

3rd QTR GW Mon. Report

DATE: 2009



DCP Midstream 370 17th Street, Suite 2500 Denver, CO 80202 303-595-3331 303-605-2226 *FAX*

RECEIVED OCD 2009 NOV 23 A 9:59

November 20, 2009

Mr. Leonard Lowe Environmental Engineer New Mexico Oil Conservation Division 1220 S. St. Francis Dr. Santa Fe, NM 87505

RE: 3rd Quarter 2009 Groundwater Results DCP Midstream, LP RR Ext. Pipeline Release (AP #55) Unit C, Section 19, Township 20 South, Range 37 East Lea County, New Mexico

Dear Mr. Lowe:

DCP Midstream, LP (DCP) is pleased to submit for your review, one copy of the 3rd Quarter 2009 Groundwater Results for the DCP RR Ext. Pipeline Release located in Lea County, New Mexico (Unit C, Section 19, Township 20 South, Range 37 East).

If you have any questions regarding the report, please call at 303-605-1718 or e-mail me <u>swweathers@dcpmidstream.com</u>.

Sincerely

DCP Midstream, LP

Stephen Weathers, PG Principal Environmental Specialist

cc: Larry Johnson, OCD Hobbs District Office (Copy on CD) Environmental Files

AEC AMERICAN ENVIRONMENTAL CONSULTING, LLC

November 18, 2009

Mr. Stephen Weathers DCP Midstream, LP 370 17th Street, Suite 2500 Denver, CO 80202

Re: Third Quarter 2009 Groundwater Monitoring Report for the RR Ext Pipeline Release Unit C, Section 19 Township 20 South, Range 37 East (AP #55)

Dear Mr. Weathers:

This letter report summarizes the third quarter 2009 groundwater monitoring event that was completed on September 23, 2009 at the DCP Midstream (DCP) RR Ext Site (Figure 1). The well locations are shown on Figure 2. The construction information for the wells is summarized in Table 1.

The fluid levels were first measured to calculate the casing volumes. Well MW-4 was found to contain free phase hydrocarbon (FPH). This is the first instance where FPH was measured at this site. The discovery was made after purging began so the equilibrated thickness could not be measured.

The remaining seven wells were first purged to equilibration using dedicated bailers based on the field parameters of temperature, pH and conductivity. They were then sampled for benzene, toluene, ethylbenzene, xylenes (BTEX), using EPA Method SW846 8260B and Method SM 4500 CL C for chlorides. A field duplicate from MW-8 and a matrix spike/matrix spike duplicate (MS/MSD) from MW-6 were also collected to evaluate quality control. All affected purge water was disposed of at the DCP Linam Ranch facility.

The water gauging data are summarized in Table 2. Well hydrographs are plotted on Figure 3. Figure 3 indicates that the water table declined about 0.5 feet in all of the wells. The MW-1 hydrograph shows that the September 2009 value remained in its historic position near to MW-3 showing that the temporary groundwater mounding from the open remediation excavation has completely dissipated.

The measured water table elevations were also used to generate a groundwater contour map using the Surfer program with a kriging option. This map is included as Figure 4. Groundwater appears to flow to the south-southeast down gradient MW-5 and MW-7. The groundwater flow pattern is similar to that exhibited in the past.

Mr. Stephen Weathers November 18, 2009 Page 2

The quality control evaluation can be summarized as follows:

- The method blanks were all within their control limits.
- The blank spikes were all within their control limits.
- The individual sample surrogates results were within the method ranges with two exceptions, and those two surrogates were not associated with any detected constituents.
- The matrix spike and matrix spike duplicate values were acceptable.
- The constituents from the primary and the duplicate samples were all below their respective method reporting limits. The duplicate sample limits were elevated because the duplicate sample was diluted.

The above results indicate that the data are suitable for evaluation as groundwater monitoring data.

The sampling data are summarized in Table 3. The measured field parameters and a copy of the laboratory report are attached. The New Mexico Water Quality Control Commission (NMWQCC) groundwater standards are included at the top of Table 3. Wells MW-1, MW-2 and MW-3 exceeded the benzene standard. Wells MW-2 and MW-3 exceeded the toluene standard. There were no exceedences in wells MW-5, MW-6, MW-7 and MW-8.

Figure 5 shows the benzene isopleths for the third quarter 2009 based upon contouring . with the Surfer program using the kriging option. There extent of benzene effects is delineated to the east, at MW-7, and to the southeast at MW-6. Additional control is necessary to delineate the extent of the FPH now present in MW-4 and the affected groundwater to the south and southwest.

The BTEX data collected for this project are summarized in Table 4. Figure 6 graphs the benzene concentration verses time for MW-1, MW-2, MW-3, MW-4, and MW-5. The following trends are evident:

- 1. The concentrations in MW-2 have remained relatively constant over the duration of the project.
- 2. The concentrations in MW-5 appear to be increasing but they remain below the NMWQCC groundwater standards
- 3. The concentrations in MW-1 and MW-3 both decreased in a similar fashion; and
- 4. The FPH in MW-4 follows a steady increase in the dissolved phase concentration over the duration of the project. This trend indicates that the dissolved phase hydrocarbon plume has expanded to the south.

The samples were also submitted for chlorides analysis. Chloride data are summarized in Table 5. Figure 7 shows the chlorides isopleths for the third quarter 2009 based upon contouring with the Surfer program using the kriging option. The distribution is similar to that shown for the benzene except the lowest chloride concentration is at MW-2. This

Mr. Stephen Weathers November 18, 2009 Page 3

pattern is opposite of that shown for benzene where the highest concentration was present at MW-2. This distribution may have resulted from fresh water infiltration in the source area into an area of overall higher chloride concentrations.

The chloride concentrations verses time are plotted on Figure 8. The chloride concentrations did not exhibit a uniform trend across the site. The fact that the lowest concentration is found at the initial release point indicates that the chlorides that are present in the groundwater are probably not from the DCP release.

RECOMMENDATIONS

The FPH in MW-4 indicates that either hydrocarbons are either expanding to the south or an unidentified leak is present. AEC is working with DCP to identify the property boundaries to determine if additional access permission is necessary. A work plan that presents an expanded characterization program will be prepared and submitted in the near future..

The next sampling event will be completed during the fourth quarter of 2009. Do not hesitate to contact me if you have any questions or comments on this document.

Respectfully Submitted, AMERICAN ENVIRONMENTAL CONSULTING, LLC

Muchael H. Stewart

Michael H. Stewart, P.E., C.P.G. Principal Engineer

attachments

TABLES

Well	Date Installed	Stickup	Total Depth (ground)	Screen Interval (ground)	Sand Interval
MW-1	3/08	2.06	37.5	17.5-37.5	16-37.5
MW-2	3/08	2.41	37.5	17.5-37.5	16-37.5
MW-3	3/08	2.53	37.5	17.5-37.5	16-37.5
MW-4	3/08	3.16	37.5	17.5-37.5	16-37.5
MW-5	3/08	2.15	37.5	17.5-37.5	16-37.5
MW-6	6/08	2.18	37.5	17.5-37.5	16-37.5
MW-7	6/08	2.36	37.5	17.5-37.5	16-37.5
MW-8	6/08	2.76	37.5	17.5-37.5	16-37.5

Table 1 – Summary of Well Construction at the DCP RR Ext Location

Notes: Units are feet

All wells are 2-inch diameter

Wells were grouted to the surface with hydrated bentonite pellets and completed with above-ground well protectors

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Well	Depth to Water	Depth to Product	Water Table Elevation
MW-1	30.12		3504.45
MW-2	30.88		3504.30
MW-3	32.08		3504.49
MW-4	31.82	*	3504.13
MW-5	31.78		3504.14
MW-6	32.15		3504.01
MW-7	32.84		3504.25
MW-8	31.83		3504.58

Table 2 - Summary of September 23, 2009 Water Table Data

Units are Feet

* Present but thickness not measured. Will be measured fourth quarter 2009

Well	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chlorides
NMWQCC					
Standards	.010	0.75	0.75	0.62	250*
MW-1	0.267	0.0332	0.024	0.0078	422
MW-2	29.3	0.771	0.491	0.371J	139
MW-3	5.5	1.09	0.271	< 0.006	363
MW-4	Not san	npled beca	use free phase h	ydrocarbons we	re present
MW-5	0.0082	0.0132	0.00066J	< 0.006	358
MW-6	< 0.002	< 0.002	< 0.002	< 0.006	296
MW-7	< 0.002	< 0.002	< 0.002	< 0.006	273
MW-8	< 0.002	< 0.002	< 0.002	< 0.006	467
MW-8 Dup	< 0.4	<0.4	< 0.4	<1.2	487
TRIP BLANK	< 0.002	< 0.002	< 0.002	< 0.006	

Table 3 - RR Ext third Quarter 2009 Groundwater Sampling Results

Notes: Units mg/l

NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards J qualifier: Estimated value that falls between the method detection and method reporting limits Bold values exceed the New Mexico Water Quality Control Commission Groundwater Standards * The chloride is a secondary (non-health based) standard.

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes		
WQCC Standards		.010	0.75	0.75	0.62		
				•			
MW-1	3/08	1.4	0.948	0.0395	0.128		
	6/08	2.75	2.17	0.054	0.232		
	9/08	1.1	0.845	0.0375	0.131		
Dup	9/08	1.22	0.883	0.0506	0.197		
	12/08	0.869	0.581	0.0385	0.0709		
	3/09	0.288	0.107	0.0149	0.0395		
	5/09	1.38	0.175	0.0705	0.065		
	9/09	0.267	0.0332	0.024	0.0078		
MW-2	3/08	8.98	6.58	0.135J	0.765		
Duplicate	3/08	10	7	0.156J	0.93		
	6/08	24.3	18.5	0.319	2.58		
Duplicate	6/08	23.5	19.2	0.309	2.36		
	9/08	21.7	9.79	0.443	4.25		
	12/08	N	ot sample	d: Remediation	activities		
	3/09	23.7	2.34	0.583	1.25		
Duplicate	3/09	4.07	1.91	0.268 J	0.49 J		
	5/09	32.7	1.31	0.791	1.69		
Duplicate	5/09	30.7	1.43	0.907	2.14		
	9/09	29.3	0.771	0.491	0.371J		
MW-3	3/08	0.759	0.849	0.0355	0.0786		
	6/08	6.18	9.46	0.287	1.23		
	9/08	2.45	3.62	0.145	1.14		
	12/08	0.761	0.938	0.0492	0.158		
	3/09	4.03	2.83	0.18 J	0.61		
	5/09	14.7	12.6	0.808	1.64		
	9/09	5.5	1.09	0.271	< 0.006		
MW-4	3/08	0.0102	0.0093	< 0.002	0.0023J		
	6/08	0.0439	0.0256	0.0068	0.0147		
	9/08	0.514	0.443	0.0203	0.125		
	12/08	1.32	1.35	0.0812	0.239J		
	3/09	3.61	3.4	0.164 J	0.831		
	5/09	4.7	2.94	0.428	1.03		
	9/09 Free Phase Hydrocarbons Present						

Table 4 - RR Ext BTEX Groundwater Monitoring Results Summary

Notes: Units r

Units mg/I NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards J qualifiers indicate an estimated concentration between the method detection and method reporting limits. Bold values exceed the New Mexico Water Quality Control Commission Groundwater Standards

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
WQCC Standards		.010	0.75	0.75	0.62
MW-5	3/08	0.0019J	0.0012J	< 0.002	< 0.006
	6/08	0.0037	0.0037	< 0.002	< 0.006
	9/08	0.0038	0.0037	< 0.002	< 0.006
	12/08	0.0031	0.004	< 0.002	< 0.006
	3/09	0.0067	0.0074	< 0.002	< 0.006
	5/09	0.0064	0.0089	0.0025	0.0045 J
	9/09	0.0082	0.0132	0.00066J	< 0.006
MW-6	6/08	< 0.002	< 0.002	< 0.002	< 0.006
	9/08	< 0.002	< 0.002	< 0.002	< 0.006
	12/08	< 0.002	< 0.002	< 0.002	< 0.006
	3/09	< 0.002	< 0.002	< 0.002	< 0.006
	5/09	< 0.002	< 0.002	< 0.002	< 0.006
	9/09	< 0.002	< 0.002	< 0.002	< 0.006
MW-7	6/08	< 0.002	< 0.002	< 0.002	< 0.006
	9/08	< 0.002	< 0.002	< 0.002	< 0.006
	12/08	< 0.002	< 0.002	< 0.002	< 0.006
	3/09	< 0.002	< 0.002	< 0.002	< 0.006
	5/09	< 0.002	< 0.002	< 0.002	< 0.006
	9/09	< 0.002	< 0.002	< 0.002	< 0.006
MW-8	6/08	0.0384	0.0255	0.00049J	0.0016J
	9/08	0.0301	0.0161	< 0.002	0.002 J
	12/08	0.0233	0.011	< 0.002	< 0.006
Dup	12/08	0.0122	0.006	< 0.002	< 0.006
	3/09	0.0218	0.0066	< 0.002	< 0.006
	5/09	0.0098	0.0049	< 0.002	< 0.006
	9/09	< 0.002	< 0.002	< 0.002	< 0.006
Dup	9/09	< 0.4	< 0.4	< 0.4	<1.2

Table 4 - RR Ext BTEX Groundwater Monitoring Results Summary (continued)

Notes: U

Units mg/i NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards J qualifiers are not included

Bold values exceed the New Mexico Water Quality Control Commission Groundwater Standards

Client ID	9/08	12/08	3/09	5/09	9/09
MW-I	507	447	432	462	422
MW-2	109	NS	114	109	139
MW-3	363	301	273	313	363
MW-4	318	281	229	226	
MW-5	373	318	288	363	358
MW-6	363	325	298	308	296
MW-7	378	348	283	298	273
MW-8	512	393	472	450	477

 Table 5 - RR Ext Chlorides Groundwater Monitoring Results Summary

Notes: Units are mg/l

Duplicate values averaged together

FIGURES











DATE: 11/09









ATTACHMENT

WELL SAMPLING DATA AND ANALYTICAL LABORATORY REPORT

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M. George

	CLIENT:	DC	P Midstrea	am	_	WELL ID	MW-1				
SI	ITE NAME:		RR-EXT	<u> </u>	_	DATE	9/23/2009				
PRC	DJECT NO.				_ s	AMPLER	M. Stewart/A. Taylor				
PURGING	G METHOD:		☑ Hand Bai	led 🗆 Pu	imp If Pur	np, Type:					
SAMPLIN	IG METHO	D:	Dedicated	d Bailer 🛛	Direct fr	om Discha	arge Hose 🛛 Other:				
DESCRIB	DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:										
Glove	s 🗆 Alcono	x 🗆 Distill	ed Water Ri	nse 🗆 (Other:						
TOTAL DEPTH OF WELL: 39.56 Feet DEPTH TO WATER: 30.12 Feet HEIGHT OF WATER COLUMN: 9.44 Feet WELL DIAMETER: 2.0 Inch Minimum Gallons to 9.44 Feet UNITER: 2.0 Inch											
TIME	VOLUME PURGED	TEMP. °C	COND. <i>m</i> S/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS				
	1.5	17.9	2.07	7.25							
	3.0	18.0	2.07	7.27							
	4.5	18.1	2.07	7.29			Sampled at 1655				
				·							
	· · · · ·										
						<u> </u>					
	4.5	Volume: (g	allons)								
SAMP	LE NO.:	Collected S	ample No.:	MW-1							
ANAL	YSES:	BTEX (826	0)								
COM	MENTS:										

	CLIENT:	DC	P Midstrea	am	_	WELL ID	:MW-2		
S	ITE NAME:	RR-EXT			_	DATE	9/23/2009		
PR	DJECT NO.			<u>.</u>	S	SAMPLER	.: M. Stewart/A. Taylor		
PURGIN	G METHOD	:	mp, Type:						
SAMPLIN	IG METHO	D:	Dedicate	d Bailer 🏾	Direct fr	om Disch	arge Hose 🛛 Other:		
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:									
☑ Gloves □ Alconox □ Distilled Water Rinse □ Other:									
TOTAL D DEPTH T HEIGHT WELL DI	EPTH OF V O WATER: OF WATER AMETER:	VELL: COLUMN: 2.0	39.91 30.88 9.03 Inch	Feet Feet Feet		1.5	_ Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)		
TIME	VOLUME PURGED	TEMP. °C	COND. <i>m</i> S/cm	рН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS		
	2.0	18.3	1.1	7.47					
	4.0	17.7	1.13	7.39					
	6.0	17.4	1.18	7.31			Sampled at 1640		
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	6.0	Volume: (g	allons)						
SAMP	LE NO.:	Collected S	ample No.:	MW-2					
ANAL	YSES:	BTEX (826	0)						
COM	MENTS:		<u> </u>						

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	CLIENT:	DC	P Midstrea	am		WELL ID	:MW-3		
SI	TE NAME:	RR-EXT				DATE	9/23/2009		
PRC	JECT NO.				. 9	AMPLER	: M. Stewart/A. Taylor		
PURGING	METHOD	: 1	Hand Bai	mp If Pur	mp, Type:	·			
SAMPLIN	G METHO	D: I	Dedicated	d Bailer 🛛	Direct fr	om Disch	arge Hose 🛛 Other:		
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:									
☑ Gloves □ Alconox □ Distilled Water Rinse □ Other:									
TOTAL DEPTH OF WELL:40.03 FeetDEPTH TO WATER:32.08 FeetHEIGHT OF WATER COLUMN:7.95 FeetWELL DIAMETER:2.0 Inch							_Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)		
TIME	VOLUME PURGED	TEMP. ° C	COND. <i>m</i> S/cm	рН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS		
	1.6	19.4	1.69	7.3					
	3.2	18.8	1.71	7.36					
	4.8	18.8	1.71	7.35			Sampled at 1555		
			- 						
	4.8	Volume: (ga	allons)						
SAMP	LE NO.:	Collected S	ample No.:	MW-3	·······.				
ANAL	YSES:	BTEX (826	0)						
COMN	/IENTS:						· · · · · · · · · · · · · · · · · · ·		

	CLIENT:	DC	P Midstrea	am		WELL ID): MW-4			
S	ITE NAME:		RR-EXT			DATE	9/23/2009			
PR	DJECT NO.			*****	S	SAMPLER	R: M. Stewart/A. Taylor			
PURGIN	G METHOD	:	Hand Bai	ump If Pur	np, Type:	·				
SAMPLIN	IG METHO	D:	Dedicate	Direct fr	om Disch	arge Hose 🛛 Other:				
DESCRIE	DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:									
🗵 Glove	es 🗆 Alcono	ox 🗆 Distill	led Water Ri	nse 🗆 -	Other:					
TOTAL D DEPTH T HEIGHT WELL DI	EPTH OF V O WATER: OF WATER AMETER:	VELL: COLUMN: 2.0	_Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)							
TIME	VOLUME PURGED	TEMP. ° C	COND. <i>m</i> S/cm	рH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS			
							No sample because of FPH			
				·						
	L				<u> </u>					
		Volume: (ga		No come!		of all for	+ EDU			
JAIVIP ANIAI		Collected 5	ampre NO.:	no sample	e pecause	01~1100				
COM	MENTS			n		· · · · · · · · · · · · · · · · · · ·				
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	CLIENT:	DC	P Midstrea	am	-	WELL ID	: MW-5				
SI	TE NAME:		RR-EXT		_	DATE	9/23/2009				
PRC	JECT NO.				_ S	AMPLER	M. Stewart/A. Taylor				
PURGING	METHOD:	: 1	np, Type:								
SAMPLIN	G METHOE): I	om Discha	arge Hose 🛛 Other:							
DESCRIB	DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:										
☑ Gloves □ Alconox □ Distilled Water Rinse □ Other:											
TOTAL DEPTH OF WELL:42.15 FeetDEPTH TO WATER:31.78 FeetHEIGHT OF WATER COLUMN:10.37 FeetWELL DIAMETER:2.0 Inch							_Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)				
TIME	VOLUME PURGED	TEMP. ° C	COND. <i>m</i> S/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS				
	2.0	18.9	1.63	7.51							
	4.0	18.8	1.64	7.48							
	6.0	18.8	1.64	7.49			Sampled at 1550				
			, , , , , , , , , , , , , , , , , , , ,								
	6.0	Volume: (a	allons)		<u> </u>						
SAMP	F NO ·	Collected S	ample No	MW-5							
ANAI	YSES [.]	BTEX (826	0)								
COM	IENTS:		_ /								
	-										

	CLIENT:	DC	P Midstrea	am	_	WELL ID	
S	SITE NAME:		RR-EXT			DATE	9/23/2009
PR	OJECT NO.					AMPLER	M. Stewart/A. Taylor
PURGIN	G METHOD	:	Hand Bai	- ump If Pui	np, Type:		
SAMPLING METHOD: 🛛 Dedicated Bailer 🗆 Direct from							arge Hose
DESCRIE	BE EQUIPM	IENT DECO	PLING THE WELL:				
🗵 Glove	es 🗅 Alcono	ox 🗆 Distil	led Water Ri	nse 🗆 (Other:		
TOTAL D DEPTH T HEIGHT WELL DI	DEPTH OF V TO WATER: OF WATER AMETER:	VELL: COLUMN: 2.0	39.68 32.15 7.53 Inch	Feet Feet Feet		1.3	_ Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)
TIME	VOLUME PURGED	TEMP. °C	COND. <i>m</i> S/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.6	<u>1</u> 9.4	1.6	7.4			
	3.2	18.9	1.59	7.42			
	4.8	18.8	1.59	7.43			Sampled at 1520
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	4.8	Volume: (g	allons)				
SAMF	LE NO.:	Collected S	ample No.:	MW-6	- 4. ₁₀		
ANAI	LYSES:	BTEX (826	0)				
COM	MENTS:	Collected s	amples for N	IS and MS	D analyse	s	

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	CLIENT:	DCP Midstream		am		WELL ID:	MW-7		
SI	TE NAME:	<u> </u>	RR-EXT			DATE	9/23/2009		
PRC	JECT NO.	,			. s	AMPLER	M. Stewart/A. Taylor		
PURGING	METHOD:	[I Hand Bai	led 🗆 Pu	mp If Pur	np, Type:			
SAMPLIN	G METHO) : [고 Dedicated	d Bailer	Direct fr	om Discha	arge Hose 🛛 Other:		
DESCRIB	E EQUIPMI	ENT DECO			OD BEFO	RE SAMP	LING THE WELL:		
Gloves	s 🗆 Alcono	x 🗆 Distill	ed Water Rii	nse 🗆 (Other:				
TOTAL DEPTH OF WELL: 39.86 Feet DEPTH TO WATER: 32.84 Feet HEIGHT OF WATER COLUMN: 7.02 Feet WELL DIAMETER: 2.0 Inch							Minimum Gallons to purge 3 well volumes		
TIME	VOLUME PURGED	TEMP. ° C	COND. <i>m</i> S/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS		
	1.6	19.8	1.68	7.38					
	3.2	18.8	1.68	7.38					
	4.8	18.7	1.65	7.49			Sampled at 1520		
			_						
	4.8	Volume: (ga	allons)						
SAMP	LE NO.:	Collected S	ample No.:	MW-7					
ANAL	YSES:	BTEX (826	0)						
COM	AENTS:								

	CLIENT:	DC	P Midstrea	am	_	WELL ID	
S	ITE NAME:		RR-EXT		_	DATE	9/23/2009
PR	OJECT NO.				S	AMPLER	8: M. Stewart/A. Taylor
PURGIN	G METHOD	:	Hand Bai	iled 🗆 Pu	ump If Pur	np, Type:	
SAMPLIN	NG METHO	D:	Dedicate	d Bailer [□ Direct fr	om Disch	arge Hose 🛛 Other:
DESCRIE	BE EQUIPM	ENT DECO	NTAMINATI	ON METH	OD BEFO	RE SAMF	PLING THE WELL:
🗵 Glove	es 🗆 Alcono	ox 🗆 Distill	led Water Ri	nse 🗆 (Other:		
TOTAL D DEPTH T HEIGHT WELL DI	DEPTH OF V O WATER: OF WATER AMETER:	VELL: COLUMN: 2.0	40.26 31.83 8.43 Inch	Feet Feet Feet		1.4	Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)
TIME	VOLUME	TEMP.	COND.	рН	DO	Turb	PHYSICAL APPEARANCE AND
	PURGED	<u>°C</u>	m S/cm		mg\L		REMARKS
	2.0	18.7	2.11	7.37			
	4.0	18.9	2.11	7.38			
ļ	6.0	18.7	2.11	7.37			Sampled at 1730
			·······			····	
				-			
	6.0	Volume: (ga	allons)				,,,
SAMF	LE NO.:	Collected S	ample No.:	MW-8			
ANAI	YSES:	BTEX (826	0)				
COM	MENTS:	Collected d	uplicate sam	ple DUP			

11/10/09



Technical Report for

DCP Midstream, LLC

AECCOLI: DCP Midstream RR Ext

Accutest Job Number: T38394

Sampling Date: 09/23/09

Report to:

American Environmental Consulting

mstewart@aecdenver.com

ATTN: Mike Stewart

Total number of pages in report: 39



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Carrevaro

Paul Canevaro Laboratory Director



and/or state specific certification programs as applicable.

Client Service contact: Georgia Jones 713-271-4700

Certifications: TX (T104704220-06-TX) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103) UT(7132714700)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

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Sample Summary

DCP Midstream, LLC

Job No: T38394

H

AECCOLI: DCP Midstream RR Ext

Sample Number	Collected Date	Time By	Received	Matr Code	ix Type	Client Sample ID
T38394-1	09/23/09	16:55	09/26/09	AQ	Ground Water	MW-1
T38394-2	09/23/09	16:40	09/26/09	AQ	Ground Water	MW-2
T38394-3	09/23/09	15:55	09/26/09	AQ	Ground Water	MW-3
T38394-4	09/23/09	15:50	09/26/09	AQ	Ground Water	MW-5
T38394-5	09/23/09	15:20	09/26/09	AQ	Ground Water	MW-6
T38394-5D	09/23/09	15:20	09/26/09	AQ	Water Dup/MSD	MW-6 MSD
T38394-5S	09/23/09	15:20	09/26/09	AQ	Water Matrix Spike	MW-6 MS
T38394-6	09/23/09	15:20	09/26/09	AQ	Ground Water	MW-7
T38394-7	09/23/09	17:35	09/26/09	AQ	Ground Water	MW-8
T38394-8	09/23/09	00:00	09/26/09	AQ	Ground Water	DUP
T38394-9	09/23/09	00:00	09/26/09	AQ	Trip Blank Water	TRIP BLANK







B

Sample Results

Report of Analysis



Client Sam Lab Sampl Matrix: Method: Project:	ple ID: MW-1 e ID: T38394-1 AQ - Ground SW846 8260E AECCOLI: D	Water 3 ICP Midstream RR	Ext	Date Sampl Date Receiv Percent Sol	ed: 09/23/09 ed: 09/26/09 ids: n/a	
Run #1 Run #2	File ID DF C0003601.D 1 C0003602.D 10	Analyzed 10/03/09 10/03/09	By AP AP	Prep Date n/a n/a	Prep Batch n/a n/a	Analytical Batch VC159 VC159
Run #1 Run #2	Purge Volume 5.0 ml 5.0 ml					
Purgeable	Aromatics					
CAS No.	Compound	Result	RL	MDL Uni	ts Q	
71-43-2 108-88-3 100-41-4	Benzene Toluene Ethylbenzene	0.267 ^a 0.0332 0.0240	0.020 0.0020 0.0020	0.0050 mg/ 0.00043 mg/ 0.00055 mg/]]]	
1330-20-7	Xylene (total)	0.0078	0.0060	0.0017 mg/	1	
CAS No.	Surrogate Recoverie	es Run#1	Run# 2	Limits		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluorometha 1,2-Dichloroethane-E Toluene-D8 4-Bromofluorobenzer	ne 108% 04 105% 102% ne 84%	113% 108% 101% 79% ^b	79-122% 75-121% 87-119% 80-133%		

Report of Analysis

(a) Result is from Run# 2

(b) Outside control limits due to matrix interference. There were no target compounds associated with this surrogate.

ND = Not detected MDL - Method Detection Limit RL = Reporting LimitE = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1

Report of Analysis

Client Sample ID: Lab Sample ID: Matrix: Project:	MW-1 T38394-1 AQ - Ground Water AECCOLI: DCP M	idstream RR	Ext	Date Sampled: 09/23/09 Date Received: 09/26/09 Percent Solids: n/a				
General Chemistry	/			<u> </u>				
Analyte	Result	RL	Units	DF	Analyzed	Ву	Method	
Chloride	422	10	mg/l	10	10/03/09 09:00	KD	SM 4500 CL C	

Page 1 of 1





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Client Samj Lab Sample Matrix: Method: Project:	ple ID: MW-2 e ID: T38394-7 AQ - Gra SW846 8 AECCO	2 ound Water 3260B LI: DCP M	idstream RR	Ext	Date S Date F Percer	Sampled: Received: ht Solids:	09/23/09 : 09/26/09 : n/a	
Run #1 Run #2	File ID C0003603.D C0003604.D	DF 100 200	Analyzed 10/03/09 10/03/09	By AP AP	Prep D n/a n/a	ate	Prep Batch n/a n/a	Analytical Batch VC159 VC159
Run #1 Run #2	Purge Volume 5.0 ml 5.0 ml				<u></u>			
Purgeable A	Aromatics				-			
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4	Benzene Toluene Ethylbenzene		29.3 ^a 0.771 0.491	$0.40 \\ 0.20 \\ 0.20$	0.10 0.043 0.055	mg/l mg/l mg/l		
1330-20-7	Xylene (total)		0.371	0.60	0.17	mg/l	J	
CAS No.	Surrogate Reco	overies	Run# 1	Run# 2	Lim	its		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoron 1,2-Dichloroeth Toluene-D8 4-Bromofluorob	nethane ane-D4 enzene	111% 105% 102% 86%	111% 107% 101% 81%	79-1 75-1 87-1 80-1	22% 21% 19% 33%		

Report of Analysis

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit

- RL = Reporting Limit
- E = Indicates value exceeds calibration range
- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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## Report of Analysis

Client Sample ID: Lab Sample ID: Matrix: Project:	MW-2 T38394-2 AQ - Ground Water AECCOLI: DCP Mid	stream RR	Ext	Date Sampled: 09/23/09 Date Received: 09/26/09 Percent Solids: n/a				
General Chemistry	/							
Analyte	Result	RL	Units	DF	Analyzed	Ву	Method	
Chloride	139	10	mg/l	10	10/03/09 09:00	KD	SM 4500 CL C	

Page 1 of 1



2.2

Client Sample ID: MW-3 Lab Sample ID: T38394-3 09/23/09 Date Sampled: Matrix: AQ - Ground Water Date Received: 09/26/09 Method: SW846 8260B Percent Solids: n/a AECCOLI: DCP Midstream RR Ext Project: File ID DF Analyzed Prep Date Prep Batch Analytical Batch By C0003605.D 100 10/03/09 AP VC159 Run #1 n/a n/a Run #2 Purge Volume Run #1 5.0 ml Run #2 **Purgeable Aromatics** CAS No. Compound Result RL MDL Units Q 71-43-2 Benzene 5.500.20 0.050 mg/l 108-88-3 Toluene 1.090.043 0.20 mg/l 100-41-4 Ethylbenzene 0.271 0.20 0.055 mg/l 1330-20-7 Xylene (total) ND 0.600.17 mg/l CAS No. Surrogate Recoveries Run# 1 Run#2 Limits 1868-53-7 Dibromofluoromethane 111% 79-122% 109%17060-07-0 1.2-Dichloroethane-D4 75-121% 2037-26-5 Toluene-D8 100% 87-119% 460-00-4 4-Bromofluorobenzene 85% 80-133%

Report of Analysis

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit E = Indicates value exceeds calibration range J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1

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## Report of Analysis

Client Sample ID: Lab Sample ID: Matrix:	MW-3 T38394-3 AQ - Ground Water	Date Sampled: 09/23/09 Date Received: 09/26/09 Percent Solids: n/a								
General Chemistry										
Analyte	Result	RL	Units	DF	Analyzed	By	Method			
Chloride	363	10	mg/l	10	10/03/09 09:00	KD	SM 4500 CL C			





Page 1 of 1

Client Sam Lab Sample Matrix: Method: Project:	ple ID: MW-5 e ID: T38394-4 AQ - Ground SW846 82601 AECCOLI: E	Water 3 OCP Midstream RR	Ext	Date Sa Date R Percent	ampled: eceived t Solids	: 09/23/09 : 09/26/09 : n/a	
Run #1 Run #2	File ID DF C0003582.D 1	Analyzed 10/02/09	By AP	Prep Da n/a	te	Prep Batch n/a	Analytical Batch VC158
Run #1 Run #2	Purge Volume 5.0 ml						
Purgeable	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4	Benzene Toluene Ethylbenzene	0.0082 0.0132 0.00066	0.0020 0.0020 0.0020	0.00050 0.00043 0.00055	mg/l mg/l mg/l	J	
1330-20-7	Xylene (total)	ND	0.0060	0.0017	mg/l		
CAS No.	Surrogate Recoverie	es Run#1	Run# 2	Limi	ts		
1868-53-7 17060-07-0 2037-26-5	Dibromofluorometha 1,2-Dichloroethane-I Toluene-D8 4 Barmofluorohorza	ne 110% D4 101% 103%		79-12 75-12 87-11	22% 21% 9%		
400-00-4	4-bromonuorobenze	ne <b>80</b> %		80-13	0070		

Report of Analysis

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit

- E = Indicates value exceeds calibration range
- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1

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## Report of Analysis

Client Sample ID: Lab Sample ID: Matrix:	lient Sample ID: MW-5 ab Sample ID: T38394-4 latrix: AQ - Ground Water					Date Sampled: 09/23/09 Date Received: 09/26/09 Percent Solids: n/a				
Project: AECCOLI: DCP Midstream RR Ext General Chemistry										
Analyte	Res	ult RL	Units	DF	Analyzed	Ву	Method			
Chloride	358	10	mg/l	10	10/03/09 09:00	KD	SM 4500 CL C			

Page 1 of 1



2.4

Report of Analysis Page 1 of 1 Client Sample ID: MW-6 Lab Sample ID: T38394-5 Date Sampled: 09/23/09 Matrix: AQ - Ground Water Date Received: 09/26/09 Method: SW846 8260B Percent Solids: n/a Project: **AECCOLI: DCP Midstream RR Ext** DF File ID Analyzed By Prep Date Prep Batch Analytical Batch F020393.D 10/03/09 AP VF3583 Run #1 1 n/a n/a Run #2 Purge Volume Run #1 5.0 ml Run #2 **Purgeable Aromatics** CAS No. Compound RL MDL Q Result Units 71-43-2 Benzene ND 0.0020 0.00050 mg/l 108-88-3 Toluene ND 0.0020 0.00043 mg/l 100-41-4 Ethylbenzene ND 0.00055 mg/l 0.0020 1330-20-7 Xylene (total) ND 0.00600.0017 mg/l CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits Dibromofluoromethane 1868-53-7 101% 79-122% 17060-07-0 1.2-Dichloroethane-D4 89% 75-121%

94%

90%

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit J = Indicates an estimated value

87-119%

80-133%

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



E = Indicates value exceeds calibration range

2037-26-5

460-00-4

**Toluene-D8** 

4-Bromofluorobenzene

2 c.2

## Report of Analysis

Client Sample ID: MW-6 Lab Sample ID: T38394-5 Matrix: AQ - Ground Water					Date Sampled: 09/23/09 Date Received: 09/26/09 Percent Solids: n/a				
Project:	AECCOLI: DCP Mi	lstream RR	Ext						
General Chemistry	,				- <u>-</u> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Analyte	Result	RL	Units	DF	Analyzed	Ву	Method		
Chloride	296	10	mg/l	10	10/03/09 09:00	KÐ	SM 4500 CL C		

Page 1 of 1





			Repo	Page 1 of 1				
Client Samp Lab Sample Matrix: Method: Project:	ble ID: MW-7 2 ID: T38394-6 AQ - Grou SW846 82 AECCOL	ind Watei 60B I: DCP M	lidstream RR	Exi	Date Sa Date Ro Percent	mpled: eceived: Solids:	09/23/09 09/26/09 n/a	:
Run #1 Run #2	File ID I C0003583.D 1	DF	Analyzed 10/02/09	By AP	Prep Da n/a	te	Prep Batch n/a	Analytical Batch VC158
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable A	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)		ND ND ND ND	0.0020 0.0020 0.0020 0.0060	0.00050 0.00043 0.00055 0.0017	mg/l mg/l mg/l mg/l		
CAS No.	Surrogate Recov	eries	Run# 1	Run# 2	Limit	s		
1868-53-7 17060-07-0 2037-26-5	Dibromofluorome 1,2-Dichloroethar Toluene-D8	ethane 1e-D4	111% 102% 101%		79-12 75-12 87-11	2% 1% 9%		

89%

Report of Analysis

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit

E = Indicates value exceeds calibration range

4-Bromofluorobenzene

460-00-4

J = Indicates an estimated value

80-133%

- $B\,=\,Indicates$  analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



ALC: NOTE: N

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### Report of Analysis

Client Sample ID: Lab Sample ID: Matrix: Project:	MW-7 T38394-6 AQ - Ground Water AECCOL1: DCP M	lidstream RR	Ext	Date Sampled:09/23/09Date Received:09/26/09Percent Solids:n/a					
General Chemistry	/								
Analyte	Result	RL	Units	DF	Analyzed	Ву	Method		
Chloride	273	10	mg/l	10	10/03/09 09:00	KD	SM 4500 CL C		

Page 1 of 1





			<b>*</b>					
Client Sam Lab Sample Matrix: Method: Project:	ple ID: MW-8 e ID: T38394 AQ - G SW846 AECCO	l-7 Fround Wate 8260B DL1: DCP N	r Aidstream RR	Ext	Date Sa Date R Percent	ampled: eceived: t Solids:	09/23/09 : 09/26/09 : n/a	
Run #1 Run #2	File ID C0003584.D	DF 1	Analyzed 10/02/09	By AP	Prep Da n/a	te	Prep Batch n/a	Analytical Batch VC158
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable A	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)		ND ND ND ND	0.0020 0.0020 0.0020 0.0060	0.00050 0.00043 0.00055 0.0017	mg/l mg/l mg/l mg/l		
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Limit	ts		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluorc 1,2-Dichloroet Toluene-D8 4-Bromofluoro	omethane hane-D4 benzene	115% 103% 102% 87%		79-12 75-12 87-11 80-13	22% 21% 9% 33%		

Report of Analysis

ND = Not detected MDL - Method Detection LimitRL = Reporting LimitE = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1

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### Report of Analysis

Client Sample ID: Lab Sample ID: Matrix: Project:	MW-8 T38394-7 AQ - Ground Water AECCOLI: DCP Mid	stream RR	Ext	Date Sampled: 09/23/09 Date Received: 09/26/09 Percent Solids: n/a					
General Chemistry	,								
Analyte	Result	RL	Units	DF	Analyzed	By	Method		
Chloride	467	10	mg/l	10	10/03/09 09:00	KD	SM 4500 CL C		

Page 1 of 1





460-00-4

·····								
Client Sam	ple ID: DUP	1 0			Data		00/22/00	
Matrix:		round Wat	or		Date 2	Sampled.	09/23/09	
Method:	SW/846	8260B	CI		Date	t Solide	n/a	
Project:	AECC	OLI: DCP I	Midstream RR	Ext	i ci cei	it bonds.	. 11/ a	
	File ID	DF	Analyzed	By	Prep D	ate	Prep Batch	Analytical Batch
Run #1 Run #2	C0003606.D	200	10/03/09	AP	n/a		n/a	VC159
	Purge Volume							
Run #1 Run #2	5.0 ml							
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2	Benzene		ND	0.40	0.10	mg/l		
108-88-3	Toluene		ND	0.40	0.087	mg/1		
100-41-4	Ethylbenzene		ND	0.40	0.11	mg/l		
1330-20-7	Xylene (total)		ND	1.2	0.33	mg/l		
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	its		
1868-53-7	Dibromofluor	omethane	120%		79-1	22%		
17060-07-0	1,2-Dichloroet	hane-D4	114%		75-1	21%		
2037-26-5	Toluene-D8		102%		87-1	19%		

Report of Analysis

(a) Outside control limits due to matrix interference. There were no target compounds associated with this surrogate.

78% a

ND = Not detected MDL - Method Detection Limit RL = Reporting LimitE = Indicates value exceeds calibration range

4-Bromofluorobenzene

J = Indicates an estimated value

80-133%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1

2427 - 2427 - 24

Names of Street, Street

## Report of Analysis

Client Sample ID: Lab Sample ID: Matrix:	DUP T38394-8 AQ - Ground Water			Date 1 Date 1 Perce	Sampled: 09/23/0 Received: 09/26/0 nt Solids: n/a	)9 )9	
Project:	AECCOLI: DCP Mie	dstream RR	Ext				
General Chemistry	y						
Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	487	10	mg/l	10	10/03/09 09:00	KD	SM 4500 CL C





Page 1 of 1

2037-26-5

460-00-4

Toluene-D8

4-Bromofluorobenzene

Report of Analysis

Client Samp Lab Sample Matrix: Method: Project:	ble ID: TRIP I D: T3839 AQ - T SW840 AECC	3LANK 4-9 Crip Blank V 5 8260B OLI: DCP 1	Vater Midstream RR	Ext	Date San Date Rec Percent S	npled: ceived: Solids:	09/23/09 09/26/09 n/a	
Run #1 Run #2	File ID F020390.D	DF 1	Analyzed 10/03/09	By AP	Prep Date n/a	2	Prep Batch n/a	Analytical Batch VF3583
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable A	Aromatics							
CAS No.	Compound		Result	RL	MDL U	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)		ND ND ND ND	0.0020 0.0020 0.0020 0.0060	0.00050 I 0.00043 I 0.00055 I 0.0017 I	ng/l ng/l ng/l ng/l		
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Limits			
1868-53-7 17060-07-0	Dibromofluor 1,2-Dichloroe	omethane thane-D4	99% 88%		79-122 75-121	% %		

95%

89%

ND = Not detected MDL - Method Detection Limit RL = Reporting LimitE = Indicates value exceeds calibration range J = Indicates an estimated value

87-119%

80-133%

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Page 1 of 1

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Section 3

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

• Chain of Custody



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Accutest	Finite ID / Point of Collection		Collectio	n			Num	ber o	of prese	rved bo	ttles	- X	Ĭ					1		<u> </u>			
Sample #	Field to / Point of Collection		394	Time	Matrix	# of bottles	9 S	C NE	L ISO		NO.	l	ĪŚ			Į				LA	e neķ (	DNLY	
1	MW-1	9	123	455	GW	4	$\square$		F1*		T	x	×				-	$\uparrow \uparrow \uparrow$					
7	MW-2	10	23	440	GW	4	tt		t-t-	++	ti	1 x	x					1-1		+	;-		
7	MW-3	9	157	755	GW	Ц	†	+		++	1	x	×				+	+					he
<u> </u>		11-		~	CW	7	┼╌┼	+		++	+	+	<u>+</u> ∩	+			+	┢╌┼	-+-				·
		- 1/0	M. A.K		GW	+	++	+	<u>  -</u>	╆╾╋╴	÷	<u> </u>	1.^					+					
1	MW-5	1	22	320	GW	7	$\vdash$	-		4	1	×	↓×							_			
5	MW-6	9	23	محتح	GW	34	13				۱	×	X										
6	MW-7	9	23	স্থ	GW	34	3	<b>_</b>			1	X	X										1
7		9	22	555	GW	4	++	$\top$	<u> </u>	$\uparrow \uparrow$	ti	x	1 x					1			-†		4÷
	Dup		77		CIN		+	+			+-	t÷	1				+	╆┅┿	-+-				
2			<u>&lt; &gt;</u>		GW	ŀ-	<b> </b> ₇  -	+-	<u>   -</u>	+	1	$\downarrow$	<u>  ^</u>					┝──┼					
5	MW- 0 MS/MSD 6	- 1	23	520	GW	6	6				-	X											3.
····	Turnaround Time ( Business days)	15	2010	<u> </u>	Dala I	Deliverati	le Inform	ation					15	-2)		Comme	nts / Rema	iks		1	· Single &	- <u></u>	
L]10	Uby STANDARD Approved	By:/ Date:			nercial "A	λ	יים	RRP-1	13				1	Dago	P	1. 0	Th	~ F	21	r		1	
	Day RUSH				norcial "E	s	님?	UD Fo	ormat		-			- rease	-	<u>urv</u>	_µ	$\mu$	ZK1.M	L	-+		
	Day EMERGENCY				ata Daeli			uler_			-		1										a france
				L_J *000		-9-							$\vdash$										1
	Bay EMERGENCY			Corre			ka Cinto																÷.
	ther			Comm	ercial "P"	- Resu	tta & Sio	ndard	oc												;	{	
Real tin	no analytical data available via Lablink								_~				1										
1. See 19 19 19 19 19	SAMPLE CUST	ODY MUST BE	DOCUMENT	ED BELOW H	ACH TIN	E SAMP	LES CH	ANGE	POSSES	510N, 1	CLUD	ING CO	URIEF	RDELIVERY					19 . 19		1-1-6	al national	
Relinquished	by Samula M h/// M	Outo Time	Jan 1	Received By	:				Relingel	shed By:				Data Time:	1	Rec	Ived By:	_					43
1		YP	107	1					2	Fe.		Fre		2/25	103_	2		2.5			<u></u>		1
Relinguished	by: IV //	Date Time	n no	Received By	:				Relingui	shed By:				Date Time.		Rec	nlved Dy:						1
3	· · · · · · · · · · · · · · · · · · ·	0	~ rm	13					4							4							1
and and then they is a Thomas of	oy:	International Contraction of the second s	•	Hacelved By					Custody	2031 8			5.143	urved where appli	cable			On Ice	Cu	oter Femp.	· 1	1	- E6

T38394: Chain of Custody Page 1 of 3



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#### SAMPLE INSPECTION FORM

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Cooler Temps: #1: 3.6 #2:	#3:	#4:	#5:	#6:	#7:	#8:	
Acthod of Delivery: (FRDEX) UPS	Accute	est Courier	Greyhound	Delivery	Other		
drbill Numbers:							
COOLER INFORMATION	1	SAMPLE INFO	RMATION		TRIP BLA	NK INFORMAT	ION
Custody seal missing or not intact	Sample	e containers recei	ved broken	Г	np Blank on COC	but not received	
Temperature criterta not met	VOC vi	als have beadspa	ce	T	rip Blank received	but not on COC	
Webiee received in cooler	Sample	e labels missing o	r illegible		up Blank not inta	ct	
	ID on C	COC does not mat	ich label(s)	R R	eceived Water Trip	ə Blank	
CHAIN OF CUSTODY	D/1 or	(Dut) a mot m	atch label(s)	L	cceived Soit 1B		
Chain of Chistody hot received	Sumple	botues revelou	t no analysis on COC				
Analyses unclear or missing	Bottles	missing for con-	ested analysis	Number	of Encorace?		
- Analyses directar of massing		massing on reque		130111101	of Lifeorea:		
I ICOC DOI DROBERT EXECUTED	Insuffe	terit volume for a	nalysis	Number	of 5035 kits?		
ummary of Discrepancies:		stent volume for a	nalysis erly preserved	Number	of 5035 kHs?	(als?	
ECHNICIAN SIGNATURE/DATE:		cient volume for a	nalysis erly preserved	Number	of 5035 kits?	tais?	
ECHNICIAN SIGNATURE/DATE:	Insuffic	cterit volume for a	nalysis orly preserved	Number	of 5035 kits?	taix?	
Summary of Discrepancies:	Insuffx Sample	correction	crive Actio	Number Number	of 5035 kits?	tais?	•
Summary of Discrepancies:	Insuffic Sample	correction contract c	criy preserved	Number Number	of 5035 kits?	• • •	•
COC not property executed         Summary of Discrepancies:        COC NOT PROPERTY executed        COC NOT PROPERTY executed	RIFIED BY:	correction	malysis erly preserved	Number Number	of 5035 kits? of lab-filtered me	• • •	•
Client Instructions:	RIFIED BY:	correction	crive Actio	Number Number	of 5035 kits?	• • • Email	•
Client Representative:	Insuff Sample	correction	criy preserved	Number Number	of 5035 kits?	• • • Email	•
COC not property executed         Summary of Discrepancies:        COC NOT PROPERTY EXECUTES:	Insuffx Sample	correction	criy preserved	Number Number	of 5035 kits?	• • • Email	•

T38394: Chain of Custody Page 2 of 3

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JOB #:		T31	379-	1		DATE	TIME	RECEIVED:	<i>P</i>	9/25/02	945		
CLIENT:		pcp midstr	Can	a				INITIALS:		= =	·		
COOLER#	SAMPLE ID	FIELD ID		DATE		MAT	RIX	VOL	BOTTLE #	LOCATION	PRESERV	· 1	и
		MW-1	9/2	3/09	455	v		P500	1	14	60 2 3 4 5 6 7 8	<2	>12
		. <u>.</u>						Yoml	2.4	VR_	1 <b>(2</b> ) 3 4 5 6 7 8	<2	>12
	2	MW-2			440			8500	1	۱.	0 2 3 4 5 6 7 8	<2	>12
								yoml	2-4	VR	1 12 3 4 5 6 7 8	<2	>12
	3	MW-3			355			9500	,	14	<b>0</b> 2 3 4 5 6 7 8	<2	>12
								40 ml	2-4	vR	1 <b>(2</b> ) 3 4 5 6 7 8	<2	>12
	Ч	MW-5			350			0029	1	14	v 2 3 4 5 € 7 8	<2	>12
								40 ml	2-4	v£	1 <b>2</b> 3 4 5 6 7 8	<2	>12
	5	MW-6 MS/ASD			320			P500.	1	١A	<b>0</b> 2 3 4 5 6 7 8	₹2	>12
								yoml	2-10	VR	1 (2) 3 4 5 6 7 8	<2	>12
	6	MW - 7			\$20			PSOU	1.	1A	(1) 2 3 4 5 6 7 8	<2	>12
								yoml	2.4	VR	1 20 3 4 5 6 7 8	<2	>12
	7	MW - 8			>35			P500	1	1A	10 2 3 4 5 6 7 8	<2	. >12
		<u> </u>						yoml	2-4	¥	1 D 3 4 5 6 7 8	≮2	>12
	8	Pyp						P500	1	14	10 2 3 4 5 6 7 8	<2	>12
			$ $ $\vee$			-		-10-1	2-4	VA	1 10 3 4 5 6 7 8	<2	>12
	9	Trip Blank						40ml	1-2	VR	1 ( <b>3</b> 3 4 5 6 7 8	<2	>12
	<u>+</u>										<u> </u>	<2	>12
											<u>    1    2     3      4</u> <u>    5   6   7   8</u>	-2	
	· · ·		_						1		1 2 3 4 5 6 7 8	<2	>12
		-					FL	1 2:	107		5 6 7 8	· <2	. >12
			1	_					<u> </u>		1 2 3 · 	<2	>12

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T38394: Chain of Custody Page 3 of 3



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#### Section 4



#### GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



### Method Blank Summary

Job Number: Account: Project:	T38394 DUKE DCP Midstream, AECCOLI: DCP Midstr	LLC eam RR Ext				U
Sample VC158-MB	File ID DF C0003575.D 1	Analyzed 10/02/09	By AP	Prep Date n/a	Prep Batch n/a	Analytical Batch VC158
The QC repor T38394-4, T38	ted here applies to the fol 394-6, T38394-7	llowing sample:	s:	;	Method: SW84	 6 8260B

CAS No.	Compound	Result	RL	MDL	Units Q
71-43-2 100-41-4 108-88-3 1330-20-7	Benzene Ethylbenzene Toluene Xylene (total)	ND ND ND ND	2.0 2.0 2.0 6.0	0.50 0.55 0.43 1.7	ug/l ug/l ug/l ug/l
CAS No.	Surrogate Recoveries		Limi	ts	

1868-53-7	Dibromofluoromethane	111%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	75-121%
2037-26-5	Toluene-D8	102%	87-119%
460-00-4	4-Bromofluorobenzene	87%	80-133%

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Page 1 of 1

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### Method Blank Summary

Job Number:	T38394
Account:	DUKE DCP Midstream, LLC
Project:	AECCOLI: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC159-MB	C0003596.	D 1	10/02/09	AP	n/a	n/a	VC159

The QC reported here applies to the following samples:

Method: SW846 8260B

T38394-1, T38394-2, T38394-3, T38394-8

CAS No.	Compound	Result	RL	MDL	Units Q	
71-43-2	Benzene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.55	ug/l	
108-88-3	Toluene	ND	2.0	0.43	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.7	ug/l	
CACN	Company Description		<b>.</b>			
CAS NO.	Surrogate Recoveries		Limi	IS .		
1868-53-7	Dibromofluoromethane	116%	79-12	2%		
17060-07-0	1,2-Dichloroethane-D4	109%	75-12	1%		
2037-26-5	Toluene-D8	99%	87-11	9%		
460-00-4	4-Bromofluorobenzene	80%	80-13	3%		



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#### Method Blank Summary

4-Bromofluorobenzene

87%

460-00-4

Job Numbe Account: Project:	r: T38394 DUKE DCP Mic AECCOLI: DCP	lstream, LLC 9 Midstream R	RR Ext					
Sample VF3583-MI	File 1D 3 F020389.D	DF A 1 1(	nalyzed )/03/09	By AP	Pre n/a	p Date	Prep Batch n/a	Analytical Batch VF3583
The QC rep	ported here applies to	o the followin	g samples:				Method: SW84	46 8260B
T38394-5, 🕻	Γ38394-9							
CAS No.	Compound	Re	sult R	L	MDL	Units	Q	
71-43-2	Benzene	NE	) 2	.0	0.50	ug/l		
100-41-4	Ethylbenzene	NE	) 2	.0	0.55	ug/l		
108-88-3	Toluene	NI	) 2	.0	0.43	ug/l		
1330-20-7	Xylene (total)	NL	) 6	.0	1.7	ug/I		
CAS No.	Surrogate Recoverie	es	]	Limits				
1868-53-7	Dibromofluorometha	ne 979	%	79-122	%			
17060-07-0	1.2-Dichloroethane-I	04 849	%	75-121	%			
2037-26-5	Toluene-D8	929	%	87-119	%			

80-133%

29 of 39 UTEST m BACCUTES T38394 1 .....

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## Blank Spike Summary

Job Number:	T38394
Account:	DUKE DCP Midstream, LLC
Project:	AECCOLI: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC158-BS	C0003573.D	1	10/02/09	AP	n/a	n/a	VC158
The QC repor	ted here applies t	o the f	ollowing samples			Method: SW84	6 8260B

T38394-4, T38394-6, T38394-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	21.1	84	76-118
100-41-4	Ethylbenzene	25	22.0	88	75-112
108-88-3	Toluene	25	22.0	88	77-114
1330-20-7	Xylene (total)	75	63.9	85	75-111
CAS No.	Surrogate Recoveries	BSP	Liı	mits	
1868-53-7	Dibromofluoromethane	108%	79-	-122%	
17060-07-0	1,2-Dichloroethane-D4	99%	75-	121%	
2037-26-5	Toluene-D8	105%	87	-119%	
460-00-4	4-Bromofluorobenzene	95%	80-	133%	



### Blank Spike Summary

Job Number:	T38394	T38394									
Account:	DUKE DCP Mi	DUKE DCP Midstream, LLC									
Project:	AECCOLI: DCI	AECCOLI: DCP Midstream RR Ext									
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch				
VC159-BS	C0003594.D	1	10/02/09	AP	n/a	n/a	VC159				

The QC reported here applies to the following samples:

T38394-1, T38394-2, T38394-3, T38394-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.4	98	76-118
100-41-4	Ethylbenzene	25	22.5	90	75-112
108-88-3	Toluene	25	23.8	95	77-114
1330-20-7	Xylene (total)	75	64.7	86	75-111
CAS No.	Surrogate Recoveries	BSP	Li	mits	
1868-53-7	Dibromofluoromethane	112%	79	-122%	
17060-07-0	1,2-Dichloroethane-D4	108%	75	-121%	
2037-26-5	Toluene-D8	104%	87	-119%	
460-00-4	4-Bromofluorobenzene	88%	80	-133%	



Method: SW846 8260B

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# Blank Spike Summary Job Number: T38394

CAS No.

460-00-4

Surrogate Recoveries

4-Bromofluorobenzene

1868-53-7 Dibromofluoromethane

17060-07-0 1.2-Dichloroethane-D4

2037-26-5 Toluene-D8

			аш кк е	xt				
Sample VF3583-BS	File ID F020387.D	DF 1	Analy 10/03/	zed /09	By AP	Prep Date n/a	Prep Batch n/a	Analytical Batch VF3583
The QC rej T38394-5, 7	ported here applies T38394-9	to the foll	owing sa	mples:			Method: SW84	6 8260B
CAS No.	Compound		Spike ug/l	BSP ug/l	BSP %	Limits		
71-43-2	Benzene		25	29.4	118	76-118		
100-41-4	Ethylbenzene		25	24.9	100	75-112		
108-88-3	Toluene		25	26.4	106	77-114		

Limits

79-122%

75-121%

87-119%

80-133%

BSP

97%

85%

92%

86%

Page 1 of 1



Matrix Job Numbo Account: Project:	Spike/Matrix Spike er: T38394 DUKE DCP Midstrean AECCOLI: DCP Midst	Duplicate	Summ	ary				р	age 1 of 1
Sample	File ID DF	Analyzed	By	Prep	Date	Prep 1	Batch	Analyti	cal Batch
T38409-4N	ISD C0003578 D 1	10/02/09	AP	n/a		n/a		VC158	
T38409-4	C0003576.D 1	10/02/09	AP	n/a		n/a		VC158	
The QC re T38394-4,	ported here applies to the f T38394-6, T38394-7	ollowing sample	es:			Method:	SW846	8260B	
CAS No.	Compound	T38409-4 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	25	19.9	80	19.1	76	4	76-118/16
100-41-4	Ethylbenzene	ND	25	22.0	88	21.5	86	2	75-112/12
108-88-3	Toluene	ND	25	20.9	84	20.4	82	2	77-114/12
1330-20-7	Xylene (total)	ND	75	64.1	85	63.3	84	1	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T38409-4	Limits
1868-53-7	Dibromofluoromethane	108%	107%	111%	79-122%
17060-07-0	1,2-Dichloroethane-D4	97%	100%	100%	75-121%
2037-26-5	Toluene-D8	104%	104%	101%	87-119%
460-00-4	4-Bromofluorobenzene	89%	88%	87%	80-133%



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#### Matrix Spike/Matrix Spike Duplicate Summary Job Number: T38394

Job Number:	1 3 8 3 9 4
Account:	DUKE DCP Midstream, LLC
Project:	AECCOLI: DCP Midstream RR Ext

Sample	File ID C0003598 D	DF	Analyzed	By AP	Prep Date	Prep Batch	Analytical Batch
T38249-1MSD	C0003599.D	1	10/03/09	AP	n/a	n/a n/a	VC155 VC159
T38249-1 ^a	C0003597.D	1	10/02/09	AP	n/a	n/a	VC159

The QC reported here applies to the following samples:

Method: SW846 8260B

T38394-1, T38394-2, T38394-3, T38394-8

CAS No	Compound	T38249-1	Spike	MS ug/l	MS %	MSD	MSD %	RPD	Limits Rec/RPD
end no.	Compound	ug/i (		ugri	70	ug/1	/0	KI D	Ree/RI D
71-43-2	Benzene	ND	25	26.7	107	25.8	103	3	76-118/16
100-41-4	Ethylbenzene	ND	25	23.4	94	23.2	93	1	75-112/12
108-88-3	Toluene	ND	25	24.6	98	24.4	98	1	77-114/12
1330-20-7	Xylene (total)	ND	75	67.9	91	67.9	91	0	75-111/12
CAS No.	Surrogate Recoveries	MS	MSD	Т3	8249-1	Limits			
1868-53-7	Dibromofluoromethane	116%	112%	11	5%	79-122	%		
17060-07-0	1,2-Dichloroethane-D4	112%	108%	11	5%	75-121	%		
2037-26-5	Toluene-D8	102%	103%	10	3%	87-119	%		
460-00-4	4-Bromofluorobenzene	84%	85%	81	%	80-133	%		

(a) Reported for QC purposes only.





# Matrix Spike/Matrix Spike Duplicate Summary

Account: Project:	DUKE DCP M AECCOLI: DC	idstream, I P Midstrea	LLC am RR Ex	ct							
Sample	File ID	DF	Analyz	æd	By	Pre	p Date	Prep	Batch	Analyti	cal Batch
T38394-5M	S F020394.D	1	10/03/0	)9	AP	n/a		n/a		VF3583	3
T38394-5M	SD F020395.D	1	10/03/0	)9	AP	n/a		n/a		VF3583	3
T38394-5	F020393.D	1	10/03/0	)9	AP	n/a		n/a		VF3583	3
The QC rep	ported here applies	to the follo	owing sar	nple	s:			Method:	SW846	8260B	J
T38394-5, 1	Г38394-9										
			T38394-	-5	Spike	MS	MS	MSD	MSD		Limits
CAS No.	Compound		ug/l	Q	ug/l	ug/l	%	ug/l	%	RPD	Rec/RPD
71-43-2	Benzene		ND		25	26.9	108	26.5	106	1	76-118/16
100-41-4	Ethylbenzene		ND		25	23.1	92	22.6	90	2	75-112/12
108-88-3	Toluene		ND		25	24.1	96	23.6	94	2	77-114/12
1330-20-7	Xylene (total)		ND		75	70.3	94	67.9	91	3	75-111/12

CAS No. MS Surrogate Recoveries MSD T38394-5 Limits 1868-53-7 Dibromofluoromethane 100% 96% 101% 79-122% 17060-07-0 1,2-Dichloroethane-D4 91% 87% 89% 75-121% 2037-26-5 Toluene-D8 93% 92% 94% 87-119% 460-00-4 4-Bromofluorobenzene 88% 87% 90% 80-133%



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Section 5

### General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries





#### METHOD BLANK AND SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

# Login Number: T38394 Account: DUKE - DCP Midstream, LLC Project: AECCOLI: DCP Midstream RR Ext

Analyce	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP6964/GN18201	1.0	0.0	mg/l	1000	1010	100.6	92-1075 .

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Associated Samples: Batch GP6964: T38394-1, T38394-2, T38394-3, T38394-4, T38394-5, T38394-6, T38394-7, T38394-8 (*) Outside of QC limits



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#### DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

#### Login Number: T38394 Account: DUKE - DCP Midstream, LLC Project: AECCOLI: DCP Midstream RR Ext

Analyce	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	ΩC Limits	
Chloride	GP6964/GN18201	T38394-5	mg / 1	296	298	0.8	0-5%	 
Associated Samples: Batch GP6964: T38394-1, (*) Outside of QC limits	T38394-2, T38394-3, T38 5	394-4, T3839	4-5, T38394	I-6, T38394-7	, T38394-8			2



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#### MATRIX SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

# Login Number: T38394 Account: DUKE - DCP Midstream, LLC Project: AECCOLI: DCP Midstream RR Ext

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	SRec '	QC Limits
Chloride	GP6964/GN18201	T38394-5	mg/l	296	100	403	106.8	81-119%
Associated Samples: Batch GP6964: T38394-1, T38	8394-2, T38394-3, T38	394-4, 13839	4-5, T38394	-6, 1'38394-7	, т38394-	3		

(*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits



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