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GEOLOGIC LOGS

AVB68-01

AVB68-02

AVB68-03

AVB68-04

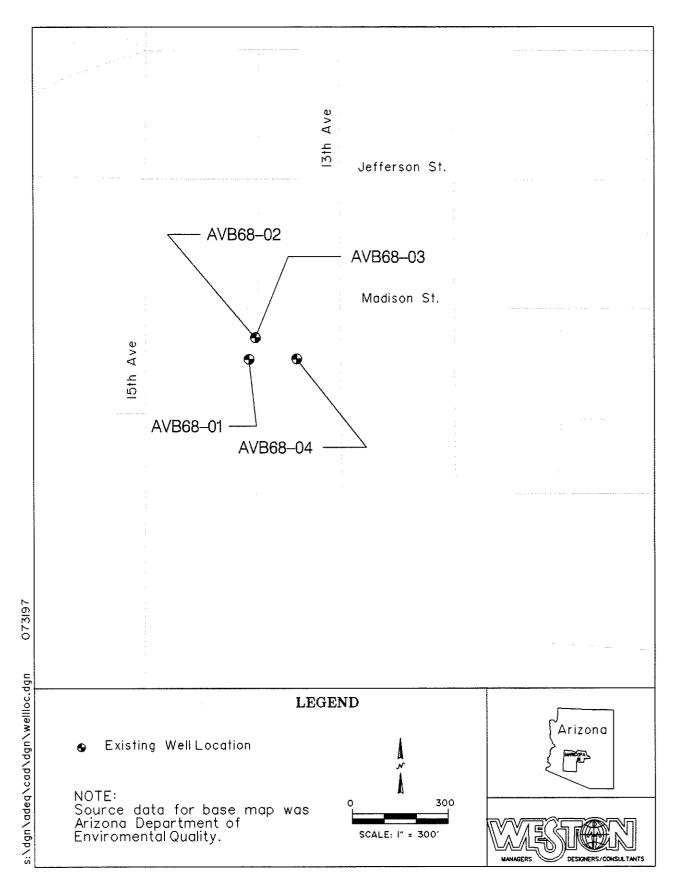
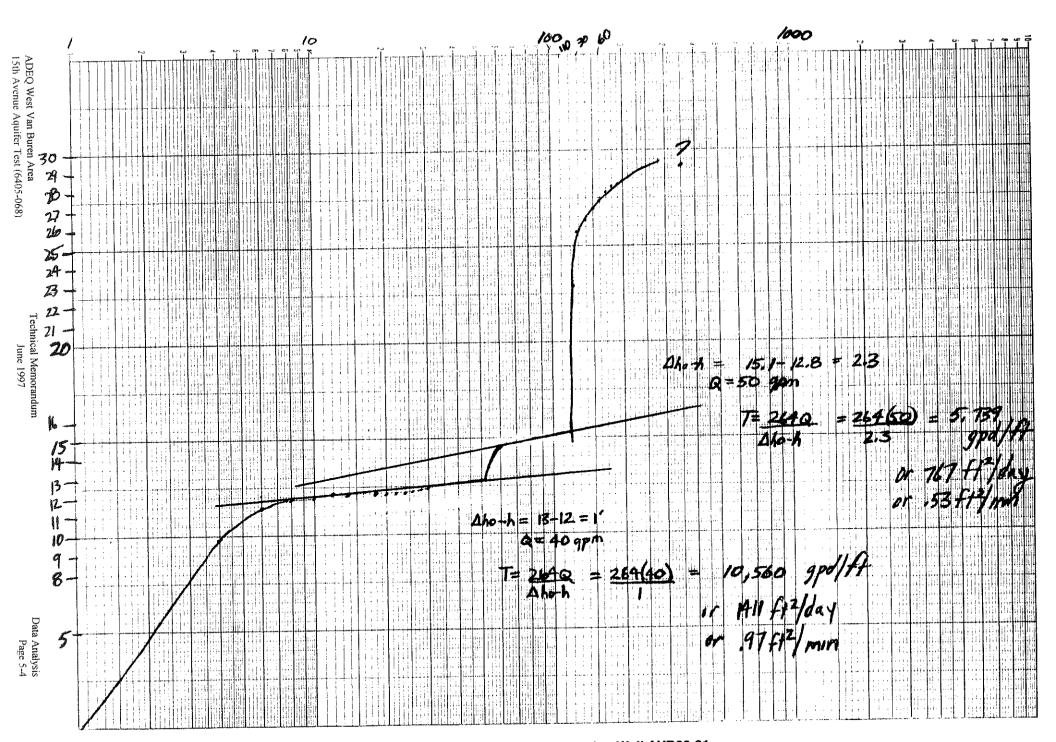


Figure Q-1 Site Location Map



 ${\bf Figure~Q-2.~Step\text{-}drawdown~Analysis~for~Pumping~Well~AVB68-01}$

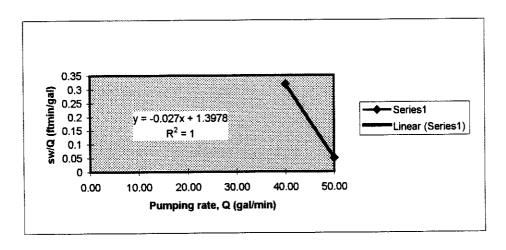


Figure Q-3 Head Loss Coefficients for Well AVB68-01

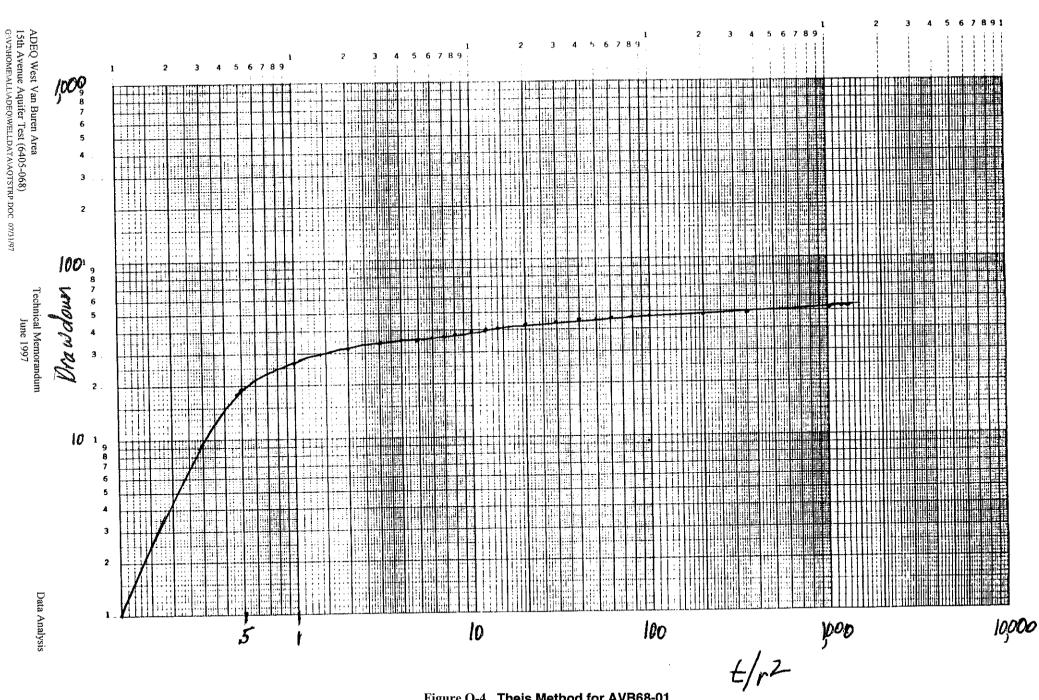


Figure Q-4 Theis Method for AVB68-01

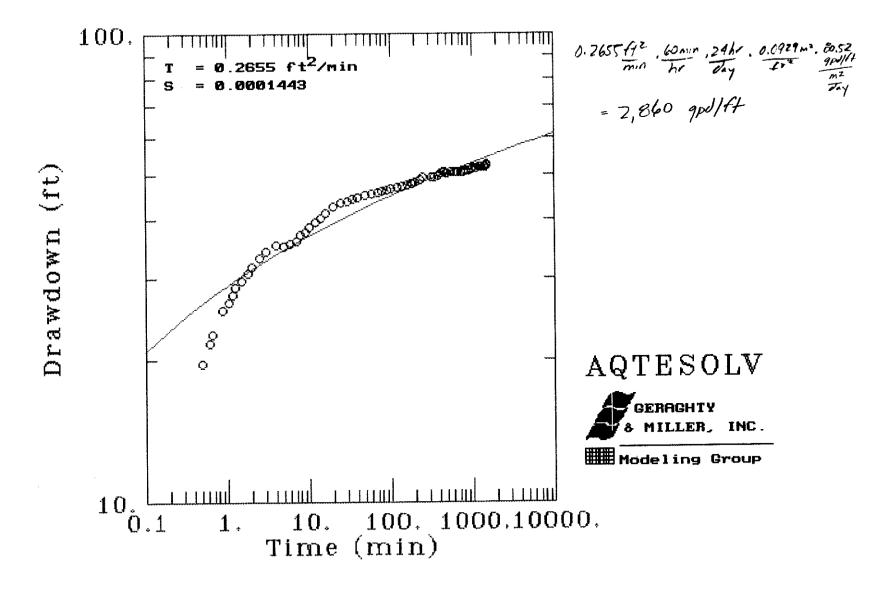


Figure Q-5 Theis Method for AVB68-01 MAU Production Well (Drawdown)

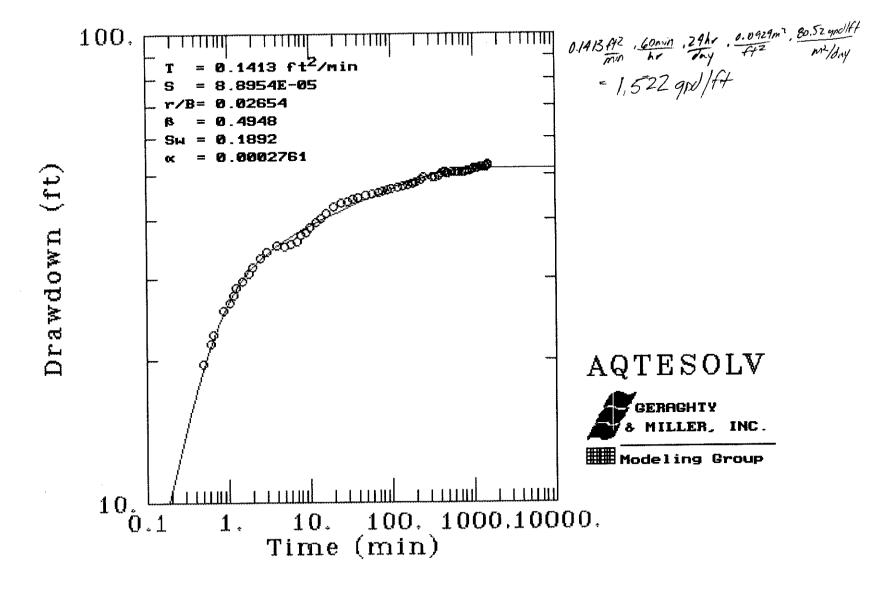


Figure Q-6 Moench Method for AVB68-01 MAU Production Well (Drawdown)

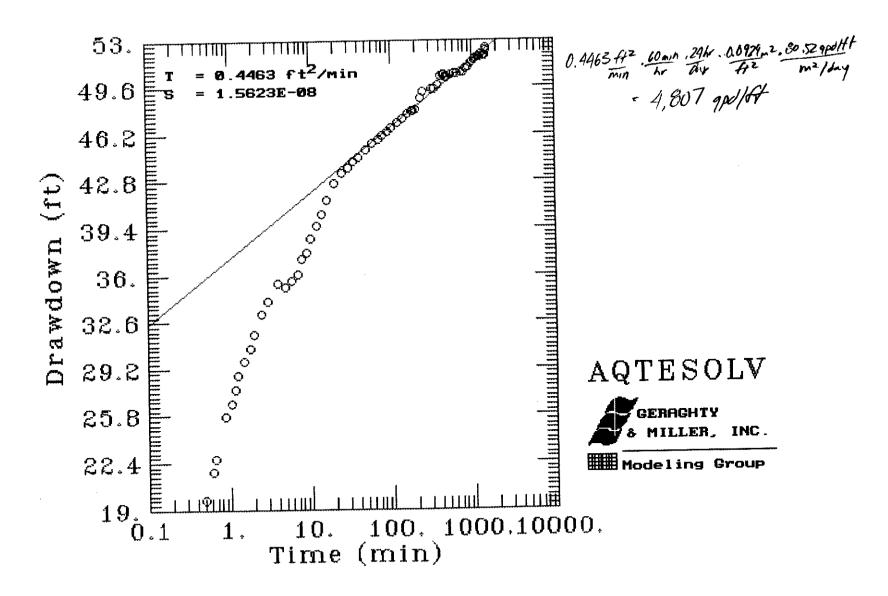
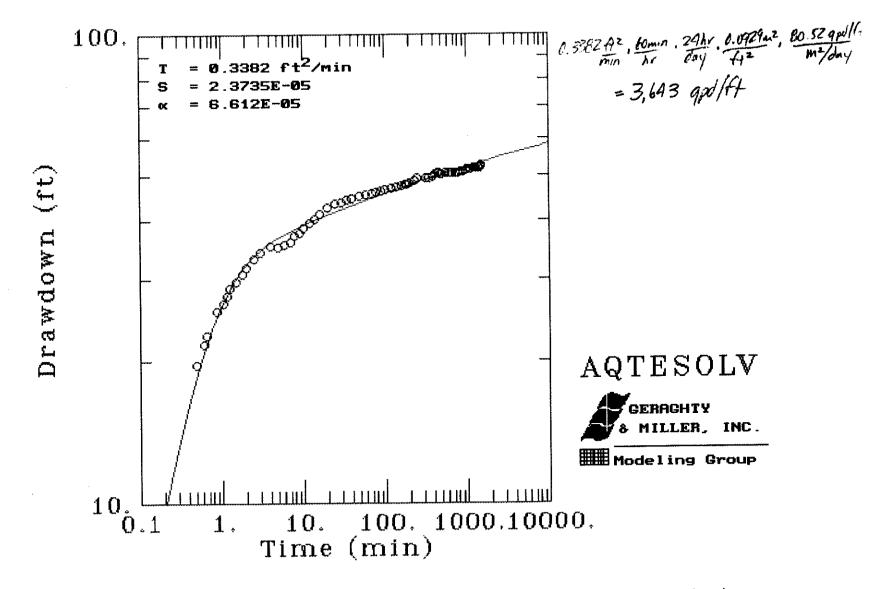


Figure Q-7 Cooper-Jacob Method for AVB68-01 MAU Production Well (Drawdown)



 $\overline{\mathrm{Figure}}\ \overline{\mathrm{Q}}$ Papadopoulos -Cooper Method for AVB68-01 MAU Production Well (Drawdown)

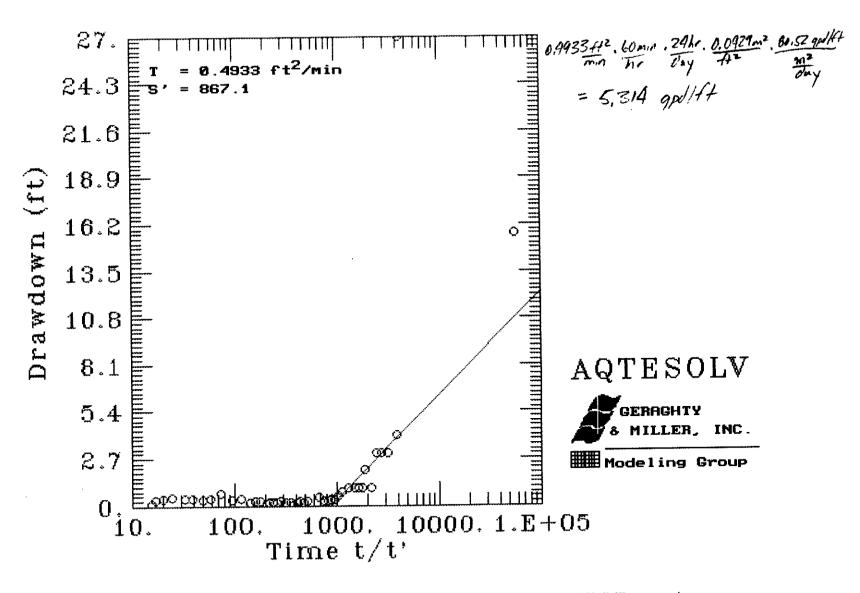
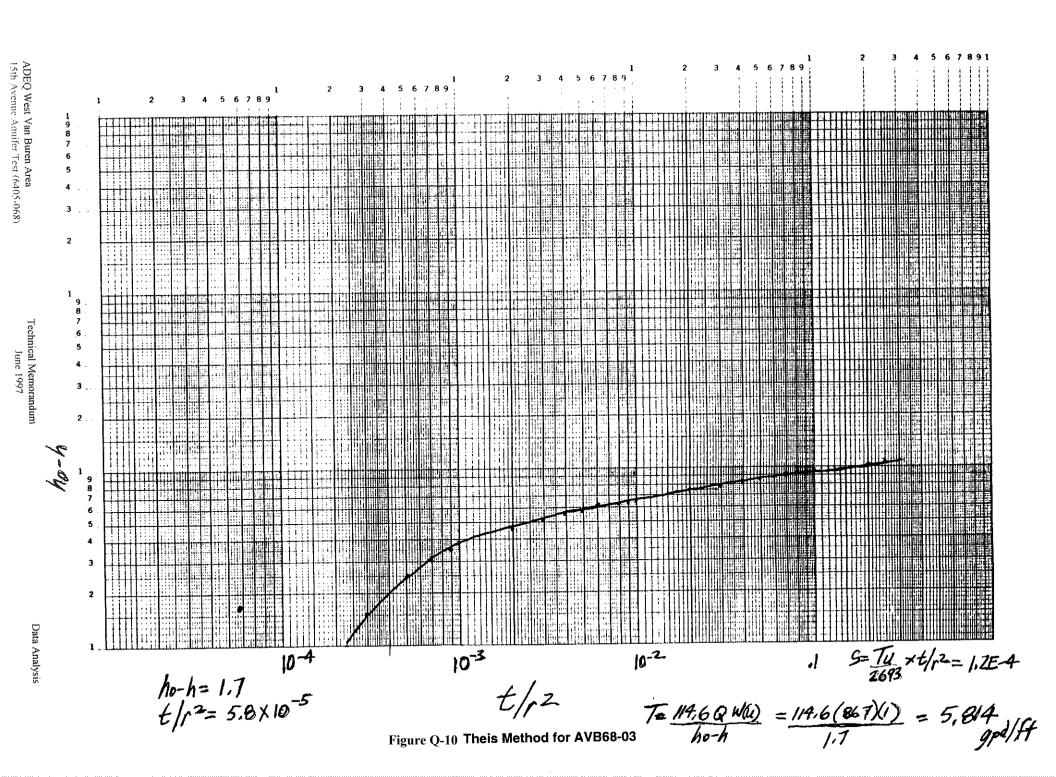


Figure Q-9 Theis Recovery Method for AVB68-01 MAU Production Well (Recovery)



AVB68-03 MAU Observation Well (Drawdown)

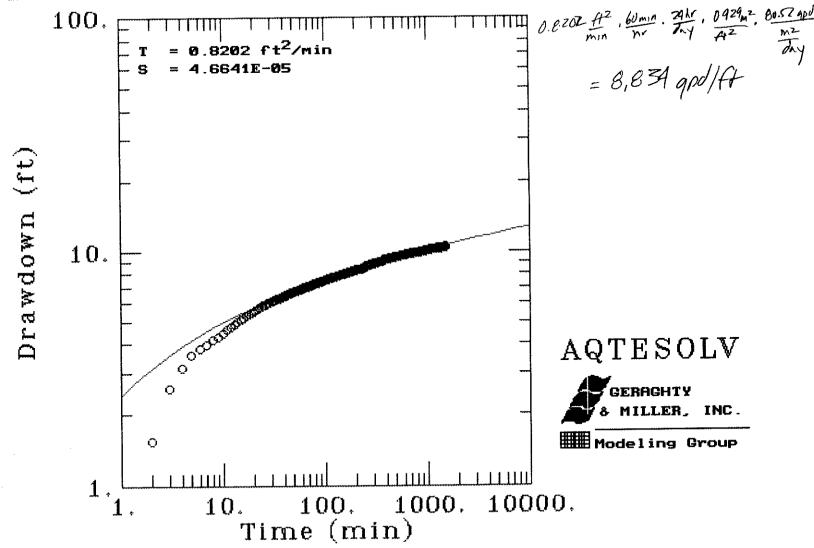


Figure Q-11 Theis Method for AVB68-03 MAU Observation Well (Drawdown)

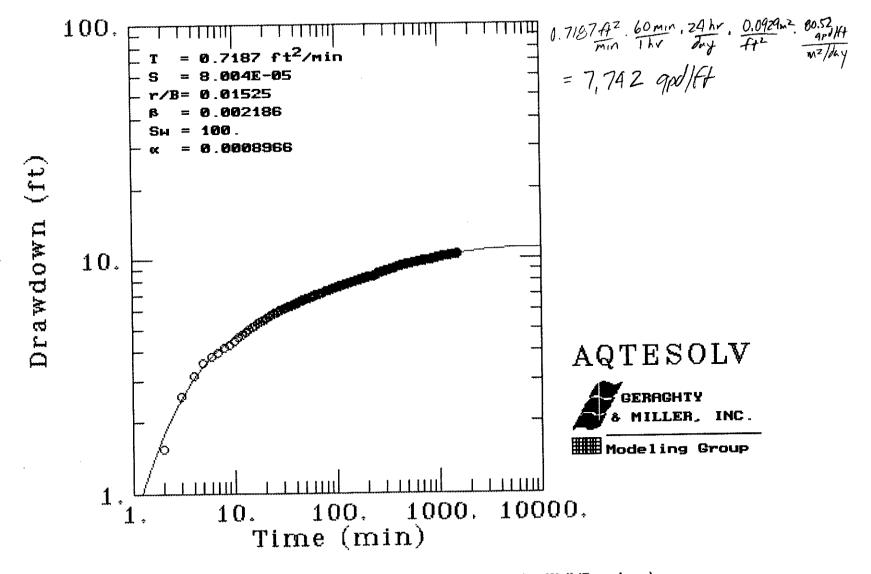


Figure Q-12 Moench Method for AVB68-03 MAU Observation Well (Drawdown)

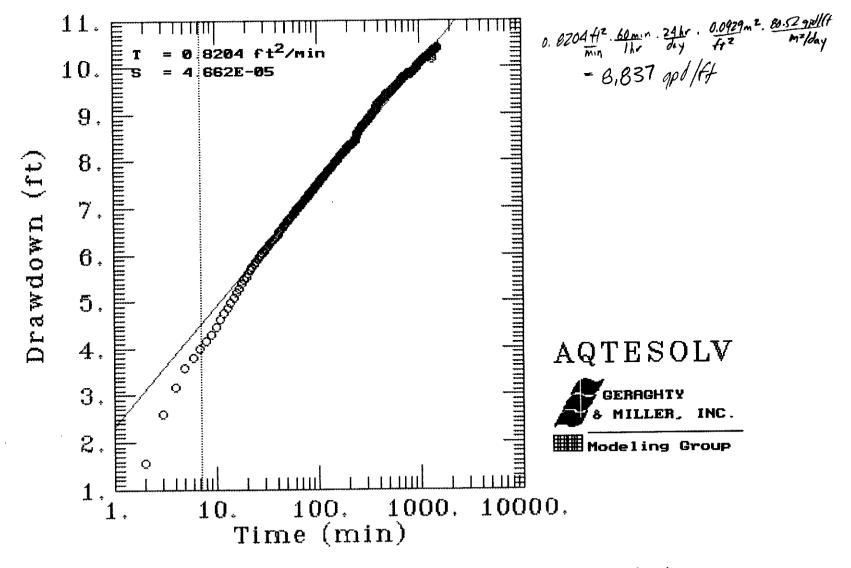


Figure Q-13 Cooper-Jacob Method for AVB68-03 MAU Observation Well (Drawdown)

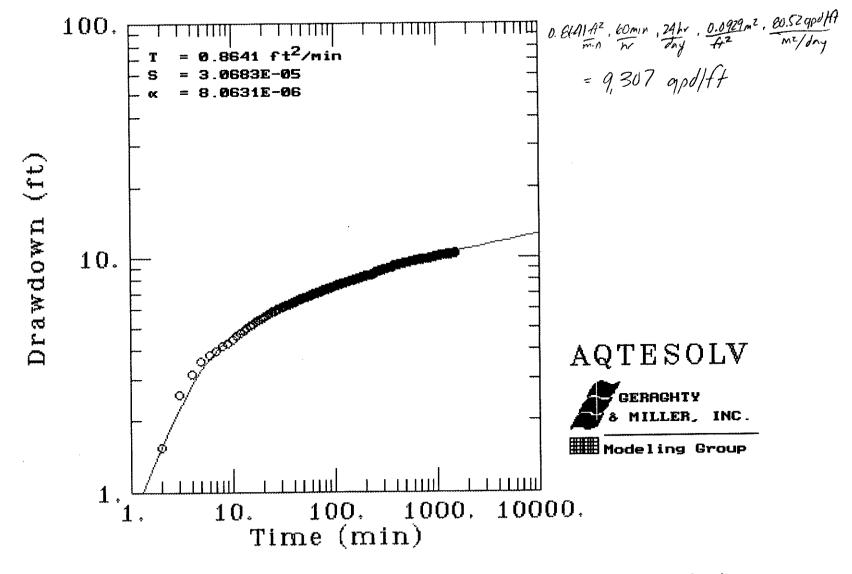


Figure Q-14 Papadopoulos-Cooper Method for AVB68-03 MAU Observation Well (Drawdown)

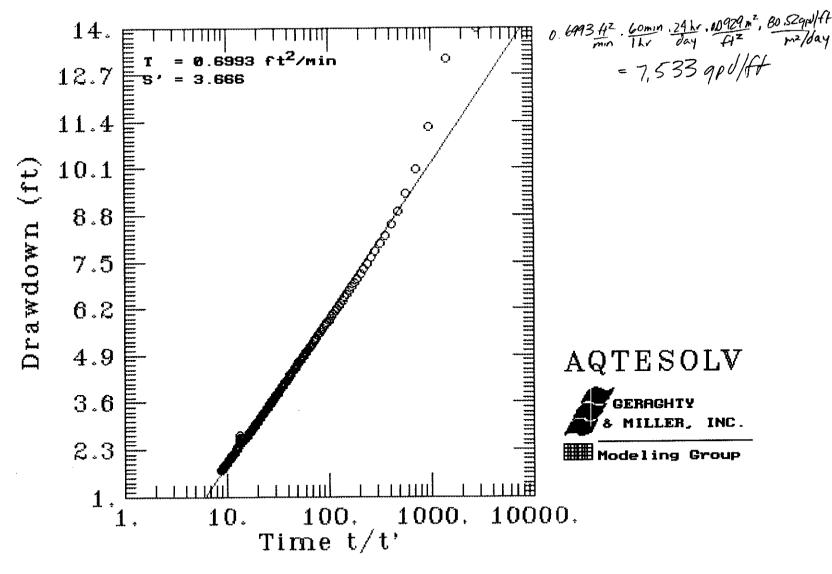


Figure Q-15 Theis Recovery Method for AVB68-03 MAU Observation Well (Recovery)

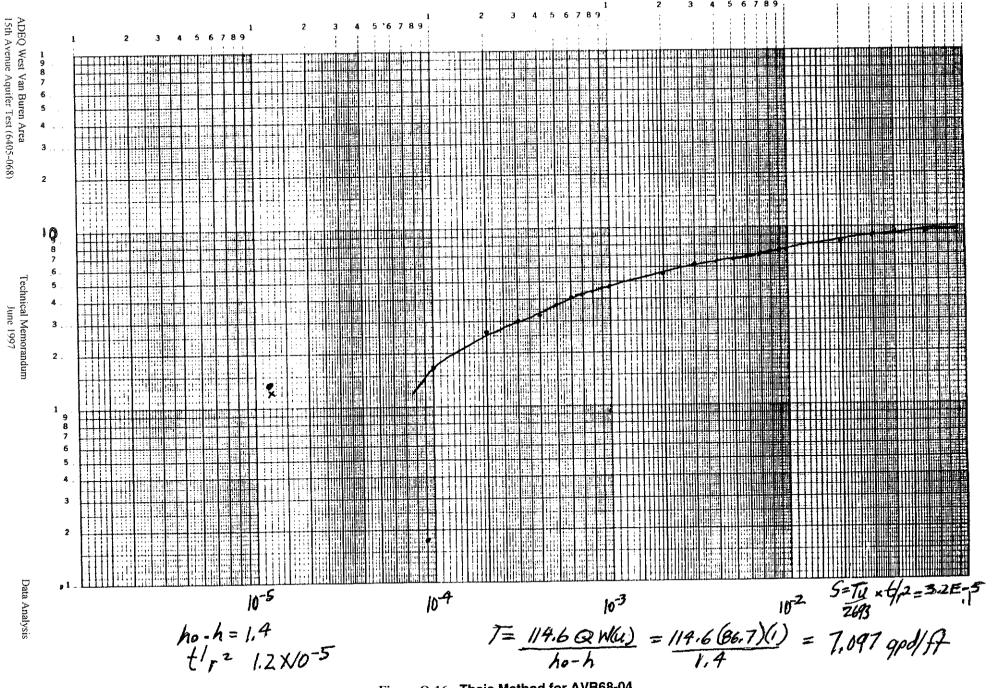


Figure Q-16 Theis Method for AVB68-04

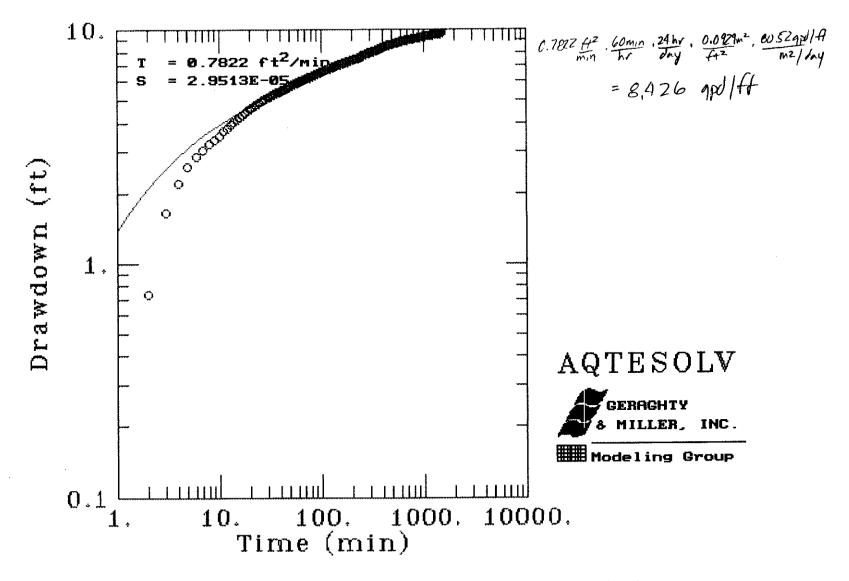


Figure Q-17 Theis Method for AVB68-04 MAU Observation Well (Drawdown)

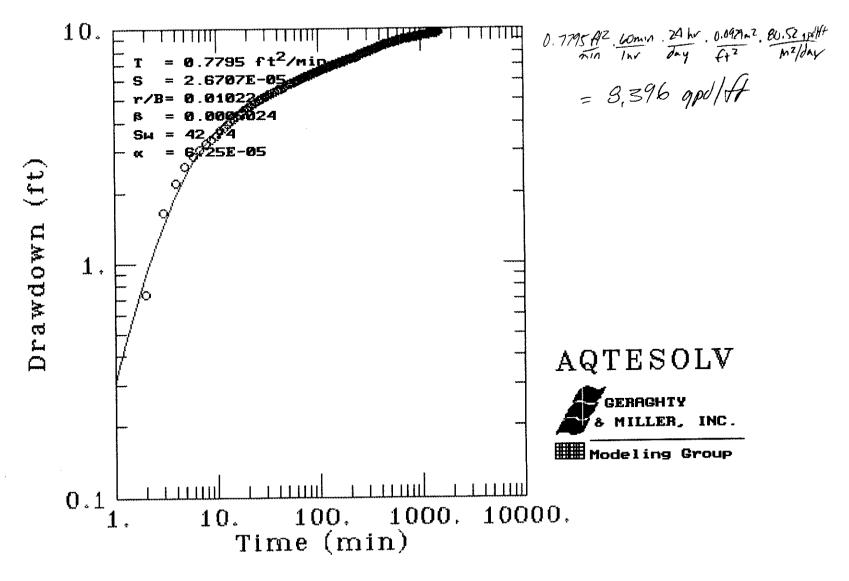


Figure Q-18 Moench Method for AVB68-04 MAU Observation Well (Drawdown)

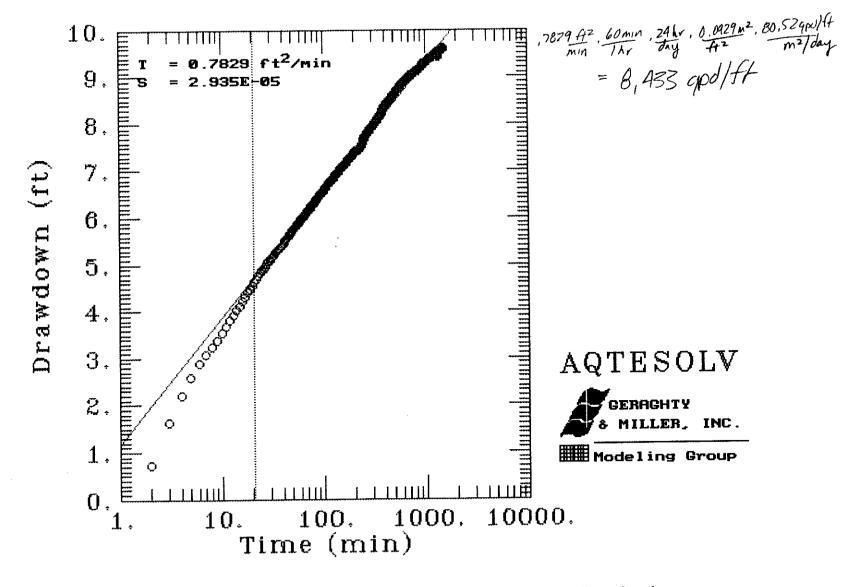


Figure Q-19 Cooper-Jacob Method for AVB68-04 MAU Observation Well (Drawdown)

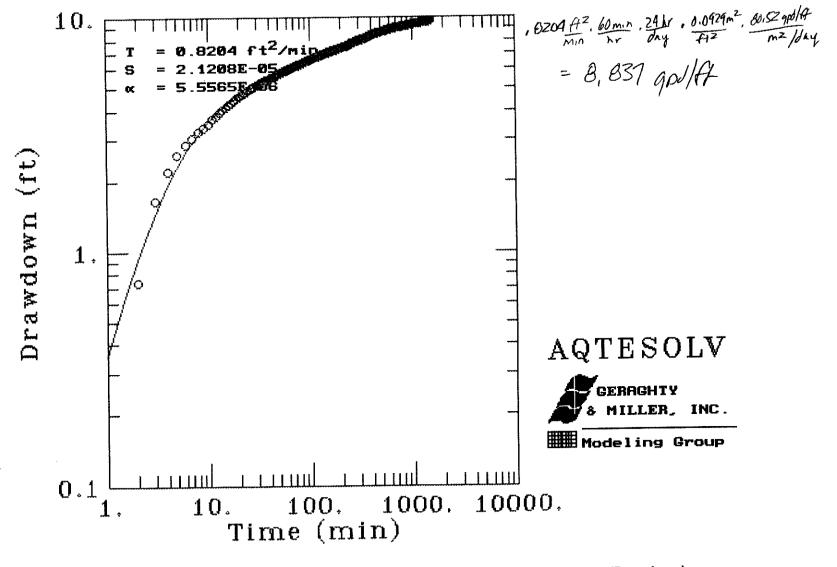


Figure Q-20 Papadopoulos-Cooper Method for AVB68-04 MAU Observation Well (Drawdown)

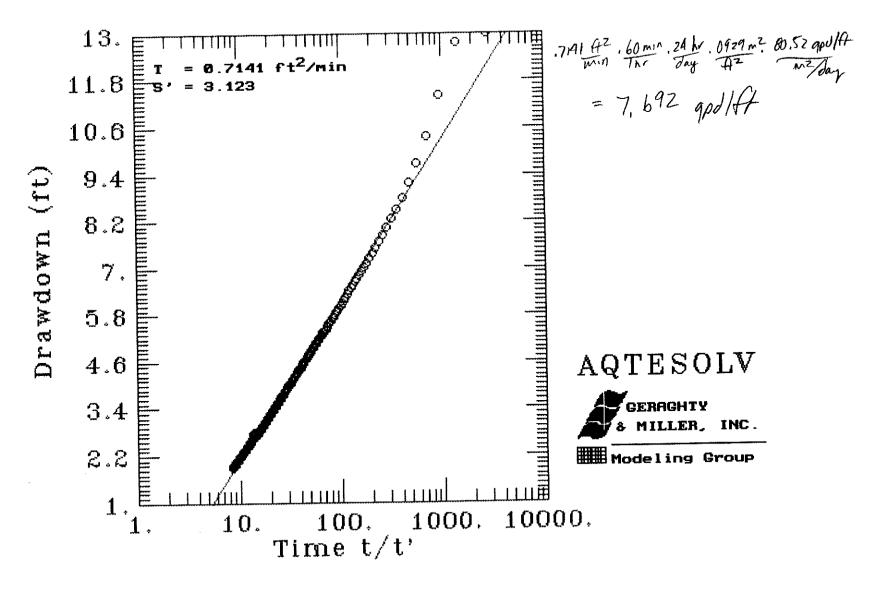


Figure Q-21. Theis Recovery Method for AVB68-04 MAU Observation Well (Recovery)

FLUOR DANIEL GTI

Drilling Log

Location 13th Surface Elev. Top of Casing Screen: Dia 6 Casing: Dia 6 Fill Material 6 Drill Co. Lavin Driller D Pets Checked By	Avenue ar 1075.56 f in. in. colorado Sa e Environm erson	t. Water Level : Length 50 f Length 250. And 10/20 And 1	oenix. A epth 30 Initial 5 t. 5 ft. od Air h ation Licens	Righamm	t. Diameter 12 in. Static 80.6 ft. Type/Size 0.020 in. Type Low Carbon Steel	ON Structure)
				S	0 - 20 Feet: Gravelly Clayey/Silty Light tan, dry, moderately sorted, so coarse grained, subrounded. Grave petroleum hydrocarbon odors. Sand 0-20%.	emi-hard. Sand is fine to lis fine, subrounded. No d 60%, clay/silt 20-30%, gravel
- 20 - 44 - 22 - 44 - 22 - 44 - 24 - 44	<u>ব্যুব্যুব্</u> থ		000000000000000000000000000000000000000	d	20 - 67 Feet: Sandy Gravel/Cobb Tan, dry, poorly sorted, semi-hard coarse, rounded to subrounded. C Sand is fine to coarse grained, sul Gravel/cobbles 60-70%, sand 30-	to hard. Gravel are medium to combles 4 inches maximum size. prounded to subangular.



roject <u>/</u> ocation	ADEO/West 13th Avenu	Van E ie and	Buren k Madis	OARF on, Pl	noenix.	Arizo	wner <u>ADEO</u> Proj. No. <u>023300588</u>
Depth (ft.)	Well	OId (mdd)	Sample ID	x Recovery	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
- 24 - - 26 - - 28 -	ব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব						Sandy Gravel/Cobbles (continued)
- 30 - - 32 - - 34 - - 36 - - 38 -	<u> </u>					0.0.0.0.0.0.0.	30 — 67 Feet: Bimodal sorted cobbles and sand. Cobbles greater than 6 inches in size. Trace of clay/silt ≤10% present.
- 40 - - 42 - - 44 - - 46 - 48	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				0.0		
- 50 - 52 - 54 - 56	1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<u> যুব্বব্যব্যুব্</u>				0.00.00.00.00.00.00.00.00.00.00.00.00.0	▼



ocation	ADEO/Wes 13th Avei	nue an	d Ma	aiso	n, Pr	h <i>oenix, i</i>	<u> Arizo</u>	
Depth (ft.)	Well Completion	PID (mdd)	Sample 1D	Blow Count/	% Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
- 56 - - 58 - - 60 - - 62 - - 64 -	44444444444444444444444444444444444444							Sandy Gravei/Cobbles (continued)
- 68 - - 70 - - 72 - - 74	43333333333333333333333333333333333333	যব্বস্থ্যস্থ্যস্থ্য					त्र <u>मानामानामानामानामानामानामानामानामान</u> ट्रा	67 - 75 Feet: Gravelly Sandy Clay/Silt Light brown, damp to moist, well sorted, semi-hard. Sand is fine grained, subrounded. Gravel is fine to medium, subrounded. No odors detected. Clay/silt 70-80%, sand ≤20%, gravel ≤20%.
- 76 - 78 - 80 - 82 - 84 - 86	444444444444444444444444444444444444444	<u> </u>					I AN	75 - 118 Feet: Clayey/Silty Sandy Gravel/Cobbles Light brown, moist to saturated, moderate to poorly sorted, hard. Gravel is medium to coarse, rounded to subangular. Sand is fine to coarse grained. Gravel/cobbles 40-50%, sand 30-40%, clay/silt ≤10-20%. ▼



Project 2	ADEO/Wes 13th Ave	st Van L nue and	Burei d Ma	n WQA dison,	ARF Pho	enix, .	_ 0 Arizo	wner <u>ADEO</u> ona Proj. No. <u>023300588</u>
Depth (ft.)	Well	OId (mdd)	Sample ID	Blow Count/	I.I	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
- 88 90 92 94 96 100 100 100 100 110 110 110 116 116 116 116 116 120	<u> </u>	<u> </u>				lo į	O CO CONTRACTOR SECTION OF THE SECTI	Clayey/Silty Sandy Gravel/Cobbles Saturated, poorly sorted, hard. Gravel is fine to coarse, rounded to angular. Most gravel is coarse. Cobbles are up to 8 inches maximum size. Sand is fine to coarse graned, subangular. Gravel/cobbles 80-80% sand 20% clay/silt_Si0%.



Project <u>ADEQ/West Van</u>	Buren WQAR	F C	wner <u>ADEO</u>
Location <u>13th Avenue ar</u>	nd Madison, P	Phoenix, Arız	ona Proj. No. <u>023300588</u>
Depth (1t.) Well Completion PID (PDM)	Sample ID	Graphic	Description
	Blow Count/	Log	(Color, Texture, Structure)
	* Recovery	USCS Class.	Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-120 -124 -12 -126 -8 -13 -13 -13 -14 -14 -14 -15 -15 -15 -15 -15 -15 -15 -15 -15 -15	ADEGAVB -PMCI COMPOSITE		Sandy Gravel/Cobbles (continued)

FLUOR DANIEL GTI

Drilling Log

Depth (ft.)	Well	OI'd (mdd)	Sample ID	Blow Count/ % Recovery	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
152- 154- 156- 158- 160- -162- -164- -168- -170 -172	43434343434343434343434343434343434343	<u> </u>				G. C.	Sandy Gravel/Cobbles (continued) Cobble size decreases to 178'.
-176 -180 - -182	44444 - 4444	ব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব		-			178 - 190 Feet: Gravelly Clayey/Silty Sand Light brown, saturated, well sorted, semi-hard to hard. Sand is medium to coarse grained, subrounded to subangular. Gravel is medium, rounded to subrounded, low percentage below 180°. San 78-80%, clay/silt 20-30%, gravel ≤20-30%.

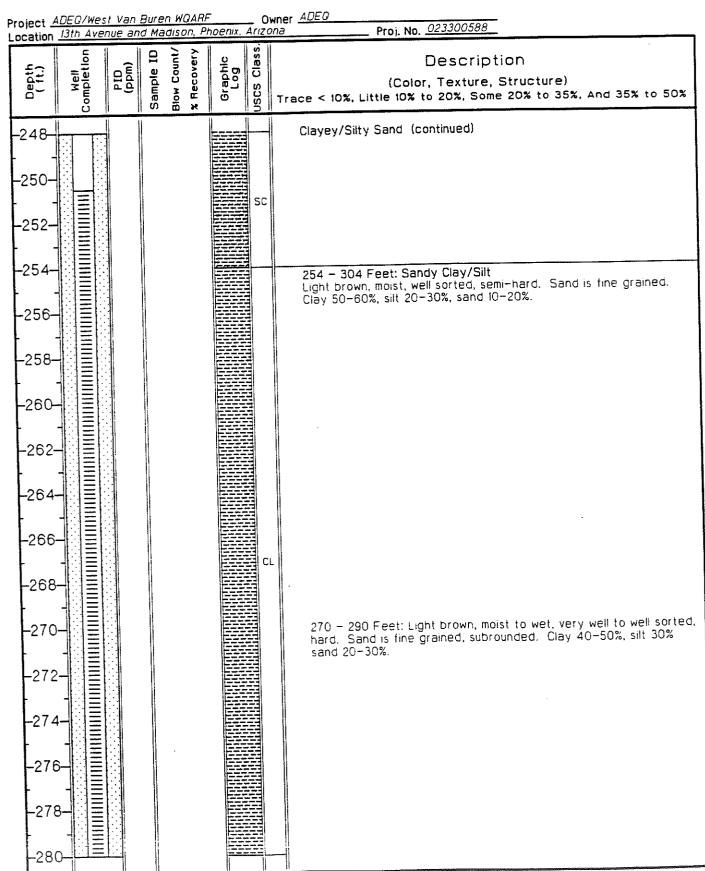


Project <u>ADEQ/West Van I</u> Location <u>13th Avenue and</u>	Buren WQARF d Madison, Pl	noenix.	_ Ov Arizo	ner <u>ADEG</u> na <u>Proj. No. <i>023300588</i></u>
Depth (ft.) Well Completion PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-184 - 184 - 186 - 186 - 188 - 190 - 192 - 194 - 196 -			C C C C C C C C C C C C C C C C C C C	Gravelly Clayey/Silty Sand (continued) 190 - 198 Feet: Sandy Gravel/Cobbles Tan gray, saturated, moderate to poorly sorted, well graded, semi-hard. Gravel is fine to coarse, rounded to subrounded. Sand is fine to coarse grained, mostly medium, subrounded to subangular. Gravel/cobbles 40-70%, sand 30-50%, clay/silt ≤10%.
-198 - 44 -198 - 44 -200 - 44 -202 - 44 -202 - 44 -204 - 44 -204 - 44 -204 - 44			0 0	198 - 200 Feet: Clayey/Silty Sand Tan gray, saturated, well sorted, soft to semi-hard. Sand is fine to coarse grained, subrounded to subangular. Sand 80%±, clay/silt ≤20%. 200 - 224 Feet: Sandy Gravel/Cobbles Gray/tan, saturated, poorly sorted, semi-hard to hard. Gravel is fine to coarse, rounded to subrounded. Sand is medium grained, subrounded. Gravel/cobbles 70-80%, sand 20-30%.
-208-24444444444444444444444444444444444	ADEQWYB -PWC2 composite		5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	210 - 224 Feet: Gravel/cobbles 80%, sand ≤20%.



Loc	ation 1	DEG/West Vai 3th Avenue a	nd Ma	adisc	n, Pr	noenix.	Arizo	wner <u>ADEO</u>
	Depth (ft.)	Well Completion PID	Sample ID	Blow Count/	* Recovery	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2	216 - 2 218 - 2 220 - 2 222 - 2	4444444444444					GW	Sandy Gravel/Cobbles (continued)
\AU	224- 226- 228- 230- 232- 234- - 236-	<u>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</u>					SC SC	224 - 227 Feet: Clayey/Silty Sand Tan/gray, saturated, well sorted, semi-hard. Sand is fine to coarse grained, subrounded to subangular. Sand 80%, clay/silt 20%. 227 - 240 Feet: Sandy Clay/Silt Light brown, moist to wet, well sorted, seim-hard. Sand is fine to medium grained, subrounded to subangular. Approximately 50% of fines are silt. Clay/silt 60-70%, sand 30-40%.
	-240 -242 -244 -246 -246							240 - 254 Feet: Clayey/Silty Sand Light brown/gray, damp, very well to well sorted, very hard, brittle Sand is fine to medium grained, mostly medium gravel, subrounded to subangular. Sand is moderately indurated and laminae are present in some fragments. Sand 90%, clay/silt ≤10%.





FLUOR DANIEL GTI

Drilling Log

Project <u>ADEO/Wes</u> ocation <u>13th Ave</u>	t Van nue an	Burer d Mad	n WQA dison.	RF Phoenix,	0 Arize	wner <u>ADEG</u> ona Proj. No. <u>023300588</u>
Depth (ft.) Well Completion	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-282- -284- -284- -286- -290- -292- -294- -296- -300- -302- -304- -306- -308- -310- -312-		ADEGM -PMC3 compo	4ve		OSO	Sandy Clay/Silt (continued) Sandy Clay/Silt (continued) 290 - 304 Feet: Brown tan, damp to wet, very well to well sorted, hard. Sand is fine grained, subrounded to subangular. Clay 40-60%, silt 30%, sand 20-40%.

AUB 68-02 (MW-ZA) 68-03 (MW-ZB)



Surface Elev. Top of Casing 1075.91 f Screen: Dia 2 in. Casing: Dia 2 in. Fill Material Colorado Sa Drill Co. Layne Environm	Project ADEO/West Van Buren WQARF Owner ADEO Occation 13th Avenue and Madison, Phoenix, Arizona Proj. No. 023300588 Surface Elev. Total Hole Depth 303 ft. Diameter 10 in. Top of Casing 1075.91 ft. Water Level Initial 75 ft. Static 79.16 ft. Screen: Dia 2 in. Length 30/50 ft. Type/Size 0.020 in. Casing: Dia 2 in. Length 250/70 ft. Type SCH 80 PVC Fill Material Colorado Sand 10/20 Rig/Core AP 1000 Drill Co. Layne Environmental Method Air Hammer Oriller D. Peterson Log By M. Nation Date 5/15/97 Permit # 55-56194. Checked By License No. AZ 21616											
Depth (11.) Well Completion PID (ppm)		Graphic Log	S Class	Descript (Color, Texture, S Trace < 10%, Little 10% to 20%, Some	Structure)							
44444444444444444444444444444444444444			SW GRACE CONTRACTOR CO	0 - 14 Feet: Gravelly/Cobbly Sand Light brown, dry, moderately sorted coarse grained, subrounded to subcoarse, rounded to subrounded. Salo-30%, clay/silt ≤10%. Cobbles up to 6 inches in size below the subangular of the subangular. Salapirity of interval is high gravel/coarse grained. Gravel/cobbles 2 ≤5%.	d, semi-hard. Sand is fine to angular. Gravel is medium to and 60-80%, gravel/cobbles ow 12 feet. Jes ed, hard. Gravel is fine to and and gravel occur in layers. cobbles content. Sand is fine to							

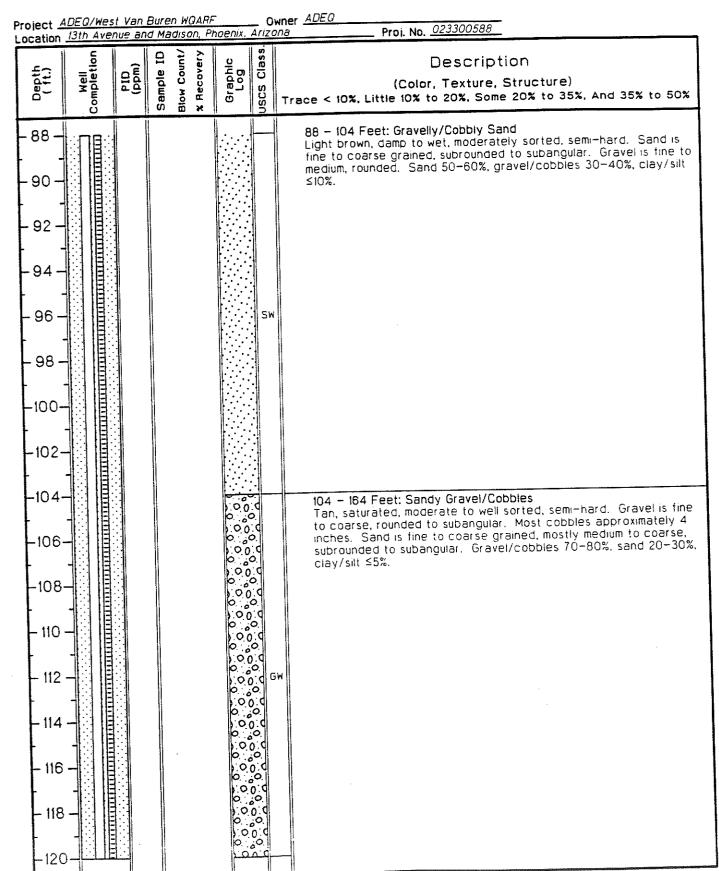


Project 2	ADEO/Wes 13th Avei	t Van L nue and	Bure d Ma	n WG disoi	ARF n. Ph	oenix, i	_ Ow	ner <u>ADEO</u> na Proj. No. <u>023300588</u>
Depth (ft.)	Well	PIO (ppm)	Sample ID	ow Count/	% Recovery	Graphic Log	S Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
- 24 - - 26 - - 28 - - 30 - - 32 - - 34 - - 36 - - 38 - - 40 -	43434343434343434333333333333333333333	<u> </u>					١.]	A0 - 42 Feet: Gravelly Sand Tan gray, dry, moderately sorted, hard. Sand is medium to coarse grained, subrounded to subangular. Gravel is fine, subangular. Sand 80%, gravel 20%. 42 - 64 Feet: Sandy Gravel/Cobbles Tan-gray, dry to damp, moderate to poorly sorted, hard. Gravel is fine to provided to sand is medium to coarse.
- 44 - 46 - 48 - 50 - 52 - 54	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	ŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢ					2	fine to coarse, rounded to subrounded. Sand is medium to coarse grained, subrounded to subangular. Gravel/cobbles 60-80%, sand 20-40%, clay/silt ≤5%.



cation	DEG/Wes 13th Aver	nue an	d Ma	diso	n, Pi	noenix.	Arizo.	vner <u>ADEG</u> na Proj. No. <u>023300588</u>
Depth (ft.)	Well Completion	PID (mdd)	Sample ID	Blow Count/	% Recovery	Graphic Log	uscs Class	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50
56 - - 58 - - 60 - - 62 -	43444444444444444444444444444444444444						GW	Sandy Gravel/Cobbles (continued) Higher sand content below 58'.
- 64 - 66 - 68 - 70	30000000000000000000000000000000000000					0 0	CL	64 - 72 Feet: Sandy Gravelly Clay/Silt Light Brown, damp, well sorted, semi-hard. Gravel is present in or foot layer at 65°. Clay/silt 60-80%, sand/gravel 20-40%.
- 72 - - - 74 -							SC	72 - 74 Feet: Gravelly Clayey/Silty Sand Tan/gray, damp, moderately sorted, hard. Sand is fine to coars grained, subrounded to subangular. Gravel is fine, subangular. Sand 30-40%, clay/silt 30-40%, gravel ≤20%.
-							. 0	74 - 88 Feet: Sandy Gravel/Cobbles Tan/gray, dry to damp, moderately sorted, semi-hard. Gravel is fine to coarse, rounded to subrounded. Cobbles maximum 4 inchin size. Sand is medium to coarse grained, subrounded to subangular. Gravel/cobbles 50-60%, sand 30-40%, clay/silt ≤10
- 80 - - 82 -							5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	¥.
- 84 - 86 - 88						000000000000000000000000000000000000000	5	W/







Project <u>ADEG/West</u> Location <u>13th Aven</u>	! Van E	Buren WO 1 Madisor	ARF n. Phoenix,	O	wner <u>ADEG</u> ona Proj. No. <u>023300588</u>
Depth (ft.) Well Completion	PID (ppm)	Sample ID Blow Count/	* Recovery Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-122 - 124 - 126 - 128 - 13 0 - 13 13 13 13 14 14 14 15 0 - 15 2	प्रयुष्युष्युष्युष्युष्युष्युष्युष्युष्युष्				Sandy Gravel/Cobbles (continued)



Project A	IDEG/Wes 13th Avei	l Van nue an	Bure d Ma	n Wi	DARF DN, PI	noenix.	0\ Arizo	ner <u>ADEG</u> na Proj. No. <u>023300588</u>
Depth (ft.)	Well Completion	PIO (mdd)	Sample ID	Blow Count/	x Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-152 - -154 - -156 - -158 - -160 - -162 - -164 -	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\						GW	Sandy Gravel/Cobbles (continued) 164 - 168 Feet: Gravelly Sand
-166-	8 3 3 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	र र र र र र					SW	Tan, saturated, moderately sorted, soft. Sand is medium to coarse grained, subrounded to subangular. Gravel is fine to medium,
-168- - -170-	44444 44444	ব্বব্	***************************************			000	: GW	medium to coarse, mostly coarse, rounded to subrounded. Sand is medium to coarse grained, subrounded to subangular. Gravel/cobbles 60-70%, sand 30-40%.
-172-	144444 144444 144444 144444 144444 144444 1444 1444 14444 14444 14444 14444 14444 14444 14444 14444 14444 14444 1444 1444 14444 14444 14444 14444 14444 14444 14444 14444 14444 14446 1444	ব্যব্য					SW	grained, subrounded to subangular. Graver is fine to illedioni, rounded. Sand 60-70%, gravel 30-40%.
- -176-	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ব্যব্যুব্				000000000000000000000000000000000000000	C GV	174 - 178 Feet: Sandy Gravel Gray, saturated, moderately sorted, semi-hard. Gravel is medium to coarse, rounded to subrounded. Sand is medium to coarse grained, subrounded to subangular. Gravel 70%, sand 30%.
-178- -180 -182 -184	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	, य.य.य.य.य.य.य.य.य.य.	enderfelle en			0	S	178 — 204 Feet: Gravelly Sand Tan/gray, saturated, well sorted, soft. Sand is medium to coarse grained, subrounded to subangular. Gravel is fine, rounded to subrounded. Sand 80%, gravel ≤10—20%, clay/silt ≤10%.



Project 2	ADEQ/Wes 13th Aver	t Van . nue an	Buren Wi d Madisc	OARF on, Pho	enix, .	_ 01 4 <i>riz 0</i>	wner <u>ADEQ</u> ona Proj. No. <u>023300588</u>
Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/	X	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-184- -186- -188- -190- -192- -194- -196- -196- -200- -202- -204 -206 -210 -212 -214	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		ADEGHVB -PZC1 composite			SP	Gravel content high to 200 feet. 204 - 220 Feet: Gravelly Sand Gray/tan, saturated, moderately sorted, semi-hard. Sand is medium to coarse grained. Gravel is fine to coarse, rounded to subrounded. Sand 50-60%, gravel 20-30%, clay/silt ≤5%.



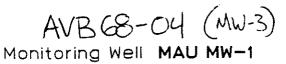
F	roject <i>£</i> ocation	ADEG/Wes 13th Ave	t Van nue an	Burer d Mad	n WQARI dison, P	hoenix.	_ 0: Arizo	wner <u>ADEG</u> ona Proj. No. <u>023300588</u>
	Depth (ft.)	Well	(mdd)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
	-216- 218-	4444444 44444444					SW	Sandy Gravel/Cobbles (continued)
UAU	-220- -222-	333333333333333333333333333333333333333		100000000000000000000000000000000000000		2000 000 000 000 000 000 000 000 000 00	GW SW	220 - 224 Feet: Sandy Gravel/Cobbles Gray, saturated, moderate to poorly sorted, soft to semi-hard. Gravel is medium to coarse, rounded to subrounded. Sand is medium to coarse grained, subrounded to subangular, increases to 224 feet. Gravel/cobbles 60-70%, sand ≤20-80%.
MAU	-224- -226- -228-	1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3				1		224 - 234 Feet: Sandy Clay/Silt Brown, moist, very well to well sorted, semi-hard. Sand is very fine to fine grained, subrounded to subangular. Clay 30-40%, silt 20-30%, sand ≤20%.
	-230- -232-	4444444	रा रा रा रा रा रा रा				Cr.	
	-234- -236-	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ব্ৰুব্ৰুক্ত	the state of the s		Committee of the commit		234 - 239 Feet: Clayey/Silty Sand Gray, saturated, very well sorted, soft. Sand is medium to coarse grained, subrounded to subangular. Sand 80%, clay/silt ≤20%.
	-238- -240	-						239 - 248 Feet: Sandy Clay/Silt Tan brown, damp, very well to well sorted, hard. Sand is fine
	-242 -244			- A STATE - A ST		The second of th	c c	grained, subrounded to subangular. Clay/silt 70-80%, sand 20-30%.
	-246 -248			A THE STREET STREET, S		100 100		



cation .	13th Ave	nue am		_	- 1	1	ان	na Proj. No. <u>023300588</u>
£	ition	Ĉ.E	e 10	ount/	very	old G	Class.	Description
Depth (ft.)	Well	PID (ppm)	Sample ID		X Recovery	Graphic Log	SCS ((Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
248			•					248 – 260 Feet: Clayey/Silty Sand Light gray, dry to damp, well sorted, hard, brittle. Sand is very fine to medium grained, mostly fine grained, subangular. Sand is
250-								moderately indurated and laminae are present in some fragments. Sand 90%, clay/silt ≤10%.
252 - -		, , , , , , , , , , , , , , , , , , , ,						
254 <u> </u>							sc	
·256–							THE PERSON	
-258 - -							TIME PARTY.	
260- -262-							CL CL	260 - 264 Feet: Sandy Clay/Silt Light brown, damp to moist, well sorted, hard. Sand is very fine grained, subrounded to subangular. Clay/silt 70-80%, sand 20-30%.
-264-								264 – 270 Feet: Clayey/Silty Sand
-266-								Gray, saturated, well sorted, semi-hard. Sand is medium to coarsi grained, subrounded to subangular. Sand ≥80%, clay/silt ≤20%.
-268- -							Sf	
–270- -								270 - 292 Feet: Sandy Clay/Silt Light brown, moist to wet, well sorted, hard. Sand is very fine
-272 -	-							grained. Clay/silt 70-80%, sand 20-30%.
-274								
-276 -								
-278								



Project A	IDEO/Wes 13th Avei	t Van nue an	Bure. d Ma	n W(diso	ARF n. Pt	noenix.	_ 0 [.]	wner <u>ADEO</u> ona Proj. No. <u>023300588</u>
Depth (ft.)	Well Completion	OId (mdd)	Sample ID	Blow Count/	% Recovery	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-280-								Sandy Clay/Silt (continued)
-282-								
-284-								
-286-							ML	
- -288-								
-290-								
-292-								292 – 298 Feet: Clayey/Silty Sand
- -294-								Light gray/brown, moist to wet, well sorted, hard. Sand is medium to coarse grained, subrounded to subangular. Sand 70-80%, clay/silt 20-30%.
-296-							SC	
- -298-								298 - 300 Feet: Sandy Clay/Silt
-300-							ML	Light brown, moist to wet, well sorted. Sand is very fine grained. Clay/silt 70-80%, sand 20-30%.
-302	-						S	300 - 302 Feet: Clayey/Silty Sand Light gray/brown, moist to wet, well sorted, hard. Sand is medium to coarse grained, subrounded to subangular. Sand 70-80%, clay/silt 20-30%.
-304							. P	303 Feet: Total Depth of Piezometer Well
-306								
-308								
-310	-							
-312	_							
		-						





Surface Elev. Top of Casing 1075.60 f Screen: Dia 4 in. Casing: Dia 4 in. Fill Material Colorado Se Drill Co. Lavne Environm Driller D. Peterson Checked By	Total H t. Water L Length Length and 10/20 ental Log By	on. Ph lole C evel 50 250) Meth	noenix, A Depth 3 Initial 4 ft. 0.5 ft. od Han Nation	Arizo 1803 f 156 fi Rinmer	na Proj. No. 023300588 t. Diameter 9 in. t. Static 78 ft. Type/Size 0.020 in. Type SCH 40 Low Carbon Steel g/Core AP 1000	See Site Map For Boring Location COMMENTS: All USCS soil type boundaries are gradational. All percentages are approximate.
Depth (ft.) Well Completion PID (ppm)	Sample ID Blow Count/	X Recovery	Graphic Log	USCS Class.	Descript (Color, Texture, S Trace < 10%, Little 10% to 20%, Some	Structure)
-2 0 2 4 6 8 0 12 4 66 8 0 2 2 3				6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0 - 10 Feet: Gravelly Sandy Clay/Sight tan to brown, dry, well sorted subrounded to subangular. Gravel 3 inch in diameter. No odors detect 20%, gravel 10% @ 8-10'. 10 - 28 Feet: Sandy Gravel Tan/gray, dry, poorly sorted, semi rounded to subangular. Sand is first to subangular. No odors detected clay/silt ≤5%.	hard. Sand is fine grained, is fine to medium, rounded, up to ted. Clay/silt 70-80%, sand -hard. Gravel is fine to coarse, ie to coarse grained, subrounded



Project .	ADEQ/Wes	t Van i	Burei d Ma	n WQ disor	ARF n. Phoei	, גוח	Ov rizo	ner <u>ADEG</u> na Proj. No. <u>023300588</u>
Depth (ft.)	Well	PTO (mdd)	Sample ID	OW Count/	<u>ا ح</u>		uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
- 24 - - - 26 -	4444444				000	000000000	GW	Sandy Gravel (continued)
- 28 - - 30 -	434444444444444444444444444444444444444						SW	28 - 32 Feet: Gravelly/Cobbly Sand Tan, dry, moderately sorted, semi-hard. Sand is fine to coarse grained, subrounded to subangular. Gravel/cobbles are medium to coarse, well rounded to subrounded. Gravel up to 5 inch in diameter. No odors detected. Sand 65-70%, gravel/cobbles 20-30%, clay/silt ≤5%.
- 32 - - - 34 - - - 36 -	444444444444444444444444444444444444444	य य य य य य य य			0 50 50 50			32 - 66 Feet: Sandy Gravel/Cobbles Tan/gray, dry, moderate to poorly sorted, hard. Gravel/cobbles are fine to coarse, subrounded to subangular. Sand is fine to coarse grained, subrounded to subangular. Gravel size 3 to 4 inches maximum. No odors detected. Gravel/cobbles 70-80%, sand 20-30%.
- 38 - 40	444444444444444444444444444444444444444	4444444			0 5 0 5 0 5 0		0.0	
- 42 - - 44	4444	प्यक्ष्यं युद्ध			0 , 0 , 0 , 0		50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
- 46 - 48 - 50	1444 1444 1-444 1-444						2000000	
- 52 - 54	444444 	<u> ব্ৰব্বব্বব্ব</u>					0 0 0 0 0 0	54 - 66 Feet: Light brown, moist to wet, poorly sorted. Gravel cobbles are fine to coarse, rounded to subangular. Sand is medium
- 50	3 - A4 3 - A4 3 - A4	P4 P4				0.0	n: UI	to coarse grained, subrounded to subangular. Gravel/cobbles 50-70%, sand 30-50%.



Project ±	ADEQ/Wes 13th Avei	t Van I nue and	Bure. d Ma	n WG diso	ARF n. Pl	поепіх.	_ Ov Arizo	wher <u>ADEG</u> na Proj. No. <u>023300588</u>
Depth (ft.)	Well	PID (mdd)	Sample ID	ow Count/	* Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
- 56 - - 58 - - 60 - - 62 -	44444444444444444444444444444444444444						GW	¥ Sandy Gravel/Cobbles (continued)
- 66 - - 68 - - 70 - - 72 -	13333333333333333333333333333333333333	<u> যথ্যয়্থ্যুথ্</u> যুথ্	And the second s				CL	66 - 74 Feet: Gravelly Sandy Clay Light brown, damp, moderate to well sorted, semi-hard. Sand is medium grained, subrounded to subangular. Gravel is medium to coarse, subrounded. No odors detected. Clay 50-70%, sand 20-30%, gravel 10-20%.
-74 -76 -78	1 1 1 1 1 1 1 1	, <u>ब्रय,य,य,य,य,य,य,य,य,य,य,य,य,य,य,य,य,य,य,</u>						74 - 92 Feet: Gravelly Sand Tan gray, damp to moist, moderate to poorly sorted, semi-hard. Sand is fine to coarse grained, subrounded to subangular. Gravel is medium to coarse, rounded to subangular, mostly from 2-3 inches in diameter. Sand 60%, gravel 30-40%, clay/silt ≤5%. ▼
- 80 - 82 - 84 - 86	444444444444444444444444444444444444444	444444444444444444444444444444444444444					S	w .



Cation .	13th Avei					1		
Depth (ft.)	Well	PIO (mdd)	ample ID	Blow Count/	Recovery	raphic Log	Class.	Description (Color, Texture, Structure)
9°	Comp	ا ت	Sam	Blow	X Re	Gre	SOSA	Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
88 –	<u>ر</u> م ررح							Gravelly Sand (continued)
_								
90 –					ļ		SW	
92 _						٠		92 - 100 Feet: Sandy Gravel/Cobbles
1						0.00		Light brown, wet, moderately sorted, semi-hard. Gravel/cobbles are medium to coarse, rounded to subrounded. Gravel from 2-3
94 –						0.00		inches in diameter. Sand is medium to coarse grained, subrounded to subangular. Gravel/cobbles 60-80%, sand 20-40%, clay/silt
96 -						0 0	GW	≤5%.
7 00						0.00]	
98 –		1				000		
-		7				0 0	9	
-100								100 - 110 Feet: Gravelly/Cobbly Sand Light brown, wet, moderate to poorly sorted, semi-hard. Sand is
-102-								medium to coarse grained, subrounded to subangular. Gravel/Cobbles are medium, rounded to subrounded. Gravel from
-		4					•	2-3 inches in diameter. No odors detected. Sand 50%. gravel/cobbles 40%, clay/silt <10%.
-104-		집 즉						
- -106-		집 집					SW	
-100-		4						
-108-		<u>م</u>					:	•
		4						
- 110 -		<u>م</u>				0 0	d	110 - 155 Feet: Sandy Gravel/Cobbles Light brown, wet to saturated, moderate to poorly sorted.
- 112 -		4				0.00	2.	semi-hard. Gravel/cobbles are fine to coarse, rounded to subrounded. Gravel is up to 3 inch in diameter. Cobbles mostly
-		<u>'</u>				000	>.∥	approximately 4 inches in size. Sand is medium to coarse grained subrounded to subangular. No petroleum hydrocarbon odors. Gravel/cobbles 60-70%, sand ≤20-40%, clay/silt ≤5-10%.
- 114 -		3				000	5 II	
- - 116 -		<u>`</u>		-		000	. d .	
- 110 - -		<u>त्</u> र्				0.0	2.	
- 118 -		경				000	o. ∵(
-	164	<u>'</u>				0.00	o. : d	



	Avenue an	u mau.	_	IOETHX.	41120	na Proj. No. <u>023300588</u>
Depth (1t.)	Completion PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
120 124 126 128 130 14 14 14 14 14 150 150 150 150 150 150 150 150 150 150	<u>ব্রব্র্ব্র্ব্র্ব্র্ব্র্ব্র্র্ব্র্র্ব্র্র্ব্র</u>				@ G G G G G G G G G G G G G G G G G G G	Sandy Gravel/Cobbles (continued) 130 - 155 Feet: Sand and clay in layers with gravel.



Project .	ADEQ/Wes 3th Aver	t Van t nue and	Burer d Mad	n WQA dison	RF Pho	enix.	_ Ov Arizo	ner <u>ADEO</u> na Proj. No. <u>023300588</u>
Depth (ft.)	Well	OI d (mdd)		ow Count/	, II	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-152- - -154-	44444444444444444444444444444444444444				llo	000	GW	Sandy Gravel/Cobbles (continued)
- -156- - -158-	144444444444444444444444444444444444444						SW	155 - 160 Feet: Gravelly/Cobbly Sand Light brown, saturated, moderately sorted, soft. Sand is fine to coarse grained. Gravel/cobbles are medium to coarse, rounded to subrounded, from 2-3 inches in diameter. Sand 65-70%, gravel/cobbles 20-35%, clay/silt ≤5%.
-160· -162· -164	44444444444444444444444444444444444444	ব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব্যব						160 - 196 Feet: Gravelly Sand Tan, saturated, very well to moderately sorted, soft to semi-hard. Sand is fine to coarse grained, subrounded to subangular. Gravel is fine to medium, rounded to subrounded, maximum size 2 inches. Sand 60-80%, gravel ≤10-30%, clay/silt ≤10%.
-166 -168 -170	444444 144444	<u>यूयूयूयूयूयूयूय</u>						171 – 178 Feet: Gravel present in layers with sand.
-172 -174 -176	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	477744444444					20	
-17 (-18 -18	44444 0 - 444	<u> </u>						



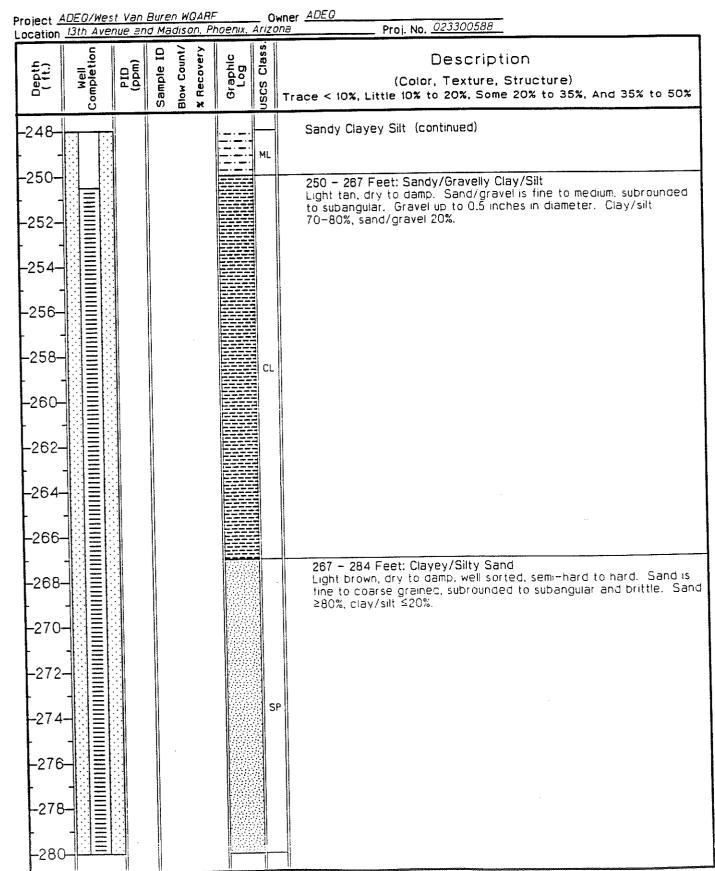
Monitoring Well MAU MW-1

Project ADEG/West Van Buren WGARF Owner ADEO Proj. No. <u>023300588</u> Location 13th Avenue and Medison, Phoenix, Arizona Recovery Class Description Blow Count Graphic Log Cept (:Et.) (Color, Texture, Structure) **JSCS** Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50% Gravelly Sand (continued) -184 186 -188 SP 190 192 194 196 186 - 200 Feet: Gravelly/Cobbly Sand Tan, saturated, moderate to poorly sorted, semi-hard. Sand is medium to coarse grained, subrounded to subangular. Gravel/cobbles are medium to coarse, rounded to subrounded. SW 198 Sand 50-80%, gravel/cobbles 30-40%, clay/silt ≤10%. 200 200 - 225 Feet: Sandy Gravel/Cobbles Tan, saturated, moderate to poorly sorted, semi-hard. Gravel/cobbles are medium to coarse, rounded to subrounded. Gravel is mostly 3 inches in diameter. Cobbles up to 6 inches in size. Sand is fine to medium grained, subrounded to subangular. Gravel/cobbles 80-70%, sand 20-30%, clay/silt ≤10%. 206 208 210 212



Locati	ADEO/We	enue an	d Ma	also	n, Pr	noenix, i	Ariz o	wner <u>ADEG</u> ona Proj. No. <u>023300588</u>
Depth	Well	(mdd) OId	Sample ID	Blow Count/	% Recovery	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-216 -218 -22 -22	44444444444444444444444444444444444444	্রথব্র্ব্র্ব্র্ব্র্ব্র্ব্র্ব্র্ব্র্ব্র্ব					GW	Sandy Gravel/Cobbles (continued)
AU -22 -22 -23 -23	444444444444444444444444444444444444444	, यु.यु.यु.यु.यु.यु.यु.यु.यु.यु.यु.यु.यु.य						225 - 238 Feet: Sandy Clay/Silt Light brown, damp, very well to well sorted, semi-hard. Sand is fine grained. Silt 60-70%, clay 20%, sand 10-20%, gravel ≤5%. 230 - 238 Feet: Higher sand and gravel content.
-23 -23 -23 -23	4 4 4 6 - - - - - - - - - - - - -	44444 888888888				M	238 — 250 Feet: Sandy Clayey Silt Light brown, damp, well sorted, semi—hard. Sand is fine to medium grained, rounded to subrounded. Silt 50-60%, clay 30-40%, sand ≤10%.	
			The second secon					







Project 4 Location	ADEG/West Van Buren WGARF Owner ADEG 13th Avenue and Madison, Phoenix, Arizona Proj. No. 023300588											
Depth (ft.)	Weil	OIId (bpm)	Sample ID	X Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%					
-280-							Clayey/Silty Sand (continued)					
-282 -						SP						
-284							284 — 288 Feet: Sandy Clay/Silt Light brown, damp, very well to well sorted. Sand is fine to medium					
-286-						CL	grained, subrounded to subangular. Clay/silt ≥80%, sand≤20%.					
-288-							288 - 295 Feet: Clayey/Silty Sand Light brown, damp to moist, moderately sorted, semi-hard. Sand is					
-290-						111111111111111111111111111111111111111	fine to medium grained. Gravel is fine to medium, subangular. Sand 60%, clay/silt 40%, gravel ≤10%.					
-292-	11 — 1 1					SC						
-294-												
-296-							295 - 303 Feet: Gravelly/Cobbly Sandy Clay/Silt Light tan/brown, damp to wet, moderately sorted, semi-hard. Sand is fine to medium grained, subrounded to subangular. Gravel/cobbles are medium to coarse, subangular. Clay/silt					
-298-						Cr Cr	60-70%, sand 20%, gravel/cobbles 10-20% (≤5% cobbles).					
-300-												
-302-							The state of the s					
-304							303 Feet: Total Depth of Drilling for Monitoring Well MAU MW-1					
-306												
-308					***************************************							
310			The second secon		The second secon							
-312												