0.07*	*<0.07*	*<0.07*									
	Mean (µg/l)													
	Recent trend													
Fluoranthene*	No. of detects	*0*	*1*	*0*	*1*									
Risk-based Target = 1,460 µg/L	Range (low - high)													
	Maximum (µg/l)	*<0.3*	*0.62*	*<0.3*	*2.8*									
	Mean (µg/l)													
	Recent trend													

NOTE: Provide any laboratory report(s) not previously submitted to NMED Office. Add additional sheets as needed.

For "Range", use all available data.

For "Maximum" and "Mean", use the recent two (2) years' data.

For "Recent Trend", use the recent 2 years' data or the recent 8 measurements, as appropriate.

*** No WQCC Standard available, value shown is estimated (refer Table 4-7 of Guidance Document).**

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 6
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

ANALYTICAL DATA SUMMARY FOR GROUNDWATER

Monitoring well number		MW-1	MW-2	MW-3	MW-4								
Screen interval (feet below TOC)		74 to 94	74 to 94	70 to 90	70 to 90								
Water level (feet below TOC)		80.08	80.89	80.24	78.80								
Installation date (month/year)		11/8/2007	5/6/2008	5/7/2008	5/5/2008								
Number of times sampled		3	1	1	1								
Fluorene*	No. of detects	0	1	0	1								
Risk-based Target = 1,460 µg/L	Range (low - high)												
	Maximum (µg/l)	<0.8	1.1	<0.8	3.8								
	Mean (µg/l)												
	Recent trend												
Total Naphthalenes	No. of detects	3	1	1	1								
WQCC STD. = 30 µg/L	Range (low - high)	131-285											
	Maximum (µg/l)	285	32	6.6	39.4								
	Mean (µg/l)	212.7											
	Recent trend												
Phenanthrene*	No. of detects	0	1	1	1								
Risk-based Target = 1,100 µg/L	Range (low - high)												
	Maximum (µg/l)	<0.6	9.9	3.7	26								
	Mean (µg/l)												
	Recent trend												
Pyrene*	No. of detects	0	1	0	1								
Risk-based Target = 1,100 µg/L	Range (low - high)												
	Maximum (µg/l)	<0.3	0.36	<0.3	1.5								
	Mean (µg/l)												
	Recent trend												

NOTE: Provide any laboratory report(s) not previously submitted to NMED Office. Add additional sheets as needed.

For "Range", use all available data.

For "Maximum" and "Mean", use the recent two (2) years' data.

For "Recent Trend", use the recent 2 years' data or the recent 8 measurements, as appropriate.

* No WQCC Standard available, value shown is estimated (refer Table 4-7 of Guidance Document).

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 6
SITE ID: 4509		FACILITY ID: 29206
SUBMITTAL DATE: 28-May-08		PREPARED BY: Michael Hannigan, P.E.

ANALYTICAL DATA SUMMARY FOR GROUNDWATER

Monitoring well number		*MW-1*	*MW-2*	*MW-3*	*MW-4*								
Screen interval (feet below TOC)		74 to 94	74 to 94	70 to 90	70 to 90								
Water level (feet below TOC)		80.08	80.89	80.24	78.80								
Installation date (month/year)		11/8/2007	5/6/2008	5/7/2008	5/5/2008								
Number of times sampled		0	0	0	0								
Lead	No. of detects												
WQCC STD = 50 µg/L	Range (low - high)												
	Maximum (µg/l)												
	Mean (µg/l)												
	Recent trend												
	No. of detects												
	Range (low - high)												
	Maximum (µg/l)												
	Mean (µg/l)												
	Recent trend												
	No. of detects												
	Range (low - high)												
	Maximum (µg/l)												
	Mean (µg/l)												
	Recent trend												
	No. of detects												
	Range (low - high)												
	Maximum (µg/l)												
	Mean (µg/l)												
	Recent trend												

NOTE: Provide any laboratory report(s) not previously submitted to NMED Office. Add additional sheets as needed.

For "Range", use all available data.

For "Maximum" and "Mean", use the recent two (2) years' data.

For "Recent Trend", use the recent 2 years' data or the recent 8 measurements, as appropriate.

*** No WQCC Standard available, value shown is estimated (refer Table 4-7 of Guidance Document).**

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 7
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

CONCLUSIONS AND RECOMMENDATIONS

1.	*Has NAPL been removed?*
	N/A
2.	*Has the site (soil and aquifer) been adequately investigated and characterized?*
	No. Soil impacts have been characterized spatially for all COCs except MTBE. The ground water impact has not been characterized spatially.
3.	*Has the source soil(s) been delineated spatially and vertically, on-site and off-site? Are the available soil data collected within the last 5 years?*
	Soil impacts for all COCs except NTBE have been delineated spatially. Available data has been collected in the last 5 years.
4.	*Has groundwater plume been delineated in all directions?*
	No. Ground water has been impacted above actions lecvels for many gasoline related compounds in all four (4) monitoring wells.
5.	*Have all relevant COCs (based on the product released) been analyzed for in soil and groundwater?*
	All relevant COCs have been analyzed for in soil and ground water.
6.	*Have the recommended laboratory methods been used and required QA/QC met?*
	Yes

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 7
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

CONCLUSIONS AND RECOMMENDATIONS

7.	*Is the plume stable or shrinking, based on the concentration trend plots?*
	Unknown, data are insufficient to make that determination
8.	*Are the groundwater contaminant concentrations in all monitoring wells below the applicable standards for the 8 consecutive quarters (4 consecutive quarters for wells with clear decreasing concentration trends)?*
	No
9.	*Is a waiver petition required for alternative groundwater protection standards? If the answer to Question No.8 is yes, no waiver petition is required and groundwater protection pathway need not be included in any risk-based evaluation of the site.*
	N/A
10.	*Other relevant information*
11.	*Is a tier 1 risk-based evaluation of the site necessary?*
	No, the ground water plume must be delineated
12.	*Is groundwater monitoring recommended?*
	Yes, ground water monitoring and delineation of the ground water plume are recommended to determine the degree of impact.

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 8
SITE ID: 4509	FACILITY ID: 29206	
SUBMITTAL DATE: 28-May-08	PREPARED BY: Michael Hannigan, P.E.	

REFERENCES AND PROTOCOLS

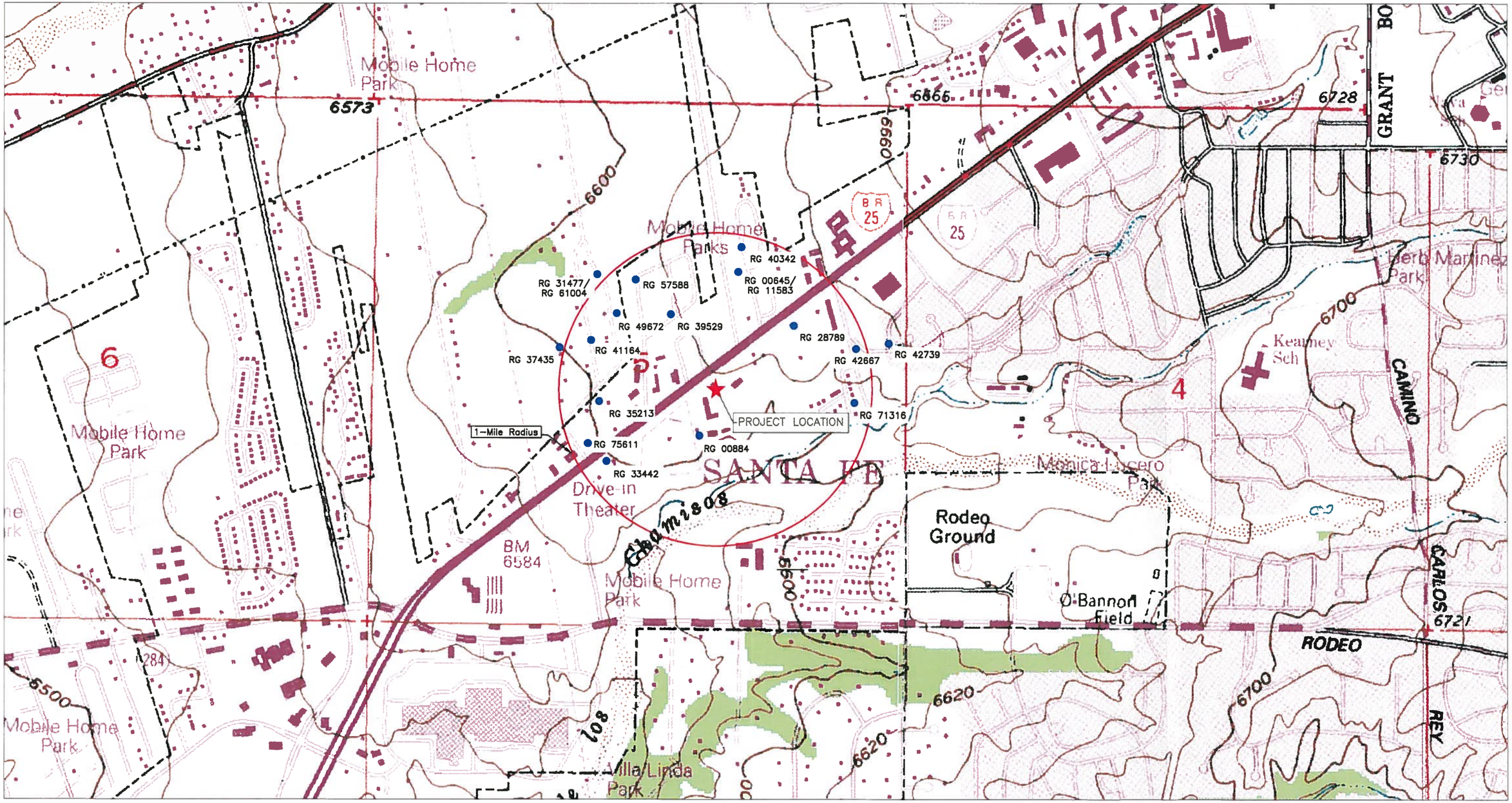
Basin Engineering Standard Operating Procedures (SOPs) are attached for 1) Field screening soil samples using the heated headspace methodology, 2) Soil sample collection using the methanol extraction procedure, 3) Monitoring well installation and 4) Ground water sampling.

Table 1
Ground Water Depth and Field Parameter Data

Well ID	Date Measured	Total Depth (feet)	Depth to Water (feet)	TOC[1] Elevation (feet)	Ground Water Elevation (feet)	pH	Specific Conduct-ance (mS/cm)	Total Dissolved Solids (ppm)	Dissolved Oxygen (mg/L)	Temper-ature (°F)
MW-1	16-Nov-07	94.72	79.76	6619.21	6539.45	7.47	1.402	911	1.43	60.8
	2-Jan-08	94.72	80.02	6619.21	6539.19	7.88	1.776	1,154	1.28	57.2
	16-May-08	94.72	80.08	6619.21	6539.13	7.16	1.993	1,296	1.74	60.4
MW-2	16-May-08	94.00	80.89	6621.53	6540.64	7.50	0.838	545	1.17	59.4
MW-3	16-May-08	90.00	80.24	6620.37	6540.13	7.84	0.741	483	1.62	58.5
MW-4	16-May-08	90.00	78.80	6618.94	6540.14	8.37	1.456	945	1.60	58.1

Notes: 1. TOC: Top of PVC Well Casing
mS/cm = millisiemens per centimeter
mg/L = milligrams per Liter
ppm = parts per million

FIGURES



NOTE: Water well locations within a 1-mile radius as indicated by the New Mexico Office of the State Engineer. (Permit Numbers Included)

AGUA FRIA QUADRANGLE
NEW MEXICO-SANTA FE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

AGUA FRIA, N.MEX.
1951
REVISED 1993

GN MN
0°37' 11 MILS
10 1/2° 187 MILS

UTM GRID AND 1993 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE: 1 in = 1000 ft

0 500 0 1000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

BASIN ENGINEERING, INC

Drawn by	Date	Checked by	Date
DGW	05/28/08	JEC	

Vicinity Map

Continued Minimum Site Assessment Report
Santa Fe Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico

Project No. 030116

Figure No. 1,6

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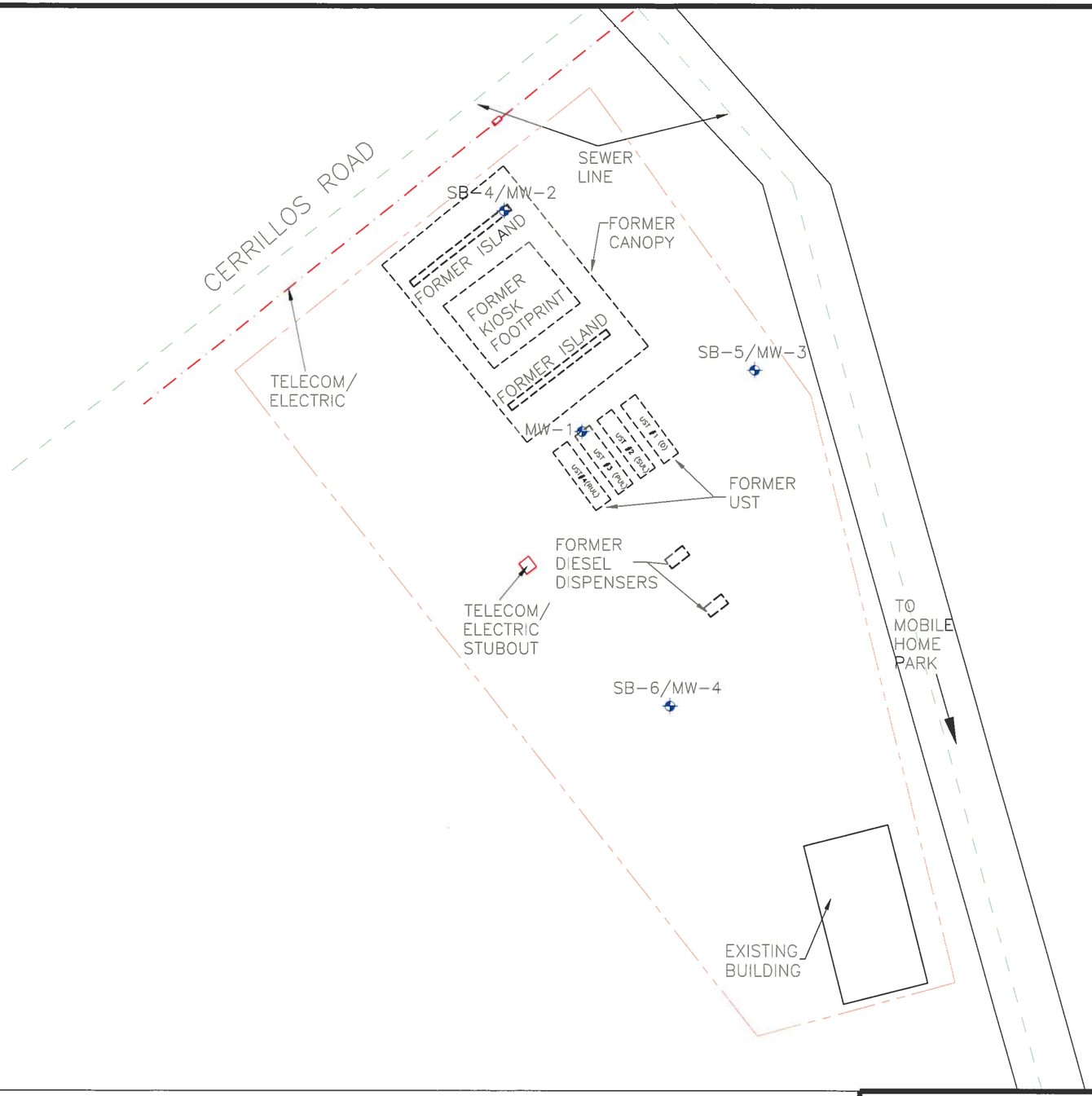

LEGEND

SB-3/MW-1 — Monitoring Well Location And Designation

Property Line

0 20 0 40

Scale: 1 in = 40 ft

N

BASIN ENGINEERING, INC

Drawn by	Date	Checked by	Date
DGW	06/04/08	JEC	

Site Map

Continued Minimum Site Assessment Report
Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico

Project No. 030116

Figure No. 2

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Orthophoto provided by UNM–EDAC

Scale: 1" = 250'

0 125 0 250

N

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BASIN ENGINEERING, INC

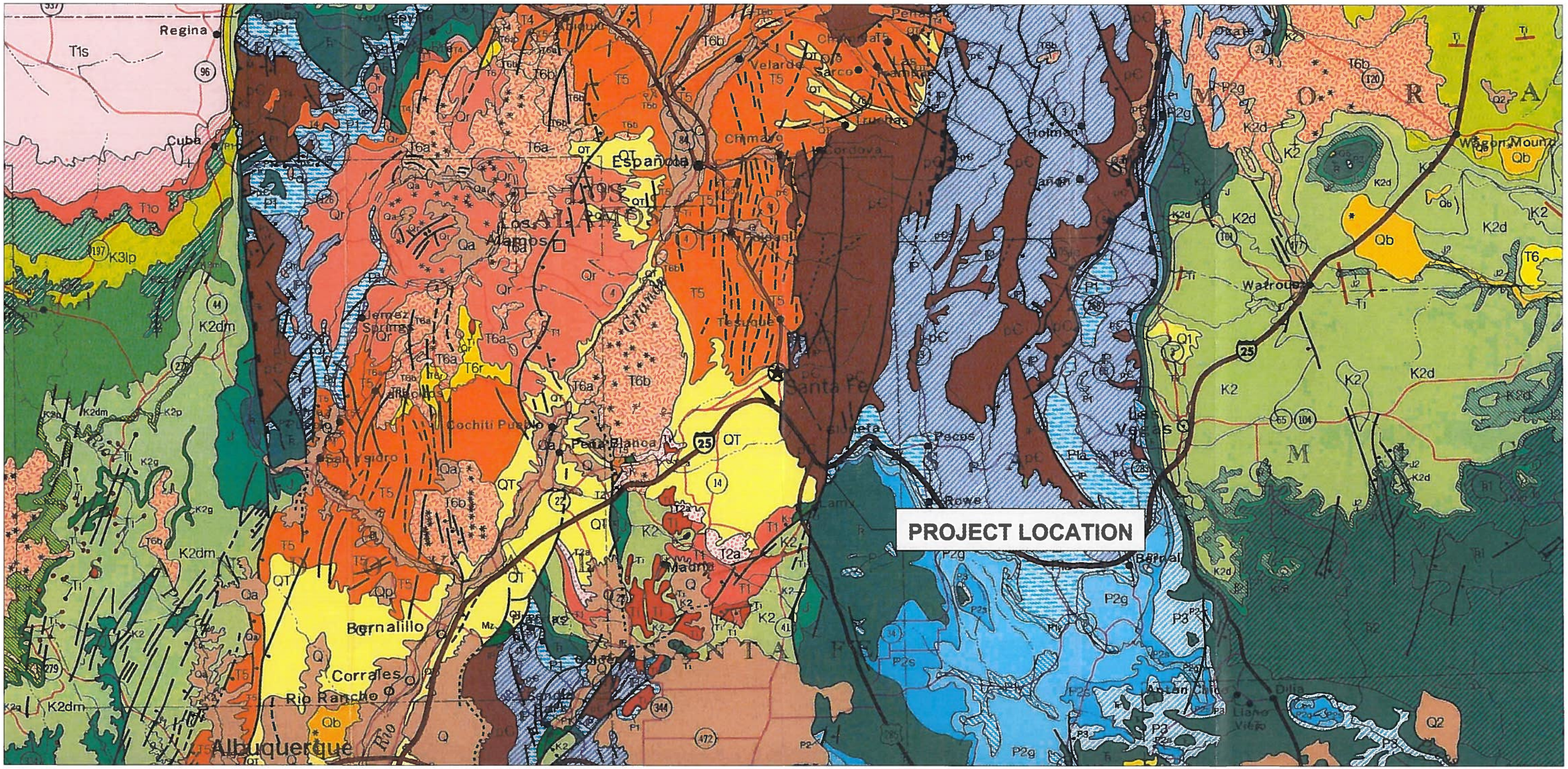
Drawn by	Date	Checked by	Date
DGW	05/28/08	JEC	

Land Use/Receptor Survey Map

Continued Minimum Site Assessment Report
Santa Fe Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico

Project No. 030116

Figure No. 4,5



NEW MEXICO HIGWAY GEOLOGIC MAP
NEW MEXICO GEOLOGICAL SOCIETY

1982

N

SCALE: 1 in = 10 miles

0 5 0 10

BASIN ENGINEERING, INC

Drawn by	Date	Checked by	Date
DGW	05/28/08	JEC	

Geologic Map

Continued Minimum Site Assessment Report
Santa Fe Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico

Project No.
030116

Figure No.
8

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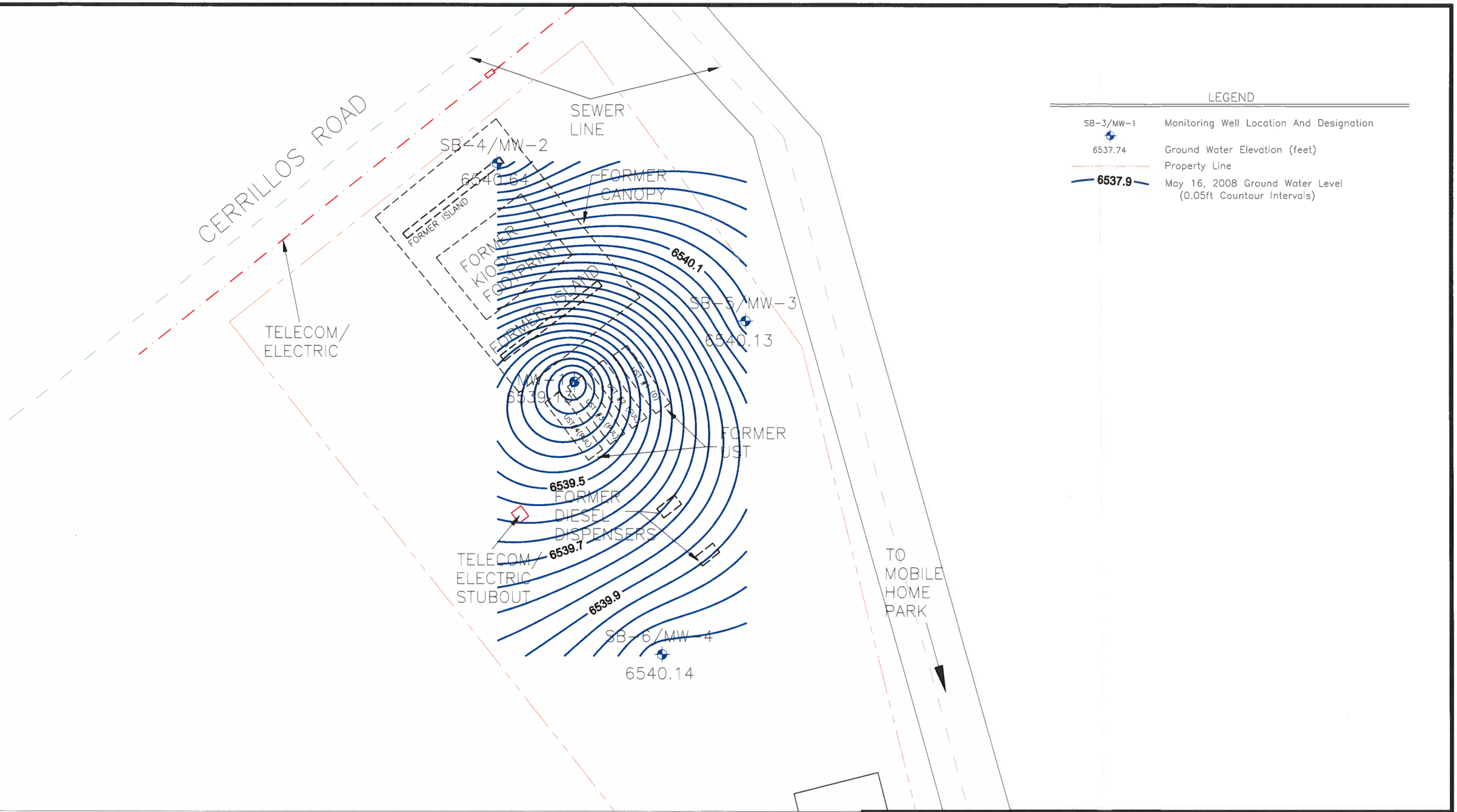
CERRILLOS ROAD
SEWER LINE
SB-4/MW-2
6540.64
FORMER CANOPY
FORMER ISLAND
FORMER KIOSK FOOTPRINT
FORMER ISLAND
6540.1
SB-5/MW-3
6540.13
TELECOM/ ELECTRIC
MW-1
6539.13
FORMER UST
6539.5
FORMER DIESEL DISPENSERS
6539.7
TELECOM/ ELECTRIC STUBOUT
6539.9
SB-6/MW-4
6540.14
TO MOBILE HOME PARK
LEGEND
SB-3/MW-1
Monitoring Well Location And Designation
6537.74
Ground Water Elevation (feet)
Property Line
6537.9
May 16, 2008 Ground Water Level (0.05ft Countour Intervals)
0 15 0 30
Scale: 1 in = 30 ft
N
B A S I N
ENGINEERING, INC
Drawn by DGW Date 06/04/08
Checked by JEC Date
GW Countour Map
Continued Minimum Site Assessment Report
Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico
Project No. 030116
Figure No. 9
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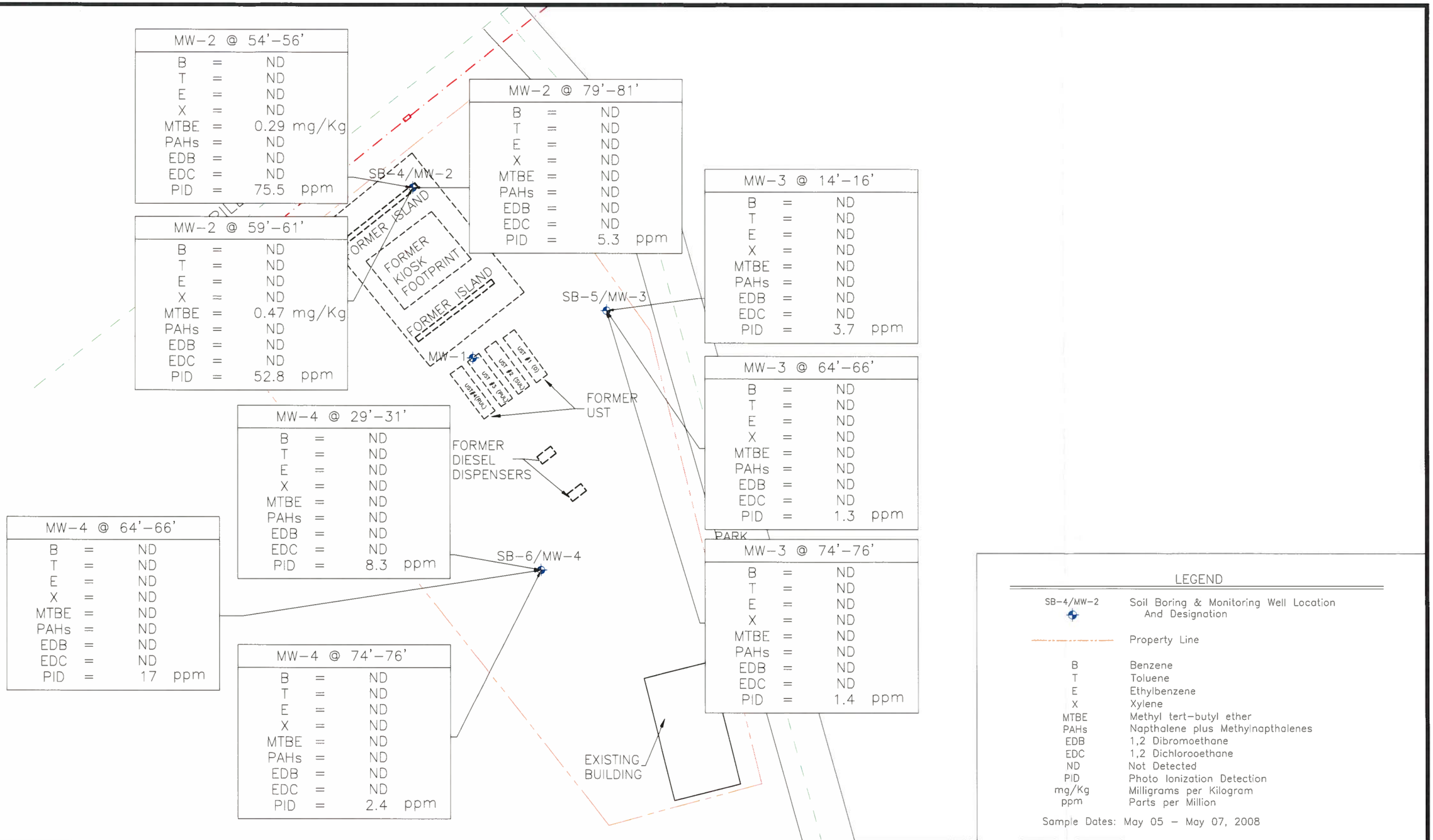

LEGEND

SB-4/MW-2	Soil Boring & Monitoring Well Location And Designation
	Property Line
B	Benzene
T	Toluene
E	Ethylbenzene
X	Xylene
MTBE	Methyl tert-butyl ether
PAHs	Napthalene plus Methylnapthalenes
EDB	1,2 Dibromoethane
EDC	1,2 Dichlorooethane
ND	Not Detected
PID	Photo Ionization Detection
mg/Kg	Milligrams per Kilogram
ppm	Parts per Million

Sample Dates: May 05 - May 07, 2008

BASIN ENGINEERING, INC

Drawn by	Date	Checked by	Date
DGW	06/04/08	JEC	

Soil Analytical Map

Continued Minimum Site Assessment Report
Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico

Project No. 030116

Figure No. 10a

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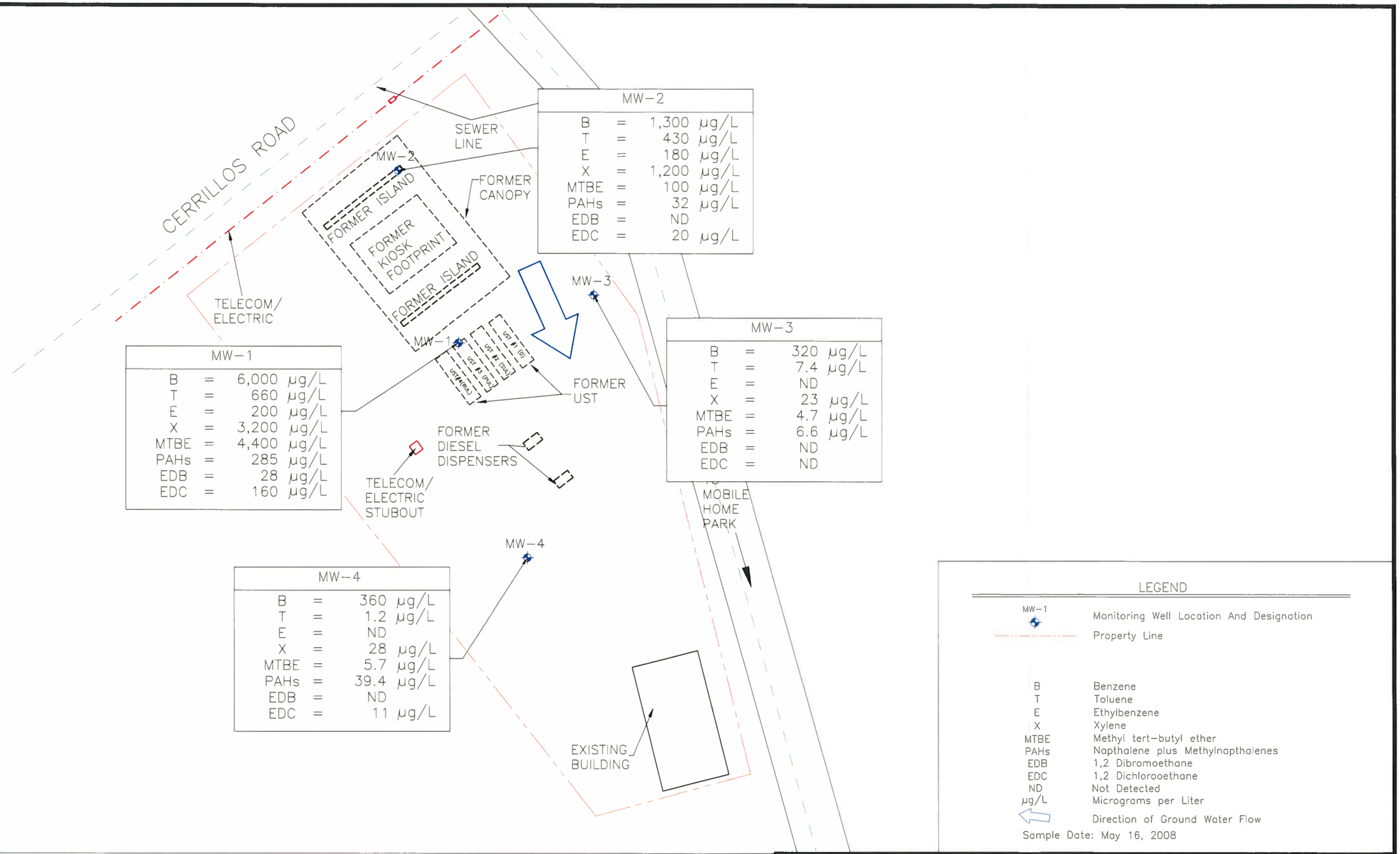

BASIN ENGINEERING, INC

Drawn by	Date	Checked by	Date
DGW	06/04/08	JEC	

GW Analytical Map

Continued Minimum Site Assessment Report
Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico

Project No. 030116

Figure No. 10b

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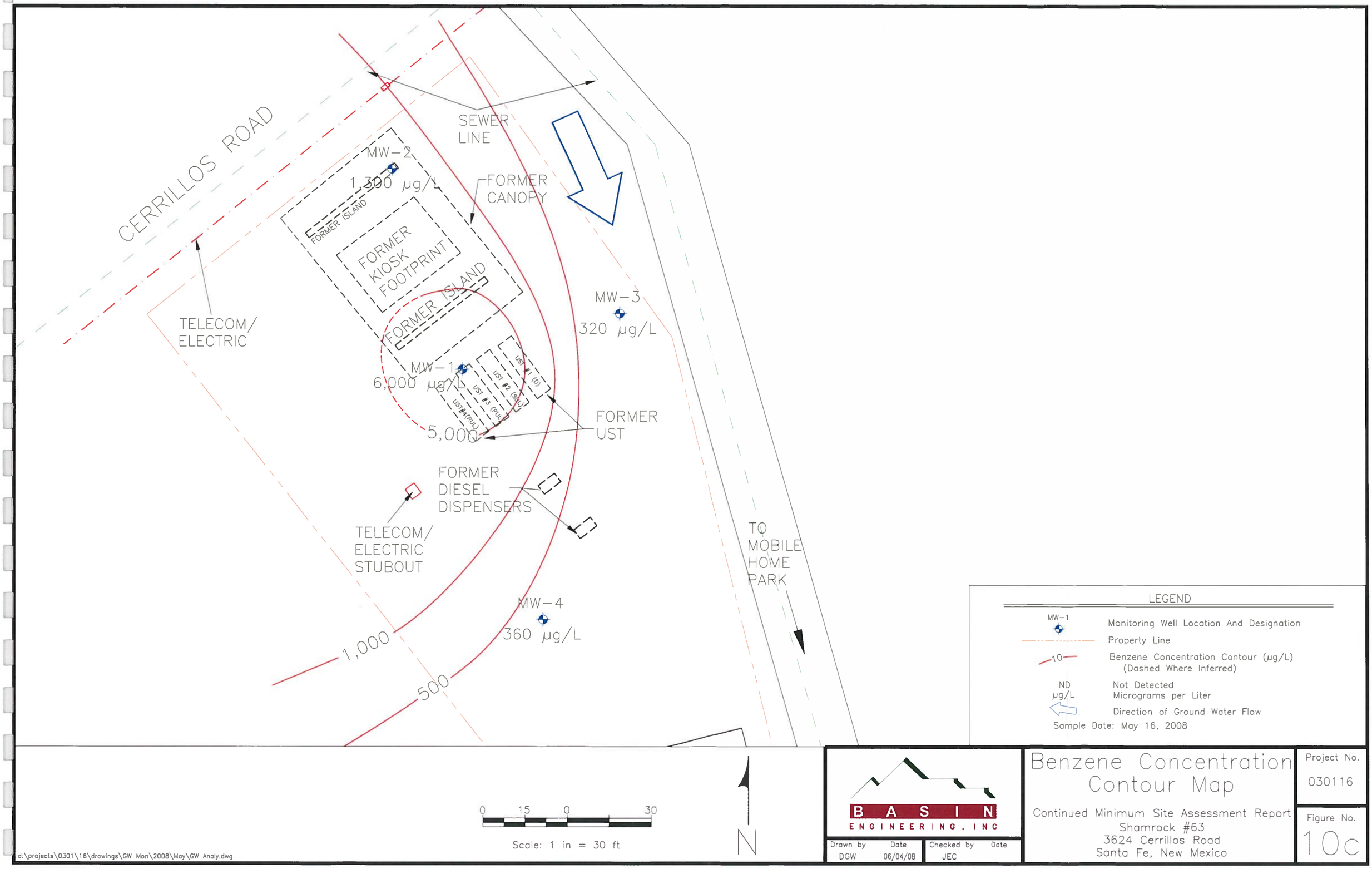


BASIN ENGINEERING, INC

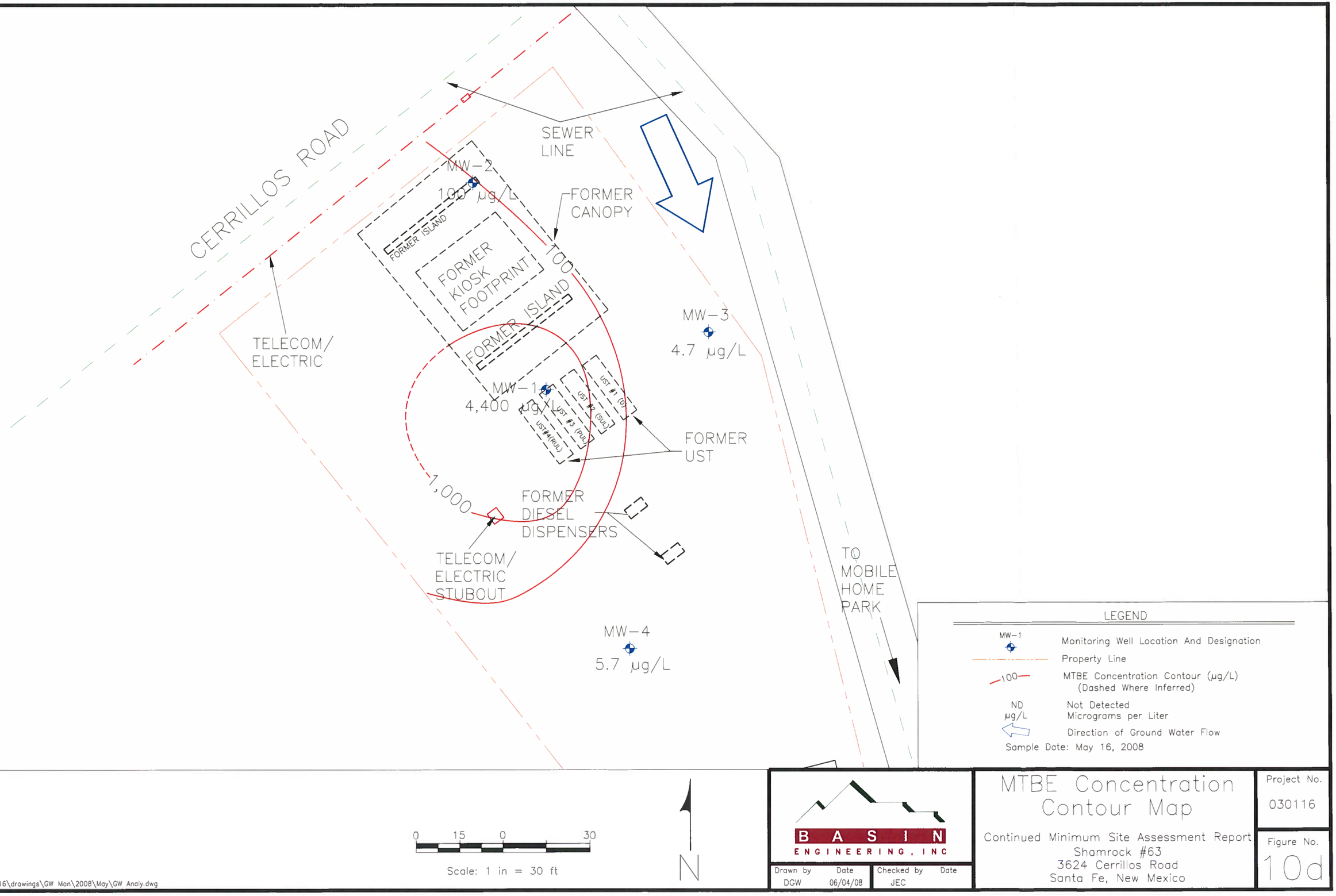
Drawn by	Date	Checked by	Date
DGW	06/04/08	JEC	

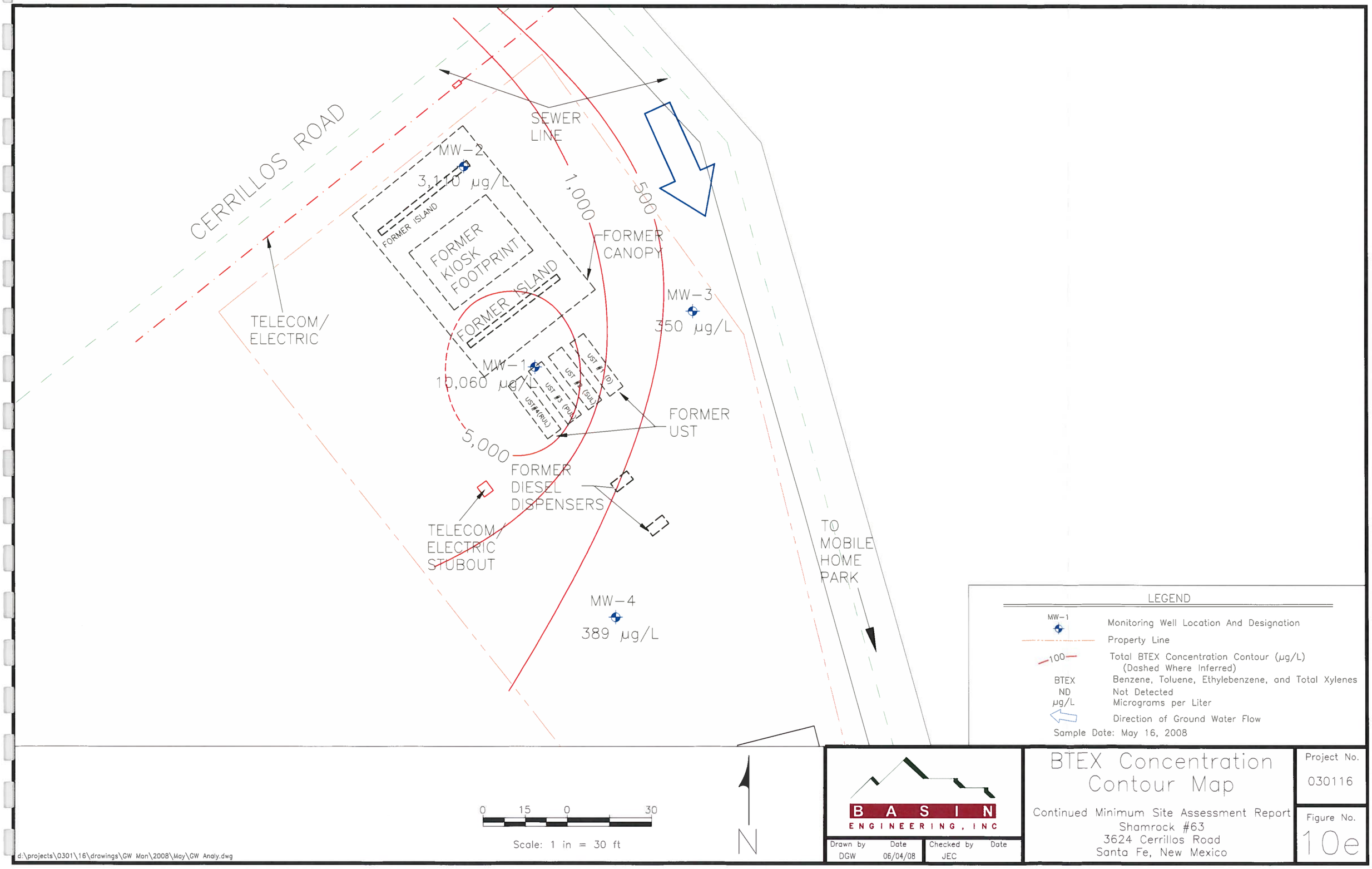
Benzene Concentration Contour Map

Continued Minimum Site Assessment Report
Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico

Project No. 030116

Figure No. 10c


CERRILLOS ROAD
SEWER LINE
MW-2
100 µg/L
FORMER CANOPY
FORMER ISLAND
FORMER KIOSK FOOTPRINT
100
FORMER ISLAND
TELECOM/ ELECTRIC
MW-3
4.7 µg/L
MW-1
4,400 µg/L
UST #1 (D)
UST #2 (SUL)
UST #3 (PUL)
UST #4 (RUL)
FORMER UST
1,000
FORMER DIESEL DISPENSERS
TELECOM/ ELECTRIC STUBOUT
MW-4
5.7 µg/L
TO MOBILE HOME PARK
LEGEND
MW-1
Monitoring Well Location And Designation
Property Line
100
MTBE Concentration Contour (µg/L) (Dashed Where Inferred)
ND µg/L
Not Detected Micrograms per Liter
Direction of Ground Water Flow
Sample Date: May 16, 2008
0 15 0 30
Scale: 1 in = 30 ft
N
BASIN ENGINEERING, INC
Drawn by DGW Date 06/04/08
Checked by JEC Date
MTBE Concentration Contour Map
Continued Minimum Site Assessment Report
Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico
Project No. 030116
Figure No. 10d
d:\projects\0301\16\drawings\GW Mon\2008\May\GW Analy.dwg


CERRILLOS ROAD
SEWER LINE
MW-2
3,170 µg/L
FORMER ISLAND
FORMER KIOSK FOOTPRINT
FORMER ISLAND
1,000
500
FORMER CANOPY
MW-3
350 µg/L
TELECOM/ ELECTRIC
MW-1
10,060 µg/L
UST #1 (D)
UST #2 (SUL)
UST #3 (PUL)
UST #4 (PUL)
FORMER UST
5,000
FORMER DIESEL DISPENSERS
TELECOM/ ELECTRIC STUBOUT
MW-4
389 µg/L
TO MOBILE HOME PARK
LEGEND
MW-1
Monitoring Well Location And Designation
Property Line
100
Total BTEX Concentration Contour (µg/L) (Dashed Where Inferred)
BTEX
Benzene, Toluene, Ethylebenzene, and Total Xylenes
ND
Not Detected
µg/L
Micrograms per Liter
Direction of Ground Water Flow
Sample Date: May 16, 2008
0
15
0
30
Scale: 1 in = 30 ft
N
BASIN ENGINEERING, INC
Drawn by DGW
Date 06/04/08
Checked by JEC
Date
BTEX Concentration Contour Map
Continued Minimum Site Assessment Report
Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico
Project No. 030116
Figure No. 10e
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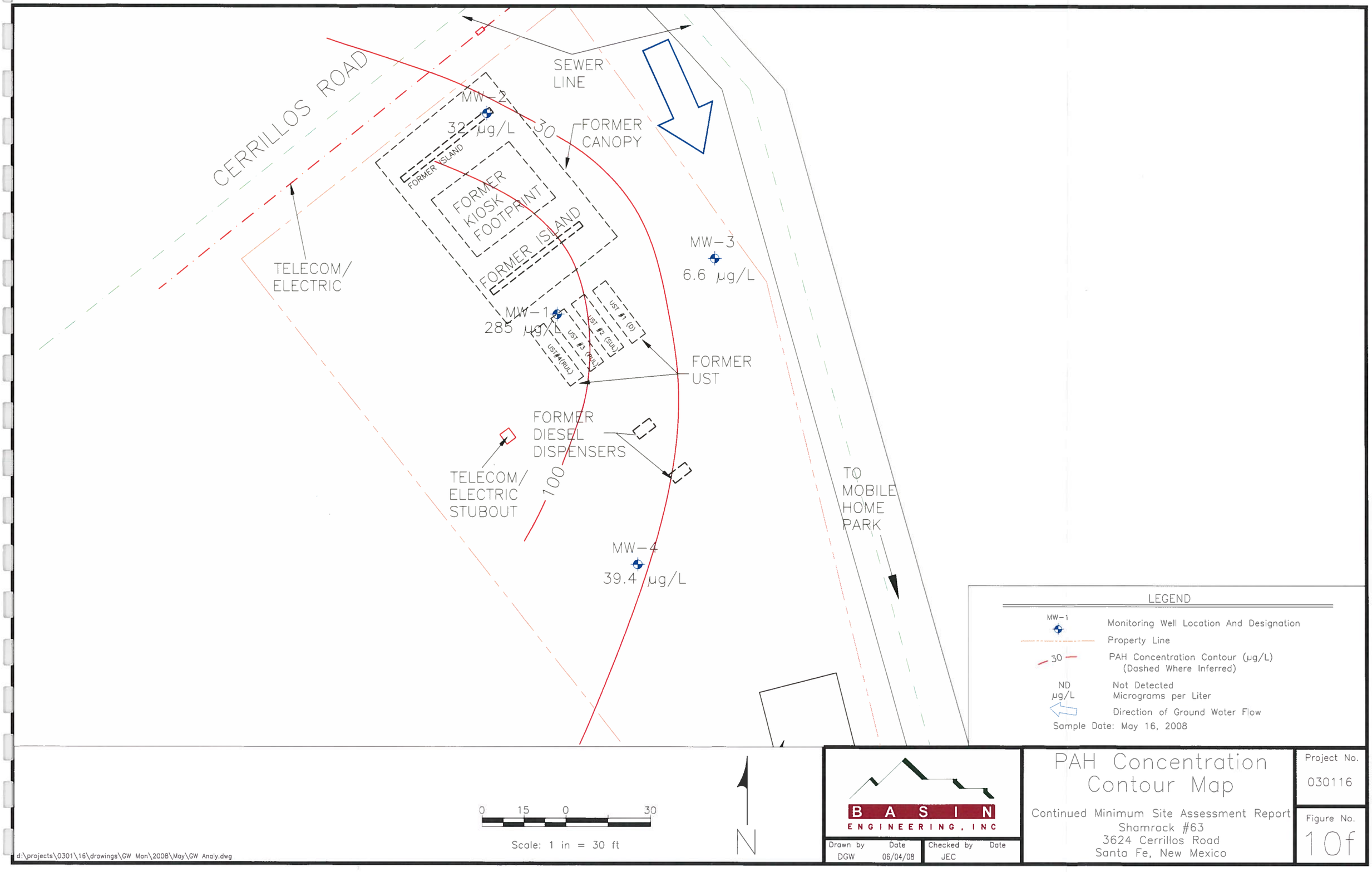
CERRILLOS ROAD
SEWER LINE
MW-2
32 µg/L
30
FORMER CANOPY
FORMER ISLAND
FORMER KIOSK FOOTPRINT
FORMER ISLAND
TELECOM/ ELECTRIC
MW-3
6.6 µg/L
MW-1
285 µg/L
UST #1 (D)
UST #2 (SUL)
UST #3 (RUL)
UST #4 (RUL)
FORMER UST
FORMER DIESEL DISPENSERS
TELECOM/ ELECTRIC STUBOUT
100
MW-4
39.4 µg/L
TO MOBILE HOME PARK
LEGEND
MW-1
Monitoring Well Location And Designation
Property Line
30
PAH Concentration Contour (µg/L) (Dashed Where Inferred)
ND µg/L
Not Detected Micrograms per Liter
Direction of Ground Water Flow
Sample Date: May 16, 2008
0 15 0 30
Scale: 1 in = 30 ft
N
BASIN ENGINEERING, INC
Drawn by DGW Date 06/04/08
Checked by JEC Date
PAH Concentration Contour Map
Continued Minimum Site Assessment Report
Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico
Project No. 030116
Figure No. 10f
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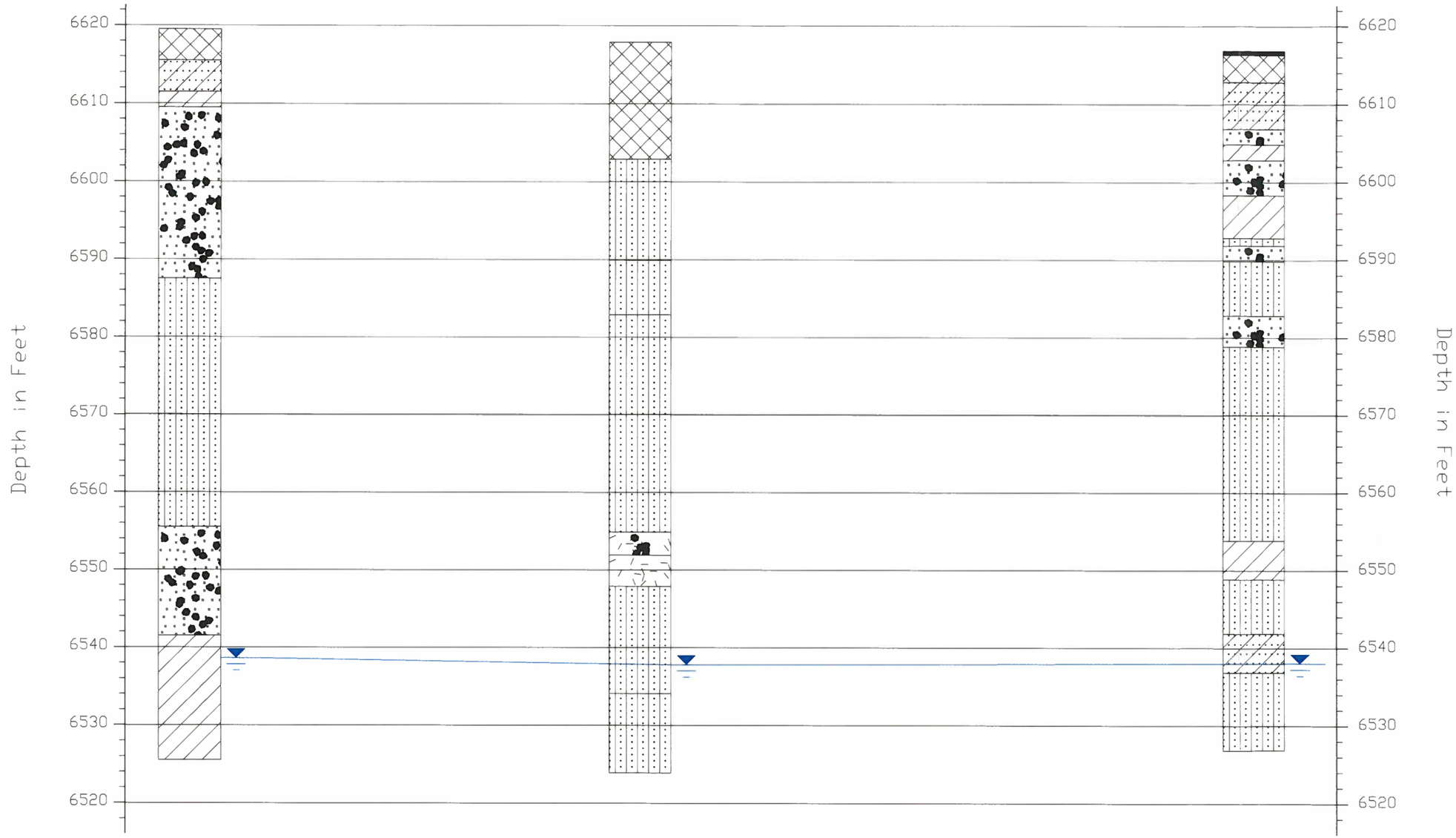
SB-4/MW-2

MW-1

SB-6/MW-4



Legend

- Low plasticity clay
- Fill
- Silty sand
- Description not given for: "G/"
- Granite
- Paving
- Clayey sand
- Poorly graded gravel and sand
- May 16, 2008 Ground Water Level

BASIN ENGINEERING, INC

Drawn by	Date	Checked by	Date
DGW	05/28/08	JEC	

N-S Cross Section

Continued Minimum Site Assessment Report
Shamrock #63
3624 Cerrillos Road
Santa Fe, New Mexico

Project No. 030116

Figure No. 10g

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APPENDIX A
Standard Operating Procedures

Heated Headspace Field Screening Method for Soil Samples

All field activities will be conducted in accordance with the New Mexico Environment Department (NMED) Petroleum Storage Tank Regulations (20.5 NMAC), including Section 1.0; Soil and Groundwater Sampling and Disposal, found in the New Mexico Underground Storage Tank Bureau Guidelines for Corrective Action (March 13, 2000).

Soil samples to be screened in the field shall be placed in a sixteen (16)-ounce (or larger) clean glass jar until approximately one-half full. Clean aluminum foil shall be placed over the top of the jar and secured with the lid ring (or equivalent).

The sample shall not be evaluated until it reaches a temperature of at least 60 degrees Fahrenheit but shall not be allowed to reach a temperature in excess of 80 degrees Fahrenheit. When working in cold weather conditions, samples may be warmed to the appropriate evaluation temperature by placing them inside a heated vehicle. Samples shall be protected from exposure to direct sunlight.

Aromatic hydrocarbon vapor concentrations shall be allowed to develop for at least five (5) minutes prior to evaluating each sample. Samples shall be shaken vigorously to assist the development of vapors in the headspace.

After allowing sufficient time for the development of vapors in the headspace, the foil cover of the sample container shall be pierced using the probe of a photo-ionization detector (PID). The highest measurement of headspace vapors in parts per million (ppm) shall be recorded for each sample.

After evaluating the sample and recording the highest measurement of headspace vapors, the sample and the aluminum foil lid shall be disposed of properly. The sample container may be reused after it has been properly cleaned.

Soil Sample Collection Using Methanol Extraction

All field activities will be conducted in accordance with the New Mexico Environment Department (NMED) Petroleum Storage Tank Regulations (20.5 NMAC), including Section 1.0; Soil and Groundwater Sampling and Disposal, found in the New Mexico Underground Storage Tank Bureau Guidelines for Corrective Action (March 13, 2000).

Each soil sample collected shall be representative of the area intended for laboratory analysis. Soil samples may be collected from a backhoe bucket, split spoon sampler or the bottom or sidewall of an excavation only after the soil surface has been scraped away to expose fresh soil. The soil sample shall be collected using a disposable plastic syringe supplied by the laboratory. The graduated syringe shall be filled with approximately ten (10) cubic centimeters (cc) of fresh soil from the intended sample location.

Working carefully but quickly, the screw cap shall be removed from a twenty (20) milliliter (ml) glass sample vial containing methanol (supplied by the laboratory) and the soil sample shall be pushed from the syringe into the vial, taking care not to allow soil particles to adhere to the rim of the vial. The screw cap shall be replaced on the 20 ml glass vial containing the sample and tightened securely. Once the screw cap is secure, the sample shall be gently agitated to completely immerse the soil in the methanol. Excessive agitation of the sample shall be avoided.

Two (2) 40 ml sample vials containing soil and methanol shall be prepared in the field for each intended soil sample location. In addition to the 40 ml sample vials, a minimum of twenty (20) grams of dry soil (no methanol added) from each intended soil sample location shall be placed in a clean four (4) –ounce glass sample jar supplied by the laboratory. The labels on all three (3) sample containers shall correspond to one soil sample location.

All labeled soil sample containers shall be placed under ice in an insulated storage chest, and sealed with custody tape. The collected soil samples will be delivered with chain-of-custody documentation to a certified laboratory. The soil samples will be analyzed by the certified laboratory in accordance with the appropriate EPA Methodology.

Monitoring Well Installation

Upon borehole completion, a 2-inch diameter, Schedule 40 PVC pipe with a 15-foot (20 foot maximum) section of 0.010-inch slotted screen with a sediment sump and cap on the bottom will be lowered into and centered in each borehole. The well materials will be placed such that the top of the slotted screen is approximately 5 ft above the existing water table. Coarse grained (10/20) silica sand will be backfilled below and around the well screen to a depth of approximately 2 feet above and 2 feet below the screened interval. A filter pack seal will be placed extending 1 foot above the filter pack when appropriate. A bentonite seal, having an approximate thickness of 1.5 feet and consisting of hydrated bentonite pellets, will be constructed on top of the silica sand pack or filter pack seal. The remainder of the borehole will be backfilled with cement grout having a minimum five percent bentonite content to within approximately one foot of the top of the PVC well casing. The remainder of the backfill, approximately 12 inches, will consist of concrete. The top of the well casing will be terminated below grade, sealed with a lockable water-tight cap, and covered with a traffic-rated, steel protective well cover. A concrete slab of a minimum two (2) foot radius and six (6) inches thick will be poured around the well cover and sloped so that rainfall and runoff flows away from the well. Well completion logs including lithologic logs for the new monitoring wells will be included in the report.

The new monitoring wells will be developed first by surging the well for 5 to 10 minutes throughout the length of the well screen with a bailer or slug, followed by removal of the ground water and sediment from the well with a bailer. Each well will be surged and bailed in this manner until pH, temperature and specific conductivity readings stabilize and turbidity is reduced to the greatest extent possible.

Ground Water Sampling

All field activities will be conducted in accordance with the New Mexico Environment Department (NMED) Petroleum Storage Tank Regulations (20.5 NMAC), including Section 1.0; Soil and Groundwater Sampling and Disposal, found in the New Mexico Underground Storage Tank Bureau Guidelines for Corrective Action (March 13, 2000).

The NMED Petroleum Storage Tank Bureau (PSTB) Project Manager will be notified of the intent to sample the site at least ninety-six (96) hours in advance of the scheduled monitoring event.

Prior to sampling, an electronic interface probe will be used to measure the water levels and total depths of the monitoring wells to be sampled. These data will be used to calculate casing volumes of water for each well. The interface probe will also indicate if free phase hydrocarbons are present in the well. If free phase hydrocarbons are detected, the well will not be purged or sampled. If free phase hydrocarbons are not detected, the well will be purged using an HDPE disposable bailer to remove three casing volumes of water or, if the well is completed in a low transmissivity formation, water will be removed until the well is dry. Disposal of purged water will take place within the site property boundary on an impervious surface (if possible) near the well of origin. When specifically required by a Work Plan, purged water will be placed in a water-tight container and transported to an approved disposal or recycling facility.

After purging, the sample bailer will be used to transfer the ground water to sample bottles containing the appropriate preservative (if required). The sample bottles will then be labeled, placed under ice in an insulated storage chest, and sealed with custody tape. Ground water samples will be delivered with chain-of-custody documentation to a certified laboratory. The ground water samples will be analyzed by the certified laboratory in accordance with the appropriate EPA Methodology.

Water quality parameters including pH, temperature, specific conductance, total dissolved solids and dissolved oxygen will be measured immediately prior to sample collection. The date and time of sample collection, weather conditions, volume of water in the well, volume of water purged prior to sampling, physical sample descriptions (including turbidity, color and odor), other pertinent observations, and water quality measurements will be recorded on Ground Water Monitoring Data Sheets.

APPENDIX B
Laboratory Analytical Report

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, May 20, 2008

John Casey
Basin Engineering, Inc.
248 Bodo Drive
Durango, CO 81302

TEL: (970) 259-2078
FAX (970) 385-4812

RE: Shamrock # 63

Order No.: 0805135

Dear John Casey:

Hall Environmental Analysis Laboratory, Inc. received 10 sample(s) on 5/8/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4 @ 29'-31'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/5/2008 2:45:00 PM
Lab ID:	0805135-01A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ASTM 2216: PERCENT MOISTURE						Analyst: **BDH**
Percent Moisture	7.4	0.10		wt%	1	5/9/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Toluene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Naphthalene	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 6:50:46 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 6:50:46 PM
Acetone	ND	0.75		mg/Kg	1	5/19/2008 6:50:46 PM
Bromobenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Bromoform	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Bromomethane	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
2-Butanone	ND	0.50		mg/Kg	1	5/19/2008 6:50:46 PM
Carbon disulfide	ND	0.50		mg/Kg	1	5/19/2008 6:50:46 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
Chlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Chloroethane	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
Chloroform	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Chloromethane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Dibromomethane	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4 @ 29'-31'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/5/2008 2:45:00 PM
Lab ID:	0805135-01A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
2-Hexanone	ND	0.50		mg/Kg	1	5/19/2008 6:50:46 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/19/2008 6:50:46 PM
Methylene chloride	ND	0.15		mg/Kg	1	5/19/2008 6:50:46 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Styrene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
Vinyl chloride	ND	0.050		mg/Kg	1	5/19/2008 6:50:46 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/19/2008 6:50:46 PM
Surr: 1,2-Dichloroethane-d4	102	80.2-109		%REC	1	5/19/2008 6:50:46 PM
Surr: 4-Bromofluorobenzene	97.9	86.8-117		%REC	1	5/19/2008 6:50:46 PM
Surr: Dibromofluoromethane	151	67.4-173		%REC	1	5/19/2008 6:50:46 PM
Surr: Toluene-d8	93.6	87.9-106		%REC	1	5/19/2008 6:50:46 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4 @ 29'-31'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/5/2008 2:45:00 PM
Lab ID:	0805135-01B **Date Received:** 5/8/2008	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	0.25		mg/Kg	1	5/15/2008 8:16:35 PM
1-Methylnaphthalene	ND	0.25		mg/Kg	1	5/15/2008 8:16:35 PM
2-Methylnaphthalene	ND	0.25		mg/Kg	1	5/15/2008 8:16:35 PM
Acenaphthylene	ND	0.25		mg/Kg	1	5/15/2008 8:16:35 PM
Acenaphthene	ND	0.25		mg/Kg	1	5/15/2008 8:16:35 PM
Fluorene	ND	0.030		mg/Kg	1	5/15/2008 8:16:35 PM
Phenanthrene	0.078	0.015		mg/Kg	1	5/15/2008 8:16:35 PM
Anthracene	ND	0.015		mg/Kg	1	5/15/2008 8:16:35 PM
Fluoranthene	0.078	0.020		mg/Kg	1	5/15/2008 8:16:35 PM
Pyrene	0.040	0.025		mg/Kg	1	5/15/2008 8:16:35 PM
Benz(a)anthracene	0.013	0.0040		mg/Kg	1	5/15/2008 8:16:35 PM
Chrysene	ND	0.011		mg/Kg	1	5/15/2008 8:16:35 PM
Benzo(b)fluoranthene	0.0055	0.0040		mg/Kg	1	5/15/2008 8:16:35 PM
Benzo(k)fluoranthene	ND	0.0040		mg/Kg	1	5/15/2008 8:16:35 PM
Benzo(a)pyrene	ND	0.0040		mg/Kg	1	5/15/2008 8:16:35 PM
Dibenz(a,h)anthracene	ND	0.0040		mg/Kg	1	5/15/2008 8:16:35 PM
Benzo(g,h,i)perylene	ND	0.0040		mg/Kg	1	5/15/2008 8:16:35 PM
Indeno(1,2,3-cd)pyrene	ND	0.0040		mg/Kg	1	5/15/2008 8:16:35 PM
Surr: Benzo(e)pyrene	69.8	40.7-93.1		%REC	1	5/15/2008 8:16:35 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4 @ 64'-66'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/6/2008 7:50:00 AM
Lab ID:	0805135-02A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ASTM 2216: PERCENT MOISTURE						Analyst: **BDH**
Percent Moisture	20	0.10		wt%	1	5/9/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Toluene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Naphthalene	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 7:25:47 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 7:25:47 PM
Acetone	ND	0.75		mg/Kg	1	5/19/2008 7:25:47 PM
Bromobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Bromoform	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Bromomethane	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
2-Butanone	ND	0.50		mg/Kg	1	5/19/2008 7:25:47 PM
Carbon disulfide	ND	0.50		mg/Kg	1	5/19/2008 7:25:47 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
Chlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Chloroethane	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
Chloroform	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Chloromethane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Dibromomethane	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4 @ 64'-66'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/6/2008 7:50:00 AM
Lab ID:	0805135-02A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
2-Hexanone	ND	0.50		mg/Kg	1	5/19/2008 7:25:47 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/19/2008 7:25:47 PM
Methylene chloride	ND	0.15		mg/Kg	1	5/19/2008 7:25:47 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Styrene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
Vinyl chloride	ND	0.050		mg/Kg	1	5/19/2008 7:25:47 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/19/2008 7:25:47 PM
Surr: 1,2-Dichloroethane-d4	102	80.2-109		%REC	1	5/19/2008 7:25:47 PM
Surr: 4-Bromofluorobenzene	96.1	86.8-117		%REC	1	5/19/2008 7:25:47 PM
Surr: Dibromofluoromethane	140	67.4-173		%REC	1	5/19/2008 7:25:47 PM
Surr: Toluene-d8	96.6	87.9-106		%REC	1	5/19/2008 7:25:47 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4 @ 64'-66'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/6/2008 7:50:00 AM
Lab ID:	0805135-02B **Date Received:** 5/8/2008	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	0.25		mg/Kg	1	5/15/2008 9:04:35 PM
1-Methylnaphthalene	ND	0.25		mg/Kg	1	5/15/2008 9:04:35 PM
2-Methylnaphthalene	ND	0.25		mg/Kg	1	5/15/2008 9:04:35 PM
Acenaphthylene	ND	0.25		mg/Kg	1	5/15/2008 9:04:35 PM
Acenaphthene	ND	0.25		mg/Kg	1	5/15/2008 9:04:35 PM
Fluorene	ND	0.030		mg/Kg	1	5/15/2008 9:04:35 PM
Phenanthrene	0.076	0.015		mg/Kg	1	5/15/2008 9:04:35 PM
Anthracene	ND	0.015		mg/Kg	1	5/15/2008 9:04:35 PM
Fluoranthene	0.057	0.020		mg/Kg	1	5/15/2008 9:04:35 PM
Pyrene	0.029	0.025		mg/Kg	1	5/15/2008 9:04:35 PM
Benz(a)anthracene	0.0088	0.0040		mg/Kg	1	5/15/2008 9:04:35 PM
Chrysene	ND	0.011		mg/Kg	1	5/15/2008 9:04:35 PM
Benzo(b)fluoranthene	ND	0.0040		mg/Kg	1	5/15/2008 9:04:35 PM
Benzo(k)fluoranthene	ND	0.0040		mg/Kg	1	5/15/2008 9:04:35 PM
Benzo(a)pyrene	ND	0.0040		mg/Kg	1	5/15/2008 9:04:35 PM
Dibenz(a,h)anthracene	ND	0.0040		mg/Kg	1	5/15/2008 9:04:35 PM
Benzo(g,h,i)perylene	ND	0.0040		mg/Kg	1	5/15/2008 9:04:35 PM
Indeno(1,2,3-cd)pyrene	ND	0.0040		mg/Kg	1	5/15/2008 9:04:35 PM
Surr: Benzo(e)pyrene	69.6	40.7-93.1		%REC	1	5/15/2008 9:04:35 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4 @ 74'-76'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/6/2008 8:50:00 AM
Lab ID:	0805135-03A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ASTM 2216: PERCENT MOISTURE						Analyst: **BDH**
Percent Moisture	8.1	0.10		wt%	1	5/9/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Toluene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Naphthalene	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 7:59:32 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 7:59:32 PM
Acetone	ND	0.75		mg/Kg	1	5/19/2008 7:59:32 PM
Bromobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Bromoform	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Bromomethane	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
2-Butanone	ND	0.50		mg/Kg	1	5/19/2008 7:59:32 PM
Carbon disulfide	ND	0.50		mg/Kg	1	5/19/2008 7:59:32 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
Chlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Chloroethane	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
Chloroform	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Chloromethane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Dibromomethane	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4 @ 74'-76'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/6/2008 8:50:00 AM
Lab ID:	0805135-03A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
2-Hexanone	ND	0.50		mg/Kg	1	5/19/2008 7:59:32 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/19/2008 7:59:32 PM
Methylene chloride	ND	0.15		mg/Kg	1	5/19/2008 7:59:32 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Styrene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
Vinyl chloride	ND	0.050		mg/Kg	1	5/19/2008 7:59:32 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/19/2008 7:59:32 PM
Surr: 1,2-Dichloroethane-d4	103	80.2-109		%REC	1	5/19/2008 7:59:32 PM
Surr: 4-Bromofluorobenzene	90.6	86.8-117		%REC	1	5/19/2008 7:59:32 PM
Surr: Dibromofluoromethane	151	67.4-173		%REC	1	5/19/2008 7:59:32 PM
Surr: Toluene-d8	92.3	87.9-106		%REC	1	5/19/2008 7:59:32 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4 @ 74'-76'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/6/2008 8:50:00 AM
Lab ID:	0805135-03B **Date Received:** 5/8/2008	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	0.25		mg/Kg	1	5/15/2008 9:52:35 PM
1-Methylnaphthalene	ND	0.25		mg/Kg	1	5/15/2008 9:52:35 PM
2-Methylnaphthalene	ND	0.25		mg/Kg	1	5/15/2008 9:52:35 PM
Acenaphthylene	ND	0.25		mg/Kg	1	5/15/2008 9:52:35 PM
Acenaphthene	ND	0.25		mg/Kg	1	5/15/2008 9:52:35 PM
Fluorene	ND	0.030		mg/Kg	1	5/15/2008 9:52:35 PM
Phenanthrene	0.026	0.015		mg/Kg	1	5/15/2008 9:52:35 PM
Anthracene	ND	0.015		mg/Kg	1	5/15/2008 9:52:35 PM
Fluoranthene	0.023	0.020		mg/Kg	1	5/15/2008 9:52:35 PM
Pyrene	ND	0.025		mg/Kg	1	5/15/2008 9:52:35 PM
Benz(a)anthracene	ND	0.0040		mg/Kg	1	5/15/2008 9:52:35 PM
Chrysene	ND	0.011		mg/Kg	1	5/15/2008 9:52:35 PM
Benzo(b)fluoranthene	ND	0.0040		mg/Kg	1	5/15/2008 9:52:35 PM
Benzo(k)fluoranthene	ND	0.0040		mg/Kg	1	5/15/2008 9:52:35 PM
Benzo(a)pyrene	ND	0.0040		mg/Kg	1	5/15/2008 9:52:35 PM
Dibenz(a,h)anthracene	ND	0.0040		mg/Kg	1	5/15/2008 9:52:35 PM
Benzo(g,h,i)perylene	ND	0.0040		mg/Kg	1	5/15/2008 9:52:35 PM
Indeno(1,2,3-cd)pyrene	ND	0.0040		mg/Kg	1	5/15/2008 9:52:35 PM
Surr: Benzo(e)pyrene	56.2	40.7-93.1		%REC	1	5/15/2008 9:52:35 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2 @ 54'-56'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 9:45:00 AM
Lab ID:	0805135-04A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ASTM 2216: PERCENT MOISTURE						Analyst: **BDH**
Percent Moisture	11	0.10		wt%	1	5/9/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Toluene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Methyl tert-butyl ether (MTBE)	0.29	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Naphthalene	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 8:34:18 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 8:34:18 PM
Acetone	ND	0.75		mg/Kg	1	5/19/2008 8:34:18 PM
Bromobenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Bromoform	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Bromomethane	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
2-Butanone	ND	0.50		mg/Kg	1	5/19/2008 8:34:18 PM
Carbon disulfide	ND	0.50		mg/Kg	1	5/19/2008 8:34:18 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
Chlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Chloroethane	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
Chloroform	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Chloromethane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Dibromomethane	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2 @ 54'-56'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 9:45:00 AM
Lab ID:	0805135-04A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
2-Hexanone	ND	0.50		mg/Kg	1	5/19/2008 8:34:18 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/19/2008 8:34:18 PM
Methylene chloride	ND	0.15		mg/Kg	1	5/19/2008 8:34:18 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Styrene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
Vinyl chloride	ND	0.050		mg/Kg	1	5/19/2008 8:34:18 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/19/2008 8:34:18 PM
Surr: 1,2-Dichloroethane-d4	98.9	80.2-109		%REC	1	5/19/2008 8:34:18 PM
Surr: 4-Bromofluorobenzene	95.0	86.8-117		%REC	1	5/19/2008 8:34:18 PM
Surr: Dibromofluoromethane	151	67.4-173		%REC	1	5/19/2008 8:34:18 PM
Surr: Toluene-d8	91.5	87.9-106		%REC	1	5/19/2008 8:34:18 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2 @ 54'-56'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 9:45:00 AM
Lab ID:	0805135-04B **Date Received:** 5/8/2008	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	0.25		mg/Kg	1	5/15/2008 11:28:35 PM
1-Methylnaphthalene	ND	0.25		mg/Kg	1	5/15/2008 11:28:35 PM
2-Methylnaphthalene	ND	0.25		mg/Kg	1	5/15/2008 11:28:35 PM
Acenaphthylene	ND	0.25		mg/Kg	1	5/15/2008 11:28:35 PM
Acenaphthene	ND	0.25		mg/Kg	1	5/15/2008 11:28:35 PM
Fluorene	ND	0.030		mg/Kg	1	5/15/2008 11:28:35 PM
Phenanthrene	0.020	0.015		mg/Kg	1	5/15/2008 11:28:35 PM
Anthracene	ND	0.015		mg/Kg	1	5/15/2008 11:28:35 PM
Fluoranthene	ND	0.020		mg/Kg	1	5/15/2008 11:28:35 PM
Pyrene	ND	0.025		mg/Kg	1	5/15/2008 11:28:35 PM
Benz(a)anthracene	ND	0.0040		mg/Kg	1	5/15/2008 11:28:35 PM
Chrysene	ND	0.011		mg/Kg	1	5/15/2008 11:28:35 PM
Benzo(b)fluoranthene	ND	0.0040		mg/Kg	1	5/15/2008 11:28:35 PM
Benzo(k)fluoranthene	ND	0.0040		mg/Kg	1	5/15/2008 11:28:35 PM
Benzo(a)pyrene	ND	0.0040		mg/Kg	1	5/15/2008 11:28:35 PM
Dibenz(a,h)anthracene	ND	0.0040		mg/Kg	1	5/15/2008 11:28:35 PM
Benzo(g,h,i)perylene	ND	0.0040		mg/Kg	1	5/15/2008 11:28:35 PM
Indeno(1,2,3-cd)pyrene	ND	0.0040		mg/Kg	1	5/15/2008 11:28:35 PM
Surr: Benzo(e)pyrene	63.8	40.7-93.1		%REC	1	5/15/2008 11:28:35 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2 @ 59'-61'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 9:55:00 AM
Lab ID:	0805135-05A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ASTM 2216: PERCENT MOISTURE						Analyst: **BDH**
Percent Moisture	12	0.10		wt%	1	5/9/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Toluene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Methyl tert-butyl ether (MTBE)	0.47	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Naphthalene	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 10:19:00 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 10:19:00 PM
Acetone	ND	0.75		mg/Kg	1	5/19/2008 10:19:00 PM
Bromobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Bromoform	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Bromomethane	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
2-Butanone	ND	0.50		mg/Kg	1	5/19/2008 10:19:00 PM
Carbon disulfide	ND	0.50		mg/Kg	1	5/19/2008 10:19:00 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
Chlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Chloroethane	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
Chloroform	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Chloromethane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Dibromomethane	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2 @ 59'-61'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 9:55:00 AM
Lab ID:	0805135-05A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
2-Hexanone	ND	0.50		mg/Kg	1	5/19/2008 10:19:00 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/19/2008 10:19:00 PM
Methylene chloride	ND	0.15		mg/Kg	1	5/19/2008 10:19:00 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Styrene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
Vinyl chloride	ND	0.050		mg/Kg	1	5/19/2008 10:19:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/19/2008 10:19:00 PM
Surr: 1,2-Dichloroethane-d4	101	80.2-109		%REC	1	5/19/2008 10:19:00 PM
Surr: 4-Bromofluorobenzene	100	86.8-117		%REC	1	5/19/2008 10:19:00 PM
Surr: Dibromofluoromethane	140	67.4-173		%REC	1	5/19/2008 10:19:00 PM
Surr: Toluene-d8	94.1	87.9-106		%REC	1	5/19/2008 10:19:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2 @ 59'-61'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 9:55:00 AM
Lab ID:	0805135-05B **Date Received:** 5/8/2008	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	0.25		mg/Kg	1	5/16/2008 12:16:35 AM
1-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 12:16:35 AM
2-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 12:16:35 AM
Acenaphthylene	ND	0.25		mg/Kg	1	5/16/2008 12:16:35 AM
Acenaphthene	ND	0.25		mg/Kg	1	5/16/2008 12:16:35 AM
Fluorene	ND	0.030		mg/Kg	1	5/16/2008 12:16:35 AM
Phenanthrene	0.046	0.015		mg/Kg	1	5/16/2008 12:16:35 AM
Anthracene	ND	0.015		mg/Kg	1	5/16/2008 12:16:35 AM
Fluoranthene	0.024	0.020		mg/Kg	1	5/16/2008 12:16:35 AM
Pyrene	ND	0.025		mg/Kg	1	5/16/2008 12:16:35 AM
Benz(a)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 12:16:35 AM
Chrysene	ND	0.011		mg/Kg	1	5/16/2008 12:16:35 AM
Benzo(b)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 12:16:35 AM
Benzo(k)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 12:16:35 AM
Benzo(a)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 12:16:35 AM
Dibenz(a,h)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 12:16:35 AM
Benzo(g,h,i)perylene	ND	0.0040		mg/Kg	1	5/16/2008 12:16:35 AM
Indeno(1,2,3-cd)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 12:16:35 AM
Surr: Benzo(e)pyrene	60.6	40.7-93.1		%REC	1	5/16/2008 12:16:35 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2 @ 79'-81'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 12:35:00 PM
Lab ID:	0805135-06A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ASTM 2216: PERCENT MOISTURE						Analyst: **BDH**
Percent Moisture	4.4	0.10		wt%	1	5/9/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Toluene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Naphthalene	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 10:53:55 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 10:53:55 PM
Acetone	ND	0.75		mg/Kg	1	5/19/2008 10:53:55 PM
Bromobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Bromoform	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Bromomethane	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
2-Butanone	ND	0.50		mg/Kg	1	5/19/2008 10:53:55 PM
Carbon disulfide	ND	0.50		mg/Kg	1	5/19/2008 10:53:55 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
Chlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Chloroethane	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
Chloroform	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Chloromethane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Dibromomethane	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2 @ 79'-81'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 12:35:00 PM
Lab ID:	0805135-06A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
2-Hexanone	ND	0.50		mg/Kg	1	5/19/2008 10:53:55 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/19/2008 10:53:55 PM
Methylene chloride	ND	0.15		mg/Kg	1	5/19/2008 10:53:55 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Styrene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
Vinyl chloride	ND	0.050		mg/Kg	1	5/19/2008 10:53:55 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/19/2008 10:53:55 PM
Surr: 1,2-Dichloroethane-d4	104	80.2-109		%REC	1	5/19/2008 10:53:55 PM
Surr: 4-Bromofluorobenzene	97.3	86.8-117		%REC	1	5/19/2008 10:53:55 PM
Surr: Dibromofluoromethane	144	67.4-173		%REC	1	5/19/2008 10:53:55 PM
Surr: Toluene-d8	95.1	87.9-106		%REC	1	5/19/2008 10:53:55 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2 @ 79'-81'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 12:35:00 PM
Lab ID:	0805135-06B **Date Received:** 5/8/2008	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	0.25		mg/Kg	1	5/16/2008 1:04:34 AM
1-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 1:04:34 AM
2-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 1:04:34 AM
Acenaphthylene	ND	0.25		mg/Kg	1	5/16/2008 1:04:34 AM
Acenaphthene	ND	0.25		mg/Kg	1	5/16/2008 1:04:34 AM
Fluorene	ND	0.030		mg/Kg	1	5/16/2008 1:04:34 AM
Phenanthrene	ND	0.015		mg/Kg	1	5/16/2008 1:04:34 AM
Anthracene	ND	0.015		mg/Kg	1	5/16/2008 1:04:34 AM
Fluoranthene	ND	0.020		mg/Kg	1	5/16/2008 1:04:34 AM
Pyrene	ND	0.025		mg/Kg	1	5/16/2008 1:04:34 AM
Benz(a)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 1:04:34 AM
Chrysene	ND	0.011		mg/Kg	1	5/16/2008 1:04:34 AM
Benzo(b)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 1:04:34 AM
Benzo(k)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 1:04:34 AM
Benzo(a)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 1:04:34 AM
Dibenz(a,h)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 1:04:34 AM
Benzo(g,h,i)perylene	ND	0.0040		mg/Kg	1	5/16/2008 1:04:34 AM
Indeno(1,2,3-cd)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 1:04:34 AM
Surr: Benzo(e)pyrene	59.7	40.7-93.1		%REC	1	5/16/2008 1:04:34 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3 @ 14'-16'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 4:15:00 PM
Lab ID:	0805135-07A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ASTM 2216: PERCENT MOISTURE						Analyst: **BDH**
Percent Moisture	3.6	0.10		wt%	1	5/9/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Toluene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Naphthalene	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 11:28:37 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/19/2008 11:28:37 PM
Acetone	ND	0.75		mg/Kg	1	5/19/2008 11:28:37 PM
Bromobenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Bromoform	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Bromomethane	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
2-Butanone	ND	0.50		mg/Kg	1	5/19/2008 11:28:37 PM
Carbon disulfide	ND	0.50		mg/Kg	1	5/19/2008 11:28:37 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
Chlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Chloroethane	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
Chloroform	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Chloromethane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Dibromomethane	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3 @ 14'-16'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 4:15:00 PM
Lab ID:	0805135-07A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
2-Hexanone	ND	0.50		mg/Kg	1	5/19/2008 11:28:37 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/19/2008 11:28:37 PM
Methylene chloride	ND	0.15		mg/Kg	1	5/19/2008 11:28:37 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Styrene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
Vinyl chloride	ND	0.050		mg/Kg	1	5/19/2008 11:28:37 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/19/2008 11:28:37 PM
Surr: 1,2-Dichloroethane-d4	96.2	80.2-109		%REC	1	5/19/2008 11:28:37 PM
Surr: 4-Bromofluorobenzene	97.0	86.8-117		%REC	1	5/19/2008 11:28:37 PM
Surr: Dibromofluoromethane	145	67.4-173		%REC	1	5/19/2008 11:28:37 PM
Surr: Toluene-d8	90.1	87.9-106		%REC	1	5/19/2008 11:28:37 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3 @ 14'-16'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/7/2008 4:15:00 PM
Lab ID:	0805135-07B **Date Received:** 5/8/2008	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	0.25		mg/Kg	1	5/16/2008 1:52:34 AM
1-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 1:52:34 AM
2-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 1:52:34 AM
Acenaphthylene	ND	0.25		mg/Kg	1	5/16/2008 1:52:34 AM
Acenaphthene	ND	0.25		mg/Kg	1	5/16/2008 1:52:34 AM
Fluorene	ND	0.030		mg/Kg	1	5/16/2008 1:52:34 AM
Phenanthrene	ND	0.015		mg/Kg	1	5/16/2008 1:52:34 AM
Anthracene	ND	0.015		mg/Kg	1	5/16/2008 1:52:34 AM
Fluoranthene	ND	0.020		mg/Kg	1	5/16/2008 1:52:34 AM
Pyrene	ND	0.025		mg/Kg	1	5/16/2008 1:52:34 AM
Benz(a)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 1:52:34 AM
Chrysene	ND	0.011		mg/Kg	1	5/16/2008 1:52:34 AM
Benzo(b)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 1:52:34 AM
Benzo(k)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 1:52:34 AM
Benzo(a)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 1:52:34 AM
Dibenz(a,h)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 1:52:34 AM
Benzo(g,h,i)perylene	ND	0.0040		mg/Kg	1	5/16/2008 1:52:34 AM
Indeno(1,2,3-cd)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 1:52:34 AM
Surr: Benzo(e)pyrene	66.5	40.7-93.1		%REC	1	5/16/2008 1:52:34 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3 @ 64'-66'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/8/2008 10:50:00 AM
Lab ID:	0805135-08A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ASTM 2216: PERCENT MOISTURE						Analyst: **BDH**
Percent Moisture	13	0.10		wt%	1	5/9/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Toluene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Naphthalene	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/20/2008 12:03:09 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/20/2008 12:03:09 AM
Acetone	ND	0.75		mg/Kg	1	5/20/2008 12:03:09 AM
Bromobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Bromoform	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Bromomethane	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
2-Butanone	ND	0.50		mg/Kg	1	5/20/2008 12:03:09 AM
Carbon disulfide	ND	0.50		mg/Kg	1	5/20/2008 12:03:09 AM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
Chlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Chloroethane	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
Chloroform	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Chloromethane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Dibromomethane	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3 @ 64'-66'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/8/2008 10:50:00 AM
Lab ID:	0805135-08A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
2-Hexanone	ND	0.50		mg/Kg	1	5/20/2008 12:03:09 AM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/20/2008 12:03:09 AM
Methylene chloride	ND	0.15		mg/Kg	1	5/20/2008 12:03:09 AM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Styrene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
Vinyl chloride	ND	0.050		mg/Kg	1	5/20/2008 12:03:09 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/20/2008 12:03:09 AM
Surr: 1,2-Dichloroethane-d4	96.9	80.2-109		%REC	1	5/20/2008 12:03:09 AM
Surr: 4-Bromofluorobenzene	95.4	86.8-117		%REC	1	5/20/2008 12:03:09 AM
Surr: Dibromofluoromethane	145	67.4-173		%REC	1	5/20/2008 12:03:09 AM
Surr: Toluene-d8	93.5	87.9-106		%REC	1	5/20/2008 12:03:09 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3 @ 64'-66'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/8/2008 10:50:00 AM
Lab ID:	0805135-08B **Date Received:** 5/8/2008	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	0.25		mg/Kg	1	5/16/2008 2:40:34 AM
1-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 2:40:34 AM
2-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 2:40:34 AM
Acenaphthylene	ND	0.25		mg/Kg	1	5/16/2008 2:40:34 AM
Acenaphthene	ND	0.25		mg/Kg	1	5/16/2008 2:40:34 AM
Fluorene	ND	0.030		mg/Kg	1	5/16/2008 2:40:34 AM
Phenanthrene	ND	0.015		mg/Kg	1	5/16/2008 2:40:34 AM
Anthracene	ND	0.015		mg/Kg	1	5/16/2008 2:40:34 AM
Fluoranthene	ND	0.020		mg/Kg	1	5/16/2008 2:40:34 AM
Pyrene	ND	0.025		mg/Kg	1	5/16/2008 2:40:34 AM
Benz(a)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 2:40:34 AM
Chrysene	ND	0.011		mg/Kg	1	5/16/2008 2:40:34 AM
Benzo(b)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 2:40:34 AM
Benzo(k)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 2:40:34 AM
Benzo(a)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 2:40:34 AM
Dibenz(a,h)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 2:40:34 AM
Benzo(g,h,i)perylene	ND	0.0040		mg/Kg	1	5/16/2008 2:40:34 AM
Indeno(1,2,3-cd)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 2:40:34 AM
Surr: Benzo(e)pyrene	59.3	40.7-93.1		%REC	1	5/16/2008 2:40:34 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3 @ 74'-76'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/8/2008 1:00:00 PM
Lab ID:	0805135-09A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ASTM 2216: PERCENT MOISTURE						Analyst: **BDH**
Percent Moisture	5.4	0.10		wt%	1	5/9/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Toluene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Naphthalene	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/20/2008 12:37:37 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/20/2008 12:37:37 AM
Acetone	ND	0.75		mg/Kg	1	5/20/2008 12:37:37 AM
Bromobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Bromoform	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Bromomethane	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
2-Butanone	ND	0.50		mg/Kg	1	5/20/2008 12:37:37 AM
Carbon disulfide	ND	0.50		mg/Kg	1	5/20/2008 12:37:37 AM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
Chlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Chloroethane	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
Chloroform	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Chloromethane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Dibromomethane	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3 @ 74'-76'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/8/2008 1:00:00 PM
Lab ID:	0805135-09A **Date Received:** 5/8/2008	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
2-Hexanone	ND	0.50		mg/Kg	1	5/20/2008 12:37:37 AM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/20/2008 12:37:37 AM
Methylene chloride	ND	0.15		mg/Kg	1	5/20/2008 12:37:37 AM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Styrene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
Vinyl chloride	ND	0.050		mg/Kg	1	5/20/2008 12:37:37 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/20/2008 12:37:37 AM
Surr: 1,2-Dichloroethane-d4	103	80.2-109		%REC	1	5/20/2008 12:37:37 AM
Surr: 4-Bromofluorobenzene	100	86.8-117		%REC	1	5/20/2008 12:37:37 AM
Surr: Dibromofluoromethane	150	67.4-173		%REC	1	5/20/2008 12:37:37 AM
Surr: Toluene-d8	92.9	87.9-106		%REC	1	5/20/2008 12:37:37 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3 @ 74'-76'
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	5/8/2008 1:00:00 PM
Lab ID:	0805135-09B **Date Received:** 5/8/2008	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	0.25		mg/Kg	1	5/16/2008 3:28:37 AM
1-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 3:28:37 AM
2-Methylnaphthalene	ND	0.25		mg/Kg	1	5/16/2008 3:28:37 AM
Acenaphthylene	ND	0.25		mg/Kg	1	5/16/2008 3:28:37 AM
Acenaphthene	ND	0.25		mg/Kg	1	5/16/2008 3:28:37 AM
Fluorene	ND	0.030		mg/Kg	1	5/16/2008 3:28:37 AM
Phenanthrene	ND	0.015		mg/Kg	1	5/16/2008 3:28:37 AM
Anthracene	ND	0.015		mg/Kg	1	5/16/2008 3:28:37 AM
Fluoranthene	ND	0.020		mg/Kg	1	5/16/2008 3:28:37 AM
Pyrene	ND	0.025		mg/Kg	1	5/16/2008 3:28:37 AM
Benz(a)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 3:28:37 AM
Chrysene	ND	0.011		mg/Kg	1	5/16/2008 3:28:37 AM
Benzo(b)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 3:28:37 AM
Benzo(k)fluoranthene	ND	0.0040		mg/Kg	1	5/16/2008 3:28:37 AM
Benzo(a)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 3:28:37 AM
Dibenz(a,h)anthracene	ND	0.0040		mg/Kg	1	5/16/2008 3:28:37 AM
Benzo(g,h,i)perylene	ND	0.0040		mg/Kg	1	5/16/2008 3:28:37 AM
Indeno(1,2,3-cd)pyrene	ND	0.0040		mg/Kg	1	5/16/2008 3:28:37 AM
Surr: Benzo(e)pyrene	72.0	40.7-93.1		%REC	1	5/16/2008 3:28:37 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MeOH BLANK
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	
Lab ID:	0805135-10A **Date Received:** 5/8/2008	**Matrix:**	MEOH BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Toluene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Naphthalene	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	5/20/2008 1:12:30 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	5/20/2008 1:12:30 AM
Acetone	ND	0.75		mg/Kg	1	5/20/2008 1:12:30 AM
Bromobenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Bromodichloromethane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Bromoform	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Bromomethane	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
2-Butanone	ND	0.50		mg/Kg	1	5/20/2008 1:12:30 AM
Carbon disulfide	ND	0.50		mg/Kg	1	5/20/2008 1:12:30 AM
Carbon tetrachloride	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
Chlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Chloroethane	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
Chloroform	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Chloromethane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
2-Chlorotoluene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
4-Chlorotoluene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
cis-1,2-DCE	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
Dibromochloromethane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Dibromomethane	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,3-Dichloropropane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *20-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MeOH BLANK
Lab Order:	0805135	**Tag Number:**	
Project:	Shamrock # 63	**Collection Date:**	
Lab ID:	0805135-10A **Date Received:** 5/8/2008	**Matrix:**	MEOH BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Hexachlorobutadiene	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
2-Hexanone	ND	0.50		mg/Kg	1	5/20/2008 1:12:30 AM
Isopropylbenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	5/20/2008 1:12:30 AM
Methylene chloride	ND	0.15		mg/Kg	1	5/20/2008 1:12:30 AM
n-Butylbenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
n-Propylbenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
sec-Butylbenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Styrene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
tert-Butylbenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
trans-1,2-DCE	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
Vinyl chloride	ND	0.050		mg/Kg	1	5/20/2008 1:12:30 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/20/2008 1:12:30 AM
Surr: 1,2-Dichloroethane-d4	98.8	80.2-109		%REC	1	5/20/2008 1:12:30 AM
Surr: 4-Bromofluorobenzene	99.5	86.8-117		%REC	1	5/20/2008 1:12:30 AM
Surr: Dibromofluoromethane	138	67.4-173		%REC	1	5/20/2008 1:12:30 AM
Surr: Toluene-d8	93.1	87.9-106		%REC	1	5/20/2008 1:12:30 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Basin Engineering, Inc.
Project: Shamrock # 63

Work Order: 0805135

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 0805135-04a msd		*MSD*			Batch ID:	**R28587**	Analysis Date:		5/19/2008 9:44:06 PM
Benzene	1.025	mg/Kg	0.050	103	87.8	132	10.1	20	
Toluene	0.8737	mg/Kg	0.050	87.4	64.9	140	8.15	20	
Chlorobenzene	1.031	mg/Kg	0.050	103	77.6	128	6.89	20	
1,1-Dichloroethene	1.152	mg/Kg	0.050	115	64.6	163	11.3	20	
Trichloroethene (TCE)	0.6098	mg/Kg	0.050	61.0	47	115	6.85	20	
Sample ID: b7		*MBLK*			Batch ID:	**R28587**	Analysis Date:		5/19/2008 6:15:53 PM
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.050						
1,2,4-Trimethylbenzene	ND	mg/Kg	0.050						
1,3,5-Trimethylbenzene	ND	mg/Kg	0.050						
1,2-Dichloroethane (EDC)	ND	mg/Kg	0.050						
1,2-Dibromoethane (EDB)	ND	mg/Kg	0.050						
Naphthalene	ND	mg/Kg	0.10						
1-Methylnaphthalene	ND	mg/Kg	0.20						
2-Methylnaphthalene	ND	mg/Kg	0.20						
Acetone	ND	mg/Kg	0.75						
Bromobenzene	ND	mg/Kg	0.050						
Bromodichloromethane	ND	mg/Kg	0.050						
Bromoform	ND	mg/Kg	0.050						
Bromomethane	ND	mg/Kg	0.10						
2-Butanone	ND	mg/Kg	0.50						
Carbon disulfide	ND	mg/Kg	0.50						
Carbon tetrachloride	ND	mg/Kg	0.10						
Chlorobenzene	ND	mg/Kg	0.050						
Chloroethane	ND	mg/Kg	0.10						
Chloroform	ND	mg/Kg	0.050						
Chloromethane	ND	mg/Kg	0.050						
2-Chlorotoluene	ND	mg/Kg	0.050						
4-Chlorotoluene	ND	mg/Kg	0.050						
cis-1,2-DCE	ND	mg/Kg	0.050						
cis-1,3-Dichloropropene	ND	mg/Kg	0.050						
1,2-Dibromo-3-chloropropane	ND	mg/Kg	0.10						
Dibromochloromethane	ND	mg/Kg	0.050						
Dibromomethane	ND	mg/Kg	0.10						
1,2-Dichlorobenzene	ND	mg/Kg	0.050						
1,3-Dichlorobenzene	ND	mg/Kg	0.050						
1,4-Dichlorobenzene	ND	mg/Kg	0.050						
Dichlorodifluoromethane	ND	mg/Kg	0.050						
1,1-Dichloroethane	ND	mg/Kg	0.10						
1,1-Dichloroethene	ND	mg/Kg	0.050						
1,2-Dichloropropane	ND	mg/Kg	0.050						
1,3-Dichloropropane	ND	mg/Kg	0.050						

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Basin Engineering, Inc.
Project: Shamrock # 63 **Work Order:** 0805135

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: b7		*MBLK*			Batch ID:	**R28587**	Analysis Date:	5/19/2008 6:15:53 PM	
2,2-Dichloropropane	ND	mg/Kg	0.10						
1,1-Dichloropropene	ND	mg/Kg	0.10						
Hexachlorobutadiene	ND	mg/Kg	0.10						
2-Hexanone	ND	mg/Kg	0.50						
Isopropylbenzene	ND	mg/Kg	0.050						
4-Isopropyltoluene	ND	mg/Kg	0.050						
4-Methyl-2-pentanone	ND	mg/Kg	0.50						
Methylene chloride	ND	mg/Kg	0.15						
n-Butylbenzene	ND	mg/Kg	0.050						
n-Propylbenzene	ND	mg/Kg	0.050						
sec-Butylbenzene	ND	mg/Kg	0.050						
Styrene	ND	mg/Kg	0.050						
tert-Butylbenzene	ND	mg/Kg	0.050						
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.050						
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.050						
Tetrachloroethene (PCE)	ND	mg/Kg	0.050						
trans-1,2-DCE	ND	mg/Kg	0.050						
trans-1,3-Dichloropropene	ND	mg/Kg	0.050						
1,2,3-Trichlorobenzene	ND	mg/Kg	0.10						
1,2,4-Trichlorobenzene	ND	mg/Kg	0.050						
1,1,1-Trichloroethane	ND	mg/Kg	0.050						
1,1,2-Trichloroethane	ND	mg/Kg	0.050						
Trichloroethene (TCE)	ND	mg/Kg	0.050						
Trichlorofluoromethane	ND	mg/Kg	0.050						
1,2,3-Trichloropropane	ND	mg/Kg	0.10						
Vinyl chloride	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: 100ng icv		*LCS*			Batch ID:	**R28587**	Analysis Date:	5/19/2008 5:40:50 PM	
Benzene	0.9793	mg/Kg	0.050	97.9	87.8	132			
Toluene	0.9874	mg/Kg	0.050	98.7	64.9	140			
Chlorobenzene	1.069	mg/Kg	0.050	107	77.6	128			
1,1-Dichloroethene	1.070	mg/Kg	0.050	107	64.6	163			
Trichloroethene (TCE)	0.9718	mg/Kg	0.050	97.2	47	115			
Sample ID: 0805135-04a ms		*MS*			Batch ID:	**R28587**	Analysis Date:	5/19/2008 9:09:20 PM	
Benzene	1.134	mg/Kg	0.050	113	87.8	132			
Toluene	0.9479	mg/Kg	0.050	94.8	64.9	140			
Chlorobenzene	1.104	mg/Kg	0.050	110	77.6	128			
1,1-Dichloroethene	1.290	mg/Kg	0.050	129	64.6	163			
Trichloroethene (TCE)	0.6530	mg/Kg	0.050	65.3	47	115			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Basin Engineering, Inc.
Project: Shamrock # 63 **Work Order:** 0805135

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8310: PAHs									
Sample ID: MB-15921		*MBLK*			Batch ID:	**15921**	Analysis Date:	5/15/2008 5:52:31 PM	
Naphthalene	ND	mg/Kg	0.25						
1-Methylnaphthalene	ND	mg/Kg	0.25						
2-Methylnaphthalene	ND	mg/Kg	0.25						
Acenaphthylene	ND	mg/Kg	0.25						
Acenaphthene	ND	mg/Kg	0.25						
Fluorene	ND	mg/Kg	0.030						
Phenanthrene	ND	mg/Kg	0.015						
Anthracene	ND	mg/Kg	0.015						
Fluoranthene	ND	mg/Kg	0.020						
Pyrene	ND	mg/Kg	0.025						
Benz(a)anthracene	ND	mg/Kg	0.0040						
Chrysene	ND	mg/Kg	0.011						
Benzo(b)fluoranthene	ND	mg/Kg	0.0040						
Benzo(k)fluoranthene	ND	mg/Kg	0.0040						
Benzo(a)pyrene	ND	mg/Kg	0.0040						
Dibenz(a,h)anthracene	ND	mg/Kg	0.0040						
Benzo(g,h,i)perylene	ND	mg/Kg	0.0040						
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.0040						
Sample ID: LCSD-15921		*LCSD*			Batch ID:	**15921**	Analysis Date:	5/15/2008 7:28:34 PM	
Naphthalene	0.5558	mg/Kg	0.25	55.6	30.1	90.4	40.3	26.2	
1-Methylnaphthalene	0.5650	mg/Kg	0.25	56.5	31.1	88.5	38.9	23.5	
2-Methylnaphthalene	0.5552	mg/Kg	0.25	55.5	32.2	89	38.2	22.7	
Acenaphthylene	0.5078	mg/Kg	0.25	50.8	29.5	94.2	41.1	18.8	
Acenaphthene	0.5628	mg/Kg	0.25	56.3	35.6	89.7	39.7	19	
Fluorene	0.05400	mg/Kg	0.030	54.0	36.9	90.7	41.3	21.4	
Phenanthrene	0.03050	mg/Kg	0.015	60.6	37.2	95.3	39.2	31.7	
Anthracene	0.02725	mg/Kg	0.015	54.2	37.4	95.4	40.9	18.3	
Fluoranthene	0.05450	mg/Kg	0.020	54.3	30.4	97.8	37.0	23.8	
Pyrene	0.05268	mg/Kg	0.025	52.7	33.3	100	35.6	18.9	
Benz(a)anthracene	0.005500	mg/Kg	0.0040	55.0	38.9	102	37.8	40	
Chrysene	0.02800	mg/Kg	0.011	55.7	24.2	100	38.3	33	
Benzo(b)fluoranthene	0.007000	mg/Kg	0.0040	56.0	35.5	102	43.5	38.2	
Benzo(k)fluoranthene	0.003500	mg/Kg	0	56.0	30.4	101	43.5	26.2	
Benzo(a)pyrene	0.003250	mg/Kg	0	51.8	29.6	112	47.6	35.5	
Dibenz(a,h)anthracene	0.006750	mg/Kg	0.0040	54.0	29.3	108	200	25.1	
Benzo(g,h,i)perylene	0.007250	mg/Kg	0.0040	58.0	21.3	116	36.7	20.5	
Indeno(1,2,3-cd)pyrene	0.01355	mg/Kg	0.0040	54.0	18.5	112	33.1	23.1	

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BASIN DURANGO | Date Received: 5/8/2008

Work Order Number 0805135 | Received by: AT

Checklist completed by: James Thomas 5/8/08 (Signature / Date) | Sample ID labels checked by: LS (Initials)

Matrix: | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☑		Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	7°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

Client: BASIN ENGINEERING, INC.

Address: 248 BODO DRIVE
DURANGO, CO 81303

Phone #: 970.259.2078

Fax #: 970.385.4812

QA / QC Package: Std ☒ Level 4 ☐

Other:

Project Name: SHAMROCK #63

Project #: 030116

Project Manager: JOHN E. CASEY, P.E.

Sampler: MH

Sample Temperature: ~~4°~~ CA 5/8/08 7°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative MeOH	HEAL No. 0805135	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	MOISTURE				Air Bubbles or Headspace (Y or N)
05.05.08	14:45	SOIL	MW-4@29'-31'	2-20ml			X	1											X						
↓	↓	↓	↓	1-4oz				1													X				
↓	↓	↓	↓	1-4oz				1							X										
05.06.08	7:50	SOIL	MW-4@64'-66'	2-20ml			X	2											X						
↓	↓	↓	↓	1-4oz				2													X				
↓	↓	↓	↓	1-4oz				2							X										
05.06.08	8:50	SOIL	MW-4@74'-76'	2-20ml			X	3											X						
↓	↓	↓	↓	1-4oz				3													X				
↓	↓	↓	↓	1-4oz				3							X										
05.07.08	9:45	SOIL	MW-2@54'-56'	2-20ml			X	4											X						
↓	↓	↓	↓	1-4oz				4													X				
↓	↓	↓	↓	1-4oz				4							X										

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
05.08.08	16:00	[signature]	[signature] 5/8/08 1600
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: PAGE 1 OF 3

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☒ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BASIN ENGINEERING, INC.
Address: 248 BODO DR. DURANGO, CO 81303
Phone #: 970.259.2078
Fax #: 970.385.4812

Project Name: SHAMROCK #63
Project #: 030116
Project Manager: JOHN E. CASEY, P.E.
Sampler: MH
Sample Temperature: ~~4° CAT~~ 5/8/08 7.-

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: MeOH	HEAL No.
05.07.08	9:55	SOIL	MW-2@59'-61'	2-20ml			X	5
↓	↓	↓	↓	1-4oz				5
↓	↓	↓	↓	1-4oz				5
05.07.08	12:35	SOIL	MW-2@79'-81'	2-20ml			X	6
↓	↓	↓	↓	1-4oz				6
↓	↓	↓	↓	1-4oz				6
05.07.08	16:15	SOIL	MW-3@14'-16'	2-20ml			X	7
↓	↓	↓	↓	1-4oz				7
↓	↓	↓	↓	1-4oz				7
05.08.08	10:50	SOIL	MW-3@64'-66'	2-20ml			X	8
↓	↓	↓	↓	1-4oz				8
↓	↓	↓	↓	1-4oz				8

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	MOISTURE				Air Bubbles or Headspace (Y or N)
										X						
												X				
						X										
										X						
												X				
						X										
										X						
												X				
						X										
										X						
												X				
						X										

Date: 05.08.08 Time: 16:00 Relinquished By: (Signature) Received By: (Signature)
Date: Time: Relinquished By: (Signature) Received By: (Signature) 5/8/08 1600

Remarks:

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☒ Level 4 ☐
Other:

Client: BASIN ENGINEERING, INC.
Address: 248 BODO DR
DURANGO, CO 81303
Phone #: 970.259.2078
Fax #: 970.385.4812

Project Name: SHAMROCK #63
Project #: 030116
Project Manager: JOHN E. CASEY, P.E.
Sampler: MH
Sample Temperature: ~~4°C~~ 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative MeOH	HEAL No. 0805135
05.08.08	13:00	SOIL	MW-3 @ 74-76'	2-20ml			X	9
↓	↓	↓	↓	1-4oz				9
↓	↓	↓	↓	1-4oz				9
			MeOH Blank					10

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	MOISTURE				Air Bubbles or Headspace (Y or N)
										X						
												X				
						X										

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
05.08.08	16:00		
			5/8/08 1600

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, May 23, 2008

John Casey
Basin Engineering, Inc.
248 Bodo Drive
Durango, CO 81302

TEL: (970) 259-2078
FAX (970) 385-4812

RE: Shamrock #63

Order No.: 0805255

Dear John Casey:

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 5/16/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4
Lab Order:	0805255	**Collection Date:**	5/16/2008 10:15:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	36	2.0		µg/L	1	5/20/2008 9:46:00 AM
1-Methylnaphthalene	ND	2.0		µg/L	1	5/20/2008 9:46:00 AM
2-Methylnaphthalene	3.4	2.0		µg/L	1	5/20/2008 9:46:00 AM
Acenaphthylene	ND	2.5		µg/L	1	5/20/2008 9:46:00 AM
Acenaphthene	ND	5.0		µg/L	1	5/20/2008 9:46:00 AM
Fluorene	3.8	0.80		µg/L	1	5/20/2008 9:46:00 AM
Phenanthrene	26	6.0		µg/L	10	5/20/2008 1:42:50 PM
Anthracene	3.4	0.60		µg/L	1	5/20/2008 9:46:00 AM
Fluoranthene	2.8	0.30		µg/L	1	5/20/2008 9:46:00 AM
Pyrene	1.5	0.30		µg/L	1	5/20/2008 9:46:00 AM
Benz(a)anthracene	0.13	0.070		µg/L	1	5/20/2008 9:46:00 AM
Chrysene	ND	0.20		µg/L	1	5/20/2008 9:46:00 AM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	5/20/2008 9:46:00 AM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	5/20/2008 9:46:00 AM
Benzo(a)pyrene	ND	0.070		µg/L	1	5/20/2008 9:46:00 AM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	5/20/2008 9:46:00 AM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	5/20/2008 9:46:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	5/20/2008 9:46:00 AM
Surr: Benzo(e)pyrene	65.5	59.9-133		%REC	1	5/20/2008 9:46:00 AM
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	360	5.0		µg/L	5	5/21/2008 11:52:42 AM
Toluene	1.2	1.0		µg/L	1	5/20/2008 3:18:18 AM
Ethylbenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Methyl tert-butyl ether (MTBE)	5.7	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,2,4-Trimethylbenzene	4.9	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,3,5-Trimethylbenzene	3.6	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,2-Dichloroethane (EDC)	11	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Naphthalene	ND	2.0		µg/L	1	5/20/2008 3:18:18 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	5/20/2008 3:18:18 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	5/20/2008 3:18:18 AM
Acetone	ND	10		µg/L	1	5/20/2008 3:18:18 AM
Bromobenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Bromodichloromethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Bromoform	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Bromomethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
2-Butanone	ND	10		µg/L	1	5/20/2008 3:18:18 AM
Carbon disulfide	ND	10		µg/L	1	5/20/2008 3:18:18 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Chlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Chloroethane	ND	2.0		µg/L	1	5/20/2008 3:18:18 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4
Lab Order:	0805255	**Collection Date:**	5/16/2008 10:15:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Chloroform	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Chloromethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
2-Chlorotoluene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
4-Chlorotoluene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
cis-1,2-DCE	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/20/2008 3:18:18 AM
Dibromochloromethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Dibromomethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	5/20/2008 3:18:18 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
2-Hexanone	ND	10		µg/L	1	5/20/2008 3:18:18 AM
Isopropylbenzene	2.2	1.0		µg/L	1	5/20/2008 3:18:18 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	5/20/2008 3:18:18 AM
Methylene Chloride	ND	3.0		µg/L	1	5/20/2008 3:18:18 AM
n-Butylbenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
n-Propylbenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
sec-Butylbenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Styrene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
tert-Butylbenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/20/2008 3:18:18 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
trans-1,2-DCE	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/20/2008 3:18:18 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-4
Lab Order:	0805255	**Collection Date:**	5/16/2008 10:15:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Vinyl chloride	ND	1.0		µg/L	1	5/20/2008 3:18:18 AM
Xylenes, Total	28	1.5		µg/L	1	5/20/2008 3:18:18 AM
Surr: 1,2-Dichloroethane-d4	107	68.1-123		%REC	1	5/20/2008 3:18:18 AM
Surr: 4-Bromofluorobenzene	105	53.2-145		%REC	1	5/20/2008 3:18:18 AM
Surr: Dibromofluoromethane	107	68.5-119		%REC	1	5/20/2008 3:18:18 AM
Surr: Toluene-d8	95.5	64-131		%REC	1	5/20/2008 3:18:18 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3
Lab Order:	0805255	**Collection Date:**	5/16/2008 10:40:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	4.4	2.0		µg/L	1	5/20/2008 10:33:59 AM
1-Methylnaphthalene	ND	2.0		µg/L	1	5/20/2008 10:33:59 AM
2-Methylnaphthalene	2.2	2.0		µg/L	1	5/20/2008 10:33:59 AM
Acenaphthylene	ND	2.5		µg/L	1	5/20/2008 10:33:59 AM
Acenaphthene	ND	5.0		µg/L	1	5/20/2008 10:33:59 AM
Fluorene	ND	0.80		µg/L	1	5/20/2008 10:33:59 AM
Phenanthrene	3.7	0.60		µg/L	1	5/20/2008 10:33:59 AM
Anthracene	ND	0.60		µg/L	1	5/20/2008 10:33:59 AM
Fluoranthene	ND	0.30		µg/L	1	5/20/2008 10:33:59 AM
Pyrene	ND	0.30		µg/L	1	5/20/2008 10:33:59 AM
Benz(a)anthracene	ND	0.070		µg/L	1	5/20/2008 10:33:59 AM
Chrysene	ND	0.20		µg/L	1	5/20/2008 10:33:59 AM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	5/20/2008 10:33:59 AM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	5/20/2008 10:33:59 AM
Benzo(a)pyrene	ND	0.070		µg/L	1	5/20/2008 10:33:59 AM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	5/20/2008 10:33:59 AM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	5/20/2008 10:33:59 AM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	5/20/2008 10:33:59 AM
Surr: Benzo(e)pyrene	60.0	59.9-133		%REC	1	5/20/2008 10:33:59 AM
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	320	5.0		µg/L	5	5/21/2008 12:23:10 PM
Toluene	7.4	1.0		µg/L	1	5/20/2008 3:47:24 AM
Ethylbenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Methyl tert-butyl ether (MTBE)	4.7	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,2,4-Trimethylbenzene	3.9	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,3,5-Trimethylbenzene	3.5	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Naphthalene	ND	2.0		µg/L	1	5/20/2008 3:47:24 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	5/20/2008 3:47:24 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	5/20/2008 3:47:24 AM
Acetone	29	10		µg/L	1	5/20/2008 3:47:24 AM
Bromobenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Bromodichloromethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Bromoform	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Bromomethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
2-Butanone	20	10		µg/L	1	5/20/2008 3:47:24 AM
Carbon disulfide	ND	10		µg/L	1	5/20/2008 3:47:24 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Chlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Chloroethane	ND	2.0		µg/L	1	5/20/2008 3:47:24 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3
Lab Order:	0805255	**Collection Date:**	5/16/2008 10:40:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Chloroform	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Chloromethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
2-Chlorotoluene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
4-Chlorotoluene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
cis-1,2-DCE	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/20/2008 3:47:24 AM
Dibromochloromethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Dibromomethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	5/20/2008 3:47:24 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
2-Hexanone	ND	10		µg/L	1	5/20/2008 3:47:24 AM
Isopropylbenzene	1.0	1.0		µg/L	1	5/20/2008 3:47:24 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	5/20/2008 3:47:24 AM
Methylene Chloride	ND	3.0		µg/L	1	5/20/2008 3:47:24 AM
n-Butylbenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
n-Propylbenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
sec-Butylbenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Styrene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
tert-Butylbenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/20/2008 3:47:24 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
trans-1,2-DCE	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/20/2008 3:47:24 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-3
Lab Order:	0805255	**Collection Date:**	5/16/2008 10:40:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Vinyl chloride	ND	1.0		µg/L	1	5/20/2008 3:47:24 AM
Xylenes, Total	23	1.5		µg/L	1	5/20/2008 3:47:24 AM
Surr: 1,2-Dichloroethane-d4	112	68.1-123		%REC	1	5/20/2008 3:47:24 AM
Surr: 4-Bromofluorobenzene	96.4	53.2-145		%REC	1	5/20/2008 3:47:24 AM
Surr: Dibromofluoromethane	107	68.5-119		%REC	1	5/20/2008 3:47:24 AM
Surr: Toluene-d8	99.2	64-131		%REC	1	5/20/2008 3:47:24 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2
Lab Order:	0805255	**Collection Date:**	5/16/2008 11:10:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	17	2.0		µg/L	1	5/20/2008 11:21:57 AM
1-Methylnaphthalene	4.0	2.0		µg/L	1	5/20/2008 11:21:57 AM
2-Methylnaphthalene	11	2.0		µg/L	1	5/20/2008 11:21:57 AM
Acenaphthylene	ND	2.5		µg/L	1	5/20/2008 11:21:57 AM
Acenaphthene	ND	5.0		µg/L	1	5/20/2008 11:21:57 AM
Fluorene	1.1	0.80		µg/L	1	5/20/2008 11:21:57 AM
Phenanthrene	9.9	6.0		µg/L	10	5/20/2008 2:30:50 PM
Anthracene	ND	0.60		µg/L	1	5/20/2008 11:21:57 AM
Fluoranthene	0.62	0.30		µg/L	1	5/20/2008 11:21:57 AM
Pyrene	0.36	0.30		µg/L	1	5/20/2008 11:21:57 AM
Benz(a)anthracene	ND	0.070		µg/L	1	5/20/2008 11:21:57 AM
Chrysene	ND	0.20		µg/L	1	5/20/2008 11:21:57 AM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	5/20/2008 11:21:57 AM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	5/20/2008 11:21:57 AM
Benzo(a)pyrene	ND	0.070		µg/L	1	5/20/2008 11:21:57 AM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	5/20/2008 11:21:57 AM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	5/20/2008 11:21:57 AM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	5/20/2008 11:21:57 AM
Surr: Benzo(e)pyrene	71.6	59.9-133		%REC	1	5/20/2008 11:21:57 AM
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	1300	50		µg/L	50	5/20/2008 6:13:21 PM
Toluene	430	10		µg/L	10	5/20/2008 4:17:45 AM
Ethylbenzene	180	10		µg/L	10	5/20/2008 4:17:45 AM
Methyl tert-butyl ether (MTBE)	100	10		µg/L	10	5/20/2008 4:17:45 AM
1,2,4-Trimethylbenzene	270	10		µg/L	10	5/20/2008 4:17:45 AM
1,3,5-Trimethylbenzene	110	10		µg/L	10	5/20/2008 4:17:45 AM
1,2-Dichloroethane (EDC)	20	10		µg/L	10	5/20/2008 4:17:45 AM
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Naphthalene	ND	20		µg/L	10	5/20/2008 4:17:45 AM
1-Methylnaphthalene	ND	40		µg/L	10	5/20/2008 4:17:45 AM
2-Methylnaphthalene	ND	40		µg/L	10	5/20/2008 4:17:45 AM
Acetone	150	100		µg/L	10	5/20/2008 4:17:45 AM
Bromobenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Bromodichloromethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Bromoform	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Bromomethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
2-Butanone	ND	100		µg/L	10	5/20/2008 4:17:45 AM
Carbon disulfide	ND	100		µg/L	10	5/20/2008 4:17:45 AM
Carbon Tetrachloride	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Chlorobenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Chloroethane	ND	20		µg/L	10	5/20/2008 4:17:45 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2
Lab Order:	0805255	**Collection Date:**	5/16/2008 11:10:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Chloroform	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Chloromethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
2-Chlorotoluene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
4-Chlorotoluene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
cis-1,2-DCE	ND	10		µg/L	10	5/20/2008 4:17:45 AM
cis-1,3-Dichloropropene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	5/20/2008 4:17:45 AM
Dibromochloromethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Dibromomethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,2-Dichlorobenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,3-Dichlorobenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,4-Dichlorobenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Dichlorodifluoromethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,1-Dichloroethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,1-Dichloroethene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,2-Dichloropropane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,3-Dichloropropane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
2,2-Dichloropropane	ND	20		µg/L	10	5/20/2008 4:17:45 AM
1,1-Dichloropropene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Hexachlorobutadiene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
2-Hexanone	110	100		µg/L	10	5/20/2008 4:17:45 AM
Isopropylbenzene	13	10		µg/L	10	5/20/2008 4:17:45 AM
4-Isopropyltoluene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
4-Methyl-2-pentanone	140	100		µg/L	10	5/20/2008 4:17:45 AM
Methylene Chloride	ND	30		µg/L	10	5/20/2008 4:17:45 AM
n-Butylbenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
n-Propylbenzene	33	10		µg/L	10	5/20/2008 4:17:45 AM
sec-Butylbenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Styrene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
tert-Butylbenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	5/20/2008 4:17:45 AM
Tetrachloroethene (PCE)	ND	10		µg/L	10	5/20/2008 4:17:45 AM
trans-1,2-DCE	ND	10		µg/L	10	5/20/2008 4:17:45 AM
trans-1,3-Dichloropropene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,2,3-Trichlorobenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,2,4-Trichlorobenzene	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,1,1-Trichloroethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,1,2-Trichloroethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Trichloroethene (TCE)	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Trichlorofluoromethane	ND	10		µg/L	10	5/20/2008 4:17:45 AM
1,2,3-Trichloropropane	ND	20		µg/L	10	5/20/2008 4:17:45 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-2
Lab Order:	0805255	**Collection Date:**	5/16/2008 11:10:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Vinyl chloride	ND	10		µg/L	10	5/20/2008 4:17:45 AM
Xylenes, Total	1200	15		µg/L	10	5/20/2008 4:17:45 AM
Surr: 1,2-Dichloroethane-d4	116	68.1-123		%REC	10	5/20/2008 4:17:45 AM
Surr: 4-Bromofluorobenzene	95.4	53.2-145		%REC	10	5/20/2008 4:17:45 AM
Surr: Dibromofluoromethane	109	68.5-119		%REC	10	5/20/2008 4:17:45 AM
Surr: Toluene-d8	103	64-131		%REC	10	5/20/2008 4:17:45 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-1
Lab Order:	0805255	**Collection Date:**	5/16/2008 11:40:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	180	20		µg/L	10	5/20/2008 4:06:51 PM
1-Methylnaphthalene	38	2.0		µg/L	1	5/20/2008 12:09:56 PM
2-Methylnaphthalene	67	2.0		µg/L	1	5/20/2008 12:09:56 PM
Acenaphthylene	ND	2.5		µg/L	1	5/20/2008 12:09:56 PM
Acenaphthene	ND	5.0		µg/L	1	5/20/2008 12:09:56 PM
Fluorene	ND	0.80		µg/L	1	5/20/2008 12:09:56 PM
Phenanthrene	ND	0.60		µg/L	1	5/20/2008 12:09:56 PM
Anthracene	ND	0.60		µg/L	1	5/20/2008 12:09:56 PM
Fluoranthene	ND	0.30		µg/L	1	5/20/2008 12:09:56 PM
Pyrene	ND	0.30		µg/L	1	5/20/2008 12:09:56 PM
Benz(a)anthracene	ND	0.070		µg/L	1	5/20/2008 12:09:56 PM
Chrysene	ND	0.20		µg/L	1	5/20/2008 12:09:56 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	5/20/2008 12:09:56 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	5/20/2008 12:09:56 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	5/20/2008 12:09:56 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	5/20/2008 12:09:56 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	5/20/2008 12:09:56 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	5/20/2008 12:09:56 PM
Surr: Benzo(e)pyrene	69.8	59.9-133		%REC	1	5/20/2008 12:09:56 PM
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	6000	100		µg/L	100	5/20/2008 4:48:08 AM
Toluene	660	20		µg/L	20	5/20/2008 5:18:31 AM
Ethylbenzene	200	20		µg/L	20	5/20/2008 5:18:31 AM
Methyl tert-butyl ether (MTBE)	4400	100		µg/L	100	5/20/2008 4:48:08 AM
1,2,4-Trimethylbenzene	820	20		µg/L	20	5/20/2008 5:18:31 AM
1,3,5-Trimethylbenzene	230	20		µg/L	20	5/20/2008 5:18:31 AM
1,2-Dichloroethane (EDC)	160	20		µg/L	20	5/20/2008 5:18:31 AM
1,2-Dibromoethane (EDB)	28	20		µg/L	20	5/20/2008 5:18:31 AM
Naphthalene	330	40		µg/L	20	5/20/2008 5:18:31 AM
1-Methylnaphthalene	ND	80		µg/L	20	5/20/2008 5:18:31 AM
2-Methylnaphthalene	110	80		µg/L	20	5/20/2008 5:18:31 AM
Acetone	290	200		µg/L	20	5/20/2008 5:18:31 AM
Bromobenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Bromodichloromethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Bromoform	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Bromomethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
2-Butanone	ND	200		µg/L	20	5/20/2008 5:18:31 AM
Carbon disulfide	ND	200		µg/L	20	5/20/2008 5:18:31 AM
Carbon Tetrachloride	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Chlorobenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Chloroethane	ND	40		µg/L	20	5/20/2008 5:18:31 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-1
Lab Order:	0805255	**Collection Date:**	5/16/2008 11:40:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Chloroform	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Chloromethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
2-Chlorotoluene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
4-Chlorotoluene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
cis-1,2-DCE	ND	20		µg/L	20	5/20/2008 5:18:31 AM
cis-1,3-Dichloropropene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,2-Dibromo-3-chloropropane	ND	40		µg/L	20	5/20/2008 5:18:31 AM
Dibromochloromethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Dibromomethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,2-Dichlorobenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,3-Dichlorobenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,4-Dichlorobenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Dichlorodifluoromethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,1-Dichloroethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,1-Dichloroethene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,2-Dichloropropane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,3-Dichloropropane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
2,2-Dichloropropane	ND	40		µg/L	20	5/20/2008 5:18:31 AM
1,1-Dichloropropene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Hexachlorobutadiene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
2-Hexanone	ND	200		µg/L	20	5/20/2008 5:18:31 AM
Isopropylbenzene	30	20		µg/L	20	5/20/2008 5:18:31 AM
4-Isopropyltoluene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
4-Methyl-2-pentanone	ND	200		µg/L	20	5/20/2008 5:18:31 AM
Methylene Chloride	ND	60		µg/L	20	5/20/2008 5:18:31 AM
n-Butylbenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
n-Propylbenzene	63	20		µg/L	20	5/20/2008 5:18:31 AM
sec-Butylbenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Styrene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
tert-Butylbenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,1,1,2-Tetrachloroethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,1,2,2-Tetrachloroethane	ND	40		µg/L	20	5/20/2008 5:18:31 AM
Tetrachloroethene (PCE)	ND	20		µg/L	20	5/20/2008 5:18:31 AM
trans-1,2-DCE	ND	20		µg/L	20	5/20/2008 5:18:31 AM
trans-1,3-Dichloropropene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,2,3-Trichlorobenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,2,4-Trichlorobenzene	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,1,1-Trichloroethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,1,2-Trichloroethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Trichloroethene (TCE)	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Trichlorofluoromethane	ND	20		µg/L	20	5/20/2008 5:18:31 AM
1,2,3-Trichloropropane	ND	40		µg/L	20	5/20/2008 5:18:31 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	MW-1
Lab Order:	0805255	**Collection Date:**	5/16/2008 11:40:00 AM
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Vinyl chloride	ND	20		µg/L	20	5/20/2008 5:18:31 AM
Xylenes, Total	3200	30		µg/L	20	5/20/2008 5:18:31 AM
Surr: 1,2-Dichloroethane-d4	110	68.1-123		%REC	20	5/20/2008 5:18:31 AM
Surr: 4-Bromofluorobenzene	96.9	53.2-145		%REC	20	5/20/2008 5:18:31 AM
Surr: Dibromofluoromethane	105	68.5-119		%REC	20	5/20/2008 5:18:31 AM
Surr: Toluene-d8	98.8	64-131		%REC	20	5/20/2008 5:18:31 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	Trip Blank
Lab Order:	0805255	**Collection Date:**	
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Toluene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Ethylbenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Naphthalene	ND	2.0		µg/L	1	5/20/2008 6:16:06 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	5/20/2008 6:16:06 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	5/20/2008 6:16:06 AM
Acetone	ND	10		µg/L	1	5/20/2008 6:16:06 AM
Bromobenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Bromodichloromethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Bromoform	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Bromomethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
2-Butanone	ND	10		µg/L	1	5/20/2008 6:16:06 AM
Carbon disulfide	ND	10		µg/L	1	5/20/2008 6:16:06 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Chlorobenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Chloroethane	ND	2.0		µg/L	1	5/20/2008 6:16:06 AM
Chloroform	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Chloromethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
2-Chlorotoluene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
4-Chlorotoluene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
cis-1,2-DCE	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/20/2008 6:16:06 AM
Dibromochloromethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Dibromomethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	5/20/2008 6:16:06 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
2-Hexanone	ND	10		µg/L	1	5/20/2008 6:16:06 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-May-08*

CLIENT:	Basin Engineering, Inc.	**Client Sample ID:**	Trip Blank
Lab Order:	0805255	**Collection Date:**	
Project:	Shamrock #63	**Date Received:**	5/16/2008
Lab ID:	0805255-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Isopropylbenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	5/20/2008 6:16:06 AM
Methylene Chloride	ND	3.0		µg/L	1	5/20/2008 6:16:06 AM
n-Butylbenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
n-Propylbenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
sec-Butylbenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Styrene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
tert-Butylbenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/20/2008 6:16:06 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
trans-1,2-DCE	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/20/2008 6:16:06 AM
Vinyl chloride	ND	1.0		µg/L	1	5/20/2008 6:16:06 AM
Xylenes, Total	ND	1.5		µg/L	1	5/20/2008 6:16:06 AM
Surr: 1,2-Dichloroethane-d4	111	68.1-123		%REC	1	5/20/2008 6:16:06 AM
Surr: 4-Bromofluorobenzene	97.0	53.2-145		%REC	1	5/20/2008 6:16:06 AM
Surr: Dibromofluoromethane	103	68.5-119		%REC	1	5/20/2008 6:16:06 AM
Surr: Toluene-d8	101	64-131		%REC	1	5/20/2008 6:16:06 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Basin Engineering, Inc.
Project: Shamrock #63 **Work Order:** 0805255

Method: **EPA Method 8260B: VOLATILES**
Sample ID: **5 ml rb** *MBLK* Batch ID: **R28588** Analysis Date: 5/19/2008 10:18:26 AM

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	1.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	1.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	1.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	1.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	1.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						
4-Isopropyltoluene	ND	µg/L	1.0						

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Basin Engineering, Inc.
Project: Shamrock #63 **Work Order:** 0805255

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5 ml rb		*MBLK*			Batch ID: **R28588**		Analysis Date:	5/19/2008 10:18:26 AM	
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	1.0						
Styrene	ND	µg/L	1.0						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	1.5						
Sample ID: 5 ml rb		*MBLK*			Batch ID: **R28610**		Analysis Date:	5/20/2008 8:34:22 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	1.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	1.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Basin Engineering, Inc.
Project: Shamrock #63 **Work Order:** 0805255

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5 ml rb		*MBLK*			Batch ID: **R28610**		Analysis Date:	5/20/2008 8:34:22 AM	
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	1.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	1.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	1.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						
4-Isopropyltoluene	ND	µg/L	1.0						
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	1.0						
Styrene	ND	µg/L	1.0						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	1.5						
Sample ID: 5 ml rb		*MBLK*			Batch ID: **R28635**		Analysis Date:	5/21/2008 9:07:55 AM	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Basin Engineering, Inc.
Project: Shamrock #63 **Work Order:** 0805255

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5 ml rb		*MBLK*			Batch ID: **R28635**		Analysis Date:	5/21/2008 9:07:55 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	1.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	1.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	1.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	1.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	1.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						
4-Isopropyltoluene	ND	µg/L	1.0						

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Basin Engineering, Inc.
Project: Shamrock #63 **Work Order:** 0805255

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5 ml rb		*MBLK*			Batch ID: **R28635**		Analysis Date:	5/21/2008 9:07:55 AM	
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	1.0						
Styrene	ND	µg/L	1.0						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	1.5						
Sample ID: 100 ng lcs		*LCS*			Batch ID: **R28588**		Analysis Date:	5/19/2008 11:31:59 AM	
Benzene	18.46	µg/L	1.0	92.3	86.8	120			
Toluene	18.35	µg/L	1.0	91.7	64.1	127			
Chlorobenzene	18.71	µg/L	1.0	93.6	82.4	113			
1,1-Dichloroethene	21.96	µg/L	1.0	110	86.5	132			
Trichloroethene (TCE)	19.56	µg/L	1.0	97.8	77.3	123			
Sample ID: 100 ng lcs		*LCS*			Batch ID: **R28610**		Analysis Date:	5/20/2008 9:54:11 AM	
Benzene	19.41	µg/L	1.0	97.1	86.8	120			
Toluene	16.89	µg/L	1.0	84.5	64.1	127			
Chlorobenzene	17.03	µg/L	1.0	85.2	82.4	113			
1,1-Dichloroethene	23.20	µg/L	1.0	116	86.5	132			
Trichloroethene (TCE)	19.89	µg/L	1.0	99.4	77.3	123			
Sample ID: 100 ng lcs		*LCSD*			Batch ID: **R28635**		Analysis Date:	5/21/2008 10:22:44 AM	
Benzene	20.94	µg/L	1.0	105	86.8	120			
Toluene	18.82	µg/L	1.0	94.1	64.1	127			
Chlorobenzene	18.85	µg/L	1.0	94.3	82.4	113			
1,1-Dichloroethene	24.27	µg/L	1.0	121	86.5	132			
Trichloroethene (TCE)	20.55	µg/L	1.0	103	77.3	123			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Basin Engineering, Inc.
Project: Shamrock #63 **Work Order:** 0805255

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8310: PAHs									
Sample ID: MB-15973		*MBLK*			Batch ID: **15973**		Analysis Date:	5/20/2008 7:22:02 AM	
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	2.0						
2-Methylnaphthalene	ND	µg/L	2.0						
Acenaphthylene	ND	µg/L	2.5						
Acenaphthene	ND	µg/L	5.0						
Fluorene	ND	µg/L	0.80						
Phenanthrene	ND	µg/L	0.60						
Anthracene	ND	µg/L	0.60						
Fluoranthene	ND	µg/L	0.30						
Pyrene	ND	µg/L	0.30						
Benz(a)anthracene	ND	µg/L	0.070						
Chrysene	ND	µg/L	0.20						
Benzo(b)fluoranthene	ND	µg/L	0.10						
Benzo(k)fluoranthene	ND	µg/L	0.070						
Benzo(a)pyrene	ND	µg/L	0.070						
Dibenz(a,h)anthracene	ND	µg/L	0.070						
Benzo(g,h,i)perylene	ND	µg/L	0.080						
Indeno(1,2,3-cd)pyrene	ND	µg/L	0.080						
Sample ID: LCSD-15973		*LCSD*			Batch ID: **15973**		Analysis Date:	5/20/2008 8:58:01 AM	
Naphthalene	26.70	µg/L	2.0	66.8	37.3	91.2	37.8	32.1	
1-Methylnaphthalene	27.80	µg/L	2.0	69.3	36.7	91.2	38.7	32.7	
2-Methylnaphthalene	26.84	µg/L	2.0	67.1	35.8	91.6	37.1	34	
Acenaphthylene	29.31	µg/L	2.5	73.1	14.4	114	40.3	38.8	
Acenaphthene	28.62	µg/L	5.0	71.6	43.9	96.5	38.7	38.6	
Fluorene	2.860	µg/L	0.80	71.3	47.4	102	38.3	29.3	
Phenanthrene	1.490	µg/L	0.60	74.1	46.9	107	37.5	25	
Anthracene	1.340	µg/L	0.60	66.7	49.1	110	39.3	23.9	
Fluoranthene	2.950	µg/L	0.30	73.6	44.8	102	36.9	15.7	
Pyrene	2.890	µg/L	0.30	72.1	49.2	104	37.4	15.3	
Benz(a)anthracene	0.2900	µg/L	0.070	72.3	50.5	113	36.7	19	
Chrysene	1.450	µg/L	0.20	72.1	41.3	98.5	34.8	16.6	
Benzo(b)fluoranthene	0.3600	µg/L	0.10	71.9	52.7	106	36.1	21.7	
Benzo(k)fluoranthene	0.1800	µg/L	0.070	72.0	44.9	105	32.3	19.4	
Benzo(a)pyrene	0.1600	µg/L	0.070	63.7	52.8	115	37.0	16.7	
Dibenz(a,h)anthracene	0.3700	µg/L	0.070	73.9	50.5	108	34.9	17.3	
Benzo(g,h,i)perylene	0.3400	µg/L	0.080	68.0	55.4	108	34.5	18	
Indeno(1,2,3-cd)pyrene	0.7670	µg/L	0.080	76.5	15.1	117	36.7	17.7	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BASIN DURANGO | Date Received: 5/16/2008

Work Order Number 0805255 | Received by: AMF

Checklist completed by: _____ 5/16/08 (Signature / Date) | Sample ID labels checked by: AS (Initials)

Matrix: | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	5°	<6° C *Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Basin Engineering

Address: PO Box 3909
Durango, CO 81302

Phone #: 970 259 2078

email or Fax#: 970 385 4912

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☒ Rush Due 5/23

Project Name: Shamrock #63

Project #: 0301-16

Project Manager: John Casey

Sampler: John E. Casey

On Ice: ☒ Yes ☐ No

Sample Temperature: 5°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 080255	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8260)	8310 (PNA or PAH)	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
5-16-08	10:15	MW-4	3-40ml 1-1L	HCl None	-1							X			X		
5-16-08	10:40	MW-3	3-40ml 1-1L	HCl None	-2							X			X		
5-16-08	11:10	MW-2	3-40ml 1-1L	HCl None	-3							X			X		
5-16-08	11:40	MW-1	3-40ml 1-1L	HCl None	-4							X			X		
		Trip Blank	2-40ml	HCl	-5										X		

Date:	Time:	Relinquished by:	Received by:	Remarks:
5-16-08	13:15	John E. Casey	5/16/08 13:15	Due 5/23
Date:	Time:	Relinquished by:	Received by:	

APPENDIX C
Monitoring Well Schematic Drawings

MONITORING WELL LOG

BORING NO.: SB-1

PROJECT: Minimum Site Assessment Report
CLIENT: Polk Oil Company
LOCATION: Santa Fe Shamrock #63 3624 Cerrillos Rd Santa Fe NM
DRILLER: Envirotech
DRILLING METHOD: 4 1/4" HSA
DEPTH TO WATER> **INITIAL:** None **AT COMPLETION:** None

PROJECT NO.: 030116
DATE: 2/16/07
ELEVATION:
LOGGED BY: JEC

DEPTH	Description	ODOR	SOIL TYPE	USCS	SAMPLES	PID (ppm)	WELL DIAGRAM	Well Description	DEPTH
0	Fill, Silty Sand Light Brown, Loose, Moist, No Samples Taken in Fill. Inside Old Tank Pit, No Hydrocarbon Odor			FILL					0
	Slight HC Odor								
20	Sands and Gravels, With Cobbles, Very Dense, Moist Brown to Light Brown, Hydrocarbon Odor (Gasoline)			GP-SP		9999			20
	Decomposed Granite - Hard to Very Hard, Moist to Dry, Trace Clay, Brown to Light Brown			ROCK		9999 4789 1375 4560 5280 6000			
40						3400 9000			40
						830			
60	Clay, Trace Fine Sand, Brown, Moist, Trace Odor, Very Stiff to Hard, Plastic			CL		1200			60
	Decomposed Granite - Hard to Very Hard, Moist to Dry, Trace Clay, Brown to Light Brown			ROCK		300 270			
	TD-75'					320			
80									80
100									100
120									120

All identification based on visual-manual procedures.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BASIN ENGINEERING, INC

MONITORING WELL LOG

BORING NO.: SB-2

PROJECT: Minimum Site Assessment Report
CLIENT: Polk Oil Company
LOCATION: Santa Fe Shamrock #63 3624 Cerrillos Rd Santa Fe NM
DRILLER: Envirotech
DRILLING METHOD: 4 1/4" HSA
DEPTH TO WATER> **INITIAL:** None **AT COMPLETION:** None

PROJECT NO.: 030116
DATE: 2/15/07 & 2/16/07
ELEVATION:
LOGGED BY: JEC

DEPTH	Description	ODOR	SOIL TYPE	USCS	SAMPLES	PID (ppm)	WELL DIAGRAM	Well Description	DEPTH
0	Sand & Gravel Fill, Saturated, Brown, No Odor			FILL					0
	Silty Clayey Sand, Light Brown to Brown, Hydrocarbon Odor, Dense, Moist			SC		1190			
						913			
	Clay, Brown, Slightly Plastic, Moist, Slight Odor			CL		994			
20	(CL)			ROCK		7			20
	Decomposed Granite, Occasional Cobble, Very Dense, Non-Plastic, No Odor					44			
						9			
						12.3			
40						8.7			40
						0			
	TD-50'					0			
60									60
80									80
100									100
120									120

All identification based on visual-manual procedures.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BASIN ENGINEERING, INC

MONITORING WELL LOG

BORING NO.: SB-3/MW-1

PROJECT: Minimum Site Assessment Report
CLIENT: Polk Oil Company
LOCATION: Santa Fe Shamrock #63 3624 Cerrillos Rd Santa Fe NM
DRILLER: Rodgers
DRILLING METHOD: 4 1/4" Hollow Stem Auger
DEPTH TO WATER> **INITIAL:** 81.0 **AT COMPLETION:** 79.76

PROJECT NO.: 030116
DATE: 11/7/07
ELEVATION: 6617.82
LOGGED BY: JEC

DEPTH	Description	ODOR	SOIL TYPE	USCS	SAMPLES	PID (ppm)	WELL DIAGRAM	Well Description	DEPTH
0	Fill in Old Tank Nest, Silty Sand, Brown, Moist, Loose, No Odor, No Samples in Fill	None		FILL				Flush Mount Cover	0
	Decomposed Granite, Brown to Pink, Dense, Dry, Gasoline Odor	Gasoline		SM		106			
20		Gasoline				9870			20
	Very Hard, Drilled Though 1' Rock					1840			
	Decomposed Granite, Brown to Pink, Dense, Dry, Gasoline Odor	Gasoline		SM					
	Decomposed Granite, Dry, Brown to Pink, Dense to Very Dense, Slightly Moist, Gasoline Odor	Gasoline		SM		715			
40						89			40
						121			
						42			
	Decomposed Granite, Brown to Pink, Trace Clay, Dry, Occasional Gravels, Gasoline Odor	Gasoline				67			
						113			
60						28			60
	Clay Content Increases; Soft for 2 1/2'	Strong Gasoline				527			
	Decomposed Granite, Brown to Pink, Hard to Very Hard, Dry, Gasoline Odor	Slight Gasoline Odor		SM		239		Bentonite Seal	
						89		#10-20 Silica Sand Filter Pack	
80						76		2" #10 Slotted PVC Screen	80
	Medium Grained Sand, Saturated, Light Brown, Dense, No Odor	None		SM		52			
	TD - 94'							TD - 94'	
100									100
120									120

All identification based on visual-manual procedures.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BASIN ENGINEERING, INC

MONITORING WELL LOG

BORING NO.: SB-4/MW-2

PROJECT: Minimum Site Assessment Report
CLIENT: Polk Oil Company
LOCATION: 3624 Cerrillos Rd, Santa Fe, NM
DRILLER: Rodgers
DRILLING METHOD: 4 1/4" Hollew Stem Auger
DEPTH TO WATER> **INITIAL:** 83.0

PROJECT NO.: 030116
DATE: 05/06/08
ELEVATION:
LOGGED BY: MH
AT COMPLETION: 80.89

DEPTH	Description	ODOR	SOIL TYPE	USCS	SAMPLES	PID (ppm)	WELL DIAGRAM	Well Description	DEPTH
0	Fill Material, Sand & Gravel, Light Brown	None		FILL				Flush Mount Cover	0
	Sands and Gravels, Light Brown to Pink	None		SC		15.3			
	Clay, Dark Brown	None		CL		0.0			
	Sands and Gravels with Cobbles, Very Dense, Brown to Light Brown	None		GP-SP		1.0			
14.3									14.3
						2.4			
						5.3			
28.6						12.4			28.6
	Decomposed Granite, Some Clay, Brown to Pink, Hard to Very Hard	None		SM		43.7			
						33.6			
42.9						18.8			42.9
						46.8			
						75.5			
57.2						52.8			57.2
	Sands and Gravels with Cobbles, Brown, Dense, Moist	None		GP-SP		4.6			
71.5						1.7		Bentonite Seal	71.5
						6.7		#10-20 Silica Sand Filter Pack	
	Sandy Clay, Brown, Dense Some Sand and Gravel, Moist	None		CL		5.3		2" #10 Slotted PVC Screen	
85.8									85.8
	TD - 94'							TD - 94'	

All identification based on visual-manual procedures.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BASIN ENGINEERING, INC

MONITORING WELL LOG

BORING NO.: SB-5/MW-3

PROJECT: Minimum Site Assessment Report
CLIENT: Polk Oil Company
LOCATION: 3624 Cerrillos Rd, Santa Fe, NM
DRILLER: Rodgers
DRILLING METHOD: 4 1/4" Hollew Stem Auger
DEPTH TO WATER> **INITIAL:** 78.0 **AT COMPLETION:** 80.24

PROJECT NO.: 030116
DATE: 05/07/08
ELEVATION:
LOGGED BY: MH

DEPTH	Description	ODOR	SOIL TYPE	USCS	SAMPLES	PID (ppm)	WELL DIAGRAM	Well Description	DEPTH
0	3" Asphalt, Fill Material, Sand and Gravel, Light Brown			FILL				Flush Mount Cover	0
	Silty Clay, Brown	None		SC		2.4			
	Sands and Gravels with Cobbles, Very Dense, Brown to Light Brown	None		GP-SP		0.3			
14.3						3.7			14.3
						0.6			
						0.8			
28.6						1.8			28.6
						0.6			
						0.4			
42.9	Decomposed Granite, Brown to Pink, Dense	None		SM		2.5			42.9
						2.9			
						1.3			
57.2						2.9			57.2
						7.4		Bentonite Seal	
						2.2		#10-20 Silica Sand Filter Pack	
71.5								2" #10 Slotted PVC Screen	71.5
	Sands and Gravels, Medium Grained, Light Brown, Dense			SC		1.4			
	▼								
85.8									85.8
	TD - 90'							TD - 90'	

All identification based on visual-manual procedures.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BASIN ENGINEERING, INC

MONITORING WELL LOG

BORING NO.: SB-6/MW-4

PROJECT: Minimum Site Assessment Report
CLIENT: Polk Oil Company
LOCATION: 3624 Cerrillos Rd, Santa Fe, NM
DRILLER: Rodgers
DRILLING METHOD: 4 1/4" Hollew Stem Auger
DEPTH TO WATER> **INITIAL:**

PROJECT NO.: 030116
DATE: 05/05/08
ELEVATION:
LOGGED BY: MH
AT COMPLETION: 78.80

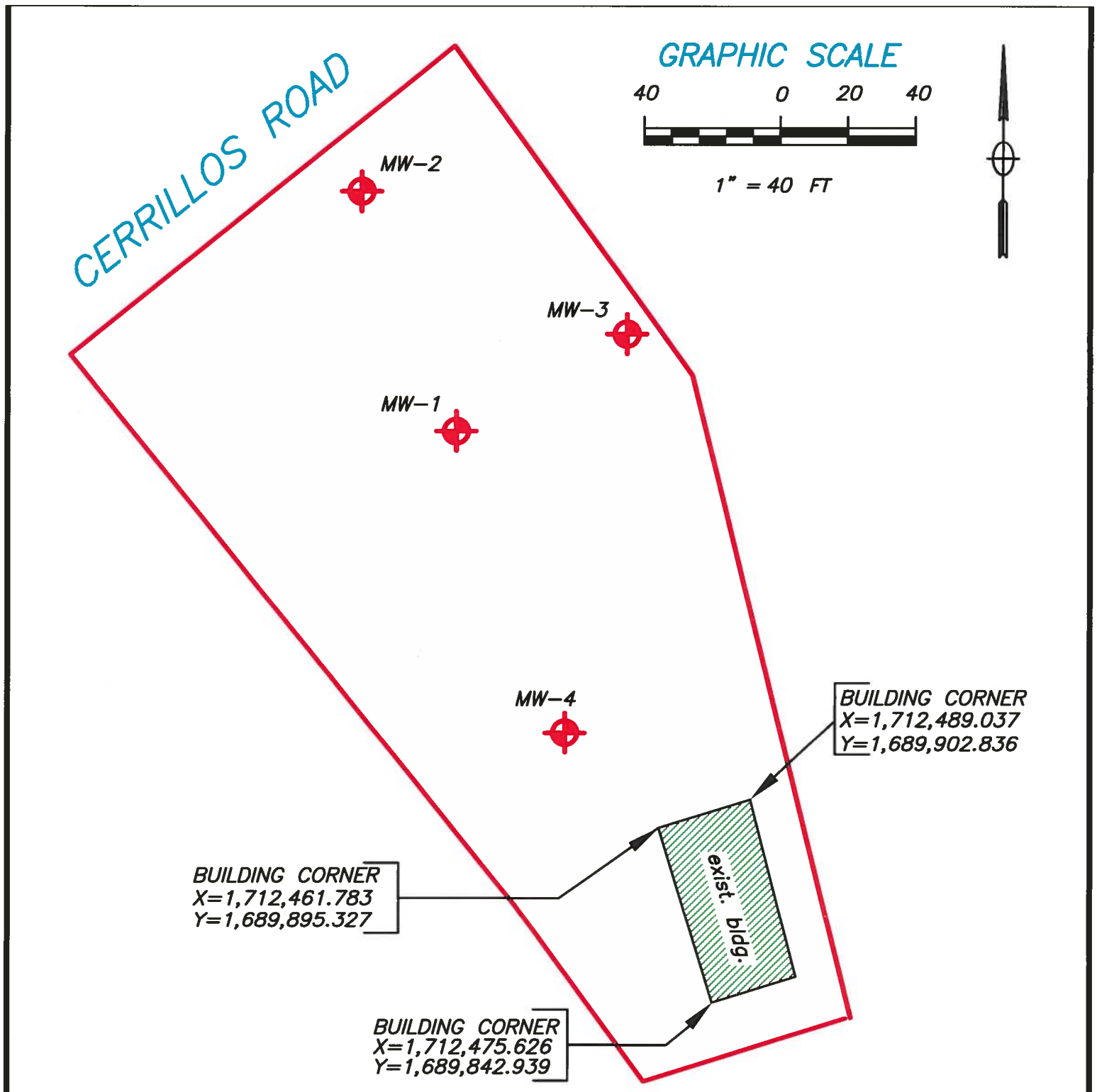
DEPTH	Description	ODOR	SOIL TYPE	USCS	SAMPLES	PID (ppm)	WELL DIAGRAM	Well Description	DEPTH
0	3" Asphalt, Fill Material, Sands, Gravels, and Clay, Brown, Some Areas of Dark Staining	Slight HC		FILL				Flush Mount Cover	0
	Silty Clayey Sand, Light Brown, Dense	None		SC		1.6			
	Sands and Gravels with Cobbles, Light Brown			GP-SP		3.5			
	Clay, Brown, Slightly Plastic	None		CL					
14.3	Sands and Gravels with Cobbles, Light Brown	None		GP-SP		0.8			14.3
	Silty Clay, Light Brown to Brown, Slightly Plastic			CL		0.0			
	Decomposed Granite, Hard to Very Hard	None		SM		0.1			
	Sands and Gravels with Cobbles, Light Brown	None		GP-SP					
28.6	Decomposed Granite, Hard to Very Hard	None		SM		8.3			28.6
	6" of Clay, Then Sands and Gravels with Cobbles, Light Brown			GP-SP		1.4			
	Decomposed Granite, Hard to Very Hard	None		SM		4.8			
42.9						7.4			42.9
						5.7			
						0.9			
57.2						4.8			57.2
	Clay, Dense, Brown	None		CL		17		Bentonite Seal	
	Decomposed Granite, Hard to Very Hard	None		SM		1.8		#10-20 Silica Sand Filter Pack	
71.5								2" #10 Slotted PVC Screen	71.5
	Sand, Brown, Moist	None		SC		2.4			
	Decomposed Granite, Hard to Very Hard			SM					
85.8									85.8
	TD - 90'							TD - 90'	

All identification based on visual-manual procedures.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BASIN ENGINEERING, INC

APPENDIX D
Monitoring Well Survey



WELLS	X=(EAST)	Y=(NORTH)	ELEVATION
MW-1	1,712,389.785	1,690,030.073	6620.26 North Rim
			6619.21 Top PVC
MW-2	1,712,364.499	1,690,101.602	6622.00 North Rim
			6621.53 Top PVC
MW-3	1,712,445.922	1,690,049.992	6620.84 North Rim
			6620.37 Top PVC
MW-4	1,712,418.419	1,689,940.748	6619.48 North Rim
			6618.94 Top PVC

REGISTERED PROFESSIONAL SURVEYOR · STATE OF NEW MEXICO · 5300 · MORRIS A. APODACA

1. HORIZONTAL DATUM IS THE NEW MEXICO STATE PLANE COORDINATE SYSTEM CENTRAL ZONE, NAD 83.
2. VERTICAL DATUM IS NGVD88.
3. HORZONTAL COORDINATES ARE TO THE NORTH RIM OF THE WELL CAP. ELEVATIONS ARE THE SAME POINT.

C E R T I F I C A T E

I, MORRIS A. APODACA NMPLS NO. 5300 A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I CONDUCTED AND AM RESPONSIBILE FOR THIS SURVEY. THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS PLAT MEETS THE MINIMUM SANDARDS FOR SURVEYING IN THE STATE OF NEW MEXICO.

MORRIS A. APODACA NMPLS NO. 5300 — 06/03/08 DATE

3624 CERRILLOS ROAD
SANTA FE, NEW MEXICO
A-Z SURVEYING INC.
JUNE 3, 2008
L08-019