

G E O L O G

F O R M A T -- I

E D I T L I S T I N G

ARCHER CATHRO AND ASSOCIATES LTD.

WERNECKE JOINT VENTURE IGOR PROP

FORMAT VERSION : 6602

DRILLHOLE/TRVERSE 80CH015	COLLAR ELEVATION	1124.00	AZIMUTH(LEG 1)	90.00	GEOLOGGED BY : WDE +
TOTAL DEPTH/LENGTH 150.57	NORTHING(- IF S)	3713.00	VERTICAL ANGLE	-50.00	DATE DY/MON/YR 12/JUL/80
CORE/HOLE DIAMETER B	EASTING (- IF W)	-52.00	CO-ORD SYSTEM	GRD	PROJECT NUMBER WJV

F . . I N T E R V A L . .	CORE	MF X	TYPE-	TEX-	GRAIN	FRACS	STRUCTURES...	ALT/N	ASSEM.+	MINERALIZATION.	AT	OT
K L (M T . 2)	RECOV	O I M ROCK	MINS	QAL	TURES	-+ M	S	T D	B	HA HA HA HA HA HA HA HA	LN	RN
E A	-MISS	DE I	TM TM	MIN	MAJOR	FC CA	DEN M	ID T	AZM O I D		TT	ET
Y G F.R.O.M : T.O.D	I.N.T	+PC.1	IR X TYPE	1 2	1 TX TX	X	I	K	P P. 1	QZ CL CB C2 AB XX HX PY UR YY BM	ZONE	
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	ROC DE P		QAL TX TX	SR SO	SML X	P	B	P B	FL BA C1 C3 MU HA H: CP	HA HW	HOW	
	R.O.D.	U- EN R	COLOR	MIN MINOR	ON H/	TOO M	ID L	AZM O L D				
	NIT PV OV		2	RD PC	PDM 2	6	T	G 2				

/ 0.00 4.88 4.88

OVER

R 0.00 4.88

SIMILAR TO BEDROCK, SINGLE LARGE BOULDER CORED.

R 4.88 22.71

CB MATRIX DO OR AK

/ 4.88 5.49 .61

X BRPQ	CB PY	9A5 BR	17 58 12									
HB2	8T	8T4	12 CC 2									

P4 <*	P2 P1	7+	74
	V+ P1 P4	7+	

/ 5.49 13.11 7.62

BRPQ	CB PY	9A5 BR	17 58 12									
HB2	8T	8T4	12 CC 2									

P4 <*	P2 P1	7+	74
	V+ P1 P4		

/ 13.11 22.71 9.60

X BRPQ	CB PY	9A5 BR	17 58 12	FL	60							
HB2	8TCL	8T4	12 CC 2									

84 8=	P2 P1	8=	64
V. V(	V+ D= P4		

R 13.11 22.71

CL USUALLY OCCURS WITH MATRIX CB AND MAY BE REPLACING IT. FL

R 13.11 22.71

OCCURS WITH PY IN FRACTURES. BA OCCURS IN A SINGLE 4CM WIDE VEIN

/ 22.71 29.02 6.31

BRPQ	CL MG	8A3 BR RP	07 27 23	FL	40							
HB1	3G	8T3	21 FO 2									

82 P2 P3 P1	D1 D+	33
D (	P2 P2	MG

R 22.71 29.02

MG IN EUHEDRAL GRAINS UP TO 10MM ACROSS. MG OFTEN PARTIALLY

R 22.71 29.02

ALTERED TO CL. LOCALLY GRADES INTO BROS AND BRCL. EUHEDRAL CB

R 22.71 29.02

CRYSTALS ARE COMMON OFTEN RIMMED WITH CL.

/ 29.02 30.36 1.34

BRPQ	CB CL	8A3 BR	07 17 2									
HB2	5GCP		22 FO 2									

P2 P2 P2 P+	D= D=	44
D. V+ P1 P3	D+	

R 29.02 48.01

FRAGMENTS ARE NOT ABUNDANT USUALLY REPLACED BY CL. PY AND CP

DRILLHOLE/TRAVERSE --- 80CH015 --- (CONTINUED)

K	FLG	F.R.O.M	T.O.O	I.N.T	RECOV	MF	X	ROCK	TM	TM	QM1	TX	TX	-->	XM	FRX	1	ID	S	AZM	T	DP	B	GZ	CL	CB	C2	AB	XX	HX	PY	UR	YY	BM	Z1

R		29.02	48.01																															
R		29.02	48.01																															
R		29.02	48.01																															
R		29.02	48.01																															
R		29.02	48.01																															
/		30.36	31.39	1.03			X	BROS	MG	CB						2		CN		T	60		P1	P=	P5					D1	D2		74	
L							HB4		8TPY							21		CN		B	60			V(	V(	P5				MG	D+			
/		31.39	32.22	.83				BRPQ	CB	CL	8A3	BR		07	17	2							P2	P2	P2	P+				D=	D=		44	
L							HB2		5GCP					22	F0	2							D.		V+	P1	P3			D+				
/		33.22	39.23	6.01			X	BRPQ	CB	CL	7A2	BR		07	17	2							P3	P2	D2	P+	D)		D=	D)		44		
L							HB2		5GCP	9A2				22	F0	2							D.		V+	D2	P2		D+					
R		33.22	39.23																															
R		33.22	39.23																															
R		33.22	39.23																															
R		33.22	39.23																															
R		33.22	39.23																															
R		39.23	39.87	.64			X	BROS	CB	MG						2							71	P=	P+					D3	D=		64	
L							HB4		8TCP							2								6=					MG	D=				
R		39.23	39.87																															
R		39.87	42.37	2.50			X	BRPQ	CB	CL	8A3	BR		07	17	2		FL			45		P3	D=	P2	P+			D=	D)		64		
L							HB2		5GCP					22	F0	2							D.	V)	V+	P1	P3		D)					
R		39.87	48.01																															
R	TGG	41.15	42.37																															
R	DYK	42.37	44.04	1.67			X	BROS	MG	CB						1		CN		T	45		P1	P1	P5					D3		54		
L							HB4		8T							1		CN		B	45			V)		P5			MG					
R		42.37	44.04																															
R		42.37	44.04																															
R		44.04	46.76	2.72			X	BRPQ	CB	CL	8A3	BR		07	17	2		FL			45		P3	D=	P2	P+			D=	D)		64		
L							HB2		5GCP					22	F0	2							D.	V)	V+	P1	P3			00				

[illegible]

/	DYK	46.76	47.40	.64	X BRX MG CB		1	CN	T 45	D) P6	D3	64
L					HB4	BT				D1 P6	M6	
/		47.40	48.01	.61	X BRPE CB CL BA3 BR	07 17	2	FL	45	P3 D= P2 P+	D= D)	64
L					HB2	5GCP	22 FO			D. V) V+ P1 P3	00	
R		48.01	57.30		BLEACHED ARGILLITE FRAGMENTS IN A CL-CB-MG MATRIX. CP AND							
R		48.01	57.30		RADIOACTIVITY ARE CLOSELY RELATE TO EACH OTHER AND THE MATRIX.							
R		48.01	57.30		CP IS USUALLY FINELY DISPERSED BUT OVER SHORT INTERVALS EXCEEDS							
R		48.01	57.30		10% OF ROCK. FOLIATION SOMEWHAT ERRATIC. CL RIMMED CB COMMON.							
/		48.01	48.55	.54	X BRSD CB PY			CN	T 45	P1 <+ P3 P+	61 <2	44
L					HB4	BTMG		CN	B 45	P3 P2	M6 <=	
R		48.01	48.55		CONSISTS OF 2 NARROW ZONES PLUS ADJACENT MINERALIZED BRPE.							
R		48.01	48.55		ROCKS HAVE SLIGHT RED HUE LOCALLY. NO OBVIOUS MINERALS							
R		48.01	48.55		CORRESPOND TO RADIOACTIVITY.							
/		48.55	50.75	2.20	BRPE CB CL BA6 BR FL 07 38			FL	45	P2 61 P3 P1	D= <+	34
L					HB1	5GMG BTI	11 FC			6) <) P2 P3	M6 <)	
/		50.75	51.21	.46	X BRPE CB CL BA6 BR F/ 07 38			FL	45	P2 61 P3 P1	D= <+	24
L					HB1	5GMG BTI	11 FC			6) <) P2 P3	M6 <1	
R		50.75	51.21		RECOVERY IS POOR IN ALL SHEAR ZONE WHICH APPEARS TO CUT							
R		50.75	51.21		PRE-EXISTING MINERALIZATION. VERY HIGH CPS ON PROBE SUGGEST THAT							
R		50.75	51.21		THE BEST MINERALIZATIONS NOT CORED.							
/		51.21	51.27	.06	BRPE CB CL BA6 BR FL 07 38			FL	45	P2 61 P3 P1	D= <+	34
L					HB1	5GMG BTI	11 FC			6) <) P2 P3	M6 <)	
/		51.27	52.27	1.00	X BRPE CB QZ BA6 BR FL 07 38			FL	45	P4 00 P3 P1	00 00	76
L					HB1	5GBA BTI	11 FC			<1 <) P2 P3	00 00	
R		51.27	52.27		BA RED. CB-QZ-BA FORMS MIX.							
/		52.27	54.19	1.92	BRPE CB CL BA6 BR FL 07 38			FL	45	P2 61 P3 P1	D= <+	34
L					HB1	5GMG BTI	11 FC			6) <) P2 P3	M6 <)	
/		54.19	55.78	1.59	X BRCL CL CP 7R2 BR FL 07 17			FL	00	P3 P3 P1 P1	D=	13
L					HB3	2G BTI	23 FO			V+ P2	H> <1	
R		54.19	55.78		MOST MG IS ALTERED TO THE ROCK HAS A SLIGHT RED STAIN DUE TO							

DRILLHOLE/TRAVERSE --- 80CH015 --- (CONTINUED)

K	FLG	F.R.O.M	T.O.D	I.N.T	RECOV	MF	X	ROCK	TM	TM	QM1	TX	TX	--	XM	FRX	1	ID	S	AZM	T	DP	B	QZ	CL	CB	C2	AB	XX	HX	PY	UR	YY	BM	ZI	
						R.O.D		R.U	DE	PV	COLOR	QM2	TX	TX	SR	SO	SML	2	ID	P	AZM	B	PL	2	FL	BA	C1	C3	MU	HA	H:	CP		HA	12	12
R		54.19	55.78																																	
R		54.19	55.78																																	
/		55.78	57.30	1.52				BRPE	CB	CL	8A6	BR	FL	07	38	2								45	P2	61	P3	P1								34
L					HB1			5GMG	8T1					11	FC	21										6)	<)	P2	P3							
/		57.30	60.87	3.57				BRPE	CL		5A3	BR		07	27	45									P3	71	P2	P=								24
L					HB3			3G		8A2				03	FC	2											V(	V+	D1	P4						
R		60.05	60.35																																	
/		60.87	62.64	1.77			X	BRPE	CL		5A3	BR		07	27	45									P3	7+	P2	P=								24
L					HB3			3G		8A2				03	FC	2												V(	V+	D1	P4					
R		60.87	62.64																																	
R		60.87	62.64																																	
/		62.64	64.01	1.37				BRPE	CL		5A3	BR		07	27	45									P3	71	P2	P=								24
L					HB3			3G		8A2				03	FC	2													V(	V+	D1	P4				
/		64.01	65.01	1.00				BRCL	CL	HE	6A2	BR	FL	06	17	12								45	P2	P4	P2									03
L					HB3			1G		RP		2	4F	01															<)	P2	P=					
R		64.01	72.15																																	
/		65.01	66.23	1.22			X	BROX	HE	CL							1							45	D1	D1	P5									23
L					HB4			2GCB									1													V=	P5					
R		65.01	66.23																																	
/		66.23	67.85	1.62				BRCL	CL	HE	6A2	BR	FL	06	17	12								45	P2	P4	P2									03
L					HB3			1G		RP		2	4F	01																<)	P2	P=				
/		67.85	69.19	1.34			X	BROX	HE	CL							2							45			D2	D3								04
L					HB4			1GCB									2																			
/		69.19	70.41	1.22				BRCL	CL	HE	6A2	BR	FL	06	17	12								45	P2	P4	P2									03
L					HB3			1G		RP		2	4F	01																<)	P2	P=				
/		70.41	71.78	1.37			X	BROX	HE	CB		FL					2							50			D5									45
L					HB4			9T									2													<+	D5					
R		70.41	71.78																																	
/		71.78	72.15	.37				BRCL	CL	HE	6A2	BR	FL	06	17	12								45	P2	P4	P2									03
L					HB3			1G		RP		2	4F	01																	<)	P2	P=			
/		72.15	85.34	13.19				BRPE	AB	CL	7R4	BR	GN	07	27	12								45	P2	P1	P3	P2	P4							24
L					HB1			3GCB		9A2				23	CC	2														<+	P1	P+				

HE. ALTHOUGH 10% CP NO PY. CP PARALLELS FOLIATION. QZ USUALLY HE

STAINED. CL MATRIX VERY DARK.

INCREASED HE STAINING CORRESPONDS TO INCREASED RADIOACTIVITY.

CP IN CORE OF HE CRYSTALS. ALTHOUGH HX FAIRLY UNIFORMLY

DISTRIBUTED CP CLUSTERS.

APPEARS TO BE A CL ALTERATION ZONE ADJACENT TO THE BROX DYKE.

CP FINELY DISSEMINATED WITH HE AND CL. PROBABLY A BROX DYKE.

HE DISSEMINATED AND CLUSTERED PARALLEL TO FOLIATION.

DRILLHOLE/TRAVERSE --- 80CH015 --- (CONTINUED)

K FLG F.R.O.M : T..0 I.N.T RECOV MF % ROCK TM TM QM1 TX TX --+ XM FRX 1 ID S AZM T DP B QZ CL CB C2 AB XX HX PY UR YY BM ZI

R.Q.D R.U DE PV COLOR QM2 TX TX SR S0 SML 2 ID P AZM B PL 2 FL BA C1 C3 MU HA H: CP HA 12 12

R 72.15 89.00 FOLIATION WEAK. GRADES LOCALLY TOWARD BRCL.

/ 85.34 88.39 3.05 X BRCL CL CB FL 1 FL 45 PR D1 D1 03

L HB3 1GHE 1 D1

/ 88.39 89.00 .61 BRPE AB CL 7R4 BR GN 07 27 12 FL 45 P2 P1 P3 P2 P4 P= D1 24

L HB1 3GCB 9A2 23 CC 2 <+ P1 P+

/ 89.00 99.97 10.97 PLIT CB 15 P2 D= P3 P2 D1 14

L HS0 5A 42 <= P4

R 89.00 108.81 APPEARS TO BE AN ENORMOUS BLOCK OF ONLY SLIGHTLY CRACKLED AND

R 89.00 108.81 ALTERED PELITE SURROUNDED BY BRECCIA. MOST FRACTURES FILLED WITH

R 89.00 108.81 CALCITE. SOME RESIDUAL COMPOSITIONAL BANDING.

/ 99.97 102.29 2.32 X PLIT CB BR 15 P2 D= P3 P2 P2 D1 14

L HS0 5A 42 <= P4

R 99.97 102.29 AN IRREGULAR FRACTURE CONTAINS ALBITIZED PELITE FRAGMENTS IN A

R 99.97 102.29 CB MATRIX SURROUNDED BY ONLY CB ALTERED PELITE WALLROCKS.

/ 102.29 108.81 6.52 PLIT CB 15 P2 D= P3 P2 D1 14

L HS0 5A 42 <= P4

/ 108.81 139.14 30.33 PLIT CB 24 P2 D= P3 P2 D1 14

L HS0 5A 31 <= P4

R 108.81 139.14 SIMILAR TO PREVIOUS SECTION BUT LARGELY ALBITIZED AS DESCRIBED

R 108.81 139.14 BELOW. ALBITIZATION HAS PRODUCED A MOTTLED PINKISH-PURPLE ROCK

R 108.81 139.14 AND IS APPARENTLY FRACTURE CONTROLLED ALTHOUGH MOST OF THE CA

R 108.81 139.14 FILLED FRACTURES POST-DATE THE ALTERATION.

R 108.81 139.14 THE ALBITIZATION IS USUALLY ADJACENT TO NARROW BRECCIA ZONES IN

R 108.81 139.14 WHICH STRONGLY ALBITIZED FRAGMENTS ARE MIXED WITH OTHER PELITE

R 108.81 139.14 FRAGMENTS AS DESCRIBED BELOW

R 108.81 139.14 FOLIATION WEAK AND RELATIVELY VARIABLE RANGING FROM 20-60 .

/ 139.14 150.57 11.43 BRPE 8A3 BR FL 07 17 2 CN T 00 P3 P2 P+ P+ D1 24

L HB2 7A2 23 FO 12 FL 45 V+ <+ P2 P4 HE

R 139.14 150.57 FOLIATION GRADUALLY SHIFTS FROM 00 TO 60 OVER THE INTERVAL.

DRILLHOLE/TRAVERSE --- B0C H015 --- (CONTINUED)

K	FLG	F.R.O.M	:	T.O.O	I.N.T	RECOV	MF	%	ROCK	TM	TM	QM1	TX	TX	->	XM	FRX	1	ID	S	AZM	T	DP	B	QZ	CL	CB	C2	AB	XX	HX	PY	UR	YY	BM	ZI
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/	-	/	/	-	-	-	-	-	-	-	-	-	-	-	-	-
						R.Q.D	R.U	DE	PV	COLOR	QM2	TX	TX	SR	SO	SML	2	ID	P	AZM	B	PL	2	FL	BA	C1	C3	MU	HA	H:	CP		HA	12	12	

R 139.14 150.57 45 MOST COMMON ATTITUDE. BRPE CUT BY A SERIES OF 1CM TO 2M BROX

R 139.14 150.57 DYKES WHOSE CONTACTS PARALLEL FOLIATION. THE DYKES ARE DESCRIBED

R 139.14 150.57 BELOW.

R 139.14 150.57 FRAGMENTS RARE. CA AND DO ARE THE CB MINERALS. HE FORM <1MM

R	139.14	150.57	EUHEDRAL CRYSTALS.
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A MIN	0.00	0.00	0.00	PPM U	PPM CU	PPM CO	PPM AG	PPB AU	PPM MO	CPS
A LAB	0.00	0.00	0.00	CHEMEX	CHEMEX	CHEMEX	CHEMEX	CHEMEX	CHEMEX	SCNTRX
A TYP	0.00	0.00	0.00	1H-COR	1H-COR	1H-COR	1H-COR	1H-COR	1H-COR	IN BAG

A 001	22.71	24.38	1.67	100.0	J17809	3.5	64	114	0.1	7	8	126
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R TGG 22.71 24.38 10164

A 001	24.38	25.91	1.53	100.0	J17810	3.0	28	64	0.1	7	8	120
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R TGG	24.38	25.91	10164
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A 001	25.91	27.43	1.52	100.0	J17811	5.0	20	48	0.1	7	8	120
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R TGG 25.91 27.43 10164

A	27.43	29.02	1.59	994.0	J17410	2.0	2050	76	120
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R TGG	27.43	29.02	54669
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A	29.02	30.36	1.34	0.0	J17411	2.5	12000	375				120
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R TAG	29.02	30.36	54670	69151
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A	30.36	31.39	1.03	10.0	J17412	8.0	10400	1100	120
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R TAG 30.36 31.39 54670 69151

A	31.39	32.22	83.988.0	1174.13	2.5	1800	455	128
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R TAG 31.39 32.22 54670 69151

A	32.22	33.22	1.00	10.00	0.17414	2.5	8400	0.00162	120
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R TAG 32-22 33-22 54470 68151

A	33-22	35-36	2-14	985-20	117415	2-2	5-22	126	128
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R TAG 33.22 35.36 5A670 69151

A	35-36	36-42	1-06	9-00	117-16	5-5	9800	600	130
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DRILLHOLE/TRVERSE --- 80CH015 --- (CONTINUED)

A MIN	0.00	0.00	0.00			PPM U	PPM CU	PPM CO	PPM AG	PPB AU	PPM MO	CPS
A LAB	0.00	0.00	0.00			CHEMEX	CHEMEX	CHEMEX	CHEMEX	CHEMEX	CHEMEX	SCNTRX
A TYP	0.00	0.00	0.00			1H-COR	1H-COR	1H-COR	1H-COR	1H-COR	1H-COR	IN BAG
R TAG	35.36	36.42					54670	69151				
A	36.42	37.95	1.53	993.0	J17417	2.0	2300	270				120
R TAG	36.42	37.95					54670	69151				
A 001	37.95	39.62	1.67	6.0	J17418	6.0	20400	420				120
R TAG	37.95	39.62					54670	69151				
A 001	39.62	41.15	1.53	90.0	J17419	3.5	1400	118				120
R TAG	39.62	41.15					54670	69151				
A 001	41.15	42.37	1.22	0.0	J17420	1.5	205	72				120
A 001	42.37	44.04	1.67	6.0	J17812	1.5	36	130				120
R TGG	42.37	44.04					10164					
A 001	44.04	45.72	1.68	100.0	J17813	3.5	32	98	0.1	48	18	120
R TGG	44.04	45.72					10164					
A 001	45.72	48.01	2.29	100.0	J17814	2.0	146	120	0.1	26	17	130
R TGG	45.72	48.01					10164					
A 001	48.01	48.55	.54	100.0	J17421	348.0	11200	900	0.1	26	17	240
R TAG	48.01	48.55					54670	69151				
A 001	48.55	49.47	.92	100.0	J17422	5.0	870	118	0.1	26	17	120
R TGG	48.55	49.47					54669					
A 001	49.47	50.75	1.28	95.0	J17423	8.5	7800	360	0.1	26	17	120
R TAG	49.47	50.75					54670	69151				
A 001	50.75	51.21	.46	33.0	J17424	161.0	16400	190	0.1	26	17	170
R NAG	50.75	51.21					54671	69152				
A 001	51.21	52.27	1.06	97.0	J17815	5.5	350	100	0.1	26	17	120
R TGG	51.21	52.27					10164					
A 001	52.27	54.19	1.92	100.0	J17816	3.5	20	66	0.1	26	17	120
R TGG	52.27	54.19					10164					

A MIN	0.00	0.00	0.00
A LAB	0.00	0.00	0.00
A TYP	0.00	0.00	0.00
A 001	54.19	55.78	1.59 87.0 J17425 1203.4 23600 132 0.1 34 31
R MAG	54.19	55.78	54671 69152
A 001	55.78	57.30	1.52 100.0 J17817 7.0 118 52 0.1 34 31
R TGG	55.78	57.30	10164
A 001	57.30	58.83	1.53 100.0 J17818 8.5 60 44 0.1 34 31
R TGG	57.30	58.83	10164
A 001	58.83	60.87	2.04 79.0 J17819 46.0 94 72 0.1 11 34
R TGG	58.83	60.87	10164
A 001	60.87	62.64	1.77 86.0 J17426 4.0 2200 116 0.1 34 31
R TAG	60.87	62.64	54670 69151
A 001	62.64	65.01	2.37 100.0 J17820 3.5 186 82 0.1 11 34
R TGG	62.64	65.01	10164
A 001	65.01	66.23	1.22 100.0 J17427 5.0 885 122 0.1 11 34
R TGG	65.01	66.23	54669
A 001	66.23	69.19	2.96 100.0 J17428 2.5 925 104 0.1 11 34
R TGG / END	66.23	69.19	54669